

## REPORTS AND CONSOLIDATED FINANCIAL STATEMENTS

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## Management's responsibility for financial reporting

The accompanying consolidated financial statements of Royal Bank of Canada were prepared by management, which is responsible for the integrity and fairness of the information presented, including the many amounts that must of necessity be based on estimates and judgments. These consolidated financial statements were prepared in accordance with the *Bank Act* (Canada) and International Financial Reporting Standards as issued by the International Accounting Standards Board. Financial information appearing throughout our Management's Discussion and Analysis is consistent with these consolidated financial statements.

Our internal controls are designed to provide reasonable assurance that transactions are authorized, assets are safeguarded and proper records are maintained. These controls include quality standards in hiring and training of employees, policies and procedures manuals, a corporate code of conduct and accountability for performance within appropriate and well-defined areas of responsibility.

The system of internal controls is further supported by a compliance function, which is designed to ensure that we and our employees comply with securities legislation and conflict of interest rules, and by an internal audit staff, which conducts periodic audits of all aspects of our operations.

The Board of Directors oversees management's responsibilities for financial reporting through an Audit Committee, which is composed entirely of independent directors. This Committee reviews our consolidated financial statements and recommends them to the Board for approval. Other key responsibilities of the Audit Committee include reviewing our existing internal control procedures and planned revisions to those procedures, and advising the directors on auditing matters and financial reporting issues. Our Chief Compliance Officer and Chief Internal Auditor have full and unrestricted access to the Audit Committee.

The Office of the Superintendent of Financial Institutions Canada (OSFI) examines and inquires into our business and affairs as deemed necessary to determine whether the provisions of the *Bank Act* are being complied with, and that we are in sound financial condition. In carrying out its mandate, OSFI strives to protect the rights and interests of our depositors and creditors.

Deloitte LLP, Independent Registered Public Accounting Firm appointed by our shareholders upon the recommendation of the Audit Committee and Board, have performed an independent audit of the consolidated financial statements and their report follows. The auditors have full and unrestricted access to the Audit Committee to discuss their audit and related findings.

David I. McKay  
President and Chief Executive Officer

Janice R. Fukakusa  
Chief Administrative Officer and Chief Financial Officer

Toronto, December 1, 2015

## Report of Independent Registered Public Accounting Firm

To the Shareholders of Royal Bank of Canada

We have audited the accompanying consolidated financial statements of Royal Bank of Canada and subsidiaries (the "Bank"), which comprise the consolidated balance sheets as at October 31, 2015 and October 31, 2014, and the consolidated statements of income, statements of comprehensive income, statements of changes in equity, and statements of cash flows for each of the years in the three-year period ended October 31, 2015, and a summary of significant accounting policies and other explanatory information.

### Management's Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### Auditor's Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audits. We conducted our audits in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained in our audits is sufficient and appropriate to provide a basis for our audit opinion.

## Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the balance sheets of Royal Bank of Canada and subsidiaries as at October 31, 2015 and October 31, 2014, and their financial performance and cash flows for each of the years in the three-year period ended October 31, 2015 in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board.

## Other Matter

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the Bank's internal control over financial reporting as of October 31, 2015 based on the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated December 1, 2015 expressed an unqualified opinion on the Bank's internal control over financial reporting.

Deloitte LLP  
Chartered Professional Accountants  
Licensed Public Accountants  
Toronto, Canada  
December 1, 2015

## Management's Report on Internal Control over Financial Reporting

Management of Royal Bank of Canada is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is a process designed by, or under the supervision of, the President and Chief Executive Officer and the Chief Administrative Officer and Chief Financial Officer and effected by the Board of Directors, management and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. It includes those policies and procedures that:

- Pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions related to and dispositions of our assets;
- Provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and our receipts and expenditures are made only in accordance with authorizations of our management and directors; and
- Provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

Due to its inherent limitations, internal control over financial reporting may not prevent or detect misstatements on a timely basis. Also, projections of any evaluation of the effectiveness of internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management evaluated, under the supervision of and with the participation of the President and Chief Executive Officer and the Chief Administrative Officer and Chief Financial Officer, the effectiveness of our internal control over financial reporting as of October 31, 2015, based on the criteria set forth in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on that evaluation, management concluded that, as of October 31, 2015, internal control over financial reporting was effective based on the criteria established in the *Internal Control – Integrated Framework (2013)*. Also, based on the results of our evaluation, management concluded that there were no material weaknesses that have been identified in internal control over financial reporting as of October 31, 2015.

Our internal control over financial reporting as of October 31, 2015 has been audited by Deloitte LLP, Independent Registered Public Accounting Firm, who also audited our Consolidated Financial Statements for the year ended October 31, 2015, as stated in the Report of Independent Registered Public Accounting Firm, which report expressed an unqualified opinion on the effectiveness of our internal control over financial reporting.

David I. McKay  
President and Chief Executive Officer

Janice R. Fukakusa  
Chief Administrative Officer and Chief Financial Officer

Toronto, December 1, 2015

To the Shareholders of Royal Bank of Canada

We have audited the internal control over financial reporting of Royal Bank of Canada and subsidiaries (the “Bank”) as of October 31, 2015, based on the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. The Bank’s management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management’s Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Bank’s internal control over financial reporting based on our audit.

We conducted our audit in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

A company’s internal control over financial reporting is a process designed by, or under the supervision of, the company’s principal executive and principal financial officers, or persons performing similar functions, and effected by the company’s board of directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board. A company’s internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company’s assets that could have a material effect on the financial statements.

Because of the inherent limitations of internal control over financial reporting, including the possibility of collusion or improper management override of controls, material misstatements due to error or fraud may not be prevented or detected on a timely basis. Also, projections of any evaluation of the effectiveness of the internal control over financial reporting to future periods are subject to the risk that the controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

In our opinion, the Bank maintained, in all material respects, effective internal control over financial reporting as of October 31, 2015, based on the criteria established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission.

We have also audited, in accordance with Canadian generally accepted auditing standards and the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements as of and for the year ended October 31, 2015 of the Bank and our report dated December 1, 2015 expressed an unqualified opinion on those consolidated financial statements.

Deloitte LLP  
Chartered Professional Accountants  
Licensed Public Accountants  
Toronto, Canada  
December 1, 2015

## Consolidated Balance Sheets

	As at	
	October 31 2015	October 31 2014
(Millions of Canadian dollars)		
<b>Assets</b>		
Cash and due from banks	\$ 12,452	\$ 17,421
Interest-bearing deposits with banks	22,690	8,399
<b>Securities</b> (Note 4)		
Trading	158,703	151,380
Available-for-sale	56,805	47,768
	215,508	199,148
Assets purchased under reverse repurchase agreements and securities borrowed	174,723	135,580
<b>Loans</b> (Note 5)		
Retail	348,183	334,269
Wholesale	126,069	102,954
	474,252	437,223
Allowance for loan losses (Note 5)	(2,029)	(1,994)
	472,223	435,229
Segregated fund net assets (Note 16)	830	675
<b>Other</b>		
Customers' liability under acceptances	13,453	11,462
Derivatives (Note 8)	105,626	87,402
Premises and equipment, net (Note 9)	2,728	2,684
Goodwill (Note 10)	9,289	8,647
Other intangibles (Note 10)	2,814	2,775
Investments in joint ventures and associates (Note 12)	360	295
Employee benefit assets (Note 17)	245	138
Other assets (Note 13)	41,267	30,695
	175,782	144,098
<b>Total assets</b>	<b>\$ 1,074,208</b>	<b>\$ 940,550</b>
<b>Liabilities and equity</b>		
<b>Deposits</b> (Note 14)		
Personal	\$ 220,566	\$ 209,217
Business and government	455,578	386,660
Bank	21,083	18,223
	697,227	614,100
Segregated fund net liabilities (Note 16)	830	675
<b>Other</b>		
Acceptances	13,453	11,462
Obligations related to securities sold short	47,658	50,345
Obligations related to assets sold under repurchase agreements and securities loaned	83,288	64,331
Derivatives (Note 8)	107,860	88,982
Insurance claims and policy benefit liabilities (Note 15)	9,110	8,564
Employee benefit liabilities (Note 17)	1,969	2,420
Other liabilities (Note 18)	41,507	37,309
	304,845	263,413
Subordinated debentures (Note 19)	7,362	7,859
<b>Total liabilities</b>	<b>1,010,264</b>	<b>886,047</b>
<b>Equity attributable to shareholders</b> (Note 21)		
Preferred shares	5,100	4,075
Common shares (shares issued – 1,443,423,151 and 1,442,232,886)	14,573	14,511
Treasury shares – preferred (shares held – (63,179) and 1,207)	(2)	–
– COMMON (shares held – 531,638 and 891,733)	38	71
Retained earnings	37,811	31,615
Other components of equity	4,626	2,418
	62,146	52,690
Non-controlling interests (Note 21)	1,798	1,813
<b>Total equity</b>	<b>63,944</b>	<b>54,503</b>
<b>Total liabilities and equity</b>	<b>\$ 1,074,208</b>	<b>\$ 940,550</b>

The accompanying notes are an integral part of these Consolidated Financial Statements.

David I. McKay  
President and Chief Executive Officer

David F. Denison  
Director

## Consolidated Statements of Income

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars, except per share amounts)			
<b>Interest income</b>			
Loans	\$ 16,882	\$ 16,979	\$ 16,354
Securities	4,519	3,993	3,779
Assets purchased under reverse repurchase agreements and securities borrowed	1,251	971	941
Deposits and other	77	76	74
	22,729	22,019	21,148
<b>Interest expense</b>			
Deposits and other	5,723	5,873	5,694
Other liabilities	1,995	1,784	1,869
Subordinated debentures	240	246	336
	7,958	7,903	7,899
<b>Net interest income</b>	14,771	14,116	13,249
<b>Non-interest income</b>			
Insurance premiums, investment and fee income (Note 15)	4,436	4,957	3,911
Trading revenue	552	742	867
Investment management and custodial fees	3,778	3,355	2,870
Mutual fund revenue	2,881	2,621	2,201
Securities brokerage commissions	1,436	1,379	1,337
Service charges	1,592	1,494	1,437
Underwriting and other advisory fees	1,885	1,809	1,569
Foreign exchange revenue, other than trading	814	827	748
Card service revenue	798	689	632
Credit fees	1,184	1,080	1,092
Net gains on available-for-sale securities (Note 4)	145	192	188
Share of profit in joint ventures and associates (Note 12)	149	162	159
Other	900	685	422
	20,550	19,992	17,433
<b>Total revenue</b>	35,321	34,108	30,682
<b>Provision for credit losses</b> (Note 5)	1,097	1,164	1,237
<b>Insurance policyholder benefits, claims and acquisition expense</b> (Note 15)	2,963	3,573	2,784
<b>Non-interest expense</b>			
Human resources (Note 17 and 22)	11,583	11,031	10,248
Equipment	1,277	1,147	1,081
Occupancy	1,410	1,330	1,235
Communications	888	847	796
Professional fees	932	763	753
Amortization of other intangibles (Note 10)	712	666	566
Other	1,836	1,877	1,535
	18,638	17,661	16,214
<b>Income before income taxes</b>	12,623	11,710	10,447
Income taxes (Note 24)	2,597	2,706	2,105
<b>Net income</b>	\$ 10,026	\$ 9,004	\$ 8,342
<b>Net income attributable to:</b>			
Shareholders	\$ 9,925	\$ 8,910	\$ 8,244
Non-controlling interests	101	94	98
	\$ 10,026	\$ 9,004	\$ 8,342
<b>Basic earnings per share</b> (in dollars) (Note 25)	\$ 6.75	\$ 6.03	\$ 5.53
<b>Diluted earnings per share</b> (in dollars) (Note 25)	6.73	6.00	5.49
<b>Dividends per common share</b> (in dollars)	3.08	2.84	2.53

The accompanying notes are an integral part of these Consolidated Financial Statements.

## Consolidated Statements of Comprehensive Income

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
<b>Net income</b>	\$ 10,026	\$ 9,004	\$ 8,342
<b>Other comprehensive income (loss), net of taxes</b> (Note 24)			
<b>Items that will be reclassified subsequently to income:</b>			
<b>Net change in unrealized gains (losses) on available-for-sale securities</b>			
Net unrealized gains (losses) on available-for-sale securities	(76)	143	15
Reclassification of net losses (gains) on available-for-sale securities to income	(41)	(58)	(87)
	(117)	85	(72)
<b>Foreign currency translation adjustments</b>			
Unrealized foreign currency translation gains (losses)	5,885	2,743	1,402
Net foreign currency translation gains (losses) from hedging activities	(3,223)	(1,585)	(912)
Reclassification of losses (gains) on foreign currency translation to income	(224)	44	1
Reclassification of losses (gains) on net investment hedging activities to income	111	3	(1)
	2,549	1,205	490
<b>Net change in cash flow hedges</b>			
Net gains (losses) on derivatives designated as cash flow hedges	(541)	(108)	(11)
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	330	28	(30)
	(211)	(80)	(41)
<b>Items that will not be reclassified subsequently to income:</b>			
Remeasurements of employee benefit plans (Note 17)	582	(236)	319
Net fair value change due to credit risk on financial liabilities designated as at fair value through profit or loss	350	(59)	-
	932	(295)	319
<b>Total other comprehensive income (loss), net of taxes</b>	<b>3,153</b>	<b>915</b>	<b>696</b>
<b>Total comprehensive income</b>	<b>\$ 13,179</b>	<b>\$ 9,919</b>	<b>\$ 9,038</b>
<b>Total comprehensive income attributable to:</b>			
Shareholders	\$ 13,065	\$ 9,825	\$ 8,940
Non-controlling interests	114	94	98
	<b>\$ 13,179</b>	<b>\$ 9,919</b>	<b>\$ 9,038</b>

The accompanying notes are an integral part of these Consolidated Financial Statements.

## Consolidated Statements of Changes in Equity

### Other components of equity

(Millions of Canadian dollars)	Preferred shares	Common shares	Treasury shares – preferred	Treasury shares – common	Retained earnings	Available-for-sale securities	Foreign currency translation	Cash flow hedges	Total other components of equity	Equity attributable to shareholders	Non-controlling interests	Total equity
<b>Balance at November 1, 2012</b>	\$ 4,813	\$ 14,323	1	\$ 30	\$ 23,162	\$ 419	\$ 196	\$ 216	\$ 831	\$ 43,160	\$ 1,761	\$ 44,921
Changes in equity												
Issues of share capital	-	121	-	-	-	-	-	-	-	121	-	121
Common shares purchased for cancellation	-	(67)	-	-	(341)	-	-	-	-	(408)	-	(408)
Preferred shares redeemed	(213)	-	-	-	(9)	-	-	-	-	(222)	-	(222)
Sales of treasury shares	-	-	127	4,453	-	-	-	-	-	4,580	-	4,580
Purchases of treasury shares	-	-	(127)	(4,442)	-	-	-	-	-	(4,569)	-	(4,569)
Share-based compensation awards	-	-	-	-	(7)	-	-	-	-	(7)	-	(7)
Dividends on common shares	-	-	-	-	(3,651)	-	-	-	-	(3,651)	-	(3,651)
Dividends on preferred shares and other	-	-	-	-	(253)	-	-	-	-	(253)	(94)	(347)
Other	-	-	-	-	(26)	-	-	-	-	(26)	30	4
Net income	-	-	-	-	8,244	-	-	-	-	8,244	98	8,342
Total other comprehensive income (loss), net of taxes	-	-	-	-	319	(72)	490	(41)	377	696	-	696
<b>Balance at October 31, 2013</b>	\$ 4,600	\$ 14,377	1	\$ 41	\$ 27,438	\$ 347	\$ 686	\$ 175	\$ 1,208	\$ 47,665	\$ 1,795	\$ 49,460
Changes in equity												
Issues of share capital	1,000	150	-	-	(14)	-	-	-	-	1,136	-	1,136
Common shares purchased for cancellation	-	(16)	-	-	(97)	-	-	-	-	(113)	-	(113)
Preferred shares redeemed	(1,525)	-	-	-	-	-	-	-	-	(1,525)	-	(1,525)
Sales of treasury shares	-	-	124	5,333	-	-	-	-	-	5,457	-	5,457
Purchases of treasury shares	-	-	(125)	(5,303)	-	-	-	-	-	(5,428)	-	(5,428)
Share-based compensation awards	-	-	-	-	(9)	-	-	-	-	(9)	-	(9)
Dividends on common shares	-	-	-	-	(4,097)	-	-	-	-	(4,097)	-	(4,097)
Dividends on preferred shares and other	-	-	-	-	(213)	-	-	-	-	(213)	(94)	(307)
Other	-	-	-	-	(8)	-	-	-	-	(8)	18	10
Net income	-	-	-	-	8,910	-	-	-	-	8,910	94	9,004
Total other comprehensive income (loss), net of taxes	-	-	-	-	(295)	85	1,205	(80)	1,210	915	-	915
<b>Balance at October 31, 2014</b>	\$ 4,075	\$ 14,511	-	\$ 71	\$ 31,615	\$ 432	\$ 1,891	\$ 95	\$ 2,418	\$ 52,690	\$ 1,813	\$ 54,503
Changes in equity												
Issues of share capital	1,350	62	-	-	(21)	-	-	-	-	1,391	-	1,391
Preferred shares redeemed	(325)	-	-	-	-	-	-	-	-	(325)	-	(325)
Sales of treasury shares	-	-	117	6,098	-	-	-	-	-	6,215	-	6,215
Purchases of treasury shares	-	-	(119)	(6,131)	-	-	-	-	-	(6,250)	-	(6,250)
Share-based compensation awards	-	-	-	-	(1)	-	-	-	-	(1)	-	(1)
Dividends on common shares	-	-	-	-	(4,443)	-	-	-	-	(4,443)	-	(4,443)
Dividends on preferred shares and other	-	-	-	-	(191)	-	-	-	-	(191)	(92)	(283)
Other	-	-	-	-	(5)	-	-	-	-	(5)	(37)	(42)
Net income	-	-	-	-	9,925	-	-	-	-	9,925	101	10,026
Total other comprehensive income (loss), net of taxes	-	-	-	-	932	(117)	2,536	(211)	2,208	3,140	13	3,153
<b>Balance at October 31, 2015</b>	\$ 5,100	\$ 14,573	(2)	\$ 38	\$ 37,811	\$ 315	\$ 4,427	\$ (116)	\$ 4,626	\$ 62,146	\$ 1,798	\$ 63,944

The accompanying notes are an integral part of these Consolidated Financial Statements.



## Consolidated Statements of Cash Flows

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
<b>Cash flows from operating activities</b>			
Net income	\$ 10,026	\$ 9,004	\$ 8,342
Adjustments for non-cash items and others			
Provision for credit losses	1,097	1,164	1,237
Depreciation	527	499	445
Deferred income taxes	302	(207)	(72)
Amortization and Impairment of other intangibles	719	674	576
Impairment of investments in joint ventures and associates	3	–	20
Losses (Gains) on sale of premises and equipment	(32)	14	(24)
Losses (Gains) on available-for-sale securities	(220)	(228)	(217)
Losses (Gains) on disposition of business	(77)	95	(17)
Impairment of available-for-sale securities	59	25	26
Share of loss (profit) in joint ventures and associates	(149)	(162)	(159)
Net gains on sales of joint ventures and associates	–	(62)	–
Adjustments for net changes in operating assets and liabilities			
Insurance claims and policy benefit liabilities	546	530	113
Net change in accrued interest receivable and payable	(279)	187	(467)
Current income taxes	(905)	(206)	354
Derivative assets	(18,228)	(12,580)	16,475
Derivative liabilities	18,893	12,237	(20,017)
Trading securities	(7,401)	(7,253)	(23,038)
Loans, net of securitizations	(34,964)	(27,096)	(20,175)
Assets purchased under reverse repurchase agreements and securities borrowed	(39,143)	(18,063)	(5,260)
Deposits, net of securitizations	86,979	52,339	41,857
Obligations related to assets sold under repurchase agreements and securities loaned	18,957	3,915	(3,616)
Obligations related to securities sold short	(2,687)	3,233	6,372
Brokers and dealers receivable and payable	664	(638)	536
Other	(10,538)	(2,247)	3,794
<b>Net cash from (used in) operating activities</b>	<b>24,149</b>	<b>15,174</b>	<b>7,085</b>
<b>Cash flows from investing activities</b>			
Change in interest-bearing deposits with banks	(14,456)	640	1,207
Proceeds from sale of available-for-sale securities	10,331	8,795	6,476
Proceeds from maturity of available-for-sale securities	33,294	38,950	37,099
Purchases of available-for-sale securities	(51,304)	(54,208)	(41,057)
Proceeds from maturity of held-to-maturity securities	16	285	401
Purchases of held-to-maturity securities	(1,942)	(1,625)	(284)
Net acquisitions of premises and equipment and other intangibles	(1,337)	(1,227)	(932)
Proceeds from dispositions	255	173	17
Cash used in acquisitions	–	–	(2,537)
<b>Net cash from (used in) investing activities</b>	<b>(25,143)</b>	<b>(8,217)</b>	<b>390</b>
<b>Cash flows from financing activities</b>			
Redemption of trust capital securities	–	(900)	–
Issue of subordinated debentures	1,000	2,000	2,046
Repayment of subordinated debentures	(1,700)	(1,600)	(2,000)
Issue of common shares	62	150	121
Common shares purchased for cancellation	–	(113)	(408)
Issue of preferred shares	1,350	1,000	–
Redemption of preferred shares	(325)	(1,525)	(222)
Sales of treasury shares	6,215	5,457	4,580
Purchase of treasury shares	(6,250)	(5,428)	(4,569)
Dividends paid	(4,564)	(4,211)	(3,810)
Issuance costs	(21)	(14)	–
Dividends/distributions paid to non-controlling interests	(92)	(94)	(94)
Change in short-term borrowings of subsidiaries	(105)	(6)	(93)
<b>Net cash from (used in) financing activities</b>	<b>(4,430)</b>	<b>(5,284)</b>	<b>(4,449)</b>
Effect of exchange rate changes on cash and due from banks	455	198	96
<b>Net change in cash and due from banks</b>	<b>(4,969)</b>	<b>1,871</b>	<b>3,122</b>
Cash and due from banks at beginning of period (1)	17,421	15,550	12,428
<b>Cash and due from banks at end of period (1)</b>	<b>\$ 12,452</b>	<b>\$ 17,421</b>	<b>\$ 15,550</b>
<b>Cash flows from operating activities include:</b>			
Amount of interest paid	\$ 7,096	\$ 7,186	\$ 7,223
Amount of interest received	21,132	20,552	19,348
Amount of dividend received	1,843	1,702	1,478
Amount of income taxes paid	2,046	2,315	1,479

(1) We are required to maintain balances with central banks and other regulatory authorities. The total balances were \$2.6 billion as at October 31, 2015 (October 31, 2014 – \$2.0 billion; October 31, 2013 – \$2.6 billion; November 1, 2012 – \$2.1 billion).

The accompanying notes are an integral part of these Consolidated Financial Statements.

## Note 1 General information

Royal Bank of Canada and its subsidiaries (the Bank) provide diversified financial services including personal and commercial banking, wealth management, insurance, investor services and capital markets products and services on a global basis. Refer to Note 30 for further details on our business segments.

The parent bank, Royal Bank of Canada, is a Schedule I Bank under the *Bank Act* (Canada) incorporated and domiciled in Canada. Our corporate headquarters are located at Royal Bank Plaza, 200 Bay Street, Toronto, Ontario, Canada and our head office is located at 1 Place Ville-Marie, Montreal, Quebec, Canada. Our common shares are listed on the Toronto Stock Exchange and New York Stock Exchange with the ticker symbol RY.

These Consolidated Financial Statements are prepared in compliance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). Unless otherwise stated, monetary amounts are stated in Canadian dollars. Tabular information is stated in millions of dollars, except per share amounts and percentages. These Consolidated Financial Statements also comply with Subsection 308 of the *Bank Act* (Canada), which states that, except as otherwise specified by the Office of the Superintendent of Financial Institutions (OSFI), our Consolidated Financial Statements are to be prepared in accordance with IFRS. The accounting policies outlined in Note 2 have been consistently applied to all periods presented.

On December 1, 2015, the Board of Directors authorized the Consolidated Financial Statements for issue.

## Note 2 Summary of significant accounting policies, estimates and judgments

The significant accounting policies used in the preparation of these Consolidated Financial Statements, including the accounting requirements prescribed by OSFI, are summarized below. These accounting policies conform, in all material respects, to IFRS.

### General

#### Use of estimates and assumptions

In preparing our Consolidated Financial Statements, management is required to make subjective estimates and assumptions that affect the reported amount of assets, liabilities, net income and related disclosures. Estimates made by management are based on historical experience and other assumptions that are believed to be reasonable. Key sources of estimation uncertainty include: securities impairment, determination of fair value of financial instruments, the allowance for credit losses, derecognition of financial assets, insurance claims and policy benefit liabilities, pensions and other post-employment benefits, income taxes, carrying value of goodwill and other intangible assets, litigation provisions, and deferred revenue under the credit card customer loyalty reward program. Accordingly, actual results may differ from these and other estimates thereby impacting our future Consolidated Financial Statements. Refer to the relevant accounting policies in this Note for details on our use of estimates and assumptions.

#### Significant judgments

In preparation of these Consolidated Financial Statements, management is required to make significant judgments that affect the carrying amounts of certain assets and liabilities, and the reported amounts of revenues and expenses recorded during the period. Significant judgments have been made in the following areas and discussed as noted in the Consolidated Financial Statements:

Consolidation of structured entities	Note 2 – page 125 Note 7 – page 158	Securities impairment	Note 2 – page 126 Note 4 – page 150
Fair value of financial instruments	Note 2 – page 127 Note 3 – page 136	Application of the effective interest method	Note 2 – page 128
Allowance for credit losses	Note 2 – page 130 Note 5 – page 154	Derecognition of financial assets	Note 2 – page 131 Note 6 – page 157
Employee benefits	Note 2 – page 132 Note 17 – page 175	Income taxes	Note 2 – page 132 Note 24 – page 187
Goodwill and other intangibles	Note 2 – page 133 Note 10 – page 168 Note 11 – page 170	Provisions	Note 2 – page 134 Note 26 – page 189 Note 27 – page 192

#### Basis of consolidation

Our Consolidated Financial Statements include the assets and liabilities and results of operations of the parent company, Royal Bank of Canada, and its subsidiaries including certain structured entities, after elimination of intercompany transactions, balances, revenues and expenses.

#### Consolidation

Subsidiaries are those entities, including structured entities, over which we have control. We control an entity when we are exposed, or have rights, to variable returns from our involvement with the entity and have the ability to affect those returns through our power over the investee. We have power over an entity when we have existing rights that give us the current ability to direct the activities that most significantly affect the entity's returns (relevant activities). Power may be determined on the basis of voting rights or, in the case of structured entities, other contractual arrangements.

We are not deemed to control an entity when we exercise power over an entity in an agency capacity. In determining whether we are acting as an agent, we consider the overall relationship between us, the investee and other parties to the arrangement with respect to the following factors: (i) the scope of our decision making power; (ii) the rights held by other parties; (iii) the remuneration to which we are entitled; and (iv) our exposure to variability of returns.

The determination of control is based on the current facts and circumstances and is continuously assessed. In some circumstances, different factors and conditions may indicate that different parties control an entity depending on whether those factors and conditions are assessed in isolation or in totality. Significant judgment is applied in assessing the relevant factors and conditions in totality when determining whether we control an entity. Specifically, judgment is applied in assessing whether we have substantive decision making rights over the relevant activities and whether we are exercising our power as a principal or an agent.

We consolidate all subsidiaries from the date we obtain control, and cease consolidation when an entity is no longer controlled by us. Our consolidation conclusions affect the classification and amount of assets, liabilities, revenues and expenses reported in our Consolidated Financial Statements.

Non-controlling interests in subsidiaries that we consolidate are shown on our Consolidated Balance Sheets as a separate component of equity which is distinct from our shareholders' equity. The net income attributable to non-controlling interests is separately disclosed in our Consolidated Statements of Income.

#### *Investments in associates and joint ventures*

Our investments in associated corporations and limited partnerships over which we have significant influence are accounted for using the equity method. The equity method is also applied to our interests in joint ventures over which we have joint control. 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 the investee's net profit or loss, including our proportionate share of the investee's other comprehensive income (OCI), subsequent to the date of acquisition.

#### *Non-current assets held for sale and discontinued operations*

Non-current assets (and disposal groups) are classified as held for sale if their carrying amounts will be recovered principally through a sale transaction rather than through continuing use. This condition is satisfied when the asset is available for immediate sale in its present condition, management is committed to the sale, and it is highly probable to occur within one year. Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their previous carrying amount and fair value less costs to sell and if significant, are presented separately from other assets on our Consolidated Balance Sheets.

A disposal group is classified as a discontinued operation if it meets the following conditions: (i) it is a component that can be distinguished operationally and financially from the rest of our operations and (ii) it represents either a separate major line of business or is part of a single co-ordinated plan to dispose of a separate major line of business or geographical area of operations. Disposal groups classified as discontinued operations are presented separately from our continuing operations in our Consolidated Statements of Income.

#### **Changes in accounting policies**

During the first quarter, we adopted the following new accounting pronouncements:

##### **IAS 32 Financial Instruments: Presentation (IAS 32)**

Amendments to IAS 32 clarify the existing requirements for offsetting financial assets and financial liabilities. The standard provides clarifications on the legal right to offset transactions, and when transactions settled through a gross settlement system would meet the simultaneous settlement criteria. We retrospectively adopted the amendments on November 1, 2014. The adoption of these amendments did not have an impact on our Consolidated Financial Statements.

##### **International Financial Reporting Standards (IFRS) Interpretations Committee IFRIC Interpretation 21 Levies (IFRIC 21)**

IFRIC 21 provides guidance on when to recognize a liability to pay a levy that is accounted for in accordance with IAS 37 *Provisions, Contingent Liabilities and Contingent Assets*. It also addresses the accounting for a liability to pay a levy whose timing and amount is certain. The interpretation clarifies that the obligating event that gives rise to a liability to pay a levy is the activity described in the relevant legislation that triggers the payment of the levy. We prospectively adopted the standard on November 1, 2014. We did not restate our quarterly or annual results for periods before November 1, 2014 as the amounts were not significant. The adoption of this interpretation did not have a material impact on our Consolidated Financial Statements.

#### **Financial instruments – Recognition and measurement** **Securities**

Securities are classified at inception, based on management's intention, as at fair value through profit or loss (FVTPL), available-for-sale (AFS) or held-to-maturity. Certain debt securities with fixed or determinable payments and which are not quoted in an active market may be classified as loans and receivables.

Trading securities include securities purchased for sale in the near term which are classified as at FVTPL by nature and securities designated as at FVTPL under the fair value option. Obligations to deliver trading securities sold but not yet purchased are recorded as liabilities and carried at fair value. Realized and unrealized gains and losses on these securities are recorded as Trading revenue in Non-interest income. Dividends and interest income accruing on Trading securities are recorded in Interest income. Interest and dividends accrued on interest-bearing and equity securities sold short are recorded in Interest expense.

AFS securities include: (i) securities which may be sold to meet liquidity needs, in response to or in anticipation of changes in interest rates and resulting prepayment risk, changes in foreign currency risk, changes in funding sources or terms, and (ii) loan substitute securities which are client financings that have been structured as after-tax investments rather than conventional loans in order to provide the clients with a borrowing rate advantage. AFS securities are measured at fair value. Unrealized gains and losses arising from changes in fair value are included in Other components of equity. Changes in foreign exchange rates for AFS equity securities are recognized in Other components of equity, while changes in foreign exchange rates for AFS debt securities are recognized in Foreign exchange revenue, other than trading in Non-interest income. When the security is sold, the cumulative gain or loss recorded in Other components of equity is included as Net gains on AFS securities in Non-interest income. Purchase premiums or discounts on AFS debt securities are amortized over the life of the security using the effective interest method and are recognized in Net interest income.

At each reporting date, and more frequently when conditions warrant, we evaluate our AFS securities to determine whether there is any objective evidence of impairment. Such evidence includes: for debt instruments, when an adverse effect on future cash flows from the asset or group of assets can be reliably estimated; for equity securities, when there is a significant or prolonged decline in the fair value of the investment below its cost.

When assessing impairment for debt instruments we primarily consider counterparty ratings and security-specific factors, including subordination, external ratings, and the value of any collateral held, for which there may not be a readily accessible market. Significant judgment is required in assessing impairment as management is required to consider all available evidence in determining whether objective evidence of impairment exists and whether the principal and interest on the AFS debt security can be fully recovered. For complex debt instruments we use cash flow projection models which incorporate actual and projected cash flows for each security based on security specific factors using a number of assumptions and inputs that involve management judgment, such as default, prepayment and recovery rates. Due to the subjective nature of choosing these inputs and assumptions, the actual amount of the future cash flows and their timing may differ from the estimates used by management and consequently may cause a different conclusion as to the recognition of impairment or measurement of impairment loss.

In assessing whether there is any objective evidence that suggests that equity securities are impaired, we consider factors which include the length of time and extent the fair value has been below cost, along with management's assessment of the financial condition, business and other risks of the issuer. Management weighs all these factors to determine the impairment but to the extent that management judgment may differ from the actual experience of the timing and amount of the recovery of the fair value, the estimate for impairment could change from period to period based upon future events that may or may not occur, and the conclusion for the impairment of the equity securities may differ.

If an AFS security is impaired, the cumulative unrealized loss previously recognized in Other components of equity is removed from equity and recognized in Net gains on AFS securities under Non-interest income. This amount is determined as the difference between the cost/amortized cost and current fair value of the security less any impairment loss previously recognized. Subsequent to impairment, further declines in fair value are recorded in Non-interest income, while increases in fair value are recognized in Other components of equity until sold. For AFS debt securities, reversal of previously recognized impairment losses is recognized in our Consolidated Statements of Income if the recovery is objectively related to a specific event occurring after recognition of the impairment loss.

Held-to-maturity securities are debt securities where we have the intention and the ability to hold the investment until its maturity date. These securities are initially recorded at fair value and are subsequently measured at amortized cost using the effective interest method, less any impairment losses which we assess using the same impairment model as for loans. Interest income and amortization of premiums and discounts on debt securities are recorded in Net interest income. For held-to-maturity securities, reversal of previously recognized impairment losses is recognized in our Consolidated Statements of Income if the recovery is objectively related to a specific event occurring after the recognition of the impairment loss. Reversals of impairment losses on held-to-maturity securities are recorded to a maximum of what the amortized cost of the investment would have been, had the impairment not been recognized at the date the impairment is reversed. Held-to-maturity securities have been included with AFS securities on our Consolidated Balance Sheets.

We account for all of our securities using settlement date accounting and changes in fair value between the trade date and settlement date are reflected in income for securities classified or designated as at FVTPL, and changes in the fair value of AFS securities between the trade and settlement dates are recorded in OCI except for changes in foreign exchange rates on debt securities, which are recorded in Non-interest income.

### Fair value option

A financial instrument can be designated as at FVTPL (the fair value option) on its initial recognition even if the financial instrument was not acquired or incurred principally for the purpose of selling or repurchasing it in the near term. An instrument that is designated as at FVTPL by way of this fair value option must have a reliably measurable fair value and satisfy one of the following criteria: (i) it eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities, or recognizing gains and losses on them on a different basis (an accounting mismatch); (ii) it belongs to a group of financial assets or financial liabilities or both that are managed, evaluated, and reported to key management personnel on a fair value basis in accordance with our risk management strategy, and we can demonstrate that significant financial risks are eliminated or significantly reduced; or (iii) there is an embedded derivative in the financial or non-financial host contract and the derivative is not closely related to the host contract. These instruments cannot be reclassified out of the FVTPL category while they are held or issued.

Financial assets designated as at FVTPL are recorded at fair value and any unrealized gain or loss arising due to changes in fair value is included in Trading revenue or Non-interest income – Other. Financial liabilities designated as at FVTPL are recorded at fair value and fair value changes attributable to changes in our own credit risk are recorded in OCI. Amounts recognized in OCI will not be reclassified subsequently to net income. The remaining fair value changes are recorded in Trading revenue or Non-interest income – Other. Upon initial recognition, if we determine that presenting the effects of own credit risk changes in OCI would create or enlarge an accounting mismatch in net income, the full fair value change in our debt designated as at FVTPL is recognized in net income.

To determine the fair value adjustments on our debt designated as at FVTPL, we calculate the present value of the instruments based on the contractual cash flows over the term of the arrangement by using our effective funding rate at the beginning and end of the period with the change in present value recorded in OCI, Trading revenue or Non-interest income – Other as appropriate.

### Determination of fair value

The fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. We determine fair value by incorporating all factors that market participants would consider in setting a price, including commonly accepted valuation approaches.

The Board of Directors provides oversight on valuation of financial instruments, primarily through the Audit Committee and Risk Committee. The Audit Committee reviews the presentation and disclosure of financial instruments that are measured at fair value, while the Risk Committee assesses adequacy of governance structures and control processes for valuation of these instruments.

We have established policies, procedures and controls for valuation methodologies and techniques to ensure fair value is reasonably estimated. Major valuation processes and controls include, but are not limited to, profit and loss decomposition, independent price verification (IPV) and model validation standards. These control processes are managed by either Finance or Group Risk Management and are independent of the relevant businesses and their trading functions. Profit and loss decomposition is a process to explain the fair value changes of certain positions and is performed daily for trading portfolios. All fair value instruments are subject to IPV, a process whereby trading function valuations are verified against external market prices and other relevant market data. Market data sources include traded prices, brokers and price vendors. We give priority to those third-party pricing services and prices having the highest and most consistent accuracy. The level of accuracy is determined over time by comparing third-party price values to traders' or system values, to other pricing service values and, when available, to actual trade data. Other valuation techniques are used when a price or quote is not available. Some valuation processes use models to determine fair value. We have a systematic and consistent approach to control model use. Valuation models are approved for use within our model risk management framework. The framework addresses, among other things, model development standards, validation processes and procedures, and approval authorities. Model validation ensures that a model is suitable for its intended use and sets parameters for its use. All models are revalidated regularly by qualified personnel who are independent of the model design and development. Annually our model risk profile is reported to the Board of Directors.

IFRS 13 *Fair Value Measurement* permits an exception, through an accounting policy choice, to measure fair value of a portfolio of financial instruments on a net open risk position basis when certain criteria are met. We have elected to use this policy choice to determine fair value of certain portfolios of financial instruments, primarily derivatives, on a net exposure to market or credit risk.

We record valuation adjustments to appropriately reflect counterparty credit quality of our derivative portfolio, differences between the overnight index swap (OIS) curve and London Interbank Offered Rates (LIBOR) for collateralized derivatives, funding valuation adjustments (FVA) for uncollateralized and under-collateralized over-the-counter (OTC) derivatives, unrealized gains or losses at inception of the transaction, bid-offer spreads, unobservable parameters and model limitations. These adjustments may be subjective as they require significant judgment in the input selection, such as probability of default and recovery rate, and are intended to arrive at fair value that is determined based on

assumptions that market participants would use in pricing the financial instrument. The realized price for a transaction may be different from its recorded value that is previously estimated using management judgment, and may therefore impact unrealized gains and losses recognized in Non-interest income – Trading revenue or Other.

Valuation adjustments are recorded for the credit risk of our derivative portfolios in order to arrive at their fair values. Credit valuation adjustments (CVA) take into account our counterparties' creditworthiness, the current and potential future mark-to-market of the transactions, and the effects of credit mitigants such as master netting and collateral agreements. CVA amounts are derived from estimates of exposure at default, probability of default, recovery rates on a counterparty basis, and market and credit factor correlations. Exposure at default is the amounts of expected derivative related assets and liabilities at the time of default, estimated through modeling using underlying risk factors. Probability of default and recovery rate are generally implied from the market prices for credit protection and credit ratings of the counterparty. Correlation is the statistical measure of how credit and market factors may move in relation to one another. Correlation is estimated using historical data and market data where available. CVA is calculated daily and changes are recorded in Non-interest income – Trading revenue.

In the determination of fair value of collateralized OTC derivatives using the OIS curve, our valuation approach accounts for the difference between certain OIS rates and LIBOR for derivatives valuation as valuation adjustments.

FVA are also calculated to incorporate cost and benefit of funding in the valuation of uncollateralized and under-collateralized OTC derivatives. Future expected cash flows of these derivatives are discounted to reflect the cost and benefit of funding the derivatives by using a funding curve, implied volatilities and correlations as inputs.

Where required, a valuation adjustment is made to reflect the unrealized gain or loss at inception of a financial instrument contract where the fair value of that financial instrument is not obtained from a quoted market price or cannot be evidenced by other observable market transactions based on a valuation technique incorporating observable market data.

A bid-offer valuation adjustment is required when a financial instrument is valued at the mid-market price, instead of the bid or offer price for asset or liability positions, respectively. The valuation adjustment takes into account the spread from the mid to either the bid or offer price.

Some valuation models require parameter calibration from such factors as market observed option prices. The calibration of parameters may be sensitive to factors such as the choice of instruments or optimization methodology. A valuation adjustment is also estimated to mitigate the uncertainties of parameter calibration and model limitations.

In determining fair value, a hierarchy is used which prioritizes the inputs to valuation techniques. The fair value hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). Determination of fair value based on this hierarchy requires the use of observable market data whenever available. Level 1 inputs are unadjusted quoted prices in active markets for identical assets or liabilities that we have the ability to access at the measurement date. Level 2 inputs include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in markets that are not active, and model inputs that are either observable, or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 3 inputs are one or more inputs that are unobservable and significant to the fair value of the asset or liability. Unobservable inputs are used to measure fair value to the extent that observable inputs are not available at the measurement date. The availability of inputs for valuation may affect the selection of valuation techniques. The classification of a financial instrument in the hierarchy for disclosure purposes is based upon the lowest level of input that is significant to the measurement of fair value.

Where observable prices or inputs are not available, management judgment is required to determine fair values by assessing other relevant sources of information such as historical data, proxy information from similar transactions, and through extrapolation and interpolation techniques. For more complex or illiquid instruments, significant judgment is required in the determination of the model used, the selection of model inputs, and in some cases the application of valuation adjustments to the model value or quoted price for inactively traded financial instruments, as the selection of model inputs may be subjective and the inputs may be unobservable. Unobservable inputs are inherently uncertain as there is little or no market data available from which to determine the level at which the transaction would occur under normal business circumstances. Appropriate parameter uncertainty and market risk valuation adjustments for such inputs and other model risk valuation adjustments are assessed in all such instances.

### **Interest**

Interest is recognized in Interest income and Interest expense in the Consolidated Statements of Income for all interest bearing financial instruments using the effective interest method. The effective interest rate is the rate that discounts estimated future cash flows over the expected life of the financial asset or liability to the net carrying amount upon initial recognition. Significant judgment is applied in determining the effective interest rate due to uncertainty in the timing and amounts of future cash flows.

### **Transaction costs**

Transaction costs are expensed as incurred for financial instruments classified or designated as at FVTPL. For other financial instruments, transaction costs are capitalized on initial recognition. For financial assets and financial liabilities measured at amortized cost, capitalized transaction costs are amortized through Net income over the estimated life of the instrument using the effective interest method. For AFS financial assets measured at fair value that do not have fixed or determinable payments and no fixed maturity, capitalized transaction costs are recognized in Net income when the asset is derecognized or becomes impaired.

### **Offsetting financial assets and financial liabilities**

Financial assets and financial liabilities are offset on the balance sheet when there exists both a legally enforceable right to offset the recognized amounts and an intention to settle on a net basis, or realize the asset and settle the liability simultaneously.

### **Assets purchased under reverse repurchase agreements and sold under repurchase agreements**

We purchase securities under agreements to resell (reverse repurchase agreement) and take possession of these securities. Reverse repurchase agreements are treated as collateralized lending transactions whereby we monitor the market value of the securities purchased and additional collateral is obtained when appropriate. We have the right to liquidate the collateral held in the event of counterparty default. We also sell securities under agreements to repurchase (repurchase agreements), which are treated as collateralized borrowing transactions. The securities received under reverse repurchase agreements and securities delivered under repurchase agreements are not recognized on, or derecognized from, our Consolidated Balance Sheets, respectively, unless the risks and rewards of ownership are obtained or relinquished.

Reverse repurchase agreements and repurchase agreements are carried on our Consolidated Balance Sheets at the amounts at which the securities were initially acquired or sold, except when they are designated as at FVTPL and are recorded at fair value. Interest earned on reverse

repurchase agreements is included in Interest income, and interest incurred on repurchase agreements is included in Interest expense in our Consolidated Statements of Income. Changes in fair value for reverse repurchase agreements and repurchase agreements designated as at FVTPL are included in Trading revenue or Other in Non-interest income.

## Derivatives

Derivatives are primarily used in sales and trading activities. Derivatives are also used to manage our exposure to interest, currency, credit and other market risks. The most frequently used derivative products are interest rate swaps, interest rate futures, forward rate agreements, interest rate options, foreign exchange forward contracts, cross currency swaps, foreign currency futures, foreign currency options, equity swaps and credit derivatives. All derivative instruments are recorded on our Consolidated Balance Sheets at fair value, including those derivatives that are embedded in financial or non-financial contracts and are not closely related to the host contracts.

When derivatives are embedded in other financial instruments or host contracts, such combinations are known as hybrid instruments with the effect that some of the cash flows of a hybrid instrument vary in a way similar to a stand-alone derivative. If the host contract is not carried at fair value with changes in fair value reported in our Consolidated Statements of Income, the embedded derivative is generally required to be separated from the host contract and accounted for separately as at FVTPL if the economic characteristics and risks of the embedded derivative are not closely related to those of the host contract. All embedded derivatives are presented on a combined basis with the host contracts although they are separated for measurement purposes when conditions requiring separation are met.

When derivatives are used in sales and trading activities, the realized and unrealized gains and losses on these derivatives are recognized in Trading revenue in Non-interest income. Derivatives with positive fair values are reported as Derivative assets and derivatives with negative fair values are reported as Derivative liabilities. In accordance with our policy for offsetting financial assets and financial liabilities, the net fair value of certain derivative assets and liabilities are reported as an asset or liability, as appropriate. Valuation adjustments are included in the fair value of Derivative assets and Derivative liabilities. Premiums paid and premiums received are shown in Derivative assets and Derivative liabilities, respectively.

When derivatives are used to manage our own exposures, we determine for each derivative whether hedge accounting can be applied, as discussed in the Hedge accounting section below.

### *Hedge accounting*

We use derivatives and non-derivatives in our hedging strategies to manage our exposure to interest rate, currency, credit and other market risks. Where hedge accounting can be applied, a hedge relationship is designated and documented at inception to detail the particular risk management objective and strategy for undertaking the hedge transaction. The documentation identifies the specific asset, liability or anticipated cash flows being hedged, the risk that is being hedged, the type of hedging instrument used and how effectiveness will be assessed. We assess, both at the inception of the hedge and on an ongoing basis, whether the hedging instruments are 'highly effective' in offsetting changes in the fair value or cash flows of the hedged items. A hedge is regarded as highly effective only if the following criteria are met: (i) at inception of the hedge and throughout its life, the hedge is expected to be highly effective in achieving offsetting changes in fair value or cash flows attributable to the hedged risk, and (ii) actual results of the hedge are within a pre-determined range. In the case of hedging a forecast transaction, the transaction must have a high probability of occurring and must present an exposure to variations in cash flows that could ultimately affect the reported net profit or loss. Hedge accounting is discontinued when it is determined that the hedging instrument is no longer effective as a hedge, the hedging instrument is terminated or sold, upon the sale or early termination of the hedged item, or when the forecast transaction is no longer deemed highly probable. Refer to Note 8 for the fair value of derivatives and non-derivative instruments categorized by their hedging relationships, as well as derivatives that are not designated in hedging relationships.

### *Fair value hedges*

In a fair value hedging relationship, the carrying value of the hedged item is adjusted for changes in fair value attributable to the hedged risk and recognized in Non-interest income. Changes in fair value of the hedged item, to the extent that the hedging relationship is effective, are offset by changes in the fair value of the hedging derivative, which are also recognized in Non-interest income. When hedge accounting is discontinued, the carrying value of the hedged item is no longer adjusted and the cumulative fair value adjustments to the carrying value of the hedged items are amortized to Net income over the remaining life of the hedged items.

We predominantly use interest rate swaps to hedge our exposure to changes in a fixed interest rate instrument's fair value caused by changes in interest rates.

### *Cash flow hedges*

In a cash flow hedging relationship, the effective portion of the change in the fair value of the hedging derivative, net of taxes, is recognized in OCI while the ineffective portion is recognized in Non-interest income. When hedge accounting is discontinued, the cumulative amounts previously recognized in Other components of equity are reclassified to Net interest income during the periods when the variability in the cash flows of the hedged item affects Net interest income. Unrealized gains and losses on derivatives are reclassified immediately to Net income when the hedged item is sold or terminated early, or when the forecast transaction is no longer expected to occur.

We predominantly use interest rate swaps to hedge the variability in cash flows related to a variable-rate asset or liability.

### *Net investment hedges*

In hedging a foreign currency exposure of a net investment in a foreign operation, the effective portion of foreign exchange gains and losses on the hedging instruments, net of applicable taxes, is recognized in OCI and the ineffective portion is recognized in Non-interest income. The amounts, or a portion thereof, previously recognized in Other components of equity are recognized in Net income on the disposal, or partial disposal, of the foreign operation.

We use foreign exchange contracts and foreign currency-denominated liabilities to manage our foreign currency exposures to net investments in foreign operations having a functional currency other than the Canadian dollar.

## Loans

Loans are non-derivative financial assets with fixed or determinable payments that are not quoted in an active market and which are not classified as AFS. Loans are initially recognized at fair value. When loans are issued at a market rate, fair value is represented by the cash advanced to the borrowers. Loans are subsequently measured at amortized cost using the effective interest method less impairment, unless we intend to sell them in the near future upon origination or they have been designated as at FVTPL, in which case they are carried at fair value.

We assess at each balance sheet date whether there is objective evidence that the loans (including debt securities reclassified as loans) are impaired. Evidence of impairment may include indications that the borrower is experiencing significant financial difficulty, probability of bankruptcy or other financial reorganization, as well as a measurable decrease in the estimated future cash flows evidenced by the adverse changes in the payments status of the borrower or economic conditions that correlate with defaults. Whenever a payment is 90 days past due, loans other than credit card balances and loans guaranteed or insured by a Canadian government (Federal or Provincial) or a Canadian government agency (collectively, Canadian government) are classified as impaired unless they are fully secured and collection efforts are reasonably expected to result in repayment of debt within 180 days of the loans becoming past due. Loans guaranteed by a Canadian government are classified as impaired when the loan is contractually 365 days in arrears. Credit card balances are written off when a payment is 180 days in arrears.

Assets acquired to satisfy loan commitments are recorded at their fair value less costs to sell. Fair value is determined based on either current market value where available or discounted cash flows. Any excess of the carrying value of the loan over the fair value of the assets acquired is recognized by a charge to Provision for credit losses.

Interest on loans is recognized in Interest income – Loans using the effective interest method. The estimated future cash flows used in this calculation include those determined by the contractual term of the asset, all fees that are considered to be integral to the effective interest rate, transaction costs and all other premiums or discounts. Fees that relate to activities such as originating, restructuring or renegotiating loans are deferred and recognized as Interest income over the expected term of such loans using the effective interest method. Where there is a reasonable expectation that a loan will be originated, commitment and standby fees are also recognized as interest income over the expected term of the resulting loans using the effective interest method. Otherwise, such fees are recorded as other liabilities and amortized into Non-interest income over the commitment or standby period. Prepayment fees on mortgage loans are not included as part of the effective interest rate at origination as the amounts are not reliably measurable. If prepayment fees are received on a renewal of a mortgage loan, the fee is included as part of the effective interest rate, and if not renewed, the prepayment fee is recognized in interest income at the prepayment date.

#### **Allowance for credit losses**

An allowance for credit losses is established if there is objective evidence that we will be unable to collect all amounts due on our loans portfolio according to the original contractual terms or the equivalent value. This portfolio includes on-balance sheet exposures, such as loans and acceptances, and off-balance sheet items such as letters of credit, guarantees and unfunded commitments.

The allowance for credit losses is increased by the impairment losses recognized and decreased by the amount of write-offs, net of recoveries. The allowance for credit losses for on-balance sheet items is included as a reduction to assets, and the allowance for credit losses relating to off-balance sheet items is included in Provisions under Other Liabilities.

We assess whether objective evidence of impairment exists individually for loans that are individually significant and collectively for loans that are not individually significant. If we determine that no objective evidence of impairment exists for an individually assessed loan, whether significant or not, the loan is included in a group of loans with similar credit risk characteristics and collectively assessed for impairment. Loans that are individually assessed for impairment and for which an impairment loss is recognized are not included in a collective assessment of impairment.

Allowance for credit losses represent management's best estimates of losses incurred in our loan portfolio at the balance sheet date. Management's judgment is required in making assumptions and estimations when calculating allowances on both individually and collectively assessed loans. The underlying assumptions and estimates used for both individually and collectively assessed loans can change from period to period and may significantly affect our results of operations.

#### *Individually assessed loans*

Loans which are individually significant are assessed individually for objective indicators of impairment. A loan is considered impaired when management determines that it will not be able to collect all amounts due according to the original contractual terms or the equivalent value.

Credit exposures of individually significant loans are evaluated based on factors including the borrower's overall financial condition, resources and payment record, and where applicable, the realizable value of any collateral. If there is evidence of impairment leading to an impairment loss, then the amount of the loss is determined as the difference between the carrying amount of the loan, including accrued interest, and the estimated recoverable amount. The estimated recoverable amount is measured as the present value of expected future cash flows discounted at the loan's original effective interest rate, including cash flows that may result from the realization of collateral less costs to sell. Individually-assessed impairment losses reduce the carrying amount of the loan through the use of an allowance account and the amount of the loss is recognized in Provision for credit losses in our Consolidated Statements of Income. Following impairment, interest income is recognized on the unwinding of the discount from the initial recognition of impairment.

Significant judgment is required in assessing evidence of impairment and estimation of the amount and timing of future cash flows when determining the impairment loss. When assessing objective evidence of impairment we primarily consider specific factors such as the financial condition of the borrower, borrower's default or delinquency in interest or principal payments, local economic conditions and other observable data. In determining the estimated recoverable amount we consider discounted expected future cash flows at the effective interest rate using a number of assumptions and inputs. Management judgment is involved when choosing these inputs and assumptions used such as the expected amount of the loan that will not be recovered and the cost of time delays in collecting principal and/or interest, and when estimating the value of any collateral held for which there may not be a readily accessible market. Changes in the amount expected to be recovered would have a direct impact on the Provision for credit losses and may result in a change in the Allowance for credit losses.

#### *Collectively assessed loans*

Loans which are not individually significant, or which are individually assessed and not determined to be impaired, are collectively assessed for impairment. For the purposes of a collective evaluation of impairment, loans are grouped on the basis of similar risk characteristics, taking into account loan type, industry, geographic location, collateral type, past due status and other relevant factors.

The collective impairment allowance is determined by reviewing factors including: (i) historical loss experience, which takes into consideration historical probabilities of default, loss given default and exposure at default, in portfolios of similar credit risk characteristics, and (ii) management's judgment on the level of impairment losses based on historical experience relative to the actual level as reported at the balance sheet date, taking into consideration the current portfolio credit quality trends, business and economic and credit conditions, the impact of policy and process changes, and other supporting factors. Future cash flows for a group of loans are collectively evaluated for impairment on the basis of the contractual cash flows of the loans in the group and historical loss experience for loans with credit risk characteristics similar to those in the group. Historical loss experience is adjusted based on current observable data to reflect the effects of current conditions that did not affect the period on which the historical loss experience is based and to remove the effects of conditions in the historical period that do not

currently exist. The methodology and assumptions used for estimating future cash flows are reviewed regularly to reduce any differences between loss estimates and actual loss experience. Collectively-assessed impairment losses reduce the carrying amount of the aggregated loan position through an allowance account and the amount of the loss is recognized in Provision for credit losses. Following impairment, interest income is recognized on the unwinding of the discount from the initial recognition of impairment.

The methodology and assumptions used to calculate collective impairment allowances are subject to uncertainty, in part because it is not practicable to identify losses on an individual loan basis due to the large number of individually insignificant loans in the portfolio. Significant judgment is required in assessing historical loss experience, the loss identification period and its relationship to current portfolios including delinquency, and loan balances; and current business, economic and credit conditions including industry specific performance, unemployment and country risks. Changes in these assumptions would have a direct impact on the Provision for credit losses and may result in changes in the related Allowance for credit losses.

#### *Write-off of loans*

Loans and the related impairment allowance for credit losses are written off, either partially or in full, when there is no realistic prospect of recovery. Where loans are secured, they are generally written off after receipt of any proceeds from the realization of the collateral. In circumstances where the net realizable value of any collateral has been determined and there is no reasonable expectation of further recovery, write off may be earlier. For credit cards, the balances and related allowance for credit losses are written off when payment is 180 days in arrears. Personal loans are generally written off at 150 days past due.

#### **Derecognition of financial assets**

Our various securitization activities generally consist of the transfer of financial assets such as loans or packaged mortgage-backed securities (MBS) to independent structured entities or trusts that issue securities to investors.

Financial assets are derecognized from our Consolidated Balance Sheets when our contractual rights to the cash flows from the assets have expired, when we retain the rights to receive the cash flows of the assets but assume an obligation to pay those cash flows to a third party subject to certain pass-through requirements or when we transfer our contractual rights to receive the cash flows and substantially all of the risk and rewards of the assets have been transferred. When we retain substantially all of the risks and rewards of the transferred assets, the transferred assets are not derecognized from our Consolidated Balance Sheets and are accounted for as secured financing transactions. When we neither retain nor transfer substantially all risks and rewards of ownership of the assets, we derecognize the assets if control over the assets is relinquished. If we retain control over the transferred assets, we continue to recognize the transferred assets to the extent of our continuing involvement.

Management's judgment is applied in determining whether the contractual rights to the cash flows from the transferred assets have expired or whether we retain the rights to receive cash flows on the assets but assume an obligation to pay for those cash flows. We derecognize transferred financial assets if we transfer substantially all the risk and rewards of the ownership in the assets. When assessing whether we have transferred substantially all of the risk and rewards of the transferred assets, management considers the Bank's exposure before and after the transfer with the variability in the amount and timing of the net cash flows of the transferred assets. In transfers in which we retain the servicing rights, management has applied judgment in assessing the benefits of servicing against market expectations. When the benefits of servicing are greater than fair value, a servicing asset is recognized in Other assets in our Consolidated Balance Sheets. When the benefits of servicing are less than fair value, a servicing liability is recognized in Other liabilities in our Consolidated Balance Sheets.

#### **Derecognition of financial liabilities**

We derecognize a financial liability from our Consolidated Balance Sheets when our obligation specified in the contract expires, or is discharged or cancelled. We recognize the difference between the carrying amount of a financial liability transferred and the consideration paid in our Consolidated Statements of Income.

#### **Guarantees**

Financial guarantee contracts are contracts that contingently require us to make specified payments (in cash, other assets, our own shares or provision of services) to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument. Liabilities are recognized on our Consolidated Balance Sheets at the inception of a guarantee for the fair value of the obligation undertaken in issuing the guarantee. Financial guarantees are subsequently remeasured at the higher of (i) the amount initially recognized and (ii) our best estimate of the present value of the expenditure required to settle the present obligation at the end of the reporting period.

If the financial guarantee contract meets the definition of a derivative, it is measured at fair value at each balance sheet date and reported under Derivatives on our Consolidated Balance Sheets.

#### **Insurance and segregated funds**

Premiums from long-duration contracts, primarily life insurance, are recognized when due in Non-interest income – Insurance premiums, investment and fee income. Premiums from short-duration contracts, primarily property and casualty, and fees for administrative services are recognized in Insurance premiums, investment and fee income over the related contract period. Unearned premiums of the short-duration contracts, representing the unexpired portion of premiums, are reported in Other liabilities. Investments made by our insurance operations are classified as AFS or loans and receivables, except for investments supporting the policy benefit liabilities on life and health insurance contracts and a portion of property and casualty contracts. These are designated as at FVTPL with changes in fair value reported in Insurance premiums, investment and fee income.

Insurance claims and policy benefit liabilities represent current claims and estimates for future insurance policy benefits. Liabilities for life insurance contracts are determined using the Canadian Asset Liability Method (CALM), which incorporates assumptions for mortality, morbidity, policy lapses and surrenders, investment yields, policy dividends, operating and policy maintenance expenses, and provisions for adverse deviation. These assumptions are reviewed at least annually and updated in response to actual experience and market conditions. Liabilities for property and casualty insurance represent estimated provisions for reported and unreported claims. Liabilities for life and property and casualty insurance are included in Insurance claims and policy benefit liabilities. Changes in Insurance claims and policy benefit liabilities are included in the Insurance policyholder benefits, claims and acquisition expense in our Consolidated Statements of Income in the period in which the estimates change.

Premiums ceded for reinsurance and reinsurance recoveries on policyholder benefits and claims incurred are reported in income and expense as appropriate. Reinsurance recoverables, which relate to paid benefits and unpaid claims, are included in Other assets.



Acquisition costs for new insurance business consist of commissions, premium taxes, certain underwriting costs and other costs that vary with the acquisition of new business. Deferred acquisition costs for life insurance products are implicitly recognized in Insurance claims and policy benefit liabilities by CALM. For property and casualty insurance, these costs are classified as Other assets and amortized over the policy term.

Segregated funds are lines of business in which we issue an insurance contract where the benefit amount is directly linked to the market value of the investments held in the underlying fund. The contractual arrangement is such that the underlying segregated fund assets are registered in our name but the segregated fund policyholders bear the risks and rewards of the funds' investment performance. Liabilities for these contracts are calculated based on contractual obligations using actuarial assumptions and are at least equivalent to the surrender or transfer value calculated by reference to the value of the relevant underlying funds or indices. Segregated funds' assets and liabilities are separately presented on our Consolidated Balance Sheets. As the segregated fund policyholders bear the risks and rewards of the funds' performance, investment income earned by the segregated funds and expenses incurred by the segregated funds are offset and are not separately presented in our Consolidated Statements of Income. Fee income we earn from segregated funds includes management fees, mortality, policy administration and surrender charges, and these fees are recorded in Non-interest income – Insurance premiums, investment and fee income. We provide minimum death benefit and maturity value guarantees on segregated funds. The liability associated with these minimum guarantees is recorded in Insurance claims and policy benefit liabilities.

Liability adequacy tests are performed for all insurance contract portfolios at each balance sheet date to ensure the adequacy of insurance contract liabilities. Current best estimates of future contractual cash flows, claims handling and administration costs, and investment returns from the assets backing the liabilities are taken into account in the tests. When the test results indicate that there is a deficiency in liabilities, the deficiency is charged immediately to our Consolidated Statements of Income by writing down the deferred acquisition costs in Other assets and/or increasing Insurance claims and policy benefit liabilities.

#### **Employee benefits – Pensions and other post-employment benefits**

Our defined benefit pension expense, which is included in Non-interest expense – Human resources, consists of the cost of employee pension benefits for the current year's service, net interest on the net defined benefit liability (asset), past service cost and gains or losses on settlement. Remeasurements of the net defined benefit liability, which comprise actuarial gains and losses and return on plan assets (excluding amounts included in net interest on the net defined benefit liability), are recognized immediately in OCI in the period in which they occur. Actuarial gains and losses comprise experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred), as well as the effects of changes in actuarial assumptions. Amounts recognized in OCI will not be reclassified subsequently to net income. Past service cost is the change in the present value of the defined benefit obligation resulting from a plan amendment or curtailment and is charged immediately to income.

For each defined benefit plan, we recognize the present value of our defined benefit obligations less the fair value of the plan assets as a defined benefit liability reported in Employee benefit liabilities on our Consolidated Balance Sheets. For plans where there is a net defined benefit asset, the amount is reported as an asset in Employee benefit assets on our Consolidated Balance sheets.

The calculation of defined benefit expenses and obligations requires significant judgment as the recognition is dependent on discount rates and various actuarial assumptions such as healthcare cost trend rates, projected salary increases, retirement age, and mortality and termination rates. Due to the long-term nature of these plans, such estimates and assumptions are subject to inherent risks and uncertainties. For our pension and other post-employment plans, the discount rate is determined by reference to market yields on high quality corporate bonds. Since the discount rate is based on currently available yields, and involves management's assessment of market liquidity, it is only a proxy for future yields. Actuarial assumptions, set in accordance with current practices in the respective countries of our plans, may differ from actual experience as country specific statistics are only estimates of future employee behaviour. These assumptions are determined by management and are reviewed by actuaries at least annually. Changes to any of the above assumptions may affect the amounts of benefits obligations, expenses and remeasurements that we recognize.

Our contributions to defined contribution plans are expensed when employees have rendered services in exchange for such contributions. Defined contribution plan expense is included in Non-interest expense – Human resources.

#### **Share-based compensation**

We offer share-based compensation plans to certain key employees and to our non-employee directors.

To account for stock options granted to employees, compensation expense is recognized over the applicable vesting period with a corresponding increase in equity. Fair value is determined by using option valuation models, which take into account the exercise price of the option, the current share price, the risk free interest rate, the expected volatility of the share price over the life of the option and other relevant factors. When the options are exercised, the exercise price proceeds together with the amount initially recorded in equity are credited to common shares. Our other compensation plans include performance deferred share plans and deferred share unit plans for key employees (the Plans). The obligations for the Plans are accrued over their vesting periods. The Plans are settled in cash.

For cash-settled awards, our accrued obligations are adjusted to their fair value at each balance sheet date. For share-settled awards, our accrued obligations are based on the fair value of our common shares at the date of grant. Changes in our obligations, net of related hedges, are recorded as Non-interest expense – Human resources in our Consolidated Statements of Income with a corresponding increase in Other liabilities for cash-settled awards and in Retained earnings for share-settled awards.

The compensation cost attributable to options and awards granted to employees who are eligible to retire or will become eligible to retire during the vesting period, is recognized immediately if the employee is eligible to retire on the grant date or over the period between the grant date and the date the employee becomes eligible to retire.

Our contributions to the employee savings and share ownership plans are expensed as incurred.

#### **Income taxes**

Income tax comprises current tax and deferred tax and is recognized in our Consolidated Statements of Income except to the extent that it relates to items recognized directly in equity, in which case it is recognized in equity.

Current income tax payable on profits is recognized as an expense based on the applicable tax laws in each jurisdiction in the period in which profits arise, calculated using tax rates enacted or substantively enacted by the balance sheet date. Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities for accounting and tax purposes. A deferred income tax asset or liability is determined for each temporary difference, except for earnings related to our subsidiaries, branches, associates and interests in joint ventures where the temporary differences will not reverse in the foreseeable future and we have the ability to control the timing of reversal. Deferred tax assets and liabilities are determined based on the tax rates that are expected to be in effect in the period that the asset is realized

or the liability is settled, based on tax rates and tax laws that have been enacted or substantively enacted at the balance sheet date. Current tax assets and liabilities are offset when they are levied by the same taxation authority on either the same taxable entity or different taxable entities within the same tax reporting group (which intends to settle on a net basis), and when there is a legal right to offset. Deferred tax assets and liabilities are offset when the same conditions are satisfied. Our Consolidated Statements of Income include items that are non-taxable or non-deductible for income tax purposes and, accordingly, this causes the income tax provision to be different from what it would be if based on statutory rates.

Deferred income taxes accumulated as a result of temporary differences and tax loss carryforwards are included in Other assets and Other liabilities. On a quarterly basis, we review our deferred income tax assets to determine whether it is probable that the benefits associated with these assets will be realized; this review involves evaluating both positive and negative evidence.

We are subject to income tax laws in various jurisdictions where we operate, and the complex tax laws are potentially subject to different interpretations by us and the relevant taxation authorities. Significant judgment is required in the interpretation of the relevant tax laws, and the determination of our tax provision which includes our best estimate of tax positions that are under audit or appeal by relevant taxation authorities. We perform a review on a quarterly basis to incorporate our best assessment based on information available, but additional liability and income tax expense could result based on decisions made by the relevant tax authorities.

The determination of our deferred tax asset or liability also requires significant management judgment as the recognition is dependent on our projection of future taxable profits and tax rates that are expected to be in effect in the period the asset is realized or the liability is settled. Any changes in our projection will result in changes in deferred tax assets or liabilities on our Consolidated Balance Sheets, and also deferred tax expense in our Consolidated Statements of Income.

### **Business combinations, goodwill and other intangibles**

All business combinations are accounted for using the acquisition method. Non-controlling interests, if any, are recognized at their proportionate share of the fair value of identifiable assets and liabilities, unless otherwise indicated. Identifiable intangible assets are recognized separately from goodwill and included in Other intangibles. Goodwill represents the excess of the price paid for the business acquired over the fair value of the net identifiable assets acquired on the date of acquisition.

### **Goodwill**

Goodwill is allocated to cash-generating units or groups of cash-generating units (CGU) for the purpose of impairment testing, which is undertaken at the lowest level at which goodwill is monitored for internal management purposes. Impairment testing is performed annually as at August 1, or more frequently if there are objective indicators of impairment, by comparing the recoverable amount of a CGU with its carrying amount. The recoverable amount of a CGU is the higher of its value in use and its fair value less costs of disposal. Value in use is the present value of the expected future cash flows from a CGU. Fair value less costs of disposal is the amount obtainable from the sale of a CGU in an orderly transaction between market participants, less disposal costs. The fair value of a CGU is estimated using valuation techniques such as a discounted cash flow method, adjusted to reflect the considerations of a prospective third-party buyer. External evidence such as binding sale agreements or recent transactions for similar businesses within the same industry is considered to the extent that it is available.

Significant judgment is involved in estimating the model inputs used to determine the recoverable amount of our CGU, in particular future cash flows, discount rates and terminal growth rates, due to the uncertainty in the timing and amount of cash flows and the forward-looking nature of these inputs. Future cash flows are based on financial plans agreed by management which are estimated based on forecast results, business initiatives, planned capital investments and returns to shareholders. Discount rates are based on the bank-wide cost of capital, adjusted for CGU-specific risks and currency exposure as reflected by differences in expected inflation. Bank-wide cost of capital is based on the Capital Asset Pricing Model. CGU-specific risks include country risk, business/operational risk, geographic risk (including political risk, devaluation risk, and government regulation), currency risk, and price risk (including product pricing risk and inflation). Terminal growth rates reflect the expected long-term gross domestic product growth and inflation for the countries within which the CGU operates. Changes in these assumptions may impact the amount of impairment loss recognized in Non-interest expense.

The carrying amount of a CGU includes the carrying amount of assets, liabilities and goodwill allocated to the CGU. If the recoverable amount is less than the carrying value, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the CGU and then to the other non-financial assets of the CGU proportionately based on the carrying amount of each asset. Any impairment loss is charged to income in the period in which the impairment is identified. Goodwill is stated at cost less accumulated impairment losses. Subsequent reversals of goodwill impairment are prohibited.

Upon disposal of a portion of a CGU, the carrying amount of goodwill relating to the portion of the CGU sold is included in the determination of gains or losses on disposal. The carrying amount is determined based on the relative fair value of the disposed portion to the total CGU.

### **Other intangibles**

Intangible assets represent identifiable non-monetary assets and are acquired either separately or through a business combination, or generated internally. Intangible assets acquired through a business combination are recognized separately from goodwill when they are separable or arise from contractual or other legal rights, and their fair value can be measured reliably. The cost of a separately acquired intangible asset includes its purchase price and directly attributable costs of preparing the asset for its intended use. In respect of internally generated intangible assets, cost includes all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended by management. Research and development costs that are not eligible for capitalization are expensed. After initial recognition, an intangible asset is carried at its cost less any accumulated amortization and accumulated impairment losses, if any. Intangible assets with a finite-life are amortized on a straight-line basis over their estimated useful lives as follows: computer software – 3 to 10 years; and customer relationships – 10 to 20 years. We do not have any intangible assets with indefinite lives.

Intangible assets are assessed for indicators of impairment at each reporting period. If there is an indication that an intangible asset may be impaired, an impairment test is performed by comparing the carrying amount of the intangible asset to its recoverable amount. Where it is not possible to estimate the recoverable amount of an individual asset, we estimate the recoverable amount of the CGU to which the asset belongs. If the recoverable amount of the asset (or CGU) is less than its carrying amount, the carrying amount of the intangible asset is written down to its recoverable amount as an impairment loss.

An impairment loss recognized previously is reversed if there is a change in the estimates used to determine the recoverable amount of the asset (or CGU) since the last impairment loss was recognized. If an impairment loss is subsequently reversed, the carrying amount of the asset (or CGU) is revised to the lower of its recoverable amount and the carrying amount that would have been determined (net of amortization) had there been no prior impairment.

Due to the subjective nature of these estimates, significant judgment is required in determining the useful lives and recoverable amounts of our intangible assets, and assessing whether certain events or circumstances constitute objective evidence of impairment. Estimates of the recoverable amounts of our intangible assets rely on certain key inputs, including future cash flows and discount rates. Future cash flows are based on sales projections and allocated costs which are estimated based on forecast results and business initiatives. Discount rates are based on the bank-wide cost of capital, adjusted for asset-specific risks. Changes in these assumptions may impact the amount of impairment loss recognized in Non-interest expense.

## **Other**

### **Translation of foreign currencies**

Monetary assets and liabilities denominated in foreign currencies, are translated into Canadian dollars at rates prevailing at the balance sheet date. Foreign exchange gains and losses resulting from the translation and settlement of these items are recognized in Non-interest income in the Consolidated Statements of Income.

Non-monetary assets and liabilities that are measured at historical cost are translated into Canadian dollars at historical rates. Non-monetary financial assets classified as AFS securities, such as equity instruments, that are measured at fair value are translated into Canadian dollars at rates prevailing at the balance sheet date, and the resulting foreign exchange gains and losses are recorded in Other components of equity until the asset is sold or becomes impaired.

Assets and liabilities of our foreign operations with functional currencies other than Canadian dollars are translated into Canadian dollars at rates prevailing at the balance sheet date, and income and expenses of these foreign operations are translated at average rates of exchange for the reporting period.

Unrealized gains or losses arising as a result of the translation of our foreign operations along with the effective portion of related hedges are reported in Other components of equity on an after-tax basis. Upon disposal or partial disposal of a foreign operation, an appropriate portion of the accumulated net translation gains or losses is included in Non-interest income.

### **Premises and equipment**

Premises and equipment includes land, buildings, leasehold improvements, computer equipment, furniture, fixtures and other equipment, and are stated at cost less accumulated depreciation, except for land which is not depreciated, and accumulated impairment losses. Cost comprises the purchase price, any costs directly attributable to bringing the asset to the location and condition necessary for its intended use, and the initial estimate of any disposal costs. Depreciation is recorded principally on a straight-line basis over the estimated useful lives of the assets, which are 25 to 50 years for buildings, 3 to 10 years for computer equipment, and 7 to 10 years for furniture, fixtures and other equipment. The amortization period for leasehold improvements is the lesser of the useful life of the leasehold improvements or the lease term plus the first renewal period, if reasonably assured of renewal, up to a maximum of 10 years. Depreciation methods, useful lives, and residual values are reassessed at each reporting period and adjusted as appropriate. Gains and losses on disposal are recorded in Non-interest income.

Premises and equipment are assessed for indicators of impairment at each reporting period. If there is an indication that an asset may be impaired, an impairment test is performed by comparing the asset's carrying amount to its recoverable amount. Where it is not possible to estimate the recoverable amount of an individual asset, we estimate the recoverable amount of the CGU to which the asset belongs and test for impairment at the CGU level. An impairment charge is recorded to the extent the recoverable amount of an asset (or CGU), which is the higher of value in use and fair value less costs of disposal, is less than its carrying amount. Value in use is the present value of the future cash flows expected to be derived from the asset (or CGU). Fair value less costs of disposal is the amount obtainable from the sale of the asset (or CGU) in an orderly transaction between market participants, less costs of disposal.

After the recognition of impairment, the depreciation charge is adjusted in future periods to reflect the asset's revised carrying amount. If an impairment is later reversed, the carrying amount of the asset is revised to the lower of the asset's recoverable amount and the carrying amount that would have been determined (net of depreciation) had there been no prior impairment loss. The depreciation charge in future periods is adjusted to reflect the revised carrying amount.

### **Provisions**

Provisions are liabilities of uncertain timing or amount and are recognized when we have a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate can be made of the amount of the obligation. Provisions are measured as the best estimate of the consideration required to settle the present obligation at the reporting date. Significant judgment is required in determining whether a present obligation exists and in estimating the probability, timing and amount of any outflows. We record provisions related to litigation, asset retirement obligations, and the allowance for off-balance sheet and other items. Provisions are recorded under Other liabilities on our Consolidated Balance Sheets.

We are required to estimate the results of ongoing legal proceedings, expenses to be incurred to dispose of capital assets, and credit losses on undrawn commitments and guarantees. The forward-looking nature of these estimates requires us to use a significant amount of judgment in projecting the timing and amount of future cash flows. We record our provisions on the basis of all available information at the end of the reporting period and make adjustments on a quarterly basis to reflect current expectations. Should actual results differ from our expectations, we may incur expenses in excess of the provisions recognized.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, such as an insurer, a separate asset is recognized if it is virtually certain that reimbursement will be received.

### **Commissions and fees**

Portfolio management and other management advisory and service fees are recognized based on the applicable service contracts. Fees related to provision of services including asset management, wealth management, financial planning and custody services that cover a specified service period, are recognized over the period in which the service is provided. Investment management and custodial fees are generally calculated as a percentage of daily or period-end net asset values, and are received monthly, quarterly, semi-annually or annually, depending on the terms of the contracts. Management fees are generally derived from assets under management (AUM) when our clients solicit the investment capabilities of an investment manager and administrative fees are derived from assets under administration (AUA) where the investment strategy is directed by the client or a designated third party manager. Performance-based fees, which are earned upon exceeding certain benchmarks or performance targets, are recognized only when the benchmark or performance targets are achieved. Fees such as underwriting fees and brokerage fees that are related to the provision of specific transaction type services are recognized when the service has been completed.

## **Dividend income**

Dividend income is recognized when the right to receive payment is established. This is the ex-dividend date for listed equity securities, and usually the date when shareholders have approved the dividend for unlisted equity securities.

## **Leasing**

A lease is an agreement whereby the lessor conveys to the lessee the right to use an asset for an agreed upon period of time in return for a payment or series of payments. A finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of the leased asset to the lessee, where title may or may not eventually be transferred. An operating lease is a lease other than a finance lease.

### *Operating leases*

When we are the lessee in an operating lease, we record rental payments on a straight-line basis over the lease term in Non-interest expense.

### *Finance leases*

When we are the lessee in a finance lease, we initially record both the leased asset and the related lease obligation in Premises and equipment, Other intangibles and Other liabilities on our Consolidated Balance Sheets at an amount equal to the fair value of the leased asset or, if lower, the present value of the minimum lease payments, each determined at the date of inception of the lease. Initial direct costs directly attributed to the lease are recognized as an asset under the finance lease.

## **Earnings per share**

Earnings per share is computed by dividing Net income available to common shareholders by the weighted average number of common shares outstanding for the period. Net income available to common shareholders is determined after deducting dividend entitlements of preferred shareholders, any gains (losses) on redemption of preferred shares net of related income taxes and the net income attributable to non-controlling interests.

Diluted earnings per share reflects the potential dilution that could occur if additional common shares are assumed to be issued under securities or contracts that entitle their holders to obtain common shares in the future, to the extent such entitlement is not subject to unresolved contingencies. For contracts that may be settled in cash or in common shares at our option, diluted earnings per share is calculated based on the assumption that such contracts will be settled in shares. Income and expenses associated with these types of contracts are excluded from the Net income available to common shareholders, and the additional number of shares that would be issued is included in the diluted earnings per share calculation. These contracts include our convertible Preferred Shares and Trust Capital Securities with the conversion assumed to have taken place at the beginning of the period or on the date of issue, if later. For stock options whose exercise price is less than the average market price of our common shares, they are assumed to be exercised and the proceeds are used to repurchase common shares at the average market price for the period. The incremental number of common shares issued under stock options and repurchased from proceeds is included in the calculation of diluted earnings per share.

## **Share capital**

We classify a financial instrument that we issue as a financial asset, financial liability or an equity instrument in accordance with the substance of the contractual arrangement.

Our common shares held by us are classified as treasury shares in equity and accounted for at weighted average cost. Upon the sale of treasury shares, the difference between the sale proceeds and the cost of the shares is recognized in Retained earnings. Financial instruments issued by us are classified as equity instruments when there is no contractual obligation to transfer cash or other financial assets. Incremental costs directly attributable to the issue of equity instruments are included in equity as a deduction from the proceeds, net of tax. Financial instruments that will be settled by a variable number of our common shares upon their conversion by the holders as well as the related accrued distributions are classified as liabilities on our Consolidated Balance Sheets. Dividends and yield distributions on these instruments are classified as Interest expense in our Consolidated Statements of Income.

## **Future changes in accounting policy and disclosure**

The following standards have been issued, but are not yet effective for us. We are currently assessing the impact of adopting these standards on our Consolidated Financial Statements:

### **IFRS 15 Revenue from Contracts with Customers (IFRS 15)**

In May 2014, the IASB issued IFRS 15 which establishes principles for reporting about the nature, amount, timing and uncertainty of revenue and cash flows arising from an entity's contracts with customers. The standard provides a single, principles based five-step model for revenue recognition to be applied to contracts with customers except for revenue arising from items such as financial instruments, insurance contracts and leases. In September 2015, the IASB amended IFRS 15 by deferring its effective date by one year. IFRS 15 will be effective for us on November 1, 2018.

### **IFRS 9 Financial Instruments (IFRS 9)**

In July 2014, the IASB issued the complete version of IFRS 9, first issued in November 2009, which brings together the classification and measurement, impairment and hedge accounting phases of the IASB's project to replace IAS 39 *Financial Instruments: Recognition and Measurement* (IAS 39).

IFRS 9 introduces a principles-based approach to the classification of financial assets based on an entity's business model and the nature of the cash flows of the asset. All financial assets, including hybrid contracts, are measured as at FVTPL, fair value through OCI or amortized cost. For financial liabilities, IFRS 9 includes the requirements for classification and measurement previously included in IAS 39.

IFRS 9 also introduces an expected loss impairment model for all financial assets not as at FVTPL. The model has three stages: (1) on initial recognition, 12-month expected credit losses are recognized in profit or loss and a loss allowance is established; (2) if credit risk increases significantly and the resulting credit risk is not considered to be low, full lifetime expected credit losses are recognized; and (3) when a financial asset is considered impaired, interest revenue is calculated based on the carrying amount of the asset, net of the loss allowance, rather than its gross carrying amount.

Finally, IFRS 9 introduces a new hedge accounting model that aligns the accounting for hedge relationships more closely with an entity's risk management activities, permits hedge accounting to be applied more broadly to a greater variety of hedging instruments and risks and requires additional disclosures.

We adopted the own credit provisions of IFRS 9 in the second quarter of 2014. The remaining sections of IFRS 9 will be effective for us on November 1, 2017.

**Carrying value and fair value of selected financial instruments**

The following tables provide a comparison of the carrying and fair values for each classification of financial instruments.

	As at October 31, 2015							
	Carrying value and fair value			Carrying value	Fair value		Total carrying amount	Total fair value
	Financial instruments classified as at FVTPL	Financial instruments designated as at FVTPL	Available-for-sale instruments measured at fair value	Financial instruments measured at amortized cost	Financial instruments measured at amortized cost			
(Millions of Canadian dollars)								
<b>Financial assets</b>								
Securities								
Trading	\$ 148,939	\$ 9,764	\$ –	\$ –	\$ –	\$ 158,703	\$ 158,703	
Available-for-sale (1)	–	–	48,164	8,641	8,759	56,805	56,923	
	148,939	9,764	48,164	8,641	8,759	215,508	215,626	
Assets purchased under reverse repurchase agreements and securities borrowed	–	114,692	–	60,031	60,071	174,723	174,763	
Loans								
Retail	166	–	–	346,795	348,513	346,961	348,679	
Wholesale	1,280	1,327	–	122,655	121,316	125,262	123,923	
	1,446	1,327	–	469,450	469,829	472,223	472,602	
Other								
Derivatives	105,626	–	–	–	–	105,626	105,626	
Other assets (2)	–	925	–	44,852	44,852	45,777	45,777	
<b>Financial liabilities</b>								
Deposits								
Personal	\$ 69	\$ 16,828	–	\$ 203,669	\$ 204,019	\$ 220,566	\$ 220,916	
Business and government (3)	–	93,319	–	362,259	363,305	455,578	456,624	
Bank (4)	–	5,376	–	15,707	15,713	21,083	21,089	
	69	115,523	–	581,635	583,037	697,227	698,629	
Other								
Obligations related to securities sold short	47,658	–	–	–	–	47,658	47,658	
Obligations related to assets sold under repurchase agreements and securities loaned	–	73,362	–	9,926	9,928	83,288	83,290	
Derivatives	107,860	–	–	–	–	107,860	107,860	
Other liabilities (5)	192	13	–	43,251	43,196	43,456	43,401	
Subordinated debentures	–	112	–	7,250	7,078	7,362	7,190	

	As at October 31, 2014							
	Carrying value and fair value			Carrying value	Fair value		Total carrying amount	Total fair value
	Financial instruments classified as at FVTPL	Financial instruments designated as at FVTPL	Available-for-sale instruments measured at fair value	Financial instruments measured at amortized cost	Financial instruments measured at amortized cost			
(Millions of Canadian dollars)								
<b>Financial assets</b>								
Securities								
Trading	\$ 141,217	\$ 10,163	\$ –	\$ –	\$ –	\$ 151,380	\$ 151,380	
Available-for-sale (1)	–	–	46,009	1,759	1,762	47,768	47,771	
	141,217	10,163	46,009	1,759	1,762	199,148	199,151	
Assets purchased under reverse repurchase agreements and securities borrowed	–	85,292	–	50,288	50,288	135,580	135,580	
Loans								
Retail	–	–	–	333,045	334,475	333,045	334,475	
Wholesale	1,337	2,278	–	98,569	98,461	102,184	102,076	
	1,337	2,278	–	431,614	432,936	435,229	436,551	
Other								
Derivatives	87,402	–	–	–	–	87,402	87,402	
Other assets (2)	–	930	–	32,975	32,975	33,905	33,905	
<b>Financial liabilities</b>								
Deposits								
Personal	\$ 112	\$ 13,289	–	\$ 195,816	\$ 195,964	\$ 209,217	\$ 209,365	
Business and government (3)	–	59,446	–	327,214	328,328	386,660	387,774	
Bank (4)	–	6,592	–	11,631	11,636	18,223	18,228	
	112	79,327	–	534,661	535,928	614,100	615,367	
Other								
Obligations related to securities sold short	50,345	–	–	–	–	50,345	50,345	
Obligations related to assets sold under repurchase agreements and securities loaned	–	58,411	–	5,920	5,921	64,331	64,332	
Derivatives	88,982	–	–	–	–	88,982	88,982	
Other liabilities (5)	20	30	–	36,816	36,762	36,866	36,812	
Subordinated debentures	–	106	–	7,753	7,712	7,859	7,818	

(1) Available-for-sale (AFS) securities include held-to-maturity securities that are recorded at amortized cost.

(2) The total carrying amount is comprised of Customers' liability under acceptances and financial instruments included in Other assets of \$13.5 billion and \$32.3 billion (October 31, 2014 – \$11.5 billion and \$22.4 billion), respectively.

(3) Business and government deposits include deposits from regulated deposit-taking institutions other than regulated banks.

(4) Bank deposits refer to deposits from regulated banks.

(5) The total carrying amount is comprised of Acceptances and financial instruments included in Other liabilities of \$13.5 billion and \$30 billion (October 31, 2014 – \$11.5 billion and \$25.4 billion), respectively.

### Loans and receivables designated as at fair value through profit or loss

The following tables present information on loans and receivables designated as at FVTPL. For our loans and receivables designated as at FVTPL, we measure the change in fair value attributable to changes in credit risk as the difference between the total change in the fair value of the instrument during the period and the change in fair value calculated using the appropriate risk-free yield curves.

	As at October 31, 2015						
	Carrying amount of loans and receivables designated as at FVTPL	Maximum exposure to credit risk	Extent to which credit derivatives or similar instruments mitigate credit risk	Changes in fair value for the year attributable to changes in credit risk for positions still held	Cumulative change in fair value attributable to changes in credit risk for positions still held (1)	Changes in fair value of credit derivatives or similar instruments for the year	Cumulative change in fair value of credit derivatives or similar instruments (1)
(Millions of Canadian dollars)							
Interest-bearing deposits with banks	\$ 15,717	\$ 15,717	\$ –	\$ –	\$ –	\$ –	\$ –
Assets purchased under reverse repurchase agreements and securities borrowed	114,692	114,692	–	–	–	–	–
Loans – Wholesale	1,327	1,327	–	10	–	3	3
Other assets	202	202	–	–	–	–	–
	<b>\$ 131,938</b>	<b>\$ 131,938</b>	<b>\$ –</b>	<b>\$ 10</b>	<b>\$ –</b>	<b>\$ 3</b>	<b>\$ 3</b>

	As at October 31, 2014						
	Carrying amount of loans and receivables designated as at FVTPL	Maximum exposure to credit risk	Extent to which credit derivatives or similar instruments mitigate credit risk	Changes in fair value for the year attributable to changes in credit risk for positions still held	Cumulative change in fair value attributable to changes in credit risk for positions still held (1)	Changes in fair value of credit derivatives or similar instruments for the year	Cumulative change in fair value of credit derivatives or similar instruments (1)
(Millions of Canadian dollars)							
Interest-bearing deposits with banks	\$ 5,603	\$ 5,603	\$ –	\$ –	\$ –	\$ –	\$ –
Assets purchased under reverse repurchase agreements and securities borrowed	85,292	85,292	–	–	–	–	–
Loans – Wholesale	2,278	2,278	242	4	5	–	–
Other assets	326	326	–	–	–	–	–
	<b>\$ 93,499</b>	<b>\$ 93,499</b>	<b>\$ 242</b>	<b>\$ 4</b>	<b>\$ 5</b>	<b>\$ –</b>	<b>\$ –</b>

(1) The cumulative change is measured from the initial recognition of the credit derivative or similar instruments.

**Liabilities designated as at fair value through profit or loss**

The following tables present the changes in the fair value of our financial liabilities designated as at FVTPL as well as their contractual maturity and carrying amounts. For our financial liabilities designated as at FVTPL, we measure the change in fair value attributable to changes in credit risk as the difference between the total change in the fair value of the instrument during the period and the change in the fair value attributable to changes in market conditions such as changes in benchmark interest rate or foreign exchange rate.

	As at October 31, 2015					
	Contractual maturity amount	Carrying value	Difference between carrying value and contractual maturity amount	Changes in fair value for the year attributable to changes in credit risk included in net income for positions still held	Changes in fair value for the year attributable to changes in credit risk included in other comprehensive income for positions still held	Cumulative change in fair value attributable to changes in credit risk for positions still held (1)
(Millions of Canadian dollars)						
Term deposits						
Personal	\$ 16,595	\$ 16,828	\$ 233	\$ –	\$ (93)	\$ (74)
Business and government (2)	93,225	93,319	94	–	(387)	(329)
Bank (3)	5,376	5,376	–	–	–	–
	115,196	115,523	327	–	(480)	(403)
Obligations related to assets sold under repurchase agreements and securities loaned	73,364	73,362	(2)	–	–	–
Other liabilities	13	13	–	–	–	–
Subordinated debentures	108	112	4	–	–	(3)
	\$ 188,681	\$ 189,010	\$ 329	\$ –	\$ (480)	\$ (406)

	As at October 31, 2014					
	Contractual maturity amount	Carrying value	Difference between carrying value and contractual maturity amount	Changes in fair value for the year attributable to changes in credit risk included in net income for positions still held	Changes in fair value for the year attributable to changes in credit risk included in other comprehensive income for positions still held	Cumulative change in fair value attributable to changes in credit risk for positions still held (1)
(Millions of Canadian dollars)						
Term deposits						
Personal	\$ 12,964	\$ 13,289	\$ 325	\$ –	\$ 13	\$ 19
Business and government (2)	59,139	59,446	307	–	61	58
Bank (3)	6,592	6,592	–	–	–	–
	78,695	79,327	632	–	74	77
Obligations related to assets sold under repurchase agreements and securities loaned	58,413	58,411	(2)	–	–	–
Other liabilities	30	30	–	–	–	–
Subordinated debentures	101	106	5	–	3	(3)
	\$ 137,239	\$ 137,874	\$ 635	\$ –	\$ 77	\$ 74

(1) The cumulative change is measured from the initial recognition of the liabilities designated as at FVTPL. For the year ended October 31, 2015, \$3 million of fair value losses previously included in Other comprehensive income (OCI) relate to financial liabilities derecognized during the year (October 31, 2014 – \$4 million).

(2) Business and government term deposits include deposits from regulated deposit-taking institutions other than regulated banks.

(3) Bank term deposits refer to deposits from regulated banks.

## Fair value of assets and liabilities measured on a recurring basis and classified using the fair value hierarchy

The following tables present the financial instruments that are measured at fair value on a recurring basis and classified by the fair value hierarchy.

(Millions of Canadian dollars)	As at											
	October 31, 2015					October 31, 2014						
	Fair value measurements using			Total gross fair value	Netting adjustments	Assets/liabilities at fair value	Fair value measurements using			Total gross fair value	Netting adjustments	Assets/liabilities at fair value
Level 1	Level 2	Level 3	Level 1				Level 2	Level 3				
<b>Financial assets</b>												
<b>Interest bearing deposits with banks</b>	\$ –	\$ 15,717	\$ –	\$ 15,717	\$ –	\$ 15,717	\$ –	\$ 5,603	\$ –	\$ 5,603	\$ –	\$ 5,603
<b>Securities</b>												
<b>Trading</b>												
Canadian government debt (1)												
Federal	10,793	9,364	–	20,157	20,157	8,288	5,855	–	14,143	14,143		
Provincial and municipal	–	13,888	5	13,893	13,893	–	11,371	–	11,371	11,371		
U.S. state, municipal and agencies debt (1)	1,641	32,798	16	34,455	34,455	1,838	27,628	6	29,472	29,472		
Other OECD government debt (2)	3,131	9,215	–	12,346	12,346	7,334	7,991	–	15,325	15,325		
Mortgage-backed securities (1)	–	2,907	15	2,922	2,922	–	801	4	805	805		
Asset-backed securities												
CDO (3)	–	67	5	72	72	–	37	74	111	111		
Non-CDO securities	–	1,636	23	1,659	1,659	–	1,040	364	1,404	1,404		
Corporate debt and other debt	16	24,502	191	24,709	24,709	15	27,434	149	27,598	27,598		
Equities	45,811	2,556	123	48,490	48,490	47,396	3,589	166	51,151	51,151		
	61,392	96,933	378	158,703	158,703	64,871	85,746	763	151,380	151,380		
<b>Available-for-sale (4)</b>												
Canadian government debt (1)												
Federal	346	2,198	–	2,544	2,544	429	11,540	–	11,969	11,969		
Provincial and municipal	–	1,600	–	1,600	1,600	–	799	–	799	799		
U.S. state, municipal and agencies debt (1)	–	12,051	797	12,848	12,848	29	4,839	1,389	6,257	6,257		
Other OECD government debt	4,752	7,535	–	12,287	12,287	6,979	7,303	11	14,293	14,293		
Mortgage-backed securities (1)	–	318	–	318	318	–	138	–	138	138		
Asset-backed securities												
CDO	–	1,510	–	1,510	1,510	–	857	24	881	881		
Non-CDO securities	–	881	197	1,078	1,078	–	381	182	563	563		
Corporate debt and other debt	–	12,372	1,757	14,129	14,129	–	7,714	1,573	9,287	9,287		
Equities	431	323	987	1,741	1,741	140	514	1,028	1,682	1,682		
Loan substitute securities	94	–	–	94	94	102	24	–	126	126		
	5,623	38,788	3,738	48,149	48,149	7,679	34,109	4,207	45,995	45,995		
<b>Assets purchased under reverse repurchase agreements and securities borrowed</b>	–	114,692	–	114,692	114,692	–	85,292	–	85,292	85,292		
<b>Loans</b>	–	2,301	472	2,773	2,773	–	3,154	461	3,615	3,615		
<b>Other</b>												
<b>Derivatives</b>												
Interest rate contracts	7	142,096	374	142,477	142,477	13	102,176	339	102,528	102,528		
Foreign exchange contracts	–	41,021	91	41,112	41,112	–	33,761	48	33,809	33,809		
Credit derivatives	–	90	4	94	94	–	244	10	254	254		
Other contracts	4,424	5,637	712	10,773	10,773	3,238	4,839	560	8,637	8,637		
Valuation adjustments	–	(1,265)	(38)	(1,303)	(1,303)	–	(702)	(56)	(758)	(758)		
Total gross derivatives	4,431	187,579	1,143	193,153	193,153	3,251	140,318	901	144,470	144,470		
Netting adjustments	–	–	–	–	(87,527)	–	–	–	–	(57,068)	(57,068)	
Total derivatives	–	–	–	–	105,626	–	–	–	–	87,402	87,402	
Other assets	723	202	–	925	925	604	326	–	930	930		
	\$72,169	\$456,212	\$ 5,731	\$534,112	\$ (87,527)	\$ 446,585	\$76,405	\$354,548	\$ 6,332	\$437,285	\$ (57,068)	\$ 380,217
<b>Financial Liabilities</b>												
<b>Deposits</b>												
Personal	\$ –	\$ 16,508	\$ 389	\$ 16,897	\$ –	\$ 16,897	\$ –	\$ 12,904	\$ 497	\$ 13,401	\$ –	\$ 13,401
Business and government	–	93,311	8	93,319	93,319	–	59,376	70	59,446	59,446		
Bank	–	5,376	–	5,376	5,376	–	6,592	–	6,592	6,592		
<b>Other</b>												
Obligations related to securities sold short	31,945	15,713	–	47,658	47,658	32,857	17,484	4	50,345	50,345		
Obligations related to assets sold under repurchase agreements and securities loaned	–	73,362	–	73,362	73,362	–	58,411	–	58,411	58,411		
<b>Derivatives</b>												
Interest rate contracts	3	135,455	820	136,278	136,278	9	96,752	709	97,470	97,470		
Foreign exchange contracts	–	46,675	33	46,708	46,708	–	35,664	39	35,703	35,703		
Credit derivatives	–	166	5	171	171	–	327	15	342	342		
Other contracts	3,835	8,075	1,025	12,935	12,935	2,886	8,537	1,062	12,485	12,485		
Valuation adjustments	–	(281)	9	(272)	(272)	–	(65)	29	(36)	(36)		
Total gross derivatives	3,838	190,090	1,892	195,820	195,820	2,895	141,215	1,854	145,964	145,964		
Netting adjustments	–	–	–	–	(87,960)	–	–	–	–	(56,982)	(56,982)	
Total derivatives	–	–	–	–	107,860	–	–	–	–	88,982	88,982	
Other liabilities	145	13	47	205	205	–	30	20	50	50		
Subordinated debentures	–	112	–	112	112	–	106	–	106	106		
	\$35,928	\$394,485	\$ 2,336	\$432,749	\$ (87,960)	\$ 344,789	\$35,752	\$296,118	\$ 2,445	\$334,315	\$ (56,982)	\$ 277,333

(1) As at October 31, 2015, residential and commercial MBS included in all fair value levels of trading securities were \$10,315 million and \$137 million (October 31, 2014 – \$6,400 million and \$81 million), respectively, and in all fair value levels of AFS securities, \$3,394 million and \$242 million (October 31, 2014 – \$6,956 million and \$34 million), respectively.

(2) OECD stands for Organisation for Economic Co-operation and Development.

(3) CDO stands for collateralized debt obligations.

(4) Excludes \$15 million of AFS securities (October 31, 2014 – \$14 million) that are carried at cost.



The following describes how fair values are determined, what inputs are used and where they are classified in the fair value hierarchy table above, for our significant assets and liabilities that are measured at fair value on a recurring basis:

#### *Government bonds (Canadian, U.S. and other OECD governments)*

Government bonds are included in Canadian government debt, U.S. state, municipal and agencies debt, Other Organisation for Economic Cooperation and Development (OECD) government debt and Obligations related to securities sold short in the fair value hierarchy table. The fair values of government issued or guaranteed debt securities in active markets are determined by reference to recent transaction prices, broker quotes, or third-party vendor prices and are classified as Level 1 in the fair value hierarchy. The fair values of securities that are not traded in active markets are based on either security prices, or valuation techniques using implied yields and risk spreads derived from prices of actively traded and similar government securities. Securities with observable prices or rate inputs as compared to transaction prices, dealer quotes or vendor prices are classified as Level 2 in the hierarchy. Securities where inputs are unobservable are classified as Level 3 in the hierarchy.

#### *Corporate and U.S. municipal bonds*

The fair values of corporate and U.S. municipal bonds, which are included in Corporate debt and other debt, U.S. state, municipal and agencies debt and Obligations related to securities sold short in the fair value hierarchy table, are determined using either recently executed transaction prices, broker quotes, pricing services, or in certain instances discounted cash flow method using rate inputs such as benchmark yields (Canadian Dealer Offered Rate, LIBOR and other similar reference rates) and risk spreads of comparable securities. Securities with observable prices or rate inputs are classified as Level 2 in the hierarchy. Securities where inputs are unobservable are classified as Level 3 in the hierarchy.

#### *Asset-backed securities and Mortgage-backed securities*

Asset-backed securities (ABS) and MBS are included in Asset-backed securities, Mortgage-backed securities, Canadian government debt, U.S. state, municipal and agencies debt, and Obligations related to securities sold short in the fair value hierarchy table. ABS include collateralized debt obligations (CDO). Inputs for valuation of MBS and CDO are, when available, traded prices, dealer or lead manager quotes, broker quotes and vendor prices of the identical securities. When prices of the identical securities are not readily available, we use industry standard models with inputs such as discount margins, yields, default, prepayment and loss severity rates that are implied from transaction prices, dealer quotes or vendor prices of comparable instruments. Where security prices and inputs are observable, ABS and MBS are classified as Level 2 in the hierarchy. Otherwise, they are classified as Level 3 in the hierarchy.

#### *Auction rate securities*

Auction rate securities (ARS) are included in U.S. state, municipal and agencies debt, and Asset-backed securities in the fair value hierarchy table. The valuation of ARS involves discounting forecasted cash flows from the underlying student loan collateral and incorporating multiple inputs such as default, prepayment, deferment and redemption rates, and credit spreads. These inputs are unobservable, and therefore, ARS are classified as Level 3 in the hierarchy. All relevant data must be assessed and significant judgment is required to determine the appropriate valuation inputs.

#### *Equities*

Equities and Obligations related to securities sold short in the fair value hierarchy table consist of listed and unlisted common shares, private equities and hedge funds with certain redemption restrictions. The fair values of common shares are based on quoted prices in active markets, where available, and are classified as Level 1 in the hierarchy. Where quoted prices in active markets are not readily available, fair value is determined based on quoted market prices for similar securities or through valuation techniques, including multiples of earnings and discounted cash flow method with forecasted cash flows and discount rate as inputs. Private equities are classified as Level 3 in the hierarchy as their inputs are not observable. Hedge funds are valued using Net Asset Values (NAV). If we can redeem a hedge fund at NAV prior to the next quarter end, the fund is classified as Level 2 in the hierarchy. Otherwise, it is classified as Level 3 in the hierarchy.

#### *Derivatives*

The fair values of exchange-traded derivatives, such as interest rate and equity options and futures, are based on quoted market prices and are classified as Level 1 in the fair value hierarchy. OTC derivatives primarily consist of interest rate and cross currency swaps, interest rate options, foreign exchange forward contracts and options, and commodity options and swaps. The exchange-traded or OTC interest rate, foreign exchange and equity derivatives are included in Interest rate contracts, Foreign exchange contracts and Other contracts, respectively, in the fair value hierarchy table. The fair values of OTC derivatives are determined using valuation models when quoted market prices or third-party consensus pricing information are not available. The valuation models, such as discounted cash flow method or Black-Scholes option model, incorporate observable or unobservable inputs for interest and foreign exchange rates, equity and commodity prices (including indices), credit spreads, corresponding market volatility levels, and other market-based pricing factors. As previously discussed, other adjustments to fair value include bid-offer, CVA, FVA, OIS, parameter and model uncertainties, and unrealized gain or loss at inception of a transaction. A derivative instrument is classified as Level 2 in the hierarchy if observable market inputs are available or the unobservable inputs are not significant to the fair value. Otherwise, it is classified as Level 3 in the hierarchy.

#### *Securities borrowed or purchased under resale agreements and securities loaned or sold under repurchase agreements*

In the fair value hierarchy table, these instruments are included in Assets purchased under reverse repurchase agreements and securities borrowed, and Obligations related to assets sold under repurchase agreements and securities loaned. Fair value for these contracts is calculated using valuation techniques such as discounted cash flow method using interest rate curves as inputs. They are classified as Level 2 instruments in the hierarchy as the inputs are observable.

#### *Deposits*

A majority of our deposits are measured at amortized cost but we designated certain deposits as at FVTPL. These FVTPL deposits are composed of deposits taken, the issuance of certificates of deposits and promissory notes, interest rate and equity linked notes, and are included in Deposits in the fair value hierarchy table. The fair values for these instruments are determined using discounted cash flow method and derivative option valuation models. The inputs to the valuation models include benchmark yield curves, credit spreads, interest rates, interest rate and equity volatility, dividends and correlation, where applicable. They are classified as Level 2 or 3 instruments in the hierarchy, depending on the significance of the unobservable credit spreads, volatility, dividend and correlation rates.

### Quantitative information about fair value measurements using significant unobservable inputs (Level 3 Instruments)

The following table presents fair values of our significant Level 3 financial instruments, valuation techniques used to determine their fair values, ranges and weighted averages of unobservable inputs.

As at October 31, 2015 (Millions of Canadian dollars, except for prices, percentages and ratios)

Products	Reporting line in the fair value hierarchy table	Fair value		Valuation techniques	Significant unobservable inputs (1)	Range of input values (2), (3)		
		Assets	Liabilities			Low	High	Weighted average / Inputs distribution (4)
<b>Non-derivative financial instruments</b>								
Asset-backed securities	Asset-backed securities	\$ 48		Price-based	Prices	n.a.	n.a.	n.a.
	Obligations related to securities sold short		\$ -	Discounted cash flows	Discount margins	3.43%	13.10%	8.27%
					Yields	1.39%	2.78%	1.79%
					Default rates	-%	5.00%	2.50%
					Prepayment rates	-%	30.00%	15.00%
					Loss severity rates	20.00%	70.00%	45.00%
Auction rate securities	U.S. state, municipal and agencies debt	699		Discounted cash flows	Discount margins	1.65%	4.50%	2.78%
	Asset-backed securities	177			Default rates	9.00%	10.00%	9.96%
					Prepayment rates	4.00%	8.00%	4.35%
					Recovery rates	40.00%	97.50%	91.66%
Corporate debt	Corporate debt and other debt	198		Price-based	Prices	\$ 47.61	\$ 164.29	\$ 96.57
	Loans	472		Discounted cash flows	Yields	2.98%	8.00%	3.89%
	Obligations related to securities sold short		-		Capitalization rates	6.07%	8.50%	7.28%
					Liquidity discounts (5)	n.a.	n.a.	n.a.
Government debt and municipal bonds	Canadian government debt	5		Price-based	Prices	\$ 64.98	\$ 126.22	\$ 84.50
	U.S. state, municipal and agencies debt	114		Discounted cash flows	Yields	0.27%	31.37%	3.89%
	Other OECD government debt	-						
	Corporate debt and other debt	1,750						
Bank funding and deposits	Deposits		-	Discounted cash flows	Funding spreads	n.a.	n.a.	n.a.
					Interest rate (IR)-IR correlations	n.a.	n.a.	n.a.
					Foreign exchange (FX)-FX correlations	n.a.	n.a.	n.a.
					FX-IR correlations	n.a.	n.a.	n.a.
Private equities, hedge fund investments and related equity derivatives	Equities	1,110		Market comparable	EV/EBITDA multiples	4.67X	15.50X	7.38X
	Derivative-related assets	3		Price-based	P/E multiples	9.40X	22.40X	12.14X
	Derivative-related liabilities		218	Discounted cash flows	EV/Rev multiples	0.28X	5.90X	2.64X
					Liquidity discounts (5)	15.00%	40.00%	27.34%
					Discount rate	12.00%	17.00%	16.46%
					Net asset values / prices (6)	n.a.	n.a.	n.a.
<b>Derivative financial instruments</b>								
Interest rate derivatives and interest-rate-linked structured notes (7)	Derivative-related assets	428		Discounted cash flows	Interest rates	2.25%	2.27%	Even
	Deposits		-	Option pricing model	CPI swap rates	1.67%	1.90%	Even
	Derivative-related liabilities		822		IR-IR correlations	19.00%	67.00%	Even
					FX-IR correlations	29.00%	56.00%	Even
					FX-FX correlations	68.00%	68.00%	Even
					IR volatilities (8)	0.11%	6.11%	Middle
Equity derivatives and equity-linked structured notes (7)	Derivative-related assets	559		Discounted cash flows	Dividend yields	0.01%	29.09%	Lower
	Deposits		389	Option pricing model	Equity (EQ)-EQ correlations	13.90%	96.90%	Middle
	Derivative-related liabilities		569		EQ-FX correlations	(69.10)%	29.20%	Middle
					EQ volatilities	1.70%	190.00%	Lower
<b>Other (9)</b>								
	Mortgage-backed securities	15						
	Corporate debt and other debt	-						
	Derivative-related assets	153						
	Deposits		8					
	Derivative-related liabilities		283					
	Other liabilities		47					
<b>Total</b>		<b>\$ 5,731</b>	<b>\$ 2,336</b>					

### Note 3 Fair value of financial instruments (continued)

As at October 31, 2014 (Millions of Canadian dollars, except for prices, percentages and ratios)

Products	Reporting line in the fair value hierarchy table	Fair value		Valuation techniques	Significant unobservable inputs (1)	Range of input values (2), (3)		Weighted average / Inputs distribution (4)
		Assets	Liabilities			Low	High	
<b>Non-derivative financial instruments</b>								
<b>Asset-backed securities</b>								
	Asset-backed securities	\$ 478		Price-based Discounted cash flows	Prices	\$ 53.70	\$ 90.50	\$ 75.92
	Obligations related to securities sold short		\$ -		Discount margins	0.70%	9.48%	5.09%
					Yields	2.84%	5.36%	3.52%
					Default rates	1.00%	5.00%	2.00%
					Prepayment rates	15.00%	30.00%	20.00%
					Loss severity rates	30.00%	70.00%	50.00%
<b>Auction rate securities</b>								
	U.S. state, municipal and agencies debt	979		Discounted cash flows	Discount margins	1.32%	4.63%	2.26%
	Asset-backed securities	166			Default rates	9.00%	10.00%	9.80%
					Prepayment rates	4.00%	8.00%	4.76%
					Recovery rates	40.00%	97.50%	93.51%
<b>Corporate debt</b>								
	Corporate debt and other debt	100		Price-based	Prices	\$ 2.50	\$ 119.52	\$ 97.86
	Loans	461		Discounted cash flows	Yields	2.75%	7.50%	3.84%
	Obligations related to securities sold short		4		Capitalization rates	6.43%	9.47%	7.95%
					Liquidity discounts (5)	10.00%	10.00%	10.00%
<b>Government debt and municipal bonds</b>								
	Canadian government debt	-		Price-based	Prices	\$ 67.38	\$ 100.00	\$ 96.24
	U.S. state, municipal and agencies debt	416		Discounted cash flows	Yields	0.17%	30.15%	3.06%
	Other OECD government debt	11						
	Corporate debt and other debt	1,616						
<b>Bank funding and deposits</b>								
	Deposits		70	Discounted cash flows	Funding spreads	n.a.	n.a.	n.a.
					Interest rate (IR)-IR correlations	19.00%	67.00%	Even
					Foreign exchange (FX)-FX correlations	68.00%	68.00%	Even
					FX-IR correlations	29.00%	56.00%	Even
<b>Private equities, hedge fund investments and related equity derivatives</b>								
	Equities	1,194		Market comparable	EV/EBITDA multiples	4.00X	10.80X	8.73X
	Derivative-related assets	11		Price-based	P/E multiples	8.79X	15.70X	11.79X
	Derivative-related liabilities		434	Discounted cash flows	EV/Rev multiples	0.45X	7.50X	4.97X
					Liquidity discounts (5)	-%	50.00%	26.92%
					Discount rate	12.00%	17.00%	14.78%
					Net asset values / prices (6)	n.a.	n.a.	n.a.
<b>Derivative financial instruments</b>								
<b>Interest rate derivatives and interest-rate-linked structured notes (7)</b>								
	Derivative-related assets	348		Discounted cash flows	Interest rates	2.96%	2.98%	Even
	Deposits		-	Option pricing model	CPI swap rates	1.73%	2.30%	Even
	Derivative-related liabilities		732		IR-IR correlations	19.00%	67.00%	Even
					FX-IR correlations	29.00%	56.00%	Even
					FX-FX correlations	68.00%	68.00%	Even
					IR volatilities (8)	26.28%	28.28%	Even
<b>Equity derivatives and equity-linked structured notes (7)</b>								
	Derivative-related assets	442		Discounted cash flows	Dividend yields	0.04%	18.11%	Lower
	Deposits		497	Option pricing model	Equity (EQ)-EQ correlations	0.50%	97.20%	Middle
	Derivative-related liabilities		529		EQ-FX correlations	(72.80)%	53.20%	Middle
					EQ volatilities	1.00%	172.00%	Lower
<b>Other (9)</b>								
	Mortgage-backed securities	4						
	Corporate debt and other debt	6						
	Derivative-related assets	100						
	Deposits		-					
	Derivative-related liabilities		159					
	Other liabilities		20					
<b>Total</b>		<b>\$ 6,332</b>	<b>\$ 2,445</b>					

(1) The acronyms stand for the following: (i) Enterprise Value (EV); (ii) Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA); (iii) Price / Earnings (P/E); (iv) Revenue (Rev); and (v) Consumer Price Index (CPI).

(2) The low and high input values represent the actual highest and lowest level 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 different 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. Where provided, the weighted average of the input values is calculated based on the relative fair values of the instruments within the product category. The weighted averages for derivatives are not presented in the table as they would not provide a comparable metric; instead, distribution of significant unobservable inputs within the range for each product category is indicated in the table.

(3) Price-based inputs are significant for certain debt securities and are based on external benchmarks, comparable proxy instruments or pre-quarter-end trade data. For these instruments, the price input is expressed in dollars for each \$100 par value. For example, with an input price of \$105, an instrument is valued at a premium over its par value.

(4) The level of aggregation and diversity within each derivative instrument category may result in certain ranges of inputs being wide and inputs being unevenly distributed across the range. In the table, we indicated whether the majority of the inputs are concentrated toward the upper, middle, or lower end of the range, or evenly distributed throughout the range.

(5) Fair value of securities with liquidity discount inputs totalled \$131 million (October 31, 2014 - \$211 million).

(6) Net asset values (NAV) of a hedge fund is total fair value of assets less liabilities divided by the number of fund units. The NAV of the funds and the corresponding equity derivatives referenced to NAV are not considered observable as we cannot redeem certain of these hedge funds at NAV prior to the next quarter end. Private equities are valued based on NAV or valuation techniques. The range for NAV per unit or price per share has not been disclosed for the hedge funds or private equities due to the dispersion of prices given the diverse nature of the investments.

(7) The structured notes contain embedded equity or interest rate derivatives with unobservable inputs that are similar to those of the equity or interest rate derivatives.

(8) The reduction in the range of volatility inputs as at October 31, 2015 as compared to prior periods is due to the implementation of a valuation model which uses a different input convention.

(9) Other primarily includes certain insignificant instruments such as commodity derivatives, foreign exchange derivatives, credit derivatives, bank-owned life insurance and Bank funding and deposits.

n.a. not applicable

## **Sensitivity to unobservable inputs and interrelationships between unobservable inputs**

### *Yield, credit spreads/discount margins*

A financial instrument's yield is the interest rate used to discount future cash flows in a valuation model. An increase in the yield, in isolation, would result in a decrease in a fair value measurement and vice versa. A credit spread/discount margin is the difference between a debt instrument's yield and a benchmark instrument's yield. Benchmark instruments have high credit quality ratings, similar maturities and are often government bonds. The credit spread/discount margin therefore represents the discount rate used to determine the present value of future cash flows of an asset to reflect the market return required for uncertainty in the estimated cash flows. The credit spread/discount margin for an instrument forms part of the yield used in a discounted cash flow method. Generally, an increase in the credit spread or discount margin will result in a decrease in fair value, and vice versa.

### *Funding spread*

Funding spreads are credit spreads specific to our funding or deposit rates. A decrease in funding spreads, on its own, will increase fair value of our liabilities, and vice versa.

### *Default rates*

A default rate is the rate at which borrowers fail to make scheduled loan payments. A decrease in the default rate will typically increase the fair value of the loan, and vice versa. This effect will be significantly more pronounced for a non-government guaranteed loan than a government guaranteed loan.

### *Prepayment rates*

A prepayment rate is the rate at which a loan will be repaid in advance of its expected amortization schedule. Prepayments change the future cash flows of a loan. An increase in the prepayment rate in isolation will result in an increase in fair value when the loan interest rate is lower than the then current reinvestment rate, and a decrease in the prepayment rate in isolation will result in a decrease in fair value when the loan interest rate is lower than the then current reinvestment rate. Prepayment rates are generally negatively correlated with interest rates.

### *Recovery and loss severity rates*

A recovery rate is an estimation of the amount that can be collected in a loan default scenario. The recovery rate is the recovered amount divided by the loan balance due, expressed as a percentage. The inverse concept of recovery is loss severity. Loss severity is an estimation of the loan amount not collected when a loan defaults. The loss severity rate is the loss amount divided by the loan balance due, expressed as a percentage. Generally, an increase in the recovery rate or a decrease in the loss severity rate will increase the loan fair value, and vice versa.

### *Capitalization rates*

A capitalization rate is a rate of return on a real estate property investment calculated by dividing a property's income by the property's value. A lower capitalization rate increases the property value, and vice versa.

### *Volatility rates*

Volatility measures the potential variability of future prices and is often measured as the standard deviation of price movements. Volatility is an input to option pricing models used to value derivatives and issued structured notes. Volatility is used in valuing equity, interest rate, commodity and foreign exchange options. A higher volatility rate means that the underlying price or rate movements are more likely to occur. Higher volatility rates may increase or decrease an option's fair value depending on the option's terms. The determination of volatility rates is dependent on various factors, including but not limited to, the underlying's market price, the strike price and maturity.

### *Dividend yields*

A dividend yield is the underlying equity's expected dividends expressed as an annual percentage of its price. Dividend yield is used as an input for forward equity price and option models. Higher dividend yields will decrease the forward price, and vice versa. A higher dividend yield will increase or decrease an option's value, depending on the option's terms.

### *Correlation rates*

Correlation is the linear relationship between the movements in two different variables. Correlation is an input to the valuation of derivative contracts and issued structured notes when an instrument's payout is determined by correlated variables. When variables are positively correlated, an increase in one variable will result in an increase in the other variable. When variables are negatively correlated, an increase in one variable will result in a decrease in the other variable. The referenced variables can be within a single asset class or market (equity, interest rate, commodities, credit and foreign exchange) or between variables in different asset classes (equity to foreign exchange, or interest rate to foreign exchange). Changes in correlation will either increase or decrease a financial instrument's fair value depending on the terms of its contractual payout.

### *Interest rates*

An interest rate is the percentage amount charged on a principal or notional amount. Increasing interest rates will decrease the discounted cash flow value of a financial instrument, and vice versa.

### *Consumer Price Index swap rates*

A Consumer Price Index (CPI) swap rate is expressed as a percentage of an increase in the average price of a basket of consumer goods and services, such as transportation, food and medical care. An increase in the CPI swap rate will cause inflation swap payments to be larger, and vice versa.

### *EV/EBITDA multiples, P/E multiples, EV/Rev multiples, and liquidity discounts*

Private equity valuation inputs include Enterprise Value / Earnings Before Interest, Taxes, Depreciation and Amortization (EV/EBITDA) multiples, Price / Earnings (P/E) multiples and Enterprise Value / Revenue (EV/Rev) multiples. These are used to calculate either enterprise value or share value of a company based on a multiple of earnings or revenue estimates. Higher multiples equate to higher fair values for all multiple types, and vice versa. A liquidity discount may be applied when few or no transactions exist to support the valuations.

*Interrelationships between unobservable inputs*

Unobservable inputs of ARS, including the above discount margin, default rate, prepayment rate, recovery and loss severity rates, may not be independent of each other. The discount margin of ARS can be affected by a change in default rate, prepayment rate, or recovery and loss severity rates. Discount margins will generally decrease when default rates decline or when recovery rates increase. Prepayments may cause fair value to either increase or decrease.

**Changes in fair value measurement for instruments measured on a recurring basis and categorized in Level 3**

The following tables present the changes in fair value measurements on a recurring basis for instruments included in Level 3 of the fair value hierarchy.

	For the year ended October 31, 2015								Changes in unrealized gains (losses) included in earnings for assets and liabilities for the year ended October 31, 2015 for positions still held
	Fair value November 1, 2014	Total realized/unrealized gains (losses) included in earnings	Total unrealized gains (losses) included in other comprehensive income (1)	Purchases of assets/ issuances of liabilities	Sales of assets/ settlements of liabilities and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value October 31, 2015	
<i>(Millions of Canadian dollars)</i>									
<b>Assets</b>									
<b>Securities</b>									
<b>Trading</b>									
Canadian government debt									
Provincial and municipal	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 5	\$ –	\$ 5	\$ –
U.S. state, municipal and agencies debt	6	(1)	1	40	(30)	–	–	16	–
Other OECD government debt	–	–	–	–	–	20	(20)	–	–
Mortgage-backed securities	4	(4)	–	25	(27)	30	(13)	15	–
Asset-backed securities									
CDO	74	24	(18)	102	(146)	13	(44)	5	–
Non-CDO securities	364	(7)	47	137	(345)	24	(197)	23	(2)
Corporate debt and other debt	149	(1)	5	93	(143)	211	(123)	191	–
Equities	166	(29)	24	16	(75)	45	(24)	123	(28)
	763	(18)	59	413	(766)	348	(421)	378	(30)
<b>Available-for-sale</b>									
U.S. state, municipal and agencies debt	1,389	7	157	136	(846)	–	(46)	797	n.a.
Other OECD government debt	11	–	–	4	(2)	–	(13)	–	n.a.
Asset-backed securities									
CDO	24	–	3	30	–	–	(57)	–	n.a.
Non-CDO securities	182	(1)	40	–	(24)	–	–	197	n.a.
Corporate debt and other debt	1,573	–	246	2,524	(2,586)	37	(37)	1,757	n.a.
Equities	1,028	105	65	52	(225)	17	(55)	987	n.a.
	4,207	111	511	2,746	(3,683)	54	(208)	3,738	n.a.
<b>Loans – Wholesale</b>	461	(8)	47	605	(547)	1	(87)	472	–
<b>Other</b>									
Net derivative balances (3)									
Interest rate contracts	(370)	(89)	(2)	37	(7)	(11)	(4)	(446)	(15)
Foreign exchange contracts	9	46	6	34	(7)	7	(37)	58	36
Credit derivatives	(5)	(15)	(1)	–	19	(1)	2	(1)	(3)
Other contracts	(502)	(113)	(77)	28	216	(98)	233	(313)	124
Valuation adjustments	(85)	(3)	(2)	1	45	(3)	–	(47)	–
Other assets	–	–	–	–	–	–	–	–	–
	\$ 4,478	\$ (89)	\$ 541	\$ 3,864	\$ (4,730)	\$ 297	\$ (522)	\$ 3,839	\$ 112
<b>Liabilities</b>									
<b>Deposits</b>									
Personal	\$ (497)	\$ 73	\$ (41)	\$ (545)	\$ 88	\$ (376)	\$ 909	\$ (389)	\$ 45
Business and government	(70)	(5)	1	(78)	51	–	93	(8)	–
<b>Other</b>									
Obligations related to securities sold short	(4)	–	–	(11)	15	(1)	1	–	–
Other liabilities	(20)	(28)	(5)	–	6	–	–	(47)	(22)
Subordinated debentures	–	–	–	–	–	–	–	–	–
	\$ (591)	\$ 40	\$ (45)	\$ (634)	\$ 160	\$ (377)	\$ 1,003	\$ (444)	\$ 23

(Millions of Canadian dollars)	Fair value November 1, 2013	Total realized/ unrealized gains (losses) included in earnings	Total unrealized gains (losses) included in other comprehensive income (1)	Purchases of assets/ issuances of liabilities	Sales of assets/ settlements of liabilities and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value October 31, 2014	Changes in unrealized gains (losses) included in earnings for assets and liabilities for the year ended October 31, 2014 for positions still held
<b>Assets</b>									
<b>Securities</b>									
<b>Trading</b>									
Canadian government debt									
Provincial and municipal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
U.S. state, municipal and agencies debt	22	-	2	47	(61)	5	(9)	6	1
Other OECD government debt	370	-	(4)	-	-	-	(366)	-	-
Mortgage-backed securities	28	(3)	2	90	(83)	1	(31)	4	-
Asset-backed securities									
CDO	31	15	(9)	130	(85)	7	(15)	74	2
Non-CDO securities	260	(2)	20	2,083	(1,984)	16	(29)	364	(5)
Corporate debt and other debt	415	(2)	27	263	(487)	20	(87)	149	-
Equities	183	1	14	84	(77)	22	(61)	166	-
	1,309	9	52	2,697	(2,777)	71	(598)	763	(2)
<b>Available-for-sale</b>									
U.S. state, municipal and agencies debt	2,014	-	240	-	(856)	-	(9)	1,389	n.a.
Other OECD government debt	-	-	-	1	10	-	-	11	n.a.
Asset-backed securities									
CDO	103	-	9	-	(36)	24	(76)	24	n.a.
Non-CDO securities	180	(4)	23	-	(17)	-	-	182	n.a.
Corporate debt and other debt	1,673	-	130	1,760	(1,921)	-	(69)	1,573	n.a.
Equities	969	120	120	47	(228)	-	-	1,028	n.a.
	4,939	116	522	1,808	(3,048)	24	(154)	4,207	n.a.
<b>Loans – Wholesale</b>	414	3	32	31	(19)	-	-	461	(22)
<b>Other</b>									
Net derivative balances (3)									
Interest rate contracts	(458)	(100)	(2)	31	(13)	94	78	(370)	(108)
Foreign exchange contracts	(117)	(28)	3	3	-	2	146	9	(18)
Credit derivatives	(5)	(31)	(2)	-	33	-	-	(5)	(5)
Other contracts	(869)	43	(54)	(103)	93	(169)	557	(502)	20
Valuation adjustments	(105)	15	(1)	-	(73)	-	79	(85)	4
Other assets	11	-	-	-	-	-	(11)	-	-
	\$ 5,119	\$ 27	\$ 550	\$ 4,467	\$ (5,804)	\$ 22	\$ 97	\$ 4,478	\$ (131)
<b>Liabilities</b>									
<b>Deposits</b>									
Personal	\$ (1,043)	\$ 11	\$ (54)	\$ (560)	\$ 184	\$ (299)	\$ 1,264	\$ (497)	\$ 20
Business and government	(3,933)	(184)	(180)	(1,551)	265	-	5,513	(70)	(7)
<b>Other</b>									
Obligations related to securities sold short	(16)	1	(1)	(198)	202	-	8	(4)	-
Other liabilities	(3)	29	-	-	(50)	-	4	(20)	(22)
Subordinated debentures	(109)	-	(3)	-	-	-	112	-	-
	\$ (5,104)	\$ (143)	\$ (238)	\$ (2,309)	\$ 601	\$ (299)	\$ 6,901	\$ (591)	\$ (9)

(1) These amounts include the foreign currency translation gains or losses arising on consolidation of foreign subsidiaries relating to the Level 3 instruments, where applicable. The unrealized losses on AFS securities recognized in OCI were \$5 million for the year ended October 31, 2015 (October 31, 2014 – gains of \$152 million), excluding the translation gains or losses arising on consolidation.

(2) Other includes amortization of premiums or discounts recognized in net income.

(3) Net derivatives as at October 31, 2015 included derivative assets of \$1,143 million (October 31, 2014 – \$901 million) and derivative liabilities of \$1,892 million (October 31, 2014 – \$1,854 million).

n.a. not applicable

### Transfers between fair value hierarchy levels for instruments carried at fair value on a recurring basis

Transfers between Level 1 and Level 2, and transfers into and out of Level 3 are assumed to occur at the end of the period. For an asset or a liability that transfers into Level 3 during the period, the entire change in fair value for the period is excluded from the Total realized/unrealized gains (losses) included in earnings column of the above reconciliation, whereas for transfers out of Level 3 during the period, the entire change in fair value for the period is included in the same column of the above reconciliation.

Transfers between Level 1 and Level 2 are dependent on whether fair value is obtained on the basis of quoted market prices in active markets (Level 1) as opposed to fair value estimated using observable inputs in a discounted cash flow method (Level 2). The following transfers occurred for the year ended October 31, 2015:

- From Level 1 to 2: \$284 million of Trading Canadian government debt (October 31, 2014 – \$nil); \$1,988 million of Trading and AFS U.S. state, municipal and agencies debt (October 31, 2014 – \$1,905 million); and \$641 million of Obligations related to securities sold short (October 31, 2014 – \$1,027 million).
- From Level 2 to 1: \$128 million of Trading Canadian government debt; \$331 million of Trading U.S. state, municipal and agencies debt; \$840 million of Trading and AFS Equities; \$412 million of AFS Other OECD government debt; and \$61 million of Obligations related to securities sold short. There were no similar levelling changes in 2014.

### Note 3 Fair value of financial instruments (continued)

During the year ended October 31, 2015, significant transfers into and out of Level 3 occurred due to changes in the observability of inputs and included:

- From Level 2 to 3 (decreased observability): \$211 million of corporate bonds in Trading Corporate debt and other debt.
- From Level 3 to 2 (increased observability): (i) \$201 million of net OTC equity options in Other contracts; (ii) \$197 million of collateralized loan obligations in Trading Non-CDO securities; and (iii) \$123 million of corporate bonds in Trading Corporate debt and other debt.

During the year ended October 31, 2015, significant transfers into and out of Level 3 also occurred as a result of changes in the significance of unobservable inputs on the fair value of instruments as follows:

- From Level 2 to 3 (significant impact): \$314 million of equity-linked structured notes in Personal deposits.
- From Level 3 to 2 (no significant impact): \$909 million of equity-linked structured notes in Personal deposits.

During the year ended October 31, 2014, significant transfers into and out of Level 3 occurred due to changes in the observability of inputs and included:

- From Level 2 to 3 (decreased observability): \$139 million of equity-linked structured notes in Personal deposits.
- From Level 3 to 2 (increased observability): (i) \$366 million of Other OECD government debt; (ii) \$112 million of net Interest rate contracts; (iii) \$149 million of net Foreign exchange contracts; (iv) \$515 million of net Other contracts; (v) \$185 million of equity-linked structured notes in Personal deposits; and (vi) \$5,494 million of Business and government deposits.

During the year ended October 31, 2014, significant transfers into and out of Level 3 also occurred as a result of changes in the significance of unobservable inputs on the fair value of instruments as follows:

- From Level 3 to 2 (no significant impact): \$1,071 million of equity-linked structured notes in Personal deposits.

#### Total gains or losses of level 3 instruments recognized in earnings

	For the year ended October 31, 2015					
	Total realized/unrealized gains (losses) included in earnings			Changes in unrealized gains (losses) included in earnings for assets and liabilities for the year for positions still held		
	Assets	Liabilities	Total	Assets	Liabilities	Total
(Millions of Canadian dollars)						
Non-interest income						
Insurance premiums, investment and fee income	\$ (1)	\$ –	\$ (1)	\$ –	\$ –	\$ –
Trading revenue	461	(605)	(144)	283	(145)	138
Net gains on available-for-sale securities	111	–	111	–	–	–
Credit fees and Other	(3)	(12)	(15)	(3)	–	(3)
	\$ 568	\$ (617)	\$ (49)	\$ 280	\$ (145)	\$ 135
	For the year ended October 31, 2014					
	Total realized/unrealized gains (losses) included in earnings			Changes in unrealized gains (losses) included in earnings for assets and liabilities for the year for positions still held		
	Assets	Liabilities	Total	Assets	Liabilities	Total
(Millions of Canadian dollars)						
Non-interest income						
Insurance premiums, investment and fee income	\$ 1	\$ –	\$ 1	\$ –	\$ –	\$ –
Trading revenue	686	(882)	(196)	136	(208)	(72)
Net gains on available-for-sale securities	115	–	115	–	–	–
Credit fees and Other	(3)	(33)	(36)	11	(79)	(68)
	\$ 799	\$ (915)	\$ (116)	\$ 147	\$ (287)	\$ (140)

#### Positive and negative fair value movement of Level 3 financial instruments from using reasonably possible alternative assumptions

A financial instrument is classified as Level 3 in the fair value hierarchy if one or more of its unobservable inputs may significantly affect the measurement of its fair value. In preparing the financial statements, appropriate levels for these unobservable input parameters are chosen so that they are consistent with prevailing market evidence or management judgment. Due to the unobservable nature of the prices or rates, there may be uncertainty about valuation of these Level 3 financial instruments.

The following table summarizes the impact to fair values of Level 3 financial instruments using reasonably possible alternative assumptions. This sensitivity disclosure is intended to illustrate the potential impact of the relative uncertainty in the fair value of Level 3 financial instruments. In reporting the sensitivities below, we offset balances in instances where: (i) the move in valuation factor caused an offsetting positive and negative fair value movement, (ii) both offsetting instruments are in Level 3, and (iii) when exposures are managed and reported on a net basis. With respect to overall sensitivity, it is unlikely in practice that all reasonably possible alternative assumptions would simultaneously be realized.

(Millions of Canadian dollars)	As at					
	October 31, 2015			October 31, 2014		
	Level 3 fair value	Positive fair value movement from using reasonably possible alternatives	Negative fair value movement from using reasonably possible alternatives	Level 3 fair value	Positive fair value movement from using reasonably possible alternatives	Negative fair value movement from using reasonably possible alternatives
<b>Securities</b>						
<b>Trading</b>						
Canadian government debt						
Provincial and municipal	\$ 5	\$ –	\$ –	\$ –	\$ –	\$ –
U.S. state, municipal and agencies debt	16	1	(1)	6	–	–
Mortgage-backed securities	15	1	(1)	4	1	(1)
Asset-backed securities	28	2	(3)	438	10	(14)
Corporate debt and other debt	191	2	(2)	149	2	(2)
Equities	123	–	–	166	–	–
<b>Available-for-sale</b>						
U.S. state, municipal and agencies debt	797	12	(36)	1,389	23	(57)
Other OECD government debt	–	–	–	11	–	–
Asset-backed securities	197	11	(16)	206	12	(18)
Corporate debt and other debt	1,757	11	(11)	1,573	12	(10)
Equities	987	76	(33)	1,028	92	(23)
<b>Loans</b>	472	8	(23)	461	12	(11)
<b>Derivatives</b>	1,143	16	(10)	901	23	(21)
	\$ 5,731	\$ 140	\$ (136)	\$ 6,332	\$ 187	\$ (157)
<b>Deposits</b>	\$ (397)	\$ 13	\$ (13)	\$ (567)	\$ 14	\$ (14)
<b>Derivatives</b>	(1,892)	33	(43)	(1,854)	38	(59)
<b>Other</b>						
Securities sold short, other liabilities and subordinated debentures	(47)	–	–	(24)	–	–
	\$ (2,336)	\$ 46	\$ (56)	\$ (2,445)	\$ 52	\$ (73)

### Sensitivity results

As at October 31, 2015, the effects of applying other reasonably possible alternative assumptions to the Level 3 asset positions would be an increase of \$140 million and a reduction of \$136 million in fair value, of which \$110 million and \$87 million would be recorded in Other components of equity, respectively. The effects of applying these assumptions to the Level 3 liability positions would result in a decrease of \$46 million and an increase of \$56 million in fair value.

### Level 3 valuation inputs and approaches to developing reasonably possible alternative assumptions

The following is a summary of the unobservable inputs used in the valuation of the Level 3 instruments and our approaches to developing reasonably possible alternative assumptions used to determine sensitivity.

Financial assets or liabilities	Sensitivity methodology
Asset-backed securities, corporate debt, government debt and municipal bonds	Sensitivities are determined based on adjusting, plus or minus one standard deviation, the bid-offer spreads or input prices if a sufficient number of prices is received, or using high and low vendor prices as reasonably possible alternative assumptions.
Auction rate securities	Sensitivity of ARS is determined by decreasing the discount margin between 9% and 15% and increasing the discount margin between 18% and 30%, depending on the specific reasonable range of fair value uncertainty for each particular financial instrument's market. Changes to the discount margin reflect historical monthly movements in the student loan asset-backed securities market.
Private equities, hedge fund investments and related equity derivatives	Sensitivity of direct private equity investments is determined by (i) adjusting the discount rate by 2% when discounted cash flow method is used to determine fair value, (ii) adjusting the price multiples based on the range of multiples of comparable companies when price-based models are used, or (iii) using an alternative valuation approach. Net asset values of the private equity funds, hedge funds and related equity derivatives are provided by the fund managers, and as a result, there are no other reasonably possible alternative assumptions for these investments.
Interest rate derivatives	Sensitivities of interest rate and cross currency swaps are derived using plus or minus one standard deviation of the inputs, and an amount based on model and parameter uncertainty, where applicable.
Equity derivatives	Sensitivity of the Level 3 position is determined by shifting the unobservable model inputs by plus or minus one standard deviation of the pricing service market data including volatility, dividends or correlations, as applicable.
Bank funding and deposits	Sensitivities of deposits are calculated by shifting the funding curve by plus or minus certain basis points.
Structured notes	Sensitivities for interest-rate-linked and equity-linked structured notes are derived by adjusting inputs by plus or minus one standard deviation, and for other deposits, by estimating a reasonable move in the funding curve by plus or minus certain basis points.



**Fair value for financial instruments that are carried at amortized cost and classified using the fair value hierarchy**

The following tables present fair values of financial instruments that are carried at amortized cost and classified by the fair value hierarchy.

	As at October 31, 2015					
	Fair value always approximates carrying value (1)	Fair value may not approximate carrying value				Total fair value
		Fair value measurements using			Total	
(Millions of Canadian dollars)		Level 1	Level 2	Level 3		
Held-to-maturity securities (2)	\$ –	\$ 2	\$ 8,750	\$ 7	\$ 8,759	\$ 8,759
Assets purchased under reverse repurchase agreements and securities borrowed	39,587	–	20,484	–	20,484	60,071
Loans						
Retail	67,330	–	276,661	4,522	281,183	348,513
Wholesale	5,525	–	110,816	4,975	115,791	121,316
	72,855	–	387,477	9,497	396,974	469,829
Other assets	43,889	–	583	380	963	44,852
	156,331	2	417,294	9,884	427,180	583,511
Deposits						
Personal	148,570	–	54,400	1,049	55,449	204,019
Business and government	197,435	–	164,415	1,455	165,870	363,305
Bank	10,538	–	5,107	68	5,175	15,713
	356,543	–	223,922	2,572	226,494	583,037
Obligations related to assets sold under repurchase agreements and securities loaned	9,095	–	833	–	833	9,928
Other liabilities	38,344	–	381	4,471	4,852	43,196
Subordinated debentures	–	–	7,022	56	7,078	7,078
	\$ 403,982	\$ –	\$ 232,158	\$ 7,099	\$ 239,257	\$ 643,239

	As at October 31, 2014					
	Fair value always approximates carrying value (1)	Fair value may not approximate carrying value				Total fair value
		Fair value measurements using			Total	
(Millions of Canadian dollars)		Level 1	Level 2	Level 3		
Held-to-maturity securities (2)	\$ –	\$ 5	\$ 1,522	\$ 235	\$ 1,762	\$ 1,762
Assets purchased under reverse repurchase agreements and securities borrowed	29,198	–	21,090	–	21,090	50,288
Loans						
Retail	65,766	–	264,335	4,374	268,709	334,475
Wholesale	5,603	–	89,643	3,215	92,858	98,461
	71,369	–	353,978	7,589	361,567	432,936
Other assets	28,224	–	4,546	205	4,751	32,975
	128,791	5	381,136	8,029	389,170	517,961
Deposits						
Personal	139,209	–	55,924	831	56,755	195,964
Business and government	176,555	–	150,827	946	151,773	328,328
Bank	9,659	–	1,915	62	1,977	11,636
	325,423	–	208,666	1,839	210,505	535,928
Obligations related to assets sold under repurchase agreements and securities loaned	5,419	–	502	–	502	5,921
Other liabilities	27,280	–	5,699	3,783	9,482	36,762
Subordinated debentures	–	–	7,657	55	7,712	7,712
	\$ 358,122	\$ –	\$ 222,524	\$ 5,677	\$ 228,201	\$ 586,323

(1) Certain financial instruments have not been assigned to a level as the carrying amount always approximates their fair values due to the short-term nature (instruments that are receivable or payable on demand, or with original maturity of three months or less) and insignificant credit risk.

(2) Included in Securities – Available-for-sale on the Consolidated Balance Sheets.

Fair values of financial assets and liabilities carried at amortized cost and disclosed in the table above are determined using the following valuation techniques and inputs.

**Held-to-maturity securities**

Fair values of Canadian Federal and OECD government bonds, and corporate bonds are based on quoted prices. Fair values of certain Non-OECD government bonds are based on vendor prices or the discounted cash flow method with yield curves of other countries' government bonds as inputs.

**Assets purchased under reverse repurchase agreements and securities borrowed, and Obligations related to assets sold under repurchase agreements and securities loaned**

Valuation methods used for the long-term instruments are described in the Fair value of assets and liabilities measured on a recurring basis and classified using the fair value hierarchy section of this note. The carrying values of short-term instruments generally approximate their fair values.

#### *Loans – Retail*

Retail loans include residential mortgages, personal and small business loans and credit cards. For residential mortgages, and personal and small business loans, we segregate the portfolio based on certain attributes such as product type, contractual interest rate, term to maturity and credit scores, if applicable. Fair values of these loans are determined by the discounted cash flow method using applicable inputs such as prevailing interest rates, contractual and posted client rates, client discounts, credit spreads, prepayment rates and loan-to-value ratio. Fair values of credit card receivables are also calculated based on a discounted cash flow method with portfolio yields, charge off and monthly payment rates as inputs. The carrying values of short-term and variable rate loans generally approximate their fair values.

#### *Loans – Wholesale*

Wholesale loans include Business, Bank and Sovereign loans. Where market prices are available, loans are valued based on market prices. Otherwise, fair value is determined by the discounted cash flow method using the following inputs: market interest rates and market based spreads of assets with similar credit ratings and terms to maturity, expected default frequency implied from credit default swap prices, if available, and relevant pricing information such as contractual rate, origination and maturity dates, redemption price, coupon payment frequency and date convention.

#### *Deposits*

Deposits are comprised of demand, notice, and term deposits which include senior deposit notes we have issued to provide us with long-term funding. Fair values of term deposits are determined by one of several valuation techniques: (i) for term deposits and similar instruments, we segregate the portfolio based on term to maturity. Fair values of these instruments are determined by the discounted cash flow method using inputs such as client rates for new sales of the corresponding terms; and (ii) for senior deposit notes, we use actual traded prices, vendor prices or the discounted cash flow method using a market interest rate curve and our funding spreads as inputs. The carrying values of short-term term deposits, and demand and notice deposits generally approximate their fair values.

#### *Other assets and Other liabilities*

Other assets and Other liabilities include receivables and payables relating to certain commodities and option premiums. Fair values of the commodity receivables and payables are calculated by the discounted cash flow method using applicable inputs such as market interest rates, counterparties' credit spreads, our funding spreads, commodity forward prices and spot prices. The option premium receivables and payables are valued by the discounted cash flow models using market interest rates as inputs.

#### *Subordinated debentures*

Fair values of Subordinated debentures are based on recent transaction prices.

**Carrying value of securities**

The following table presents the contractual maturities of the carrying values of financial instruments held at the end of the period:

	As at October 31, 2015							
	Term to maturity (1)						With no specific maturity	Total
	Within 3 months	3 months to 1 year	1 year to 5 years	5 years to 10 years	Over 10 years			
(Millions of Canadian dollars)								
<b>Trading (2)</b>								
Canadian government debt	\$ 2,310	\$ 9,737	\$ 9,755	\$ 3,618	\$ 8,630	\$ –	\$ 34,050	
U.S. state, municipal and agencies debt	1,450	12,867	7,906	3,056	9,176	–	34,455	
Other OECD government debt	2,237	4,373	4,402	941	393	–	12,346	
Mortgage-backed securities	–	20	42	33	2,827	–	2,922	
Asset-backed securities (3)	90	64	263	846	468	–	1,731	
Corporate debt and other debt								
Bankers' acceptances	104	1	–	–	–	–	105	
Certificates of deposit	59	329	38	12	18	–	456	
Other (4)	1,414	2,866	14,318	1,836	3,714	–	24,148	
Equities	–	–	–	–	–	48,490	48,490	
	7,664	30,257	36,724	10,342	25,226	48,490	158,703	
<b>Available-for-sale (2)</b>								
Canadian government debt								
Federal								
Amortized cost	251	572	1,603	68	47	–	2,541	
Fair value	251	574	1,605	68	46	–	2,544	
Yield (5)	0.4%	0.9%	1.3%	2.9%	4.3%	–	1.2%	
Provincial and municipal								
Amortized cost	–	11	1,271	64	253	–	1,599	
Fair value	–	11	1,274	64	251	–	1,600	
Yield (5)	–	3.3%	1.8%	3.1%	4.2%	–	2.2%	
U.S. state, municipal and agencies debt								
Amortized cost	379	2,563	161	304	9,533	–	12,940	
Fair value	379	2,563	154	302	9,450	–	12,848	
Yield (5)	0.2%	0.6%	5.7%	1.6%	2.3%	–	1.9%	
Other OECD government debt								
Amortized cost	3,946	503	7,491	338	–	–	12,278	
Fair value	3,947	503	7,501	336	–	–	12,287	
Yield (5)	0.0%	1.2%	1.0%	2.2%	–	–	0.7%	
Mortgage-backed securities								
Amortized cost	–	–	57	–	258	–	315	
Fair value	–	–	57	–	261	–	318	
Yield (5)	–	–	1.8%	–	1.9%	–	1.9%	
Asset-backed securities								
Amortized cost	–	6	644	702	1,291	–	2,643	
Fair value	–	6	650	710	1,222	–	2,588	
Yield (5)	–	2.2%	0.6%	0.9%	1.7%	–	1.2%	
Corporate debt and other debt								
Amortized cost	1,164	1,603	10,545	369	490	–	14,171	
Fair value	1,163	1,601	10,516	369	480	–	14,129	
Yield (5)	1.2%	1.9%	1.7%	3.9%	4.4%	–	1.8%	
Equities								
Cost	–	–	–	–	–	1,457	1,457	
Fair value	–	–	–	–	–	1,756	1,756	
Loan substitute securities								
Cost	–	–	–	–	–	95	95	
Fair value	–	–	–	–	–	94	94	
Yield (5)	–	–	–	–	–	5.1%	5.1%	
Amortized cost	5,740	5,258	21,772	1,845	11,872	1,552	48,039	
Fair value	5,740	5,258	21,757	1,849	11,710	1,850	48,164	
<b>Held-to-maturity (2)</b>								
Amortized cost	889	334	3,175	4,133	110	–	8,641	
Fair value	889	334	3,189	4,239	108	–	8,759	
<b>Total carrying value of securities (2)</b>	<b>\$14,293</b>	<b>\$ 35,849</b>	<b>\$61,656</b>	<b>\$ 16,324</b>	<b>\$37,046</b>	<b>\$50,340</b>	<b>\$215,508</b>	

As at October 31, 2014

(Millions of Canadian dollars)	Term to maturity (1)					With no specific maturity	Total
	Within 3 months	3 months to 1 year	1 year to 5 years	5 years to 10 years	Over 10 years		
<b>Trading (2)</b>							
Canadian government debt	\$ 3,050	\$ 6,651	\$ 7,594	\$ 2,232	\$ 5,987	\$ –	\$ 25,514
U.S. state, municipal and agencies debt	3,272	6,811	7,109	5,678	6,602	–	29,472
Other OECD government debt	1,637	3,205	6,223	1,594	2,666	–	15,325
Mortgage-backed securities	–	1	57	163	584	–	805
Asset-backed securities (3)	56	66	330	375	688	–	1,515
Corporate debt and other debt							
Bankers' acceptances	754	8	–	–	–	–	762
Certificates of deposit	17	342	574	30	17	–	980
Other (4)	470	5,501	13,093	3,004	3,788	–	25,856
Equities	–	–	–	–	–	51,151	51,151
	9,256	22,585	34,980	13,076	20,332	51,151	151,380
<b>Available-for-sale (2)</b>							
Canadian government debt							
Federal							
Amortized cost	626	615	8,195	2,197	–	–	11,633
Fair value	627	619	8,356	2,367	–	–	11,969
Yield (5)	1.8%	2.8%	2.2%	3.3%	–	–	2.4%
Provincial and municipal							
Amortized cost	–	–	644	130	18	–	792
Fair value	–	–	648	131	20	–	799
Yield (5)	–	–	2.4%	2.9%	4.9%	–	2.5%
U.S. state, municipal and agencies debt							
Amortized cost	108	385	80	213	5,544	–	6,330
Fair value	108	383	81	213	5,472	–	6,257
Yield (5)	0.0%	8.5%	0.7%	0.4%	0.7%	–	1.1%
Other OECD government debt							
Amortized cost	5,663	2,138	6,357	117	–	–	14,275
Fair value	5,663	2,139	6,374	117	–	–	14,293
Yield (5)	0.1%	0.2%	0.9%	0.4%	–	–	0.5%
Mortgage-backed securities							
Amortized cost	–	–	–	17	116	–	133
Fair value	–	–	–	17	121	–	138
Yield (5)	–	–	–	3.0%	1.8%	–	2.0%
Asset-backed securities							
Amortized cost	–	–	381	833	277	–	1,491
Fair value	–	–	387	849	208	–	1,444
Yield (5)	–	–	0.6%	0.5%	1.0%	–	0.6%
Corporate debt and other debt							
Amortized cost	1,625	822	5,820	727	255	–	9,249
Fair value	1,628	823	5,840	739	257	–	9,287
Yield (5)	1.1%	2.0%	1.6%	2.0%	4.2%	–	1.7%
Equities							
Cost	–	–	–	–	–	1,333	1,333
Fair value	–	–	–	–	–	1,696	1,696
Loan substitute securities							
Cost	–	–	–	–	–	124	124
Fair value	–	–	–	–	–	126	126
Yield (5)	–	–	–	–	–	3.9%	3.9%
Amortized cost	8,022	3,960	21,477	4,234	6,210	1,457	45,360
Fair value	8,026	3,964	21,686	4,433	6,078	1,822	46,009
<b>Held-to-maturity (2)</b>							
Amortized cost	163	110	38	1,448	–	–	1,759
Fair value	163	110	40	1,449	–	–	1,762
<b>Total carrying value of securities (2)</b>	<b>\$17,445</b>	<b>\$ 26,659</b>	<b>\$56,704</b>	<b>\$ 18,957</b>	<b>\$26,410</b>	<b>\$52,973</b>	<b>\$199,148</b>

(1) Actual maturities may differ from contractual maturities shown above since borrowers may have the right to prepay obligations with or without prepayment penalties.

(2) Trading securities and AFS securities are recorded at fair value. Held-to-maturity securities are recorded at amortized cost.

(3) Includes CDO which are presented as Asset-backed securities – CDO in the table entitled Fair value of assets and liabilities measured on a recurring basis and classified using the fair value hierarchy in Note 3.

(4) Primarily composed of corporate debt, supra-national debt, and commercial paper.

(5) The weighted average yield is derived using the contractual interest rate and the carrying value at the end of the year for the respective securities.

**Unrealized gains and losses on available-for-sale securities** <sup>(1), (2)</sup>

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Cost/ Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Cost/ Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
Canadian government debt								
Federal	\$ 2,541	\$ 7	\$ (4)	\$ 2,544	\$ 11,633	\$ 338	\$ (2)	\$ 11,969
Provincial and municipal	1,599	8	(7)	1,600	792	8	(1)	799
U.S. state, municipal and agencies debt <sup>(3)</sup>	12,940	14	(106)	12,848	6,330	9	(82)	6,257
Other OECD government debt	12,278	24	(15)	12,287	14,275	19	(1)	14,293
Mortgage-backed securities	315	4	(1)	318	133	5	–	138
Asset-backed securities								
CDO	1,506	12	(8)	1,510	857	26	(2)	881
Non-CDO securities	1,137	7	(66)	1,078	634	5	(76)	563
Corporate debt and other debt	14,171	39	(81)	14,129	9,249	49	(11)	9,287
Equities	1,457	314	(15)	1,756	1,333	369	(6)	1,696
Loan substitute securities	95	–	(1)	94	124	2	–	126
	<b>\$ 48,039</b>	<b>\$ 429</b>	<b>\$ (304)</b>	<b>\$48,164</b>	<b>\$ 45,360</b>	<b>\$ 830</b>	<b>\$ (181)</b>	<b>\$46,009</b>

(1) Excludes \$8,641 million of held-to-maturity securities as at October 31, 2015 (October 31, 2014 – \$1,759 million) that are carried at amortized cost.

(2) The majority of the mortgage-backed securities (MBS) are residential. Cost/Amortized cost, gross unrealized gains, gross unrealized losses and fair value related to commercial MBS are \$243 million, \$nil, \$1 million and \$242 million, respectively as at October 31, 2015 (October 31, 2014 – \$33 million, \$1 million, \$nil, and \$34 million).

(3) Includes securities issued by U.S. non-agencies backed by government insured assets, MBS and asset-backed securities issued by U.S. government agencies.

AFS securities are assessed for objective evidence of impairment at each reporting date and more frequently when conditions warrant. Depending on the nature of the securities under review, we apply specific methodologies to assess whether the cost/amortized cost of the security would be recovered. As at October 31, 2015, our gross unrealized losses on AFS securities were \$304 million (October 31, 2014 – \$181 million). Management believes that there is no objective evidence of impairment on our AFS securities that are in an unrealized loss position as at October 31, 2015.

The decrease in cost/amortized cost, gross unrealized gains and fair value of Canadian Federal government debt as compared to October 31, 2014 is primarily due to the reclassification of financial instruments as described below.

**Net gains and losses on available-for-sale securities** <sup>(1)</sup>

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
Realized gains	\$ 218	\$ 232	\$ 231
Realized losses	(20)	(15)	(17)
Impairment losses	(53)	(25)	(26)
	<b>\$ 145</b>	<b>\$ 192</b>	<b>\$ 188</b>

(1) The following related to our insurance operations are excluded from Net gains on AFS securities and included in Insurance premiums, investment and fee income in the Consolidated Statements of Income for the year ended October 31, 2015: Realized gains of \$22 million (October 31, 2014 – \$12 million; October 31, 2013 – \$3 million) and \$6 million in impairment losses related to our insurance operations (October 31, 2014 – \$nil; October 31, 2013 – \$nil). There were no realized losses for the year ended October 31, 2015 (October 31, 2014 – \$1 million; October 31, 2013 – \$nil).

During the year ended October 31, 2015, \$145 million of net gains were recognized in Non-interest income as compared to \$192 million in the prior year. The current year reflects net realized gains of \$198 million mainly comprised of distributions from, and gains on sales of certain Equities. Also included in the net gains are \$53 million of impairment losses primarily on certain Equities and Loan substitute securities. This compares to net realized gains for the year ended October 31, 2014 of \$217 million which was partially offset by \$25 million of impairment losses.

**Held-to-maturity securities**

Held-to-maturity securities measured at amortized cost are subject to periodic impairment review and are classified as impaired when, in management's opinion, there is no longer reasonable assurance of the timely collection of the full amount of principal and interest. The impairment review of held-to-maturity securities is primarily based on the impairment model for loans. Management believes that there is no objective evidence of impairment on our held-to-maturity securities as at October 31, 2015.

**Reclassification of financial instruments**

On October 1, 2015, we reclassified certain debt securities from AFS to loans and receivables and from AFS to held-to-maturity with carrying amounts of \$4,132 million and \$5,240 million, respectively, as a result of a change in our intention to hold these securities until the foreseeable future or maturity. These debt securities were previously measured at fair value, with the increase in fair value recognized as part of the carrying amount (fair value premium) and in OCI. Upon reclassification, the previous carrying amount of these AFS securities became the new amortized cost of the loans and receivables and held-to-maturity securities. The net unrealized gains in Other components of equity at the reclassification date will be amortized to Net interest income over the remaining life of the reclassified securities using the effective interest method and this amortization will be offset by the amortization of the fair value premium of these securities.

On the date of reclassification, the debt securities reclassified to loans and receivables and held-to-maturity had weighted average effective interest rates of 1.67% and 3.13%, respectively, with estimated cash flows expected to be recovered, on an undiscounted basis, of \$4,270 million and \$5,487 million, respectively. As at October 31, 2015, the fair value and carrying value of the securities reclassified to loans and receivables were \$4,078 million and \$4,083 million, respectively, and the fair value and carrying value of the securities reclassified to held-to-maturity were \$5,231 million and \$5,231 million, respectively.

The following table provides information regarding debt securities that we reclassified in the current reporting period:

#### Financial instruments reclassified in the current period

	For the year ended	
	October 31, 2015	
	Unrealized gains (losses) during the period	Interest income/gains (losses) recognized in net income during the period (1)
(Millions of Canadian dollars)		
<b>Available-for-sale securities reclassified to loans and receivables</b>		
Canadian government debt – Federal (2)	\$ 21	\$ 83
<b>Available-for-sale securities reclassified to held-to-maturity</b>		
Canadian government debt – Federal (3)	48	159
	<b>\$ 69</b>	<b>\$ 242</b>

- (1) Includes amortization of net unrealized gains associated with reclassified assets that were included in Other components of equity on the date of reclassification.
- (2) The change in fair value of these debt securities recorded in OCI for the year ended October 31, 2015 was an unrealized gain of \$29 million (October 31, 2014 – unrealized gain of \$9 million, October 31, 2013 – unrealized gain of \$9 million). Unrealized losses of \$8 million would also have been recognized in OCI for the year ended October 31, 2015, had these debt securities not been reclassified.
- (3) The change in fair value of these debt securities recorded in OCI for the year ended October 31, 2015 was an unrealized gain of \$57 million (October 31, 2014 – unrealized gain of \$13 million, October 31, 2013 – unrealized loss of \$140 million). Unrealized losses of \$9 million would also have been recognized in OCI for the year ended October 31, 2015, had these debt securities not been reclassified.

The following table provides information regarding certain debt securities that we reclassified in the prior reporting period:

#### Financial instruments reclassified in prior periods

	As at	
	October 31 2015	October 31 2014
	Total carrying value and fair value	Total carrying value and fair value
(Millions of Canadian dollars)		
<b>Financial assets – FVTPL reclassified to available-for-sale (1)</b>		
CDO	\$ 561	\$ 751
Mortgage-backed securities	19	44
	<b>\$ 580</b>	<b>\$ 795</b>

- (1) On October 1, 2011 and November 1, 2011, we reclassified \$1,872 million and \$255 million, respectively, of certain CDO and U.S. non-agency MBS from classified as at FVTPL to AFS.

	For the year ended					
	October 31, 2015		October 31, 2014		October 31, 2013	
	Unrealized gains (losses) during the period (1)	Interest income/gains (losses) recognized in net income during the period	Unrealized gains (losses) during the period (1)	Interest income/gains (losses) recognized in net income during the period	Unrealized gains (losses) during the period (1)	Interest income/gains (losses) recognized in net income during the period
(Millions of Canadian dollars)						
<b>FVTPL reclassified to available-for-sale</b>						
CDO	\$ (17)	\$ 28	\$ (29)	\$ 58	\$ (5)	\$ 59
Mortgage-backed securities	–	2	(2)	4	–	8
	<b>\$ (17)</b>	<b>\$ 30</b>	<b>\$ (31)</b>	<b>\$ 62</b>	<b>\$ (5)</b>	<b>\$ 67</b>

- (1) This change represents the fair value gains or losses that would have been recognized in profit or loss had the assets not been reclassified.

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Canada	United States	Other International	Total	Canada	United States	Other International	Total
<b>Retail (1)</b>								
Residential mortgages	\$ 229,987	\$ 772	\$ 3,216	\$ 233,975	\$ 215,624	\$ 539	\$ 3,094	\$ 219,257
Personal	84,637	4,623	5,086	94,346	86,984	4,082	4,955	96,021
Credit cards	15,516	89	254	15,859	14,650	65	209	14,924
Small business (2)	4,003	–	–	4,003	4,067	–	–	4,067
	<b>334,143</b>	<b>5,484</b>	<b>8,556</b>	<b>348,183</b>	<b>321,325</b>	<b>4,686</b>	<b>8,258</b>	<b>334,269</b>
<b>Wholesale (1)</b>								
Business (3)	60,221	34,385	21,952	116,558	55,374	23,544	20,250	99,168
Bank (4)	530	115	1,155	1,800	413	30	758	1,201
Sovereign (5)	6,332	–	1,379	7,711	1,797	–	788	2,585
	<b>67,083</b>	<b>34,500</b>	<b>24,486</b>	<b>126,069</b>	<b>57,584</b>	<b>23,574</b>	<b>21,796</b>	<b>102,954</b>
<b>Total loans</b>	<b>\$ 401,226</b>	<b>\$ 39,984</b>	<b>\$ 33,042</b>	<b>\$ 474,252</b>	<b>\$ 378,909</b>	<b>\$ 28,260</b>	<b>\$ 30,054</b>	<b>\$ 437,223</b>
<b>Allowance for loan losses</b>	<b>(1,416)</b>	<b>(131)</b>	<b>(482)</b>	<b>(2,029)</b>	<b>(1,466)</b>	<b>(100)</b>	<b>(428)</b>	<b>(1,994)</b>
<b>Total loans net of allowance for loan losses</b>	<b>\$ 399,810</b>	<b>\$ 39,853</b>	<b>\$ 32,560</b>	<b>\$ 472,223</b>	<b>\$ 377,443</b>	<b>\$ 28,160</b>	<b>\$ 29,626</b>	<b>\$ 435,229</b>

(1) Geographic information is based on residence of borrower.

(2) Includes small business exposure managed on a pooled basis.

(3) Includes small business exposure managed on an individual client basis.

(4) Bank refers primarily to regulated deposit-taking institutions and securities firms.

(5) Sovereign refers to all central governments and agencies, central banks, as well as other qualifying public sector entities and multilateral development banks.

### Loans maturity and rate sensitivity

(Millions of Canadian dollars)	As at October 31, 2015							
	Maturity term (1)				Rate sensitivity			
	Under 1 year (2)	1 to 5 years	Over 5 years	Total	Floating	Fixed Rate	Non-rate-sensitive	Total
<b>Retail</b>	\$ 194,596	\$ 143,352	\$ 10,235	\$ 348,183	\$ 126,141	\$ 216,841	\$ 5,201	\$ 348,183
<b>Wholesale</b>	101,922	19,505	4,642	126,069	53,799	70,827	1,443	126,069
<b>Total loans</b>	<b>\$ 296,518</b>	<b>\$ 162,857</b>	<b>\$ 14,877</b>	<b>\$ 474,252</b>	<b>\$ 179,940</b>	<b>\$ 287,668</b>	<b>\$ 6,644</b>	<b>\$ 474,252</b>
<b>Allowance for loan losses</b>				<b>(2,029)</b>				<b>(2,029)</b>
<b>Total loans net of allowance for loan losses</b>				<b>\$ 472,223</b>				<b>\$ 472,223</b>

(Millions of Canadian dollars)	As at October 31, 2014							
	Maturity term (1)				Rate sensitivity			
	Under 1 year (2)	1 to 5 years	Over 5 years	Total	Floating	Fixed Rate	Non-rate-sensitive	Total
<b>Retail</b>	\$ 184,164	\$ 140,566	\$ 9,539	\$ 334,269	\$ 121,191	208,498	4,580	\$ 334,269
<b>Wholesale</b>	83,746	15,745	3,463	102,954	44,068	57,742	1,144	102,954
<b>Total loans</b>	<b>\$ 267,910</b>	<b>\$ 156,311</b>	<b>\$ 13,002</b>	<b>\$ 437,223</b>	<b>\$ 165,259</b>	<b>\$ 266,240</b>	<b>\$ 5,724</b>	<b>\$ 437,223</b>
<b>Allowance for loan losses</b>				<b>(1,994)</b>				<b>(1,994)</b>
<b>Total loans net of allowance for loan losses</b>				<b>\$ 435,229</b>				<b>\$ 435,229</b>

(1) Generally, based on the earlier of contractual repricing or maturity date.

(2) Includes variable rate loans that can be repriced at the clients' discretion without penalty.

**Allowance for credit losses**

	For the year ended October 31, 2015						
	Balance at beginning of period	Provision for credit losses	Write-offs	Recoveries	Unwind of discount	Exchange rate changes/ other	Balance at end of period
(Millions of Canadian dollars)							
<b>Retail</b>							
Residential mortgages	\$ 240	\$ 46	\$ (64)	\$ 7	\$ (23)	\$ 36	\$ 242
Personal	535	384	(494)	105	(16)	16	530
Credit cards	385	378	(497)	119	–	1	386
Small business	64	32	(40)	10	(2)	–	64
	1,224	840	(1,095)	241	(41)	53	1,222
<b>Wholesale</b>							
Business	768	258	(243)	33	(39)	28	805
Bank (1)	2	(1)	–	1	–	–	2
	770	257	(243)	34	(39)	28	807
<b>Total allowance for loan losses</b>	<b>1,994</b>	<b>1,097</b>	<b>(1,338)</b>	<b>275</b>	<b>(80)</b>	<b>81</b>	<b>2,029</b>
Allowance for off-balance sheet and other items (2)	91	–	–	–	–	–	91
<b>Total allowance for credit losses</b>	<b>\$ 2,085</b>	<b>\$ 1,097</b>	<b>\$ (1,338)</b>	<b>\$ 275</b>	<b>\$ (80)</b>	<b>\$ 81</b>	<b>\$ 2,120</b>
Individually assessed	\$ 214	\$ 149	\$ (132)	\$ 18	\$ (26)	\$ 29	\$ 252
Collectively assessed	1,871	948	(1,206)	257	(54)	52	1,868
<b>Total allowance for credit losses</b>	<b>\$ 2,085</b>	<b>\$ 1,097</b>	<b>\$ (1,338)</b>	<b>\$ 275</b>	<b>\$ (80)</b>	<b>\$ 81</b>	<b>\$ 2,120</b>

	For the year ended October 31, 2014						
	Balance at beginning of period	Provision for credit losses	Write-offs	Recoveries	Unwind of discount	Exchange rate changes/ other	Balance at end of period
(Millions of Canadian dollars)							
<b>Retail</b>							
Residential mortgages	\$ 151	\$ 95	\$ (30)	\$ 2	\$ (26)	\$ 48	\$ 240
Personal	583	444	(565)	106	(23)	(10)	535
Credit cards	385	353	(466)	114	–	(1)	385
Small business	61	44	(47)	9	(2)	(1)	64
	1,180	936	(1,108)	231	(51)	36	1,224
<b>Wholesale</b>							
Business	777	228	(221)	32	(36)	(12)	768
Bank (1)	2	–	–	–	–	–	2
	779	228	(221)	32	(36)	(12)	770
<b>Total allowance for loan losses</b>	<b>1,959</b>	<b>1,164</b>	<b>(1,329)</b>	<b>263</b>	<b>(87)</b>	<b>24</b>	<b>1,994</b>
Allowance for off-balance sheet and other items (2)	91	–	–	–	–	–	91
<b>Total allowance for credit losses</b>	<b>\$ 2,050</b>	<b>\$ 1,164</b>	<b>\$ (1,329)</b>	<b>\$ 263</b>	<b>\$ (87)</b>	<b>\$ 24</b>	<b>\$ 2,085</b>
Individually assessed	\$ 240	\$ 160	\$ (188)	\$ 16	\$ (24)	\$ 10	\$ 214
Collectively assessed	1,810	1,004	(1,141)	247	(63)	14	1,871
<b>Total allowance for credit losses</b>	<b>\$ 2,050</b>	<b>\$ 1,164</b>	<b>\$ (1,329)</b>	<b>\$ 263</b>	<b>\$ (87)</b>	<b>\$ 24</b>	<b>\$ 2,085</b>



(Millions of Canadian dollars)	For the year ended October 31, 2013						
	Balance at beginning of period	Provision for credit losses	Write-offs	Recoveries	Unwind of discount	Exchange rate changes/ other	Balance at end of period
<b>Retail</b>							
Residential mortgages	\$ 124	\$ 41	\$ (24)	\$ 2	\$ (24)	\$ 32	\$ 151
Personal	543	455	(498)	96	(17)	4	583
Credit cards	403	354	(466)	112	–	(18)	385
Small business	72	32	(35)	9	(2)	(15)	61
	1,142	882	(1,023)	219	(43)	3	1,180
<b>Wholesale</b>							
Business	852	355	(448)	51	(43)	10	777
Bank (1)	2	–	–	–	–	–	2
	854	355	(448)	51	(43)	10	779
<b>Total allowance for loan losses</b>	<b>1,996</b>	<b>1,237</b>	<b>(1,471)</b>	<b>270</b>	<b>(86)</b>	<b>13</b>	<b>1,959</b>
Allowance for off-balance sheet and other items (2)	91	–	–	–	–	–	91
<b>Total allowance for credit losses</b>	<b>\$ 2,087</b>	<b>\$ 1,237</b>	<b>\$ (1,471)</b>	<b>\$ 270</b>	<b>\$ (86)</b>	<b>\$ 13</b>	<b>\$ 2,050</b>
Individually assessed	\$ 298	\$ 287	\$ (346)	\$ 31	\$ (28)	\$ (2)	\$ 240
Collectively assessed	1,789	950	(1,125)	239	(58)	15	1,810
<b>Total allowance for credit losses</b>	<b>\$ 2,087</b>	<b>\$ 1,237</b>	<b>\$ (1,471)</b>	<b>\$ 270</b>	<b>\$ (86)</b>	<b>\$ 13</b>	<b>\$ 2,050</b>

(1) Bank refers primarily to regulated deposit-taking institutions and securities firms.

(2) The allowance for off-balance sheet and other items is reported separately in Other liabilities – Provisions.

### Net interest income after provision for credit losses

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
Net interest income	\$ 14,771	\$ 14,116	\$ 13,249
Provision for credit losses	1,097	1,164	1,237
<b>Net interest income after provision for credit losses</b>	<b>\$ 13,674</b>	<b>\$ 12,952</b>	<b>\$ 12,012</b>

### Loans past due but not impaired

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	1 to 29 days	30 to 89 days	90 days and greater	Total	1 to 29 days	30 to 89 days	90 days and greater	Total
Retail	\$ 3,054	\$ 1,298	\$ 314	\$4,666	\$ 3,055	\$ 1,284	\$ 316	\$4,655
Wholesale	417	184	–	601	431	322	–	753
	\$ 3,471	\$ 1,482	\$ 314	\$5,267	\$ 3,486	\$ 1,606	\$ 316	\$5,408

### Gross carrying value of loans individually determined to be impaired (1)

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
Retail	\$ –	\$ –
Wholesale		
Business	991	631
Bank (2)	2	2
	\$ 993	\$ 633

(1) Average balance of gross individually assessed impaired loans for the year ended October 31, 2015 was \$830 million (October 31, 2014 – \$690 million).

(2) Bank refers primarily to regulated deposit-taking institutions and securities firms.

We enter into transactions in which we transfer financial assets such as loans or securities to structured entities or other third parties. The transferred financial assets are derecognized from our Consolidated Balance Sheets when we transfer substantially all of the risks and rewards of ownership of the financial assets. When we are exposed to substantially all of the risks and rewards of the assets, or when we have neither transferred nor retained substantially all of the risks and rewards but retain control of the financial assets, we continue to recognize the financial assets on our Consolidated Balance Sheets and a liability is recognized for the cash proceeds received.

The majority of assets transferred under repurchase agreements, securities lending agreements, and in our Canadian residential mortgage securitization transactions do not qualify for derecognition.

### Transferred financial assets not derecognized

#### Securitization of Canadian residential mortgage loans

We securitize insured Canadian residential mortgage loans through the creation of MBS pools under the National Housing Act MBS (NHA MBS) program. All loans securitized under the NHA MBS program are required to be insured by the Canadian Mortgage Housing Corporation or a third-party insurer. We require the borrower to pay the insurance for mortgages in which the loan amount is greater than 80% of the original appraised value of the property (loan-to-value (LTV) ratio). For residential mortgage loans securitized under this program with an LTV ratio less than 80%, we are required to insure the mortgages at our own expense. Under the NHA MBS program, we are responsible for making all payments due on our issued MBS, regardless of whether we collect the necessary funds from the mortgagor or the insurer. When the borrower defaults on the mortgage payment, we submit a claim to the insurer if the amount recovered from the collection or foreclosure process is lower than the sum of the principal balance, accrued interest and collection costs on the outstanding loan. The insurance claim process is managed by the insurance provider in accordance with the insurer's policies and covers the entire unpaid loan balance plus generally up to 12 months of interest, selling costs and other eligible expenses. If an insurance claim is denied, a loss is recognized in Provision for credit losses in our Consolidated Statements of Income. The amount recorded as a loss is not significant to our Consolidated Financial Statements and no significant losses were incurred due to legal action arising from a mortgage default during 2015 and 2014.

We sell the NHA MBS pools primarily to a government-sponsored structured entity under the Canada Mortgage Bond (CMB) program. The entity periodically issues CMBs, which are guaranteed by the government, and sells them to third-party investors. Proceeds of the CMB issuances are used by the entity to purchase the NHA MBS pools from eligible NHA MBS issuers who participate in the issuance of a particular CMB series. Our continuing involvement includes servicing the underlying residential mortgage loans we have securitized, either ourselves or through a third-party servicer. We also act as counterparty in interest rate swap agreements where we pay the entity the interest due to CMB investors and receive the interest on the underlying MBS and reinvested assets. As part of the swap, we are also required to maintain a principal reinvestment account for principal payments received on the underlying mortgage loans to meet the repayment obligation upon maturity of the CMB. We reinvest the collected principal payments in permitted investments as outlined in the swap agreement.

We have determined that certain of the NHA MBS program loans transferred to the entity do not qualify for derecognition as we have not transferred substantially all of the risks and rewards of ownership. As a result, these transferred MBS continue to be classified as residential mortgage loans and recognized on our Consolidated Balance Sheets. The cash received for these transferred MBS is treated as a secured borrowing and a corresponding liability recorded in Deposits – Business and government on our Consolidated Balance Sheets.

#### Securities sold under repurchase agreements and securities loaned

We also enter into transactions such as repurchase agreements and securities lending agreements where we transfer assets under agreements to repurchase them on a future day and retain substantially all of the credit, price, interest rate and foreign exchange risks and rewards associated with the assets. These transferred assets remain on our Consolidated Balance Sheets and are accounted for as collateralized borrowing transactions.

The following table provides information on the carrying amount and fair value of the transferred assets that did not qualify for derecognition, and their associated liabilities.

	As at								
	October 31, 2015				October 31, 2014				
	Canadian residential mortgage loans (1), (2)	Securities sold under repurchase agreements (3)	Securities loaned (3)	Total	Canadian residential mortgage loans (1) (2)	Securities sold under repurchase agreements (3)	Securities loaned (3)	Total	
(Millions of Canadian dollars)									
Carrying amount of transferred assets that do not qualify for derecognition	\$ 35,707	\$ 78,327	\$ 4,961	\$ 118,995	\$ 36,972	\$ 60,279	\$ 4,052	\$ 101,303	
Carrying amount of associated liabilities	36,130	78,327	4,961	119,418	36,941	60,279	4,052	101,272	
Fair value of transferred assets	\$ 35,770	\$ 78,327	\$ 4,961	\$ 119,058	\$ 37,010	\$ 60,279	\$ 4,052	\$ 101,341	
Fair value of associated liabilities	37,150	78,327	4,961	120,438	37,769	60,279	4,052	102,100	
Fair value of net position	\$ (1,380)	\$ –	\$ –	\$ (1,380)	\$ (759)	\$ –	\$ –	\$ (759)	

(1) Includes Canadian residential mortgage loans transferred primarily to Canada Housing Trust at the initial securitization and other permitted investments used for funding requirements after the initial securitization.

(2) Canada Mortgage Bond (CMB) investors have legal recourse only to the transferred assets, and do not have recourse to our general assets.

(3) Does not include over-collateralization of assets pledged.

In the normal course of business, we engage in a variety of financial transactions with structured entities to support our financing and investing needs as well as those of our customers. A structured entity is an entity in which voting or similar rights are not the dominant factor in deciding control. Structured entities are generally created to achieve a narrow and well defined objective with restrictions around their ongoing activities. We consolidate a structured entity when we control the entity in accordance with our accounting policy described in Note 2. In other cases, we may sponsor or have an interest in such an entity but not consolidate it.

**Consolidated structured entities**

We consolidate the following structured entities, whose assets and liabilities are recorded on our Consolidated Balance Sheets. Third-party investors in these structured entities generally have recourse only to the assets of the related entity and do not have recourse to our general assets unless we breach our contractual obligations to those entities. In the ordinary course of business, the assets of each consolidated structured entity can generally only be used to settle the obligations of that entity.

*Credit card securitization vehicle*

We securitize a portion of our credit card receivables through a structured entity on a revolving basis. The entity purchases co-ownership interests in a pool of credit card receivables and issues senior and subordinated term notes collateralized by the underlying pool of credit card receivables. Investors who purchase the term notes have recourse only to the underlying pool of credit card receivables.

We continue to service the credit card receivables sold and perform an administrative role for the entity. We also provide first-loss protection through our retained interest in the transferred assets, the cash reserve balance we fund from time to time, and also through certain subordinated notes which we retain. Additionally, we may own some senior notes as investments or for market-making activities; we provide subordinated loans to the entity to pay upfront expenses; and we act as counterparty to interest rate and cross currency swap agreements which hedge the entity's interest rate and currency risk exposure.

We consolidate the structured entity because we have decision making power over the timing and size of future issuances and other relevant activities which were predetermined by us at inception. We also obtain significant funding benefits and are exposed to the majority of the residual ownership risks through the credit support provided. As at October 31, 2015, \$9.1 billion of notes issued by our credit card securitization vehicle were included in Deposits on our Consolidated Balance Sheets (October 31, 2014 – \$8.5 billion).

*Auto loan securitization vehicles*

We obtained control of certain auto loan securitization vehicles as a result of the acquisition of the Canadian auto finance and deposit business of Ally Financial Inc. completed in 2013. These vehicles issued senior and subordinated notes collateralized by auto loan receivables originated and transferred to the entities by Ally Financial Inc. After the acquisition, we provided credit enhancement to the outstanding notes through overcollateralization, cash reserve accounts and our interest in the excess spread, which was subordinated to the noteholders. We also acted as swap counterparty for one entity's interest rate swap agreements which hedge its interest rate risk exposure.

We consolidate these vehicles because we have the decision making power over their investing and financing activities. As at October 31, 2015, all of the outstanding senior and subordinated notes issued by these vehicles have been repaid in full; therefore, \$nil of such notes were included in Deposits on our Consolidated Balance Sheets (October 31, 2014 – \$407 million).

*Collateralized commercial paper vehicle*

We established a funding vehicle that provides loans to us and finances those loans by issuing commercial paper to third-party investors. The structured entity's commercial paper carries an equivalent credit rating to RBC because we are obligated to advance funds to the entity in the event there are insufficient funds from other sources to settle maturing commercial paper. We pledge collateral to secure the loans and are exposed to the market and credits risks of the pledged securities. We administer the entity and earn an administration fee for providing these services.

We consolidate the structured entity because we have decision making power over the relevant activities, are the sole borrower from the structure, and are exposed to a majority of the residual ownership risks through the credit support provided. As at October 31, 2015, \$11.8 billion of commercial paper issued by the vehicle was included in Deposits on our Consolidated Balance Sheets (October 31, 2014 – \$7.8 billion).

*Innovative capital vehicles*

RBC Capital Trust was created to issue innovative capital instruments, the proceeds from which were used to purchase mortgages from RBC. We consolidate the trust as, through our roles as trustee, administrative agent and equity investor, we have the decision making power over the relevant activities of the trust and are exposed to variability from the performance of the underlying mortgages. Refer to Note 20 for further details on our innovative capital instruments.

*Covered bonds*

RBC Covered Bond Guarantor Limited Partnership (Guarantor LP) was created to issue guarantees of covered bonds that we issue. We periodically transfer mortgages to Guarantor LP to support funding activities and asset coverage requirements under our covered bond program. The covered bonds guaranteed by Guarantor LP are direct, unsecured and unconditional obligations of RBC; therefore, investors have a claim against the Bank which will continue if the covered bonds are not paid by the Bank and the mortgage assets in Guarantor LP are insufficient to satisfy the obligations owing on the covered bonds. We act as general partner, limited partner, swap counterparty, lender and liquidity provider to Guarantor LP and registered issuer of the covered bonds.

We consolidate Guarantor LP as we have the decision making power over the relevant activities through our role as general partner and are exposed to variability from the performance of the underlying mortgages. As at October 31, 2015, the total amount of mortgages transferred and outstanding was \$54.5 billion (October 31, 2014 – \$38.3 billion) and \$37.2 billion of covered bonds were recorded as Deposits on our Consolidated Balance Sheets (October 31, 2014 – \$26.4 billion).

*Municipal bond TOB structures*

We sell taxable and tax-exempt municipal bonds into Tender Option Bond (TOB) structures, which consist of a credit enhancement (CE) trust and a TOB trust. The CE trust purchases a bond from us, financed with a trust certificate issued to the TOB trust. The TOB trust then issues floating-rate certificates to short-term investors and a residual certificate that is held by us. We are the remarketing agent for the floating-rate certificates

and provide a liquidity facility to the TOB trust which requires us to purchase any certificates tendered but not successfully remarketed. We also provide a letter of credit to the CE trust under which we are required to extend funding if there are any losses on the underlying bonds. We earn interest on the residual certificate and receive market-based fees for acting as remarketing agent and providing the liquidity facility and letter of credit.

We consolidate both the CE trust and TOB trust when we are the holder of the residual certificate as we have decision making power over the relevant activities, including the selection of the underlying municipal bonds and the ability to terminate the structure, and are exposed to variability from the performance of the underlying municipal bonds. As at October 31, 2015, \$6.0 billion of municipal bonds were included in AFS securities related to consolidated TOB structures (October 31, 2014 – \$3.3 billion) and a corresponding \$6.1 billion of floating rate certificates were included in Deposits on our Consolidated Balance Sheets (October 31, 2014 – \$3.3 billion).

#### Non-RBC managed Investment funds

We enter into certain fee-based equity derivative transactions where our investments in the reference funds are held by an intermediate limited partnership entity (intermediate entity) in which we hold a substantial majority of the equity interests. We consolidate the intermediate entity because we have the decision making power to direct all the activities of the entity and are exposed to a majority of the risks and rewards through our equity investments. As at October 31, 2015, \$227 million of Trading securities representing our investments in the reference funds were recorded on our Consolidated Balance Sheets (October 31, 2014 – \$277 million).

#### RBC managed investment funds

We are sponsors and investment managers of mutual and pooled funds, which gives us the ability to direct the investment decisions of the funds. We consolidate those mutual and pooled funds in which our interests, which include direct investment in seed capital plus management or performance fees, indicate that we are acting as a principal. As at October 31, 2015, \$586 million of Trading securities held in the consolidated funds (October 31, 2014 – \$586 million) and \$190 million of Other liabilities representing the fund units held by third parties (October 31, 2014 – \$189 million) were recorded on our Consolidated Balance Sheets.

#### Unconsolidated structured entities

We have interests in certain structured entities that we do not consolidate but have recorded assets and liabilities on our Consolidated Balance Sheets related to our transactions and involvement with these entities.

The following table presents the assets and liabilities recorded on our Consolidated Balance Sheets and our maximum exposure to loss related to our interests in unconsolidated structured entities. It also presents the size of each class of unconsolidated structured entity, as measured by the total assets of the entities in which we have an interest.

(Millions of Canadian dollars)	As at October 31, 2015						
	Multi-seller conduits (1)	Structured finance	Non-RBC managed investment funds	RBC managed investment funds	Third-party securitization vehicles	Other	Total
<b>On-balance sheet assets</b>							
Securities	\$ 17	\$ –	\$ 2,661	\$ 275	\$ –	\$ 697	\$ 3,650
Loans	764	1,323	–	–	5,447	–	7,534
Derivatives	19	2	–	–	3	54	78
Other assets	–	547	1	225	–	57	830
	<b>\$ 800</b>	<b>\$ 1,872</b>	<b>\$ 2,662</b>	<b>\$ 500</b>	<b>\$ 5,450</b>	<b>\$ 808</b>	<b>\$ 12,092</b>
<b>On-balance sheet liabilities</b>							
Derivatives	\$ 24	\$ –	\$ –	\$ –	\$ –	\$ 11	\$ 35
Other liabilities	–	–	33	–	–	2	35
	<b>\$ 24</b>	<b>\$ –</b>	<b>\$ 33</b>	<b>\$ –</b>	<b>\$ –</b>	<b>\$ 13</b>	<b>\$ 70</b>
<b>Maximum exposure to loss (2)</b>	<b>\$ 37,789</b>	<b>\$ 3,681</b>	<b>\$ 3,440</b>	<b>\$ 490</b>	<b>\$ 9,694</b>	<b>\$ 927</b>	<b>\$ 56,021</b>
<b>Total assets of unconsolidated structured entities</b>	<b>\$ 37,044</b>	<b>\$ 21,621</b>	<b>\$ 658,236</b>	<b>\$ 278,474</b>	<b>\$ 125,294</b>	<b>\$ 67,658</b>	<b>\$ 1,188,327</b>

(Millions of Canadian dollars)	As at October 31, 2014						
	Multi-seller conduits (1)	Structured finance	Non-RBC managed investment funds	RBC managed investment funds	Third-party securitization vehicles	Other	Total
<b>On-balance sheet assets</b>							
Securities	\$ 42	\$ –	\$ 3,343	\$ 151	\$ 1	\$ 696	\$ 4,233
Loans	864	–	–	–	1,463	–	2,327
Derivatives	–	3	–	–	–	8	11
Other assets	–	913	1	220	–	51	1,185
	<b>\$ 906</b>	<b>\$ 916</b>	<b>\$ 3,344</b>	<b>\$ 371</b>	<b>\$ 1,464</b>	<b>\$ 755</b>	<b>\$ 7,756</b>
<b>On-balance sheet liabilities</b>							
Derivatives	\$ 85	\$ –	\$ –	\$ –	\$ 2	\$ –	\$ 87
Other liabilities	–	–	5	–	–	3	8
	<b>\$ 85</b>	<b>\$ –</b>	<b>\$ 5</b>	<b>\$ –</b>	<b>\$ 2</b>	<b>\$ 3</b>	<b>\$ 95</b>
<b>Maximum exposure to loss (2)</b>	<b>\$ 31,019</b>	<b>\$ 2,158</b>	<b>\$ 4,005</b>	<b>\$ 203</b>	<b>\$ 2,397</b>	<b>\$ 873</b>	<b>\$ 40,655</b>
<b>Total assets of unconsolidated structured entities</b>	<b>\$ 30,428</b>	<b>\$ 13,118</b>	<b>\$ 621,938</b>	<b>\$ 272,852</b>	<b>\$ 27,095</b>	<b>\$ 64,963</b>	<b>\$ 1,030,394</b>

(1) Total assets of unconsolidated structured entities represent the maximum assets that may have to be purchased by the conduits under purchase commitments outstanding. Of the purchase commitments outstanding, the conduits have purchased financial assets totalling \$25.2 billion as at October 31, 2015 (October 31, 2014 – \$19.8 billion).

(2) The maximum exposure to loss resulting from our interests in these entities consists mostly of investments, loans, fair value of derivatives, liquidity and credit enhancement facilities. The maximum exposure to loss of the multi-seller conduits is higher than the on-balance sheet assets primarily by the notional amounts of the backstop liquidity and credit enhancement facilities. Refer to Note 26.

Below is a description of our involvement with each significant class of unconsolidated structured entity.

#### *Multi-seller conduits*

We administer five multi-seller asset-backed commercial paper (ABCP) conduit programs (multi-seller conduits) – two in Canada and three in the U.S. These conduits primarily purchase financial assets from clients and finance those purchases by issuing ABCP.

We do not maintain any ownership or retained interests in the multi-seller conduits that we administer and have no rights to, or control of, their assets. As the administrative agent, we earn a residual fee for providing services such as coordinating funding activities, transaction structuring, documentation, execution and monitoring of transactions. The ABCP issued by each multi-seller conduit is in the conduit's own name with recourse to the financial assets owned by each multi-seller conduit, and is non-recourse to us except through our participation in liquidity and/or credit enhancement facilities. We may purchase ABCP issued by our multi-seller conduits from time to time in our capacity as placement agent in order to facilitate the overall program liquidity.

We provide transaction-specific and program-wide liquidity facilities to the multi-seller conduits. In addition, we provide program-wide credit enhancement to the multi-seller conduits which obligate us to purchase assets or advance funds in the event the multi-seller conduit does not otherwise have funds from other sources, such as from the liquidity facilities, to settle maturing ABCP. In some cases, we or another third party may provide transaction-specific credit enhancement which can take various forms. We receive market-based fees for providing these liquidity and credit facilities.

For certain transactions, we act as counterparty to foreign exchange rate forward contracts and interest rate swaps to facilitate our clients' securitization of fixed rate and/or foreign currency denominated assets through the conduits. These derivatives expose us to foreign exchange and interest rate risks that are centrally managed by our foreign exchange trading and swap desks, respectively, and credit risk on the underlying assets that is mitigated by the credit enhancement described below.

Each transaction is structured with transaction-specific first loss protection provided by the third-party seller. This enhancement can take various forms, including but not limited to overcollateralization, excess spread, subordinated classes of financial assets, guarantees or letters of credit. The amount of this enhancement varies but is generally sized to cover a multiple of loss experience.

An unrelated third party (expected loss investor) absorbs credit losses, up to a maximum contractual amount, that may occur in the future on the assets in the multi-seller conduits before the multi-seller conduits' debt holders and us. In return for assuming this multi-seller conduit first-loss position, each multi-seller conduit pays the expected loss investor a return commensurate with its risk position. The expected loss investor has substantive power to direct the majority of the activities which significantly impact the conduit's economic performance, including initial selection and approval of the asset purchase commitments and liquidity facilities, approval of renewal and amendment of these transactions and facilities, sale or transfer of assets, ongoing monitoring of asset performance, mitigation of credit losses, and management of the ABCP liabilities.

We do not consolidate these multi-seller conduits as we do not have the decision-making power to direct the relevant activities noted above.

#### *Structured finance*

We purchased U.S. ARS from certain trusts (U.S. ARS Trusts) which fund their long-term investments in student loans by issuing short-term senior and subordinated notes. We are subject to losses on these U.S. ARS Trusts if defaults are experienced on the underlying student loans; however, in the majority of these structures, the principal and accrued interest on the student loans is guaranteed by U.S. government agencies. We act as auction agent for some of these entities but have no legal obligation to purchase the notes issued by these entities in the auction process. We do not consolidate these U.S. ARS Trusts as we do not have decision making power over the investing and financing activities of the Trusts, which are the activities that most significantly affect the performance of the Trusts.

Additionally, we invest in certain municipal bond TOB structures that we do not consolidate. These structures are similar to those consolidated municipal bond TOB structures described above; however, the residual certificates are held by third-parties and we do not provide credit enhancement of the underlying assets. We only provide liquidity facilities on the floating-rate certificates which may be drawn if certificates are tendered but not able to be remarketed. We do not have decision making power over the relevant activities of the structures; therefore, we do not consolidate these structures. The assets transferred into these programs are derecognized from our Consolidated Balance Sheets.

We provide senior warehouse financing to structured entities that are established by third parties to acquire loans for the purposes of issuing a term collateralized loan obligation (CLO) transaction. Subordinated financing is provided during the warehouse phase by one or more third-party equity investors. We act as the arranger and placement agent for the term CLO transaction. Proceeds from the sale of the term CLO are used to repay our senior warehouse financing, at which point we have no further involvement with the transaction. We do not consolidate these CLO structures as we do not have decision making power over the relevant activities of the entity, which include the initial selection and subsequent management of the underlying debt portfolio.

#### *Non-RBC managed investment funds*

We enter into fee-based equity derivative transactions with third parties including mutual funds, unit investment trusts and other investment funds. These transactions provide their investors with the desired exposure to a reference fund, and we economically hedge our exposure to these derivatives by investing in those reference funds. We also act as custodian or administrator for several funds. We do not consolidate those reference funds that are managed by third parties as we do not have power to direct their investing activities.

We provide liquidity facilities to certain third-party investment funds. The funds issued unsecured variable-rate preferred shares and invest in portfolios of tax-exempt municipal bonds. Undrawn liquidity commitments expose us to liquidity risk of the preferred shares and drawn commitments expose us to the credit risk of the underlying municipal bonds. We do not consolidate these third-party managed funds as we do not have power to direct their investing activities.

#### *RBC managed investment funds*

We are sponsors and investment managers of mutual and pooled funds which gives us the ability to direct the investment decisions of the funds. We do not consolidate those mutual and pooled funds in which our interests indicate that we are exercising our decision making power as an agent of the other unit holders.

#### *Third-party securitization vehicles*

We hold interests in securitization vehicles that provide funding to certain third parties on whose behalf the entities were created. The activities of these entities are limited to the purchase and sale of specified assets from the sponsor and the issuance of asset-backed notes collateralized by those assets. The underlying assets are typically receivables, including auto loans and leases. We, as well as other financial institutions, are

obligated to provide funding up to our maximum commitment level and are exposed to credit losses on the underlying assets after various credit enhancements. Enhancement can take various forms, including but not limited to overcollateralization, excess spread, subordinated classes of financial assets, guarantees or letters of credit. The amount of this enhancement varies but is generally sized to cover a multiple of loss experience. We do not consolidate these entities as we do not have decision making power over the relevant activities, including the investing and financing activities.

#### *Other*

Other structured entities include credit investment products and tax credit funds.

We use structured entities to generally transform credit derivatives into cash instruments, to distribute credit risk and to create customized credit products to meet investors' specific requirements. We enter into derivative contracts, including credit derivatives, to purchase protection from these entities (credit protection) and convert various risk factors such as yield, currency or credit risk of underlying assets to meet the needs of the investors. We act as sole arranger and swap provider for certain entities and, in some cases, fulfill other administrative functions for the entities. We do not consolidate these credit investment product entities as we do not have decision making power over the relevant activities, which include selection of the collateral and reference portfolio, and are not exposed to a majority of the benefits or risks of the entities.

We created certain funds to pass through tax credits received from underlying low-income housing or historic rehabilitation real estate projects to third parties (tax credit funds). We are sponsors of the tax credit funds as a result of our responsibility to manage the funds, arrange the financing, and perform the administrative duties of these tax credit funds. We do not consolidate the tax credit funds as the investors in these funds have the decision making power to select the underlying investments and are exposed to the majority of the residual ownership and tax risks of the funds.

#### **Other interests in unconsolidated structured entities**

In the normal course of business, we buy and sell passive interests in certain third-party structured entities, including mutual funds, exchange traded funds, and government-sponsored asset backed securities vehicles. Our investments in these entities are managed as part of larger portfolios which are held for trading, liquidity or hedging purposes. We did not create or sponsor these entities and do not have any decision making power over their ongoing activities. Our maximum exposure to loss is limited to our on-balance sheet investments in these entities, which are not included in the table above. Refer to Note 3 and Note 4 for further details on our investment securities.

#### **Sponsored entities**

We are a sponsor of certain structured entities in which we have interests but do not consolidate. In determining whether we are a sponsor of a structured entity, we consider both qualitative and quantitative factors, including the purpose and nature of the entity, our initial and continuing involvement and whether we hold subordinated interests in the entity. We are considered to be the sponsor of certain credit investment products, tax credit entities, RBC-managed mutual funds and a commercial mortgage securitization vehicle. During the year ended October 31, 2015, we transferred commercial mortgages with a carrying amount of \$195 million (October 31, 2014 – \$173 million) to a sponsored securitization vehicle in which we did not have an interest as at the end of the reporting period.

#### **Financial support provided to structured entities**

During the years ended October 31, 2015, 2014 and 2013, we have not provided any financial or non-financial support to any consolidated or unconsolidated structured entities when we were not contractually obligated to do so. Furthermore, we have no intention to provide such support in the future.

### **Note 8 Derivative financial instruments and hedging activities**

Derivative instruments are categorized as either financial or non-financial derivatives. Financial derivatives are financial contracts whose value is derived from an underlying interest rate, foreign exchange rate, credit risk, and equity or equity index. Non-financial derivatives are contracts whose value is derived from a precious metal, commodity instrument or index. The notional amount of derivatives represents the contract amount used as a reference point to calculate payments. Notional amounts are generally not exchanged by counterparties, and do not reflect our exposure at default.

#### **Financial derivatives**

##### *Forwards and futures*

Forward contracts are effectively non-standardized agreements that are transacted between counterparties in the OTC market, whereas futures are standardized contracts with respect to amounts and settlement dates, and are traded on regular futures exchanges. Examples of forwards and futures are described below.

Interest rate forwards (forward rate agreements) and futures are contractual obligations to buy or sell an interest-rate sensitive financial instrument on a predetermined future date at a specified price.

Foreign exchange forwards and futures are contractual obligations to exchange one currency for another at a specified price for settlement at a predetermined future date.

Equity forwards and futures are contractual obligations to buy or sell at a fixed value (the specified price) of an equity index, a basket of stocks or a single stock at a predetermined future date.

##### *Swaps*

Swaps are OTC contracts in which two counterparties exchange a series of cash flows based on agreed upon rates applied to a notional amount. Examples of swap agreements are described below.

Interest rate swaps are agreements where two counterparties exchange a series of payments based on different interest rates applied to a notional amount in a single currency. Cross currency swaps involve the exchange of fixed payments in one currency for the receipt of fixed payments in another currency. Cross currency interest rate swaps involve the exchange of both interest and notional amounts in two different currencies.

Equity swaps are contracts in which one counterparty agrees to pay or receive from the other cash flows based on changes in the value of an equity index, a basket of stocks or a single stock.

### Options

Options are contractual agreements under which the seller (writer) grants the purchaser the right, but not the obligation, either to buy (call option) or sell (put option), a security, exchange rate, interest rate, or other financial instrument or commodity at a predetermined price, at or by a specified future date. The seller (writer) of an option can also settle the contract by paying the cash settlement value of the purchaser's right. The seller (writer) receives a premium from the purchaser for this right. The various option agreements that we enter into include but are not limited to interest rate options, foreign currency options, equity options and index options.

### Credit derivatives

Credit derivatives are OTC contracts that transfer credit risk related to an underlying financial instrument (referenced asset) from one counterparty to another. Examples of credit derivatives are described below.

Credit default swaps provide protection against the decline in value of the referenced asset as a result of specified credit events such as default or bankruptcy. They are similar in structure to an option, whereby the purchaser pays a premium to the seller of the credit default swap in return for payment contingent on a credit event affecting the referenced asset.

Credit default baskets are similar to credit default swaps except that the underlying referenced financial instrument is a group of assets instead of a single asset.

Total return swaps are contracts where one counterparty agrees to pay or receive from the other cash flows based on changes in the value of the referenced asset.

### Other derivative products

Certain warrants and loan commitments that meet the definition of derivative are also included as derivative instruments.

### Non-financial derivatives

We also transact in non-financial derivative products including precious metal and commodity derivative contracts in both the OTC and exchange markets.

### Derivatives issued for trading purposes

Most of our derivative transactions relate to sales and trading activities. Sales activities include the structuring and marketing of derivative products to clients to enable them to transfer, modify or reduce current or expected risks. Trading involves market-making, positioning and arbitrage activities. Market-making involves quoting bid and offer prices to other market participants with the intention of generating revenue based on spread and volume. Positioning involves managing market risk positions with the expectation of profiting from favourable movements in prices, rates or indices. Arbitrage activities involve identifying and profiting from price differentials between markets and products.

### Derivatives issued for other-than-trading purposes

We also use derivatives for purposes other than trading, primarily for hedging, in conjunction with the management of interest rate, credit, equity and foreign exchange risk related to our funding, lending, investment activities and asset/liability management.

Interest rate swaps are used to manage our exposure to interest rate risk by modifying the repricing or maturity characteristics of existing and/or forecasted assets and liabilities, including funding and investment activities. Purchased options are used to hedge redeemable deposits and other options embedded in consumer products. We manage our exposure to foreign currency risk with cross currency swaps and foreign exchange forward contracts. We predominantly use credit derivatives to manage our credit exposures. We mitigate industry sector concentrations and single-name exposures related to our credit portfolio by purchasing credit derivatives to transfer credit risk to third parties.

Certain derivatives and cash instruments are specifically designated and qualify for hedge accounting. We apply hedge accounting to minimize volatility in earnings and capital caused by changes in interest rates or foreign exchange rates. Interest rate and currency fluctuations will either cause assets and liabilities to appreciate or depreciate in market value or cause variability in forecasted cash flows. When a hedging relationship is effective, gains, losses, revenue and expenses of the hedging instrument will offset the gains, losses, revenue and expenses of the hedged item. We largely assess and measure the effectiveness of a hedging relationship based on the change in fair value of the derivative hedging instrument relative to the change in fair value of the hedged item. When cash instruments are designated as hedges of currency risks, only changes in their value due to currency risk are included in the assessment and measurement of hedge effectiveness.

From time to time, we also enter into derivative transactions to economically hedge certain exposures that do not otherwise qualify for hedge accounting, or where hedge accounting is not considered economically feasible to implement. In such circumstances, changes in fair value are reflected in Non-interest income.

After-tax unrealized losses relating to de-designated hedges of \$65 million (before-tax unrealized losses of \$89 million) included in Other components of equity as at October 31, 2015, are expected to be reclassified to Net interest income within the next 12 months.

The following table presents the fair values of the derivative and non-derivative instruments categorized by their hedging relationships, as well as derivatives that are not designated in hedging relationships.

### Derivatives and non-derivative instruments

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Designated as hedging instruments in hedging relationships				Designated as hedging instruments in hedging relationships			
Cash flow hedges	Fair value hedges	Net investment hedges	Not designated in a hedging relationship	Cash flow hedges	Fair value hedges	Net investment hedges	Not designated in a hedging relationship	
<b>Assets</b>								
Derivative instruments	\$ 842	\$ 1,814	\$ 167	\$ 102,803	\$ 504	\$ 1,392	\$ 87	\$ 85,419
<b>Liabilities</b>								
Derivative instruments	1,629	311	49	105,871	511	121	205	88,145
Non-derivative instruments	—	—	18,804	—	—	—	20,949	—

**Results of hedge activities recorded in Net income and Other comprehensive income**

(Millions of Canadian dollars)	For the year ended								
	October 31, 2015			October 31, 2014			October 31, 2013		
	Net gains (losses) included in Non-interest income	Net gains (losses) included in Net interest income	After-tax unrealized gains (losses) included in OCI	Net gains (losses) included in Non-interest income	Net gains (losses) included in Net interest income	After-tax unrealized gains (losses) included in OCI	Net gains (losses) included in Non-interest income	Net gains (losses) included in Net interest income	After-tax unrealized gains (losses) included in OCI
<b>Fair value hedges</b>									
Gains (losses) on hedging instruments	\$ 313	\$ n.a.	\$ n.a.	\$ 216	\$ n.a.	\$ n.a.	\$ (551)	\$ n.a.	\$ n.a.
Gains (losses) on hedged items attributable to the hedged risk	(424)	n.a.	n.a.	(329)	n.a.	n.a.	459	n.a.	n.a.
Ineffective portion (1)	(111)	n.a.	n.a.	(113)	n.a.	n.a.	(92)	n.a.	n.a.
<b>Cash flow hedges</b>									
Ineffective portion	3	n.a.	n.a.	(13)	n.a.	n.a.	(13)	n.a.	n.a.
Effective portion	n.a.	n.a.	(541)	n.a.	n.a.	(108)	n.a.	n.a.	(11)
Reclassified to income during the period (2)	n.a.	(447)	n.a.	n.a.	(38)	n.a.	n.a.	40	n.a.
<b>Net investment hedges</b>									
Ineffective portion	(1)	n.a.	n.a.	1	n.a.	n.a.	1	n.a.	n.a.
Foreign currency gains (losses)	n.a.	n.a.	5,885	n.a.	n.a.	2,743	n.a.	n.a.	1,402
Gains (losses) from hedges	n.a.	n.a.	(3,223)	n.a.	n.a.	(1,585)	n.a.	n.a.	(912)
	\$ (109)	\$ (447)	\$ 2,121	\$ (125)	\$ (38)	\$ 1,050	\$ (104)	\$ 40	\$ 479

(1) Includes losses of \$106 million (October 31, 2014 – \$109 million; October 31, 2013 – \$82 million) that are excluded from the assessment of hedge effectiveness. These amounts are recorded in Non-interest income and are offset by economic hedges.

(2) After-tax losses of \$330 million were reclassified from Other components of equity to income during the year ended October 31, 2015 (October 31, 2014 – losses of \$28 million; October 31, 2013 – gains of \$30 million).

n.a. not applicable

**Notional amount of derivatives by term to maturity (absolute amounts)**

(Millions of Canadian dollars)	As at October 31, 2015					
	Term to maturity				Trading	Other than Trading
	Within 1 year	1 to 5 years	Over 5 years (1)	Total		
<b>Over-the-counter contracts</b>						
Interest rate contracts						
Forward rate agreements	\$ 602,072	\$ 26,334	\$ –	\$ 628,406	\$ 628,406	\$ –
Swaps	1,717,989	3,946,377	2,482,659	8,147,025	7,922,567	224,458
Options purchased	106,908	99,994	34,649	241,551	241,551	–
Options written	107,213	108,237	44,268	259,718	259,718	–
Foreign exchange contracts						
Forward contracts	1,273,434	45,591	1,275	1,320,300	1,271,428	48,872
Cross currency swaps	7,404	24,711	31,010	63,125	59,423	3,702
Cross currency interest rate swaps	246,668	609,751	323,403	1,179,822	1,129,357	50,465
Options purchased	25,921	13,773	4,274	43,968	43,968	–
Options written	24,933	12,168	4,677	41,778	41,778	–
Credit derivatives (2)	1,250	9,759	3,947	14,956	14,286	670
Other contracts (3)	75,723	57,344	24,819	157,886	154,504	3,382
<b>Exchange-traded contracts</b>						
Interest rate contracts						
Futures – long positions	18,934	10,469	10	29,413	29,413	–
Futures – short positions	36,589	25,939	2	62,530	62,530	–
Options purchased	17,282	9,119	–	26,401	26,401	–
Options written	1,281	956	–	2,237	2,237	–
Foreign exchange contracts						
Futures – long positions	308	–	–	308	308	–
Futures – short positions	714	13	–	727	727	–
Other contracts (3)	170,464	43,345	1,197	215,006	215,006	–
	\$ 4,435,087	\$ 5,043,880	\$ 2,956,190	\$ 12,435,157	\$ 12,103,608	\$ 331,549



**Note 8 Derivative financial instruments and hedging activities** (continued)

(Millions of Canadian dollars)	As at October 31, 2014					
	Term to maturity			Total	Trading	Other than Trading
	Within 1 year	1 to 5 years	Over 5 years (1)			
<b>Over-the-counter contracts</b>						
Interest rate contracts						
Forward rate agreements	\$ 324,707	\$ 47,227	\$ –	\$ 371,934	\$ 371,934	\$ –
Swaps	1,626,852	3,301,834	1,852,349	6,781,035	6,579,940	201,095
Options purchased	98,085	101,493	23,930	223,508	223,508	–
Options written	97,259	104,445	32,258	233,962	233,962	–
Foreign exchange contracts						
Forward contracts	1,019,102	30,832	1,094	1,051,028	1,018,520	32,508
Cross currency swaps	7,371	15,102	20,415	42,888	42,156	732
Cross currency interest rate swaps	148,340	424,982	218,011	791,333	763,764	27,569
Options purchased	27,159	12,665	4,058	43,882	43,882	–
Options written	28,287	12,220	4,475	44,982	44,982	–
Credit derivatives (2)	1,702	16,188	8,124	26,014	24,707	1,307
Other contracts (3)	62,652	58,982	20,685	142,319	140,168	2,151
<b>Exchange-traded contracts</b>						
Interest rate contracts						
Futures – long positions	14,429	16,614	47	31,090	31,090	–
Futures – short positions	52,345	19,373	1	71,719	71,719	–
Options purchased	21,303	5,229	–	26,532	26,532	–
Options written	4,322	–	–	4,322	4,322	–
Foreign exchange contracts						
Futures – long positions	960	–	–	960	960	–
Futures – short positions	1,167	–	–	1,167	1,167	–
Other contracts (3)	132,399	33,755	420	166,574	166,571	3
	\$ 3,668,441	\$ 4,200,941	\$ 2,185,867	\$ 10,055,249	\$ 9,789,884	\$ 265,365

(1) Includes contracts maturing in over 10 years with a notional value of \$876 billion (October 31, 2014 – \$668 billion). The related gross positive replacement cost is \$60 billion (October 31, 2014 – \$39 billion).

(2) Credit derivatives include credit default swaps, total return swaps and credit default baskets. Credit derivatives with a notional value of \$0.7 billion (October 31, 2014 – \$1.3 billion) are economic hedges. Trading credit derivatives comprise protection purchased of \$8.9 billion (October 31, 2014 – \$13.3 billion) and protection sold of \$5.3 billion (October 31, 2014 – \$11.4 billion).

(3) Other contracts include precious metal, commodity, stable value and equity derivative contracts.

The following tables indicate the periods when the cash flows are expected to occur and when they are expected to affect profit or loss for cash flow hedges.

(Millions of Canadian dollars)	As at October 31, 2015					
	Within 1 year	1 to 2 years	2 to 3 years	3 to 5 years	Over 5 years	Total
Cash inflows from assets	\$ 156	\$ 189	\$ 192	\$ 243	\$ 12	\$ 792
Cash outflows from liabilities	(1,004)	(282)	(730)	(3,556)	(151)	(5,723)
Net cash flows	\$ (848)	\$ (93)	\$ (538)	\$ (3,313)	\$ (139)	\$ (4,931)

(Millions of Canadian dollars)	As at October 31, 2014					
	Within 1 year	1 to 2 years	2 to 3 years	3 to 5 years	Over 5 years	Total
Cash inflows from assets	\$ 268	\$ 287	\$ 243	\$ 325	\$ 85	\$ 1,208
Cash outflows from liabilities	(540)	(446)	(384)	(269)	(87)	(1,726)
Net cash flows	\$ (272)	\$ (159)	\$ (141)	\$ 56	\$ (2)	\$ (518)

## Fair value of derivative instruments

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Average fair value for year ended (1)		Year end fair value		Average fair value for year ended (1)		Year end fair value	
	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Negative
<b>Held or issued for trading purposes</b>								
Interest rate contracts								
Forward rate agreements	\$ 340	\$ 303	\$ 323	\$ 291	\$ 258	\$ 206	\$ 347	\$ 357
Swaps	136,398	130,623	135,901	129,829	78,884	75,195	95,960	91,386
Options purchased	4,155	–	3,330	–	3,671	–	4,123	–
Options written	–	5,380	–	4,573	–	4,509	–	5,101
	140,893	136,306	139,554	134,693	82,813	79,910	100,430	96,844
Foreign exchange contracts								
Forward contracts	16,505	16,294	11,599	11,477	8,416	8,741	12,155	11,752
Cross currency swaps	3,039	3,254	3,844	4,109	1,732	1,155	1,788	1,506
Cross currency interest rate swaps	21,445	27,584	19,931	26,385	10,433	14,261	16,034	19,165
Options purchased	3,026	–	2,337	–	1,645	–	2,621	–
Options written	–	2,486	–	1,898	–	1,349	–	2,222
	44,015	49,618	37,711	43,869	22,226	25,506	32,598	34,645
Credit derivatives (2)	130	200	94	153	225	281	254	301
Other contracts (3)	9,431	12,868	10,704	12,866	7,052	10,662	8,525	12,373
	194,469	198,992	188,063	191,581	112,316	116,359	141,807	144,163
<b>Held or issued for other than trading purposes</b>								
Interest rate contracts								
Swaps			2,923	1,585			2,098	626
			2,923	1,585			2,098	626
Foreign exchange contracts								
Forward contracts			274	253			326	259
Cross currency swaps			20	506			–	45
Cross currency interest rate swaps			3,107	2,080			885	754
			3,401	2,839			1,211	1,058
Credit derivatives (2)			–	18			–	41
Other contracts (3)			69	69			112	112
			6,393	4,511			3,421	1,837
<b>Total gross fair values before netting</b>			194,456	196,092			145,228	146,000
Valuation adjustments determined on a pooled basis			(1,303)	(272)			(758)	(36)
Impact of netting agreements that qualify for balance sheet offset			(87,527)	(87,960)			(57,068)	(56,982)
			105,626	107,860			87,402	88,982
Impact of netting agreements that do not qualify for balance sheet offset (4)			(71,833)	(71,833)			(60,546)	(60,546)
			\$ 33,793	\$ 36,027			\$ 26,856	\$ 28,436

(1) Average fair value amounts are calculated based on monthly balances.

(2) Credit derivatives include credit default swaps, total return swaps and credit default baskets.

(3) Other contracts include precious metal, commodity, stable value and equity derivative contracts.

(4) Additional impact of offsetting credit exposures on contracts that do not qualify for balance sheet offset.

## Fair value of derivative instruments by term to maturity

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Less than 1 year	1 to 5 years	Over 5 years	Total	Less than 1 year	1 to 5 years	Over 5 years	Total
Derivative assets	\$ 24,920	\$ 35,883	\$ 44,823	\$ 105,626	\$ 19,485	\$ 29,838	\$ 38,079	\$ 87,402
Derivative liabilities	26,092	40,380	41,388	107,860	19,980	32,640	36,362	88,982

## Derivative-related credit risk

Credit risk from derivative transactions is generated by the potential for the counterparty to default on its contractual obligations when one or more transactions have a positive market value to us. Therefore, derivative-related credit risk is represented by the positive fair value of the instrument and is normally a small fraction of the contract's notional amount.

We subject our derivative transactions to the same credit approval, limit and monitoring standards that we use for managing other transactions that create credit exposure. This includes evaluating the creditworthiness of counterparties, and managing the size, diversification and maturity structure of the portfolio. Credit utilization for all products is compared with established limits on a continual basis and is subject to a standard exception reporting process. We use a single internal rating system for all credit risk exposure. In most cases, these internal ratings approximate the external risk ratings of public rating agencies.

Netting is a technique that can reduce credit exposure from derivatives and is generally facilitated through the use of master netting agreements. A master netting agreement provides for a single net settlement of all financial instruments covered by the agreement in the event of default. However, credit risk is reduced only to the extent that our financial obligations to the same counterparty can be set off against

**Note 8 Derivative financial instruments and hedging activities** (continued)

obligations of the counterparty to us. We maximize the use of master netting agreements to reduce derivative-related credit exposure. Our overall exposure to credit risk that is reduced through master netting agreements may change substantially following the reporting date as the exposure is affected by each transaction subject to the agreement as well as by changes in underlying market rates. Measurement of our credit exposure arising out of derivative transactions is reduced to reflect the effects of netting in cases where the enforceability of that netting is supported by appropriate legal analysis as documented in our trading credit risk policies.

The use of collateral is another significant credit mitigation technique for managing derivative-related counterparty credit risk. Mark-to-market provisions in our agreements with some counterparties, typically in the form of a Credit Support Annex, provide us with the right to request that the counterparty pay down or collateralize the current market value of its derivatives positions when the value passes a specified threshold amount.

Replacement cost represents the total fair value of all outstanding contracts in a gain position after factoring in the master netting agreements. The credit equivalent amount is defined as the sum of the replacement cost plus an add-on amount for potential future credit exposure as defined by OSFI. The risk-weighted amount is determined by applying the standard OSFI defined measures of counterparty risk to the credit equivalent amount.

**Derivative-related credit risk**

(Millions of Canadian dollars)	As at					
	October 31, 2015 (1)			October 31, 2014 (1)		
	Replacement cost	Credit equivalent amount (2)	Risk-weighted equivalent (3)	Replacement cost	Credit equivalent amount (2)	Risk-weighted equivalent (3)
<b>Over-the-counter contracts</b>						
Interest rate contracts						
Forward rate agreements	\$ 182	\$ 233	\$ 50	\$ 183	\$ 276	\$ 70
Swaps	14,747	27,688	5,197	12,455	22,308	4,660
Options purchased	340	700	446	355	665	386
Foreign exchange contracts						
Forward contracts	5,041	11,254	3,202	5,731	11,049	3,201
Swaps	7,686	9,809	3,878	3,190	6,576	2,516
Options purchased	322	547	276	225	443	201
Credit derivatives (4)	34	913	204	178	2,053	1,136
Other contracts (5)	2,499	7,539	4,320	1,780	6,670	3,996
<b>Exchange traded contracts</b>	4,245	12,048	241	3,530	10,358	207
	<b>\$ 35,096</b>	<b>\$ 70,731</b>	<b>\$ 17,814</b>	<b>\$ 27,627</b>	<b>\$ 60,398</b>	<b>\$ 16,373</b>

(1) The amounts presented are net of master netting agreements in accordance with Basel III.

(2) The total credit equivalent amount includes collateral applied of \$17.8 billion (October 31, 2014 – \$11.4 billion).

(3) The risk-weighted balances are calculated in accordance with Basel III.

(4) Credit derivatives include credit default swaps, total return swaps and credit default baskets, and exclude credit derivatives issued for other-than trading purposes related to bought protection.

(5) Other contracts include precious metal, commodity, stable value, and equity derivatives contracts.

**Replacement cost of derivative instruments by risk rating and by counterparty type**

(Millions of Canadian dollars)	As at October 31, 2015								
	Risk rating (1)				Total	Counterparty type (2)			
	AAA, AA	A	BBB	BB or lower		Banks	OECD governments	Other	Total
Gross positive replacement cost	\$ 30,824	\$ 136,843	\$ 16,191	\$ 10,598	\$ 194,456	\$ 56,631	\$ 16,374	\$ 121,451	\$ 194,456
Impact of master netting agreements	22,751	124,603	9,260	2,746	159,360	45,401	10,971	102,988	159,360
Replacement cost (after netting agreements)	\$ 8,073	\$ 12,240	\$ 6,931	\$ 7,852	\$ 35,096	\$ 11,230	\$ 5,403	\$ 18,463	\$ 35,096

(Millions of Canadian dollars)	As at October 31, 2014								
	Risk rating (1)				Total	Counterparty type (2)			
	AAA, AA	A	BBB	BB or lower		Banks	OECD governments	Other	Total
Gross positive replacement cost	\$ 25,765	\$ 98,566	\$ 13,995	\$ 6,915	\$ 145,241	\$ 52,986	\$ 12,427	\$ 79,828	\$ 145,241
Impact of master netting agreements	19,279	88,911	8,154	1,270	117,614	44,372	7,743	65,499	117,614
Replacement cost (after netting agreements)	\$ 6,486	\$ 9,655	\$ 5,841	\$ 5,645	\$ 27,627	\$ 8,614	\$ 4,684	\$ 14,329	\$ 27,627

(1) Our internal risk ratings for major counterparty types approximate those of public ratings agencies. Ratings of AAA, AA, A and BBB represent investment grade ratings and ratings of BB or lower represent non-investment grade ratings.

(2) Counterparty type is defined in accordance with the capital adequacy requirements of OSFI.

**Note 9 Premises and equipment**

(Millions of Canadian dollars)	Land	Buildings	Computer equipment	Furniture, fixtures and other equipment	Leasehold improvements	Work in process	Total
<b>Cost</b>							
Balance at October 31, 2014	\$ 137	\$ 1,347	\$ 1,278	\$ 1,248	\$ 2,192	\$ 208	\$ 6,410
Additions <sup>(1)</sup>	–	4	195	53	82	344	678
Transfers from work in process	–	11	52	61	212	(336)	–
Disposals	(25)	(95)	(101)	(108)	(98)	–	(427)
Foreign exchange translation	7	18	54	30	69	4	182
Other	4	9	30	8	7	(52)	6
Balance at October 31, 2015	\$ 123	\$ 1,294	\$ 1,508	\$ 1,292	\$ 2,464	\$ 168	\$ 6,849
<b>Accumulated depreciation</b>							
Balance at October 31, 2014	\$ –	\$ 499	\$ 925	\$ 839	\$ 1,463	\$ –	\$ 3,726
Depreciation	–	44	197	103	183	–	527
Disposals	–	(8)	(98)	(96)	(64)	–	(266)
Foreign exchange translation	–	6	42	21	42	–	111
Other	–	(7)	4	8	18	–	23
Balance at October 31, 2015	\$ –	\$ 534	\$ 1,070	\$ 875	\$ 1,642	\$ –	\$ 4,121
Net carrying amount at October 31, 2015	\$ 123	\$ 760	\$ 438	\$ 417	\$ 822	\$ 168	\$ 2,728

(Millions of Canadian dollars)	Land	Buildings	Computer equipment	Furniture, fixtures and other equipment	Leasehold improvements	Work in process	Total
<b>Cost</b>							
Balance at October 31, 2013	\$ 134	\$ 1,358	\$ 1,516	\$ 1,434	\$ 2,040	\$ 113	\$ 6,595
Additions <sup>(1)</sup>	–	14	108	74	54	279	529
Transfers from work in process	1	17	43	34	90	(185)	–
Disposals	(2)	(1)	(412)	(303)	(67)	(1)	(786)
Foreign exchange translation	2	8	27	14	34	2	87
Other	2	(49)	(4)	(5)	41	–	(15)
Balance at October 31, 2014	\$ 137	\$ 1,347	\$ 1,278	\$ 1,248	\$ 2,192	\$ 208	\$ 6,410
<b>Accumulated depreciation</b>							
Balance at October 31, 2013	\$ –	\$ 499	\$ 1,155	\$ 1,015	\$ 1,290	\$ –	\$ 3,959
Depreciation	–	50	181	101	167	–	499
Disposals	–	(1)	(412)	(282)	(61)	–	(756)
Foreign exchange translation	–	3	21	9	20	–	53
Other	–	(52)	(20)	(4)	47	–	(29)
Balance at October 31, 2014	\$ –	\$ 499	\$ 925	\$ 839	\$ 1,463	\$ –	\$ 3,726
Net carrying amount at October 31, 2014	\$ 137	\$ 848	\$ 353	\$ 409	\$ 729	\$ 208	\$ 2,684

(1) At October 31, 2015, we had total contractual commitments of \$157 million to acquire premises and equipment (October 31, 2014 – \$216 million; October 31, 2013 – \$122 million).

**Goodwill**

The following table presents changes in the carrying amount of goodwill by CGU for the years ended October 31, 2015 and 2014.

(Millions of Canadian dollars)	Canadian		Canadian	Global Asset	U.S. Wealth	International	Insurance	Investor &	Capital	Total
	Banking	Caribbean Banking	Wealth Management	Management	Management	Wealth Management	Management	Treasury Services	Markets	
<b>At October 31, 2013</b>	\$ 2,527	\$ 1,504	\$ 548	\$ 1,937	\$ 539	\$ 132	\$ 118	\$ 149	\$ 878	\$ 8,332
Dispositions	–	(51)	–	–	–	–	–	–	–	(51)
Currency translations	–	140	10	105	43	9	–	–	59	366
<b>At October 31, 2014</b>	\$ 2,527	\$ 1,593	\$ 558	\$ 2,042	\$ 582	\$ 141	\$ 118	\$ 149	\$ 937	\$ 8,647
Dispositions	–	(23)	–	–	–	(15)	–	–	–	(38)
Currency translations	–	250	21	177	91	16	–	–	125	680
<b>At October 31, 2015</b>	\$ 2,527	\$ 1,820	\$ 579	\$ 2,219	\$ 673	\$ 142	\$ 118	\$ 149	\$ 1,062	\$ 9,289

We perform our annual impairment test by comparing the carrying amount of each CGU to its recoverable amount. The recoverable amount of a CGU is represented by its value in use, except in circumstances where the carrying amount of a CGU exceeds its value in use. In such cases, we determine the CGU's fair value less costs of disposal and its recoverable amount is the greater of its value in use and fair value less costs of disposal. Our annual impairment test is performed as at August 1.

In our 2015 and 2014 annual impairment tests, the recoverable amounts of our Caribbean Banking and International Wealth Management CGUs were based on fair value less costs of disposal. The recoverable amounts of all other CGUs tested were based on value in use.

**Value in use**

We calculate value in use using a five-year discounted cash flow method. Future cash flows are based on financial plans agreed by management for a five-year period, estimated based on forecast results, business initiatives, capital required to support future cash flows and returns to shareholders. Key drivers of future cash flows include net interest margins and average interest-earning assets. The values assigned to these drivers over the forecast period are based on past experience, external and internal economic forecasts, and management's expectations of the impact of economic conditions on our financial results. Beyond the initial five-year period, cash flows are assumed to increase at a constant rate using a nominal long-term growth rate (terminal growth rate). Terminal growth rates are based on the current market assessment of gross domestic product and inflation for the countries within which the CGU operates. The discount rates used to determine the present value of each CGU's projected future cash flows are based on the bank-wide cost of capital, adjusted for the risks to which each CGU is exposed. CGU-specific risks include: country risk, business/operational risk, geographic risk (including political risk, devaluation risk, and government regulation), currency risk, and price risk (including product pricing risk and inflation).

The estimation of value in use involves significant judgment in the determination of inputs to the discounted cash flow model and is most sensitive to changes in future cash flows, discount rates and terminal growth rates applied to cash flows beyond the forecast period. These key inputs and assumptions used to determine the recoverable amount of each CGU using value in use were tested for sensitivity by applying a reasonably possible change to those assumptions. The post-tax discount rates were increased by 1%, terminal growth rates were decreased by 1%, and future cash flows were reduced by 10%. As at August 1, 2015, no change in an individual key input or assumption, as described, would result in a CGU's carrying amount exceeding its recoverable amount based on value in use.

The terminal growth rates and pre-tax discount rates used in our discounted cash flow models are summarized below.

	As at			
	August 1, 2015		August 1, 2014	
	Discount rate (1)	Terminal growth rate	Discount rate (1)	Terminal growth rate
<b>Group of cash generating units</b>				
Canadian Banking	10.6%	3.0%	10.6%	3.0%
Caribbean Banking	13.2	4.3	13.0	4.2
Canadian Wealth Management	11.9	3.0	11.9	3.0
Global Asset Management	11.7	3.0	11.6	3.0
U.S. Wealth Management	16.3	3.0	15.7	3.0
International Wealth Management	11.9	3.0	10.3	3.0
Insurance	11.2	3.0	10.1	3.0
Investor & Treasury Services	12.4	3.0	12.8	3.0
Capital Markets	15.7	3.0	15.9	3.0

(1) Pre-tax discount rates are determined implicitly based on post-tax discount rates.

**Fair value less costs of disposal – Caribbean Banking**

For our Caribbean Banking CGU, we calculated fair value less costs of disposal using a discounted cash flow method that projects future cash flows over a 5-year period. Cash flows are based on management forecasts, adjusted to approximate the considerations of a prospective third-party buyer. Cash flows beyond the initial 5-year period are assumed to increase at a constant rate using a nominal long-term growth rate. Future cash flows, terminal growth rates, and discount rates are based on the same factors noted above. This fair value measurement is categorized as level 3 in the fair value hierarchy as certain significant inputs are not observable.

The estimation of fair value less costs of disposal involves significant judgment in the determination of inputs to the discounted cash flow model and is most sensitive to changes in future cash flows, discount rates and terminal growth rates applied to cash flows beyond the forecast period. These key inputs and assumptions were tested for sensitivity by applying a reasonably possible change to those assumptions. The post-tax discount rates were increased by 1%, terminal growth rates were decreased by 1%, and future cash flows were reduced by 10%. As at August 1, 2015, no reasonably possible change in an individual key input or assumption, as described, would result in the CGU's carrying amount exceeding its recoverable amount based on fair value less costs of disposal.

#### *Fair value less costs of disposal – International Wealth Management*

For our International Wealth Management CGU, we calculated fair value less costs of disposal using a multiples-based approach. Each business within the CGU was valued using either a Price-to-assets-under-administration (P/AUA) or Price-to-revenue (P/Rev) multiple, as appropriate, to reflect the considerations of a prospective third-party buyer. In 2015 and 2014, we applied a P/AUA multiple of 2.5x to AUA as at August 1 and a P/Rev multiple of 2.5x to revenue for the 12 months preceding the testing date. These multiples represent our best estimate from a range of reasonably possible inputs based on precedent transactions for comparable businesses. This fair value measurement is categorized as level 3 in the fair value hierarchy as certain significant inputs are not observable.

The estimation of fair value less costs of disposal involves significant judgment in the determination of the appropriate valuation approach and inputs and is most sensitive to changes in the P/AUA and P/Rev multiples. These key inputs were tested for sensitivity by reducing each multiple to the low end of the range of reasonably possible inputs considered. As at August 1, 2015, no reasonably possible change in an individual key input or assumption, as described, would result in the CGU's carrying amount exceeding its recoverable amount based on fair value less costs of disposal.

#### **Other intangible assets**

The following table presents the carrying amount of our other intangible assets.

	As at October 31, 2015					
	Internally generated software	Other software	Core deposit intangibles	Customer list and relationships	In process software	Total
<i>(Millions of Canadian dollars)</i>						
<b>Gross carrying amount</b>						
Balance at October 31, 2014	\$ 3,402	\$ 1,186	\$ 168	\$ 1,511	\$ 487	\$ 6,754
Additions	50	75	–	–	615	740
Transfers	503	19	–	–	(522)	–
Dispositions	(98)	(132)	–	(30)	–	(260)
Impairment losses	–	–	–	(22)	–	(22)
Currency translations	84	49	26	79	17	255
Other changes	(12)	(4)	–	–	(17)	(33)
Balance at October 31, 2015	\$ 3,929	\$ 1,193	\$ 194	\$ 1,538	\$ 580	\$ 7,434
<b>Accumulated amortization</b>						
Balance at October 31, 2014	\$ (2,293)	\$ (888)	\$ (151)	\$ (647)	\$ –	\$ (3,979)
Amortization charge for the year	(494)	(81)	(18)	(119)	–	(712)
Dispositions	97	125	–	9	–	231
Impairment losses	(3)	–	–	18	–	15
Currency translations	(60)	(30)	(25)	(41)	–	(156)
Other changes	3	(19)	–	(3)	–	(19)
Balance at October 31, 2015	\$ (2,750)	\$ (893)	\$ (194)	\$ (783)	\$ –	\$ (4,620)
Net balance, at October 31, 2015	\$ 1,179	\$ 300	\$ –	\$ 755	\$ 580	\$ 2,814

**Note 10 Goodwill and other intangible assets** (continued)

	As at October 31, 2014					
	Internally generated software	Other software	Core deposit intangibles	Customer list and relationships	In process software	Total
<i>(Millions of Canadian dollars)</i>						
<b>Gross carrying amount</b>						
Balance at October 31, 2013	\$ 2,554	\$ 1,128	\$ 157	\$ 1,509	\$ 711	\$ 6,059
Additions	48	57	–	–	545	650
Transfers	750	22	–	–	(772)	–
Dispositions	(4)	(2)	(3)	–	–	(9)
Impairment losses	–	–	–	(8)	–	(8)
Currency translations	32	15	14	48	8	117
Other changes	22	(34)	–	(38)	(5)	(55)
Balance at October 31, 2014	\$ 3,402	\$ 1,186	\$ 168	\$ 1,511	\$ 487	\$ 6,754
<b>Accumulated amortization</b>						
Balance at October 31, 2013	\$ (1,815)	\$ (811)	\$ (117)	\$ (539)	\$ –	\$ (3,282)
Amortization charge for the year	(460)	(60)	(22)	(124)	–	(666)
Dispositions	4	1	–	–	–	5
Impairment losses	–	–	–	–	–	–
Currency translations	(22)	(13)	(12)	(22)	–	(69)
Other changes	–	(5)	–	38	–	33
Balance at October 31, 2014	\$ (2,293)	\$ (888)	\$ (151)	\$ (647)	\$ –	\$ (3,979)
Net balance, at October 31, 2014	\$ 1,109	\$ 298	\$ 17	\$ 864	\$ 487	\$ 2,775

**Note 11 Significant acquisition and dispositions**
**Acquisition**
*Wealth Management*

On January 22, 2015, we announced a definitive agreement to acquire City National Corporation (City National), the holding company for City National Bank. City National Bank provides banking, investment and trust services throughout the United States and comprises substantially all of the business of City National.

During the fourth quarter, we received formal regulatory approval for the acquisition, which we completed on November 2, 2015. The results of the acquired business will be consolidated from the date of close. Refer to Note 36 for further details on the close of this transaction.

**Dispositions**
*Personal & Commercial Banking*

On July 31, 2015, we completed the sale of RBC Royal Bank (Suriname) N.V., announced on April 1, 2015. As a result of the transaction, we recorded a total loss on disposal of \$19 million (before and after-tax), consisting of a loss of \$23 million in the second quarter included in Non-interest expense – Other, and a gain of \$4 million in the third quarter primarily relating to foreign currency translation gains reclassified from Other components of equity.

On June 27, 2014, we completed the sale of RBC Royal Bank (Jamaica) Limited and RBTT Securities Jamaica Limited to Sagicor Group Jamaica Limited, as announced on January 29, 2014. As a result of the transaction, we recorded a total loss on disposal of \$100 million (before and after-tax), including a loss of \$60 million in the first quarter and \$40 million primarily relating to foreign currency translation losses reclassified from Other components of equity in the third quarter of 2014. The loss on disposal has been included in Non-Interest expense – Other.

*Wealth Management*

On August 28, 2015, we completed the sale of Royal Bank of Canada (Suisse) SA, announced on July 14, 2015. The transaction did not have a significant impact on our Consolidated Statements of Income.

## Note 12 Joint ventures and associated companies

The following table summarizes the carrying value of our interests in joint ventures and associated companies accounted for under the equity method as well as our share of the income of those entities.

(Millions of Canadian dollars)	Joint ventures			Associated companies		
	As at and for the year ended					
	October 31 2015	October 31 2014	October 31 2013	October 31 2015	October 31 2014	October 31 2013
Carrying amount	\$ 223	\$ 180	\$ 135	\$ 137	\$ 115	\$ 112
Share of:						
Net income	119	131	133	30	31	26
Other comprehensive income	8	5	5	2	-	-
	\$ 127	\$ 136	\$ 138	\$ 32	\$ 31	\$ 26

We do not have any joint ventures or associated companies that are individually material to our financial results.

During the year ended October 31, 2015, we recognized an impairment loss of \$3 million with respect of our interests in associated companies (October 31, 2014 – \$nil; October 31, 2013 – \$20 million) and no gains on sales of associated companies (October 31, 2014 – \$62 million; October 31, 2013 – \$nil).

## Note 13 Other assets

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
Cash collateral and margin deposits	\$ 23,018	\$ 12,481
Accounts receivable and prepaids	2,843	3,773
Receivable from brokers, dealers and clients	2,608	2,354
Insurance-related assets		
Collateral loans	1,176	1,121
Policy loans	106	113
Reinsurance assets	683	512
Other	576	400
Deferred income tax asset	2,072	2,382
Accrued interest receivable	1,757	1,554
Taxes receivable	2,343	1,620
Precious metals	106	223
Other	3,979	4,162
	\$ 41,267	\$ 30,695

## Note 14 Deposits

The following table details our deposit liabilities.

(Millions of Canadian dollars)	As at							
	October 31, 2015				October 31, 2014			
	Demand (1)	Notice (2)	Term (3)	Total	Demand (1)	Notice (2)	Term (3)	Total
Personal	\$ 128,101	\$ 19,758	\$ 72,707	\$ 220,566	\$ 120,444	\$ 17,793	\$ 70,980	\$ 209,217
Business and government	175,931	6,854	272,793	455,578	162,988	3,038	220,634	386,660
Bank	7,711	23	13,349	21,083	5,771	11	12,441	18,223
	\$ 311,743	\$ 26,635	\$ 358,849	\$ 697,227	\$ 289,203	\$ 20,842	\$ 304,055	\$ 614,100
<b>Non-interest-bearing (4)</b>								
Canada (5)	\$ 70,286	\$ 3,754	\$ -	\$ 74,040	\$ 62,468	\$ 3,478	\$ -	\$ 65,946
United States	1,158	31	-	1,189	1,777	15	-	1,792
Europe (6)	1,172	-	-	1,172	3,314	1	-	3,315
Other International	6,706	6	-	6,712	5,057	279	-	5,336
<b>Interest-bearing (4)</b>								
Canada (5)	192,736	13,529	269,395	475,660	178,478	10,895	241,902	431,275
United States	4,177	4,966	67,710	76,853	3,497	2,144	45,359	51,000
Europe (6)	31,554	606	12,270	44,430	31,118	418	9,282	40,818
Other International	3,954	3,743	9,474	17,171	3,494	3,612	7,512	14,618
	\$ 311,743	\$ 26,635	\$ 358,849	\$ 697,227	\$ 289,203	\$ 20,842	\$ 304,055	\$ 614,100

(1) Deposits payable on demand include all deposits for which we do not have the right to notice of withdrawal. These deposits include both savings and chequing accounts.

(2) Deposits payable after notice include all deposits for which we can legally require notice of withdrawal. These deposits are primarily savings accounts.

(3) Term deposits include deposits payable on a fixed date. These deposits include term deposits, guaranteed investment certificates and similar instruments. As at October 31, 2015, the balance of term deposits also includes senior deposit notes we have issued to provide long-term funding of \$191 billion (October 31, 2014 - \$150 billion).

(4) The geographical splits of the deposits are based on the point of origin of the deposits and where the revenue is recognized. As at October 31, 2015, deposits denominated in U.S. dollars, Sterling, Euro and other foreign currencies were \$235 billion, \$13 billion, \$32 billion and \$28 billion, respectively (October 31, 2014 – \$183 billion, \$11 billion, \$23 billion and \$22 billion).

(5) Certain amounts have been revised from those previously reported.

(6) Europe includes the United Kingdom, Luxembourg and the Channel Islands.



## Note 14 Deposits (continued)

The following table presents the contractual maturities of our term deposit liabilities.

	As at	
	October 31 2015	October 31 2014
(Millions of Canadian dollars)		
Within 1 year:		
less than 3 months	\$ 78,735	\$ 57,840
3 to 6 months	49,900	32,880
6 to 12 months	61,096	50,300
1 to 2 years	43,674	54,354
2 to 3 years	39,809	31,559
3 to 4 years	26,792	28,946
4 to 5 years	30,184	24,673
Over 5 years	28,659	23,503
	<b>\$ 358,849</b>	<b>\$ 304,055</b>
Aggregate amount of term deposits in denominations of one hundred thousand dollars or more	<b>\$ 331,000</b>	<b>\$ 270,000</b>

The following table presents the average deposit balances and average rates of interest.

	For the year ended					
	October 31, 2015		October 31, 2014		October 31, 2013	
	Average balances	Average rates	Average balances	Average rates	Average balances	Average rates
(Millions of Canadian dollars, except for percentage amounts)						
Canada	\$ 526,544	0.98%	\$ 477,316	1.13%	\$ 435,842	1.20%
United States	70,100	0.31	52,058	0.30	44,512	0.38
Europe (1)	48,173	0.28	43,429	0.21	38,791	0.27
Other International	22,630	0.95	20,299	1.03	18,571	0.95
	<b>\$ 667,447</b>	<b>0.86%</b>	<b>\$ 593,102</b>	<b>0.99%</b>	<b>\$ 537,716</b>	<b>1.06%</b>

(1) Europe includes the United Kingdom, Luxembourg and the Channel Islands.

## Note 15 Insurance

### Risk management

Insurance risk is the risk of fluctuations in the timing, frequency or severity of insured events, relative to our expectations at the time of underwriting. We do not have a high degree of concentration risk due to our geographic diversity and business mix. Concentration risk is not a major concern for the life and health insurance business as it does not have a material level of regional specific characteristics like those exhibited in the property and casualty insurance business. Exposure to concentrations of insurance risks for the property and casualty business is primarily mitigated through prudent underwriting practices and diversification by product offerings and geographical areas. Reinsurance is also used for all insurance businesses to lower our risk profile and limit the liability on a single claim. We manage underwriting and pricing risk through the use of underwriting guidelines which detail the class, nature and type of business that may be accepted, pricing policies by product line and centralized control of policy wordings. The risk that claims are handled or paid inappropriately is mitigated using a range of IT system controls and manual processes conducted by experienced staff. These, together with a range of detailed policies and procedures, ensure that all claims are handled in a timely, appropriate and accurate manner.

### Reinsurance

In the ordinary course of business, our insurance operations reinsure risks to other insurance and reinsurance companies in order to lower our risk profile, limit loss exposure to large risks, and provide additional capacity for future growth. These ceding reinsurance arrangements do not relieve our insurance subsidiaries from their direct obligations to the insureds. We evaluate the financial condition of the reinsurers and monitor our concentrations of credit risks to minimize our exposure to losses from reinsurer insolvency. Reinsurance amounts (ceded premiums) included in Non-interest income are shown in the table below.

### Net premiums and claims

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
Gross premiums	\$ 4,721	\$ 4,962	\$ 4,785
Premiums ceded to reinsurers	(1,214)	(1,220)	(1,111)
Net premiums	<b>\$ 3,507</b>	<b>\$ 3,742</b>	<b>\$ 3,674</b>
Gross claims and benefits	\$ 3,237	\$ 3,692	\$ 2,768
Reinsurers' share of claims and benefits	(496)	(498)	(442)
Net claims	<b>\$ 2,741</b>	<b>\$ 3,194</b>	<b>\$ 2,326</b>

## Insurance claims and policy benefit liabilities

All actuarial assumptions are set in conjunction with Canadian Institute of Actuaries Standards of Practice and OSFI requirements. The assumptions that have the greatest effect on the measurement of insurance liabilities, the processes used to determine them and the assumptions used as at October 31, 2015 are as follows:

### Life insurance

**Mortality and morbidity** – Mortality estimates are based on standard industry insured mortality tables, adjusted where appropriate to reflect our own experience. Morbidity assumptions are made with respect to the rates of claim incidence and claim termination for health insurance policies and are based on a combination of industry and our own experience.

**Future investment yield** – Assumptions are based on the current yield rate, a reinvestment assumption and an allowance for future credit losses for each line of business, and are developed using interest rate scenario testing, including prescribed scenarios for determination of minimum liabilities as set out in the actuarial standards.

**Policyholder behaviour** – Under certain policies, the policyholder has a contractual right to change benefits and premiums, as well as convert policies to permanent forms of insurance. All policyholders have the right to terminate their policies through lapse. Lapses represent the termination of policies due to non-payment of premiums. Lapse assumptions are primarily based on our recent experience adjusted for emerging industry experience where applicable.

### Non-life insurance

Assumptions related to unpaid claims concern the patterns of development of claims from inception to ultimate settlement. The reserving assumptions, based on historical paid/incurred development patterns adjusted for changes in products, claims processes and legislative trends, result in a collective loss ratio when compared with earned premium.

The portfolio assumptions that have the greatest effect on the net liabilities included in our Consolidated Balance Sheets are listed below:

### Significant insurance assumptions

	As at	
	October 31 2015	October 31 2014
<b>Life Insurance</b>		
<b>Canadian Insurance</b>		
Mortality rates (1)	0.12%	0.12%
Morbidity rates (2)	1.69	1.82
Reinvestment yield (3)	3.45	3.15
Lapse rates (4)	0.50	0.50
<b>International Insurance</b>		
Mortality rates (1)	0.46	0.43
Reinvestment yield (3)	2.75	2.19
<b>Non-life Insurance</b>		
Expected loss ratio (5)	60.47	60.16

(1) Average annual death rate for the largest portfolio of insured policies.

(2) Average net settlement rate for the individual and group disability insurance portfolio.

(3) Ultimate reinvestment rate of the insurance operations.

(4) Ultimate policy termination rate (lapse rate) for the largest permanent life insurance portfolio that relies on higher termination rate to maintain its profitability (lapse-supported policies).

(5) Ratio of incurred claim losses and claim expenses to net premiums of the property and casualty business, measuring the profitability or loss experience on our total book of business.

The following table summarizes our gross and reinsurers' share of insurance liabilities at the end of the year.

### Insurance claims and policy benefit liabilities

(Millions of Canadian dollars)	As at					
	October 31, 2015			October 31, 2014		
	Gross	Ceded	Net	Gross	Ceded	Net
<b>Life insurance policyholder liabilities</b>						
Life, health and annuity	\$ 8,084	\$ 519	\$ 7,565	\$ 7,555	\$ 390	\$ 7,165
Investment contracts (1)	10	–	10	5	–	5
	\$ 8,094	\$ 519	\$ 7,575	\$ 7,560	\$ 390	\$ 7,170
<b>Non-life insurance policyholder liabilities</b>						
Unearned premium provision (1)	\$ 450	\$ –	\$ 450	\$ 419	\$ –	\$ 419
Unpaid claims provision	1,026	38	988	1,010	29	981
	\$ 1,476	\$ 38	\$ 1,438	\$ 1,429	\$ 29	\$ 1,400
	\$ 9,570	\$ 557	\$ 9,013	\$ 8,989	\$ 419	\$ 8,570

(1) Insurance claims and policy benefit liabilities include investment contracts and unearned premium provision, both of which are reported in Other liabilities on the Consolidated Balance Sheets.

**Reconciliation of life insurance policyholder liabilities**

(Millions of Canadian dollars)	October 31, 2015			October 31, 2014		
	Gross	Ceded	Net	Gross	Ceded	Net
Balances, beginning of the year	\$ 7,560	\$ 390	\$ 7,170	\$ 7,030	\$ 300	\$ 6,730
New and in-force policies	598	129	469	621	90	531
Changes in assumption and methodology	(69)	–	(69)	(95)	–	(95)
Net change in investment contracts	5	–	5	4	–	4
<b>Balances, end of the year</b>	<b>\$ 8,094</b>	<b>\$ 519</b>	<b>\$ 7,575</b>	<b>\$ 7,560</b>	<b>\$ 390</b>	<b>\$ 7,170</b>

**Reconciliation of non-life insurance policyholder liabilities**

(Millions of Canadian dollars)	October 31, 2015			October 31, 2014		
	Gross	Ceded	Net	Gross	Ceded	Net
Balances, beginning of the year	\$ 1,429	\$ 29	\$ 1,400	\$ 1,415	\$ 21	\$ 1,394
Changes in unearned premiums provision						
Written premiums	937	39	898	942	91	851
Less: Net premiums earned	(906)	(39)	(867)	(933)	(91)	(842)
Changes in unpaid claims provision and adjustment expenses						
Incurred claims	614	27	587	595	38	557
Less: Claims paid	(598)	(18)	(580)	(590)	(30)	(560)
<b>Balances, end of the year</b>	<b>\$ 1,476</b>	<b>\$ 38</b>	<b>\$ 1,438</b>	<b>\$ 1,429</b>	<b>\$ 29</b>	<b>\$ 1,400</b>

The net increase in Insurance claims and policy benefit liabilities over the prior year was comprised of the net increase in life and health, reinsurance and property and casualty liabilities attributable to business growth and market movements on assets backing life and health liabilities. During the year, we reviewed all key actuarial methods and assumptions which are used in determining the policy benefit liabilities resulting in a \$67 million net decrease to insurance liabilities comprised of: (i) a decrease of \$70 million for assumption updates due to net favourable interest rate and equity market changes; (ii) a decrease of \$22 million due to liability impacts of significant business projects; (iii) a decrease of \$12 million due to valuation system and data changes; and (iv) an increase of \$37 million arising from insurance risk related assumption updates largely due to mortality, morbidity, maintenance, property and casualty margin for adverse deviation and expense assumptions. Changes in Insurance claims and policy benefit liabilities are included in Insurance policyholder benefits, claims and acquisition expenses in our Consolidated Statements of Income in the period in which the estimates changed.

**Sensitivity analysis**

The following table presents the sensitivity of the level of insurance policyholder liabilities disclosed in this note to reasonably possible changes in the actuarial assumptions used to calculate them. The percentage change in variable is applied to a range of existing actuarial modelling assumptions to derive the possible impact on net income. The disclosure is not intended to explain the impact of a percentage change in the insurance assets and liabilities disclosed above. The analyses are performed where a single assumption is changed while holding other assumptions constant, which is unlikely to occur in practice.

**Sensitivity**

(Millions of Canadian dollars, except for percentage amounts)	Change in variable	Net income impact for year ended	
		October 31 2015	October 31 2014
Increase in market interest rates <sup>(1)</sup>	1%	\$ –	\$ 1
Decrease in market interest rates <sup>(1)</sup>	1	14	(3)
Increase in equity market values	10	3	6
Decrease in equity market values	10	(2)	(3)
Increase in maintenance expenses	5	(28)	(25)
<b>Life Insurance</b>			
Adverse change in annuitant mortality rates	2	(117)	(72)
Adverse change in assurance mortality rates	2	(48)	(47)
Adverse change in morbidity rates	5	(156)	(156)
Adverse change in lapse rates	10	(206)	(192)
<b>Non-life Insurance</b>			
Increase in expected loss ratio	5	(9)	(10)

(1) Sensitivities for market interest rates have been calculated by increasing or decreasing 100 basis points at all points on the yield curve, with changes persisting for one year.

## Note 16 Segregated funds

We offer certain individual variable insurance contracts that allow policyholders to invest in segregated funds. The investment returns on these funds are passed directly to the policyholders. Amounts invested are at the policyholders' risk, except where the policyholders have selected options providing maturity and death benefit guarantees. A liability for the guarantees is recorded in Insurance claims and policy benefit liabilities.

Segregated funds net assets are recorded at fair value. All of our segregated funds net assets are categorized as Level 1 in the fair value hierarchy. The fair value of the segregated funds liabilities is equal to the fair value of the segregated funds net assets. Segregated funds net assets and segregated funds liabilities are presented on separate lines on the Consolidated Balance Sheets. The following tables present the composition of net assets and the changes in net assets for the year.

### Segregated funds net assets

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
Cash	\$ –	\$ 1
Investment in mutual funds	832	675
Other liabilities, net	(2)	(1)
	<b>\$ 830</b>	<b>\$ 675</b>

### Changes in net assets

(Millions of Canadian dollars)	For the year ended	
	October 31 2015	October 31 2014
Net assets, beginning of year	\$ 675	\$ 513
Additions (deductions):		
Deposits from policyholders	321	239
Net realized and unrealized gains	2	52
Interest and dividend	26	19
Payment to policyholders	(173)	(132)
Management and administrative fees	(21)	(16)
Net assets, end of year	<b>\$ 830</b>	<b>\$ 675</b>

## Note 17 Employee benefits - Pension and other post-employment benefits

### Plan characteristics

We sponsor a number of programs that provide pension and post-employment benefits to eligible employees. The pension plans are administered by separate trustees that are legally segregated from the Bank. The majority of beneficiaries of the pension plans are located in Canada and other beneficiaries of the pension plans are primarily located in the United States, the United Kingdom and the Caribbean. The pension arrangements including investment, plan benefits and funding decisions are governed by local pension committees, trustees (U.K.), or management. Significant plan changes require the approval of the Board of Directors.

Our defined benefit pension plans provide pension benefits based on years of service, contributions and average earnings at retirement. Our principal defined benefit pension plans are closed to new members. New employees are generally eligible to join defined contribution pension plans. The specific features of these plans vary by location. We also provide supplemental non-registered (non-qualified) pension plans for certain executives and senior management that are typically unfunded or partially funded.

Our defined contribution pension plans provide pension benefits based on accumulated employee and Bank contributions. The Bank contributions are based on a percentage of an employee's annual earnings and a portion of the Bank contribution is dependent on the amount being contributed by the employee and their years of service.

Our primary other post-employment benefit plans provide health, dental, disability and life insurance coverage and cover a number of current and retired employees who are mainly located in Canada. These plans are unfunded unless required by legislation.

We measure our benefit obligations and pension assets as at October 31 each year. All plans are valued using the projected unit-credit method. We fund our registered defined benefit pension plans in accordance with actuarially determined amounts required to satisfy employee benefit obligations under current pension regulations. For our primary pension plan, the most recent funding actuarial valuation was completed on January 1, 2015, and the next valuation will be completed on January 1, 2016.

For the year ended October 31, 2015, total Bank contributions to our pension plans (defined benefit and defined contribution plans) and other post-employment benefit plans were \$391 million and \$56 million (October 31, 2014 – \$537 million and \$63 million), respectively. For 2016, total contributions to our pension plans and other post-employment benefit plans are expected to be \$411 million and \$62 million, respectively.

### Risks

By their design, the defined benefit pension and other post-employment plans expose the Bank to various risks such as investment performance, reductions in discount rates used to value the obligations, increased longevity of plan members, future inflation levels impacting future salary increases as well as future increases in healthcare costs. By closing membership in our principal defined benefit pension and other post-employment plans and migrating to defined contribution plans, the volatility associated with the aforementioned risks will reduce over time.

**Note 17 Employee benefits - Pension and other post-employment benefits** (continued)

The following table presents the financial position related to all of our material pension and other post-employment benefit plans worldwide, including executive retirement arrangements.

	As at			
	October 31, 2015		October 31, 2014	
	Defined benefit pension plans	Other post-employment benefit plans	Defined benefit pension plans	Other post-employment benefit plans
(Millions of Canadian dollars)				
<b>Canada</b>				
Fair value of plan assets	\$ 10,847	\$ 11	\$ 10,419	\$ 4
Present value of defined benefit obligation	10,840	1,569	10,767	1,754
Net surplus (deficit)	\$ 7	\$ (1,558)	\$ (348)	\$ (1,750)
<b>International</b>				
Fair value of plan assets	\$ 1,049	\$ –	\$ 932	\$ –
Present value of defined benefit obligation	1,134	88	1,038	78
Net (deficit)	\$ (85)	\$ (88)	\$ (106)	\$ (78)
<b>Total</b>				
Fair value of plan assets	\$ 11,896	\$ 11	\$ 11,351	\$ 4
Present value of defined benefit obligation	11,974	1,657	11,805	1,832
Total net (deficit)	\$ (78)	\$ (1,646)	\$ (454)	\$ (1,828)
<b>Amounts recognized in our Consolidated Balance Sheets</b>				
Employee benefit assets	\$ 245	\$ –	\$ 138	\$ –
Employee benefit liabilities	(323)	(1,646)	(592)	(1,828)
Total net (deficit)	\$ (78)	\$ (1,646)	\$ (454)	\$ (1,828)

The following table presents an analysis of the movement in the financial position related to all of our material pension and other post-employment benefit plans worldwide, including executive retirement arrangements.

	As at or for the year ended			
	October 31, 2015		October 31, 2014	
	Defined benefit pension plans (1)	Other post-employment benefit plans	Defined benefit pension plans (1)	Other post-employment benefit plans
(Millions of Canadian dollars)				
<b>Change in fair value of plan assets</b>				
Opening fair value of plan assets	\$ 11,351	\$ 4	\$ 10,266	\$ 3
Interest income	460	–	472	–
Remeasurements				
Return on plan assets (excluding interest income)	243	11	647	–
Change in foreign currency exchange rate	113	–	60	–
Contributions – Employer	235	56	400	63
Contributions – Plan participant	51	16	52	13
Payments	(513)	(76)	(456)	(75)
Payments – amount paid in respect of any settlements	(31)	–	(78)	–
Other	(13)	–	(12)	–
Closing fair value of plan assets	\$ 11,896	\$ 11	\$ 11,351	\$ 4
<b>Change in present value of benefit obligation</b>				
Opening benefit obligation	\$ 11,805	\$ 1,832	\$ 10,413	\$ 1,722
Current service costs	345	34	315	31
Past service costs	(16)	–	97	–
Interest expense	490	75	486	80
Remeasurements				
Actuarial losses (gains) from demographic assumptions	7	(176)	76	(58)
Actuarial losses (gains) from financial assumptions	(296)	(33)	830	119
Actuarial losses (gains) from experience adjustments	(7)	(27)	6	7
Change in foreign currency exchange rate	139	15	67	6
Contributions – Plan participant	51	16	52	13
Payments	(513)	(76)	(456)	(75)
Payments – amount paid in respect of any settlements	(31)	–	(78)	–
Business combinations/Disposals	–	(3)	–	(11)
Other	–	–	(3)	(2)
Closing benefit obligation	\$ 11,974	\$ 1,657	\$ 11,805	\$ 1,832
Unfunded obligation	\$ 33	\$ 332	\$ 28	\$ 1,670
Wholly or partly funded obligation	11,941	1,325	11,777	162
Total benefit obligation	\$ 11,974	\$ 1,657	\$ 11,805	\$ 1,832

(1) For pension plans with funding deficits, the benefit obligations and fair value of plan assets as at October 31, 2015 were \$1,020 million and \$709 million, respectively (October 31, 2014 – \$10,180 million and \$9,587 million, respectively).

## Pension and other post-employment benefit expense

The following table presents the composition of our pension and other post-employment benefit expense.

(Millions of Canadian dollars)	For the year ended					
	Pension plans			Other post-employment benefit plans		
	October 31 2015	October 31 2014	October 31 2013	October 31 2015	October 31 2014	October 31 2013
Current service costs	\$ 345	\$ 315	\$ 298	\$ 34	\$ 31	\$ 28
Past service costs	(16)	97	(2)	–	–	(2)
Net interest expense	30	14	30	75	80	73
Remeasurements of other long term benefits	–	–	–	2	9	(5)
Administrative expense	12	13	11	–	–	–
Defined benefit pension expense	\$ 371	\$ 439	\$ 337	\$ 111	\$ 120	\$ 94
Defined contribution pension expense	156	137	117	–	–	–
	\$ 527	\$ 576	\$ 454	\$ 111	\$ 120	\$ 94

Total service costs for the year ended October 31, 2015 totalled \$335 million (October 31, 2014 – \$307 million; October 31, 2013 – \$284 million) for pension plans in Canada and \$(6) million (October 31, 2014 – \$105 million; October 31, 2013 – \$12 million) for International plans. Net interest expense for the year ended October 31, 2015 totalled \$25 million (October 31, 2014 – \$10 million; October 31, 2013 – \$26 million) for pension plans in Canada and \$5 million (October 31, 2014 – \$4 million; October 31, 2013 – \$4 million) for International plans.

## Remeasurements of employee benefit plans

The following table presents the composition of our remeasurements recorded in OCI.

(Millions of Canadian dollars)	For the year ended					
	Defined benefit pension plans			Other post-employment benefit plans		
	October 31 2015	October 31 2014	October 31 2013	October 31 2015	October 31 2014	October 31 2013
Actuarial (gains) losses:						
Changes in demographic assumptions	\$ 7	\$ 76	\$ 382	\$ (174)	\$ (54)	\$ 53
Changes in financial assumptions	(296)	830	(265)	(30)	113	(62)
Experience adjustments	(7)	6	49	(34)	–	4
Return on plan assets (excluding interest based on discount rate)	(243)	(647)	(601)	(11)	–	–
	\$ (539)	\$ 265	\$ (435)	\$ (249)	\$ 59	\$ (5)

Total remeasurements recorded in OCI for the year ended October 31, 2015 were gains of \$526 million (October 31, 2014 – losses of \$238 million; October 31, 2013 – gains of \$424 million) for pension plans in Canada and gains of \$13 million (October 31, 2014 – losses of \$27 million; October 31, 2013 – gains of \$11 million) for International plans.

## Investment policy and strategies

Defined benefit pension plan assets are invested prudently in order to meet our longer term pension obligations. The pension plan's investment strategy is to hold a diversified mix of investments by asset class and geographic location, in order to reduce investment-specific risk to the funded status while maximizing the expected returns to meet pension obligations. Investment of the plan's assets is conducted with careful consideration of the pension obligation's exposure to interest rates, credit spreads and inflation which are key risk factors impacting the obligation. The asset mix policy is therefore consistent with an asset/liability framework. Factors taken into consideration in developing our asset mix include but are not limited to the following:

- (i) the nature of the underlying benefit obligations, including the duration and term profile of the liabilities;
- (ii) the member demographics, including expectations for normal retirements, terminations, and deaths;
- (iii) the financial position of the pension plans;
- (iv) the diversification benefits obtained by the inclusion of multiple asset classes; and
- (v) expected asset returns, including asset and liability volatility and correlations.

To implement our asset mix policy, we may invest in equity securities, debt securities, alternative investments and derivative instruments. Our holdings in certain investments, including common shares, emerging market equity and debt, debt securities rated lower than BBB and residential and commercial mortgages, cannot exceed a defined percentage of the market value of our defined benefit pension plan assets. We may use derivative instruments as either a synthetic investment to more efficiently replicate the performance of an underlying security, or as a hedge against financial risks associated with the underlying portfolio. To manage our credit risk exposure, counterparties of our derivative instruments are required to meet minimum credit ratings and enter into collateral agreements.

Our defined benefit pension plan assets are primarily comprised of equity and debt securities. Our equity securities generally have unadjusted quoted market prices in an active market (Level 1) and our debt securities generally have quoted market prices for similar assets in an active market (Level 2). Alternative investments and other includes cash, hedge funds, and private fund investments including infrastructure, real estate leases, private equity and derivative financial instruments. In the case of private fund investments, no quoted market prices are usually available (Level 2 or Level 3). These fund assets are either valued by an independent valuator or priced using observable market inputs.

During the year, investment changes and risk factor diversification continued in support of our efforts to reduce variability in the funded status. As a result, equity risk was reduced through redeployment of equity investments into a diverse mix of quality alternative investments with low correlation to equity markets, including investments in hedge funds, infrastructure, private equity and real estate. In addition, an increasing allocation to debt securities is used to reduce asset liability duration mismatch and hence variability of the plan's funded status due to interest rate changes. Longer maturity debt securities, given their price sensitivity to movements in interest rates, are considered to be a good economic

hedge to risk associated with the plan's liabilities, which are discounted using predominately long maturity bond interest rates as inputs. We expect to continue to move towards a higher weighting of debt securities as market conditions permit, to further reduce risk of variability in the funded status.

**Asset allocation of defined benefit pension plans** <sup>(1)</sup>

(Millions of Canadian dollars, except percentages)	As at					
	October 31, 2015			October 31, 2014		
	Fair value	Percentage of total plan assets	Quoted in active market <sup>(2)</sup>	Fair value	Percentage of total plan assets	Quoted in active market <sup>(2)</sup>
Equity securities						
Domestic	\$ 1,277	11%	100%	\$ 1,623	14%	100%
Foreign	2,645	22	98	2,530	22	100
Debt securities						
Domestic government bonds	2,232	19	–	2,199	19	–
Foreign government bonds	561	5	–	530	5	–
Corporate and other bonds	2,548	21	–	2,097	19	–
Alternative investments and other	2,633	22	8	2,372	21	11
	<b>\$ 11,896</b>	<b>100%</b>	<b>34%</b>	<b>\$ 11,351</b>	<b>100%</b>	<b>39%</b>

(1) The asset allocation is based on the underlying investments held directly and indirectly through the funds as this is how we manage our investment policy and strategies.

(2) If our assessment of quoted in an active market was based on the direct investments, 36% of our total plan assets would be classified as quoted in an active market (October 31, 2014 – 45%).

The allocation to equity securities of our pension plans in Canada is 34% (October 31, 2014 – 38%) and that of our International plans is 17% (October 31, 2014 – 18%). The allocation to debt securities of our pension plans in Canada is 44% (October 31, 2014 – 41%) and that of our International plans is 57% (October 31, 2014 – 58%). The allocation to alternative investments and other in our pension plans in Canada is 22% (October 31, 2014 – 21%) and that of our International plans is 26% (October 31, 2014 – 24%).

As at October 31, 2015, the plan assets include 1 million (October 31, 2014 – 1 million) of our common shares with a fair value of \$85 million (October 31, 2014 – \$107 million) and \$71 million (October 31, 2014 – \$39 million) of our debt securities. For the year ended October 31, 2015, dividends received on our common shares held in the plan assets were \$4 million (October 31, 2014 – \$4 million).

**Maturity profile**

The following table presents the maturity profile of our defined benefit pension plan obligation.

(Millions of Canadian dollars, except participants and years)	As at		
	October 31, 2015		
	Canada	International	Total
Number of plan participants	73,869	9,864	83,733
Actual benefit payments 2015	\$ 447	\$ 97	\$ 544
Benefits expected to be paid 2016	514	50	564
Benefits expected to be paid 2017	540	45	585
Benefits expected to be paid 2018	564	47	611
Benefits expected to be paid 2019	587	48	635
Benefits expected to be paid 2020	607	52	659
Benefits expected to be paid 2021-2025	3,312	313	3,625
Weighted average duration of defined benefit payments	14.6 years	18.0 years	14.9 years

**Significant assumptions**

Our methodologies to determine significant assumptions used in calculating the defined benefit pension and other post-employment benefit expense are as follows:

*Discount rate*

For the Canadian pension and other post-employment benefit plans, all future expected benefit payments at each measurement date are discounted at spot rates from a derived Aa corporate bond yield curve. The derived curve is based on observed rates for Aa corporate bonds with maturities less than six years and a projected Aa corporate curve based on spreads between observed Aa corporate bonds and Aa provincial bonds for periods greater than six years. For the International pension and other post-employment benefit plans, all future expected benefit payments at each measurement date are discounted at spot rates from an Aa corporate bond yield curve. Spot rates beyond 30 years are set to equal the 30-year spot rate. The discount rate is the equivalent single rate that produces the same discounted value as that determined using the entire discount curve. This valuation methodology does not rely on assumptions regarding reinvestment returns.

*Rate of increase in future compensation*

The assumptions for increases in future compensation are developed separately for each plan, where relevant. Each assumption is set based on the price inflation assumption and compensation policies in each market, as well as relevant local statutory and plan-specific requirements.

### Healthcare cost trend rates

Healthcare cost calculations are based on both short and long term trend assumptions established based on the plan's recent trend experience as well as on market expectations.

	As at					
	Defined benefit pension plans			Other post-employment benefit plans		
	October 31 2015	October 31 2014	October 31 2013	October 31 2015	October 31 2014	October 31 2013
<b>Weighted average assumptions to determine benefit obligation</b>						
Discount rate	4.30%	4.10%	4.60%	4.40%	4.20%	4.70%
Rate of increase in future compensation	3.30%	3.30%	3.30%	n.a.	n.a.	n.a.
Healthcare cost trend rates (1)						
– Medical	n.a.	n.a.	n.a.	4.10%	3.50%	3.80%
– Dental	n.a.	n.a.	n.a.	4.00%	4.00%	4.00%

(1) For our other post-employment benefit plans, the 2015 assumed trend rates used to measure the expected benefit costs of the defined benefit obligations are also the ultimate trend rates.  
n.a. not applicable

### Mortality assumptions

Mortality assumptions are significant in measuring our obligations under the defined benefit pension plans. These assumptions have been set based on country specific statistics. Future longevity improvements have been considered and included where appropriate. The following table summarizes the mortality assumptions used for major plans.

	As at							
	October 31, 2015				October 31, 2014			
	Life expectancy at 65 for a member currently at				Life expectancy at 65 for a member currently at			
	Age 65		Age 45		Age 65		Age 45	
(In years)	Male	Female	Male	Female	Male	Female	Male	Female
<b>Country</b>								
Canada	23.1	23.6	24.1	24.5	23.0	23.5	24.0	24.5
United States	21.2	23.2	21.7	24.1	20.6	22.9	21.1	23.4
United Kingdom	24.0	25.9	26.0	28.2	23.9	25.2	26.1	27.6

### Sensitivity analysis

Assumptions adopted can have a significant effect on the obligations for defined benefit pension and other post-employment benefit plans. The increase (decrease) in obligation in the following table has been determined assuming all other assumptions are held constant. In practice, this is unlikely to occur, as changes in some of the assumptions may be correlated. The following table presents the sensitivity analysis of key assumptions for 2015.

(Millions of Canadian dollars)	Defined benefit pension plans – Increase (decrease) in obligation	Other post-employment benefit plans – Increase (decrease) in obligation
<b>Discount rate</b>		
Impact of 50bps increase in discount rate	\$ (839)	\$ (110)
Impact of 50bps decrease in discount rate	930	124
<b>Rate of increase in future compensation</b>		
Impact of 50bps increase in rate of increase in future compensation	57	n.a.
Impact of 50bps decrease in rate of increase in future compensation	(57)	n.a.
<b>Mortality rate</b>		
Impact of an increase in longevity by one additional year	275	29
<b>Healthcare cost trend rate</b>		
Impact of 100bps increase in healthcare cost trend rate	n.a.	101
Impact of 100bps decrease in healthcare cost trend rate	n.a.	(82)

n.a. not applicable



## Note 18 Other liabilities

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
Cash collateral	\$ 15,249	\$ 10,500
Accounts payable and accrued expenses	999	2,386
Payroll and related compensation	6,358	6,582
Payable to brokers, dealers and clients	2,981	2,063
Negotiable instruments	2,309	2,416
Accrued interest payable	1,679	1,748
Deferred income	2,028	1,937
Taxes payable	1,533	1,691
Precious metals certificates	420	572
Dividends payable	1,194	1,127
Insurance related liabilities	735	617
Deferred income taxes	201	204
Provisions	512	500
Other	5,309	4,966
	<b>\$ 41,507</b>	<b>\$ 37,309</b>

## Note 19 Subordinated debentures

The debentures are unsecured obligations and are subordinated in right of payment to the claims of depositors and certain other creditors. All redemptions, cancellations and exchanges of subordinated debentures are subject to the consent and approval of OSFI. The amounts presented below include the impact of fair value hedging for interest rate risk and are net of our holdings in these securities which have not been cancelled and are still outstanding.

(Millions of Canadian dollars, except percentage and foreign currency)	Earliest par value redemption date	Interest rate	Denominated in foreign currency (millions)	As at	
				October 31 2015	October 31 2014
Maturity					
November 14, 2014 <sup>(1)</sup>		10.00%		\$ –	\$ 200
November 4, 2018	November 4, 2013 <sup>(2)</sup>	5.45% <sup>(3)</sup>		–	–
June 15, 2020	June 15, 2015 <sup>(4)</sup>	4.35% <sup>(5)</sup>		–	1,491
November 2, 2020	November 2, 2015 <sup>(6)</sup>	3.18% <sup>(7)</sup>		1,500	1,483
June 8, 2023		9.30%		110	110
July 17, 2024 <sup>(8)</sup>	July 17, 2019	3.04% <sup>(9)</sup>		1,014	1,002
December 6, 2024	December 6, 2019	2.99% <sup>(10)</sup>		2,061	1,992
June 4, 2025 <sup>(8)</sup>	June 4, 2020	2.48% <sup>(11)</sup>		1,004	–
September 29, 2026 <sup>(8)</sup>	September 29, 2021	3.45% <sup>(12)</sup>		1,055	1,009
November 1, 2027	November 1, 2022	4.75%	TT\$300	62	53
June 26, 2037	June 26, 2017	2.86%	JPY 10,000	112	106
October 1, 2083	Any interest payment date	<sup>(13)</sup>		224	224
June 29, 2085	Any interest payment date	<sup>(14)</sup>	US\$174	227	196
June 18, 2103	June 18, 2009 <sup>(15)</sup>	5.95% <sup>(16)</sup>		–	–
				<b>\$ 7,369</b>	<b>\$ 7,866</b>
Deferred financing costs				<b>(7)</b>	<b>(7)</b>
				<b>\$ 7,362</b>	<b>\$ 7,859</b>

The terms and conditions of the debentures are as follows:

- (1) All \$200 million outstanding 10.00% subordinated debentures matured on November 14, 2014.
- (2) All \$1 billion outstanding subordinated debentures were redeemed on November 4, 2013 for 100% of their principal amount plus accrued interest to the redemption date.
- (3) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.00% above the 90-day Bankers' Acceptance rate.
- (4) All \$1.5 billion outstanding subordinated debentures were redeemed on June 15, 2015 for 100% of their principal amount plus accrued interest to the redemption date.
- (5) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.41% above the 90-day Bankers' Acceptance rate.
- (6) All \$1.5 billion outstanding subordinated debentures were redeemed on November 2, 2015 for 100% of their principal amount plus accrued interest to the redemption date.
- (7) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.21% above the 90-day Bankers' Acceptance rate.
- (8) The notes include non-viability contingency capital (NVCC) provisions, necessary for the notes to qualify as Tier 2 regulatory capital under Basel III. NVCC provisions require the conversion of the instrument into a variable number of common shares in the event that OSFI deems the Bank non-viable or a federal or provincial government in Canada publicly announces that the Bank has accepted or agreed to accept a capital injection. In such an event, each note is convertible into common shares pursuant to an automatic conversion formula with a multiplier of 1.5 and a conversion price based on the greater of: (i) a floor price of \$5.00 and (ii) the current market price of our common shares based on the volume weighted average trading price of our common shares on the Toronto Stock Exchange. The number of shares issued is determined by dividing the par value of the note (including accrued and unpaid interest on such note) by the conversion price and then times the multiplier.
- (9) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.08% above the 90-day Bankers' Acceptance rate.
- (10) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.10% above the 90-day Bankers' Acceptance rate.
- (11) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.10% above the 90-day Bankers' Acceptance rate.
- (12) Interest at stated interest rate until earliest par value redemption date, and thereafter at a rate of 1.12% above the 90-day Bankers' Acceptance rate.
- (13) Interest at a rate of 40 basis points above the 30-day Bankers' Acceptance rate.
- (14) Interest at a rate of 25 basis points above the U.S. dollar 3-month London Interbank Mean Rate (LIMEAN). In the event of a reduction of the annual dividend we declare on our common shares, the interest payable on the debentures is reduced pro rata to the dividend reduction and the interest reduction is payable with the proceeds from the sale of newly issued common shares.
- (15) All \$600 million outstanding subordinated debentures were redeemed on June 18, 2014 for 100% of their principal amount plus accrued interest to the redemption date.
- (16) Interest at stated interest rate until earliest par value redemption date and every 5 years thereafter at a rate of 1.72% above the 5-year Government of Canada yield.

## Maturity schedule

The aggregate maturities of subordinated debentures, based on the maturity dates under the terms of issue, are as follows:

(Millions of Canadian dollars)	October 31 2015
5 to 10 years	\$ 5,689
Thereafter	1,680
	<b>\$ 7,369</b>

### Note 20 Trust capital securities

We issued innovative capital instruments, RBC Trust Capital Securities (RBC TruCS), through two structured entities: RBC Capital Trust (Trust) and RBC Capital Trust II (Trust II). Trust II was wound up in 2014 after the redemption of the RBC TruCS Series 2013 (RBC TruCS 2013) on December 31, 2013.

The Trust has issued non-voting RBC TruCS Series 2010, 2011, 2015 and 2008-1 (RBC TruCS 2010, 2011, 2015 and 2008-1). RBC TruCS 2010 and 2011 were redeemed in 2010 and 2011, respectively.

The holders of RBC TruCS 2015 and 2008-1 do not have any conversion rights or any other redemption rights. As a result, upon consolidation of the Trust, RBC TruCS 2015 and 2008-1 are classified as non-controlling interests. Holders of RBC TruCS 2015 and 2008-1 are eligible to receive semi-annual non-cumulative fixed cash distributions until December 31, 2015 and June 30, 2018, respectively, and a floating-rate cash distribution thereafter.

No cash distributions will be payable by the Trust on RBC TruCS if we fail to declare regular dividends (i) on our preferred shares, or (ii) on our common shares if no preferred shares are then outstanding. In this case, the net distributable funds of the Trust will be distributed to us as holders of residual interest in the Trust. Should the Trust fail to pay the semi-annual distributions in full, we will not declare dividends of any kind on any of our preferred or common shares for a specified period of time.

The table below presents the significant terms and conditions of RBC TruCS.

### Significant terms and conditions of RBC Trust Capital Securities

(Millions of Canadian dollars, except for percentage amounts)	Issuance date	Distribution dates	Annual yield	Earliest redemption date		Conversion date		As at	
				At the option of the issuer	At the option of the holder	October 31 2015 Principal amount	October 31 2014 Principal amount		
<b>RBC Capital Trust (1),(2),(3),(4),(5),(6),(7)</b>									
Included in Non-controlling interests									
1,200,000 Trust Capital Securities – Series 2015	October 28, 2005	June 30, December 31	4.87% (8)	December 31, 2010		n.a.	\$ 1,200	\$ 1,200	
500,000 Trust Capital Securities – Series 2008-1	April 28, 2008	June 30, December 31	6.82% (8)	June 30, 2013		n.a.	500	500	
<b>RBC Capital Trust II (2),(3),(4),(5),(6),(7),(9)</b>									
Included in Deposits									
900,000 Trust Capital Securities – Series 2013 (10)	July 23, 2003	June 30, December 31	5.812%	December 31, 2008		Any time	\$ –	\$ –	

The significant terms and conditions of the RBC TruCS are as follows:

- (1) Subject to the approval of OSFI, the Trust may, on the earliest redemption date specified above, and on any distribution date thereafter, redeem in whole (but not in part) the RBC TruCS 2008-1 and 2015, without the consent of the holders.
  - (2) Subject to the approval of OSFI, upon occurrence of a special event as defined, prior to the earliest redemption date specified above, the trusts may redeem in whole (but not in part) the RBC TruCS 2008-1, 2013 or 2015 without the consent of the holders.
  - (3) Issuer Redemption Price: The RBC TruCS 2008-1 may be redeemed for cash equivalent to (i) the Early Redemption Price if the redemption occurs prior to June 30, 2018 or (ii) the Redemption Price if the redemption occurs on or after June 30, 2018. The RBC TruCS 2013 and 2015 may be redeemed for cash equivalent to (i) the Early Redemption Price if the redemption occurs prior to December 31, 2013 and 2015, respectively, or (ii) the Redemption Price if the redemption occurs on or after December 31, 2013 and 2015, respectively. Redemption Price refers to an amount equal to \$1,000 plus the unpaid distributions to the redemption date. Early Redemption Price refers to an amount equal to the greater of (i) the Redemption Price and (ii) the price calculated to provide an annual yield, equal to the yield on a Government of Canada bond issued on the redemption date with a maturity date of June 30, 2018, plus 77 basis points, for RBC TruCS 2008-1, and a maturity date of December 31, 2013 and 2015, plus 23 basis points and 19.5 basis points, for RBC TruCS 2013 and 2015, respectively.
  - (4) Automatic Exchange Event: Without the consent of the holders, each RBC TruCS 2008-1, 2013 and 2015 will be exchanged automatically for 40 of our non-cumulative redeemable First Preferred Shares Series A1, T and Z, respectively, upon occurrence of any one of the following events: (i) proceedings are commenced for our winding-up; (ii) OSFI takes control of us; (iii) we have Tier 1 capital ratio of less than 5% or Total capital ratio of less than 8%; or (iv) OSFI has directed us to increase our capital or provide additional liquidity and we elect such automatic exchange or we fail to comply with such direction. The First Preferred Shares Series A1, T and Z pay semi-annual non-cumulative cash dividends and Series T is convertible at the option of the holder into a variable number of common shares.
  - (5) From time to time, we purchase some of the innovative capital instruments and hold them temporarily. As at October 31, 2015, we held an insignificant amount of RBC TruCS 2015 (October 31, 2014 – \$9 million) and \$6 million of the RBC TruCS 2008-1 (October 31, 2014 – \$3 million) as treasury holdings which were deducted from regulatory capital.
  - (6) Regulatory capital: In accordance with OSFI Capital Adequacy Requirements, effective January 2013, RBC TruCS no longer qualify as additional Tier 1 capital due to their lack of non-viability contingent capital terms and conditions. As such, outstanding RBC TruCS are being phased out of regulatory capital in accordance with OSFI guidelines.
  - (7) Holder Exchange Right: Holders of RBC TruCS 2013 may, at any time, exchange all or part of their holdings for 40 non-cumulative redeemable First Preferred Shares Series U, for each RBC TruCS 2013 held. The First Preferred Shares Series U pay semi-annual non-cumulative cash dividends as and when declared by our Board of Directors and are convertible at the option of the holder into a variable number of common shares. Holders of RBC TruCS 2008-1 and RBC TruCS 2015 do not have similar exchange rights.
  - (8) The non-cumulative cash distribution on the RBC TruCS 2015 will be 4.87% paid semi-annually until December 31, 2015, and at one half of the sum of 180-day Bankers' Acceptance rate plus 1.5%, thereafter. The non-cumulative cash distribution on the RBC TruCS 2008-1 will be 6.82% paid semi-annually until June 30, 2018, and at one half of the sum of 180-day Bankers' Acceptance rate plus 3.5% thereafter.
  - (9) Subject to the approval of OSFI, Trust II may, in whole or in part, on the redemption date specified above, and on any distribution date thereafter, redeem any outstanding RBC TruCS 2013 without the consent of the holders.
  - (10) On December 31, 2013, Trust II redeemed all \$900 million principal amount of RBC TruCS 2013 for cash at a redemption price of \$1,000 per unit.
- n.a. not applicable

**Share capital**
*Authorized share capital*

Preferred – An unlimited number of First Preferred Shares and Second Preferred Shares without nominal or par value, issuable in series; the aggregate consideration for which all the First Preferred Shares and all the Second Preferred Shares that may be issued may not exceed \$20 billion and \$5 billion, respectively.

Common – An unlimited number of shares without nominal or par value may be issued.

*Outstanding share capital*

The following table details our common and preferred shares outstanding.

	As at					
	October 31, 2015			October 31, 2014		
	Number of shares (thousands)	Amount	Dividends declared per share	Number of shares (thousands)	Amount	Dividends declared per share
<i>(Millions of Canadian dollars, except the number of shares and dividends per share)</i>						
<b>Preferred shares</b>						
<b>First preferred (1)</b>						
Non-cumulative, fixed rate						
Series W	12,000	\$ 300	\$ 1.23	12,000	\$ 300	\$ 1.23
Series AA	12,000	300	1.11	12,000	300	1.11
Series AB	12,000	300	1.18	12,000	300	1.18
Series AC	8,000	200	1.15	8,000	200	1.15
Series AD	10,000	250	1.13	10,000	250	1.13
Series AE	10,000	250	1.13	10,000	250	1.13
Series AF	8,000	200	1.11	8,000	200	1.11
Series AG	10,000	250	1.13	10,000	250	1.13
Series BH	6,000	150	0.58	–	–	–
Series BI	6,000	150	0.42	–	–	–
Series BJ	6,000	150	–	–	–	–
Non-cumulative, 5-Year Rate Reset						
Series AJ (2)	13,579	339	0.88	13,579	339	0.97
Series AL	12,000	300	1.07	12,000	300	1.15
Series AN (3)	–	–	–	–	–	0.39
Series AP (3)	–	–	–	–	–	0.39
Series AR (3)	–	–	–	–	–	0.39
Series AT (4)	–	–	–	–	–	1.17
Series AV (4)	–	–	–	–	–	1.17
Series AX (5)	–	–	–	13,000	325	1.53
Series AZ	20,000	500	1.00	20,000	500	0.50
Series BB	20,000	500	0.98	20,000	500	0.46
Series BD	24,000	600	0.73	–	–	–
Series BF	12,000	300	0.63	–	–	–
Non-cumulative, floating rate						
Series AK (2)	2,421	61	0.67	2,421	61	0.53
		\$ 5,100			\$ 4,075	
<b>Common shares</b>						
Balance at beginning of year	1,442,233	\$ 14,511		1,441,056	\$ 14,377	
Issued under the stock option plan (6)	1,190	62		2,723	150	
Purchased for cancellation (7)	–	–		(1,546)	(16)	
Balance at end of year	1,443,423	\$ 14,573	\$ 3.08	1,442,233	\$ 14,511	\$ 2.84
<b>Treasury shares – Preferred shares</b>						
Balance at beginning of year	1	\$ –		47	\$ 1	
Sales	4,736	117		4,919	124	
Purchases	(4,800)	(119)		(4,965)	(125)	
Balance at end of year	(63)	\$ (2)		1	\$ –	
<b>Treasury shares – Common shares</b>						
Balance at beginning of year	892	\$ 71		666	\$ 41	
Sales	78,852	6,098		70,684	5,333	
Purchases	(79,212)	(6,131)		(70,458)	(5,303)	
Balance at end of year	532	\$ 38		892	\$ 71	

(1) First Preferred Shares Series were issued at \$25 per share.

(2) On February 24, 2014, we issued 2.4 million Non-Cumulative Floating Rate First Preferred Shares, Series AK, totalling \$61 million through a holder option, one-for-one conversion of some of our Non-Cumulative 5-Year Rate Reset First Preferred Shares, Series AJ.

(3) On February 24, 2014, we redeemed all issued and outstanding Non-Cumulative 5-Year Rate Reset First Preferred Shares, Series AN (9 million shares), Series AP (11 million shares), and Series AR (14 million shares) for cash at a redemption price of \$25 per share.

(4) On August 24, 2014, we redeemed all issued and outstanding Non-Cumulative 5-Year Rate Reset First Preferred Shares, Series AT (11 million shares) and Series AV (16 million shares) for cash at a redemption price of \$25 per share.

(5) On November 24, 2014, we redeemed all 13 million of issued and outstanding Non-Cumulative 5-year Rate Reset First Preferred Shares Series AX for cash at a redemption price of \$25 per share.

(6) Includes fair value adjustments to stock options of \$7 million (2014 – \$16 million).

(7) During the year ended October 31, 2015, we did not purchase any common shares for cancellation. During the year ended October 31, 2014, we purchased for cancellation common shares at an average cost of \$72.64 per share with a book value of \$10.03 per share.

## Significant terms and conditions of preferred shares

As at October 31, 2015	Initial Period Annual Yield	Premium	Current Dividend per share (1)	Earliest redemption date (2)	Issue Date	Redemption price (2), (3)
<b>Preferred shares</b>						
<b>First preferred</b>						
Non-cumulative, fixed rate						
Series W <sup>(4)</sup>	4.90%		\$ .306250	February 24, 2010	January 31, 2005	\$ 25.00
Series AA	4.45%		.278125	May 24, 2011	April 4, 2006	25.00
Series AB	4.70%		.293750	August 24, 2011	July 20, 2006	25.00
Series AC	4.60%		.287500	November 24, 2011	November 1, 2006	25.25
Series AD	4.50%		.281250	February 24, 2012	December 13, 2006	25.25
Series AE	4.50%		.281250	February 24, 2012	January 19, 2007	25.25
Series AF	4.45%		.278125	May 24, 2012	March 14, 2007	25.25
Series AG	4.50%		.281250	May 24, 2012	April 26, 2007	25.25
Series BH <sup>(5)</sup>	4.90%		.577260	November 24, 2020	June 5, 2015	26.00
Series BI <sup>(5)</sup>	4.90%		.419520	November 24, 2020	July 22, 2015	26.00
Series BJ <sup>(5)</sup>	5.25%		–	February 24, 2021	October 2, 2015	26.00
Non-cumulative, 5-Year Rate Reset <sup>(6)</sup>						
Series AJ	5.00%	1.93%	.220000	February 24, 2014	September 16, 2008	25.00
Series AL	5.60%	2.67%	.266250	February 24, 2014	November 3, 2008	25.00
Series AZ <sup>(5)</sup>	4.00%	2.21%	.250000	May 24, 2019	January 30, 2014	25.00
Series BB <sup>(5)</sup>	3.90%	2.26%	.243750	August 24, 2019	June 3, 2014	25.00
Series BD <sup>(5)</sup>	3.60%	2.74%	.225000	May 24, 2020	January 30, 2015	25.00
Series BF <sup>(5)</sup>	3.60%	2.62%	.225000	November 24, 2020	March 13, 2015	25.00
Non-cumulative, floating rate						
Series AK <sup>(7)</sup>		1.93%	.156463	February 24, 2019	February 24, 2014	25.00

- (1) Non-cumulative preferential dividends of each Series are payable quarterly, as and when declared by the Board of Directors, on or about the 24th day of February, May, August and November.
- (2) Subject to the consent of OSFI and the requirements of the *Bank Act* (Canada), we may, on or after the dates specified above, redeem First Preferred Shares. In the case of Series AJ, AL, AZ, BB, BD, BF and AK, these may be redeemed for cash at a price per share of \$25 if redeemed on the earliest redemption date and on the same date every fifth year thereafter. In the case of Series W, AA, AB, AC, AD, AE, AF, AG, BH, BI and BJ, these may be redeemed for cash at a price per share of \$26 if redeemed during the 12 months commencing on the earliest redemption date and decreasing by \$0.25 each 12-month period thereafter to a price per share of \$25 if redeemed four years from the earliest redemption date or thereafter.
- (3) Subject to the consent of OSFI and the requirements of the *Bank Act* (Canada), we may purchase the First Preferred Shares of each Series for cancellation at the lowest price or prices at which, in the opinion of the Board of Directors, such shares are obtainable.
- (4) Subject to the approval of the Toronto Stock Exchange, we may, on or after February 24, 2010, convert First Preferred Shares Series W into our common shares. First Preferred Shares Series W may be converted into that number of common shares determined by dividing the current redemption price by the greater of \$2.50 and 95% of the weighted average trading price of common shares at such time.
- (5) The preferred shares include non-viability contingency capital (NVCC) provisions, necessary for the shares to qualify as Tier 1 regulatory capital under Basel III. NVCC provisions require the conversion of the instrument into a variable number of common shares in the event that OSFI deems the Bank non-viable or a federal or provincial government in Canada publicly announces that the Bank has accepted or agreed to accept a capital injection. In such an event, each preferred share is convertible into common shares pursuant to an automatic conversion formula with a conversion price based on the greater of: (i) a floor price of \$5.00 and (ii) the current market price of our common shares based on the volume weighted average trading price of our common shares on the Toronto Stock Exchange. The number of shares issued is determined by dividing the preferred share value (\$25.00 plus declared and unpaid dividends) by the conversion price.
- (6) The dividend rate will reset on the earliest redemption date and every fifth year thereafter at a rate equal to the 5-year Government of Canada bond yield plus the premium indicated. The holders have the option to convert their shares into non-cumulative floating rate First Preferred Shares subject to certain conditions on the earliest redemption date and every fifth year thereafter at a rate equal to the three-month Government of Canada Treasury Bill rate plus the premium indicated.
- (7) The dividend rate is equal to the three-month Government of Canada Treasury Bill rate plus the premium indicated. The holders have the option to convert their shares into non-cumulative First Preferred Shares, Series AJ subject to certain conditions on February 24, 2019 and every fifth year thereafter.

### Restrictions on the payment of dividends

We are prohibited by the *Bank Act* (Canada) from declaring any dividends on our preferred or common shares when we are, or would be placed as a result of the declaration, in contravention of the capital adequacy and liquidity regulations or any regulatory directives issued under the Act. We may not pay dividends on our common shares at any time unless all dividends to which preferred shareholders are then entitled have been declared and paid or set apart for payment. We have agreed that if the Trust fails to pay any required distribution on the trust capital securities in full, we will not declare dividends of any kind on any of our preferred or common shares. Refer to Note 20.

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

### Dividend reinvestment plan

Our dividend reinvestment plan (DRIP) provides common and preferred shareholders with a means to receive additional common shares rather than cash dividends. The plan is only open to shareholders residing in Canada or the United States. The requirements of our DRIP are satisfied through either open market share purchases or shares issued from treasury. During 2015 and 2014, the requirements of our DRIP were satisfied through open market share purchases.

### Shares available for future issuances

As at October 31, 2015, 43.3 million common shares are available for future issue relating to our DRIP and potential exercise of stock options outstanding. In addition, we may issue up to 38.9 million common shares from treasury under the RBC Umbrella Savings and Securities Purchase Plan that was approved by shareholders on February 26, 2009.

**Non-controlling interests**

	As at	
	October 31 2015	October 31 2014
(Millions of Canadian dollars)		
RBC Trust Capital Securities (1)		
Series 2015	\$ 1,219	\$ 1,211
Series 2008-1	505	508
Other	74	94
	<b>\$ 1,798</b>	<b>\$ 1,813</b>

(1) As at October 31, 2015, RBC TruCS Series 2015 includes \$20 million of accrued interest (October 31, 2014 – \$20 million), net of an insignificant amount of treasury holdings (October 31, 2014 – \$9 million). Series 2008-1 includes \$11 million of accrued interest (October 31, 2014 – \$11 million), net of \$6 million of treasury holdings (October 31, 2014 – \$3 million).

**Note 22 Share-based compensation**
**Stock option plans**

We have stock option plans for certain key employees. Under the plans, options are periodically granted to purchase common shares. The exercise price for each grant is determined as the higher of the volume-weighted average of the trading prices per board lot (100 shares) of our common shares on the Toronto Stock Exchange (i) on the day preceding the day of grant; and (ii) the five consecutive trading days immediately preceding the day of grant. The options vest over a four-year period for employees, and are exercisable for a period not exceeding 10 years from the grant date.

The compensation expense recorded for the year ended October 31, 2015, in respect of the stock option plans was \$6 million (October 31, 2014 – \$7 million; October 31, 2013 – \$7 million). The compensation expense related to non-vested options was \$3 million at October 31, 2015 (October 31, 2014 – \$4 million; October 31, 2013 – \$5 million), to be recognized over the weighted average period of 1.8 years (October 31, 2014 – 1.4 years; October 31, 2013 – 1.1 years).

Analysis of the movement in the number and weighted average exercise price of options is set out below:

**A summary of our stock option activity and related information**

	October 31, 2015		October 31, 2014		October 31, 2013	
	Number of options (thousands)	Weighted average exercise price	Number of options (thousands)	Weighted average exercise price	Number of options (thousands)	Weighted average exercise price
(Canadian dollars per share except share amounts)						
Outstanding at beginning of year	8,579	\$ 52.36	10,604	\$ 50.39	12,304	\$ 48.12
Granted	803	78.59	705	69.17	906	58.65
Exercised (1), (2)	(1,190)	46.44	(2,723)	49.03	(2,528)	42.22
Forfeited in the year	(10)	70.25	(7)	52.92	(78)	53.27
Outstanding at end of year	<b>8,182</b>	<b>\$ 55.78</b>	8,579	\$ 52.36	10,604	\$ 50.39
Exercisable at end of year	5,231	\$ 50.75	4,987	\$ 49.60	5,711	\$ 47.80
Available for grant	10,649		11,443		12,140	

(1) Cash received for options exercised during the year was \$55 million (October 31, 2014 – \$133 million; October 31, 2013 – \$107 million) and the weighted average share price at the date of exercise was \$76.87 (October 31, 2014 – \$74.27; October 31, 2013 – \$63.17).

(2) New shares were issued for all stock options exercised in 2015, 2014 and 2013. See Note 21.

**Options outstanding as at October 31, 2015 by range of exercise price:**

	Options outstanding			Options exercisable	
	Number outstanding (thousands)	Weighted average exercise price (1)	Weighted average remaining contractual life (years)	Number exercisable (thousands)	Weighted average exercise price (1)
(Canadian dollars per share except share amounts)					
\$35.37 – \$48.93	1,799	\$ 43.11	4.78	1,236	\$ 40.46
\$50.55 – \$52.94	1,908	52.67	3.87	1,908	52.67
\$54.99 – \$57.90	2,087	55.09	3.40	2,087	55.09
\$58.65 – \$78.59	2,388	68.41	8.08	–	–
	<b>8,182</b>	<b>\$ 55.78</b>	<b>5.18</b>	<b>5,231</b>	<b>\$ 50.75</b>

(1) The weighted average exercise prices have been revised to reflect the conversion of foreign currency-denominated options at the exchange rate as of October 31, 2015.

The weighted average fair value of options granted during the year ended October 31, 2015 was estimated at \$6.75 (October 31, 2014 – \$7.19; October 31, 2013 – \$5.33). This was determined by applying the Black-Scholes model on the date of grant, taking into account the specific terms and conditions under which the options are granted, such as the vesting period and expected share price volatility estimated by considering both historic average share price volatility and implied volatility derived from traded options over our common shares of similar maturity to those of the employee options. The following assumptions were used to determine the fair value of options granted:

## Weighted average assumptions

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Canadian dollars per share except percentages)			
Share price at grant date	\$ 77.58	\$ 68.75	\$ 58.65
Risk-free interest rate	1.40%	1.95%	1.38%
Expected dividend yield	3.76%	3.94%	4.19%
Expected share price volatility	17%	18%	18%
Expected life of option	6 years	6 years	6 years

### Employee savings and share ownership plans

We offer many employees an opportunity to own our common shares through savings and share ownership plans. Under these plans, the employees can generally contribute between 1% and 10% of their annual salary or benefit base for commissioned based employees. For each contribution between 1% and 6%, we will match 50% of the employee contributions in our common shares. For the RBC Dominion Securities Savings Plan, our maximum annual contribution is \$4,500 per employee. For the RBC U.K. Share Incentive Plan, our maximum annual contribution is £1,500 per employee. For the year ended October 31, 2015, we contributed \$88 million (October 31, 2014 – \$85 million; October 31, 2013 – \$77 million), under the terms of these plans, towards the purchase of our common shares. As at October 31, 2015, an aggregate of 37 million common shares were held under these plans (October 31, 2014 – 38 million common shares; October 31, 2013 – 38 million common shares).

### Deferred share and other plans

We offer deferred share unit plans to executives, non-employee directors and to certain key employees. Under these plans, the executives or directors may choose to receive all or a percentage of their annual variable short-term incentive bonus or directors' fee in the form of deferred share units (DSUs). The executives or directors must elect to participate in the plan prior to the beginning of the year. DSUs earn dividend equivalents in the form of additional DSUs at the same rate as dividends on common shares. The participant is not allowed to convert the DSUs until retirement, permanent disability or termination of employment/directorship. The cash value of the DSUs is equivalent to the market value of common shares when conversion takes place.

We have a deferred bonus plan for certain key employees within Capital Markets. The deferred bonus is invested as RBC share units and a specified percentage vests on each of the three anniversary dates following the grant date. Each vested amount is paid in cash and is based on the original number of RBC share units plus accumulated dividends valued using the average closing price of RBC common shares during the five trading days immediately preceding the vesting date.

We offer performance deferred share award plans to certain key employees, all of which vest at the end of three years. Upon vesting, the award is paid in cash and is based on the original number of RBC share units granted plus accumulated dividends valued using the average closing price of RBC common shares during the five trading days immediately preceding the vesting date. A portion of the award under certain plans can be increased or decreased up to 25%, depending on our total shareholder return compared to a defined peer group of global financial institutions. We previously offered deferred compensation to certain employees in the form of common shares that were held in trust and accumulated dividends during the three year vesting period.

We maintain a non-qualified deferred compensation plan for key employees in the United States under an arrangement called the RBC U.S. Wealth Accumulation Plan. This plan allows eligible employees to defer a portion of their annual income and allocate the deferrals among various fund choices, which include a share unit fund that tracks the value of our common shares. Certain deferrals may also be eligible for matching contributions, all of which are allocated to the RBC share unit fund.

Our liabilities for the awards granted under the deferred share and other plans are measured at fair value, determined based on the quoted market price of our common shares. The following tables present our obligations under the deferred share and other plans, and the related compensation expenses (recoveries) recognized for the year.

### Obligation under deferred share and other plans

	October 31, 2015			October 31, 2014			October 31, 2013		
	Units granted during the year		Units outstanding at the end of the year	Units granted during the year		Units outstanding at the end of the year	Units granted during the year		Units outstanding at the end of the year
	Number granted (thousands)	Weighted average fair value	Carrying amount	Number granted (thousands)	Weighted average fair value	Carrying amount	Number granted (thousands)	Weighted average fair value	Carrying amount
(Millions of Canadian dollars except units and per unit amounts)									
Deferred share unit plans	343	\$ 69.68	\$ 334	315	\$ 71.57	\$ 333	265	\$ 60.83	\$ 307
Deferred bonus plan	5,849	75.60	1,442	5,339	78.97	1,585	5,215	69.45	1,517
Performance deferred share award plans	2,049	77.69	429	2,181	68.09	503	2,337	58.62	440
RBC U.S. Wealth Accumulation Plan	64	79.52	313	69	74.68	343	374	61.23	301
Other share-based plans	879	76.44	114	845	70.32	118	809	60.47	76
	9,184	\$ 75.95	\$ 2,632	8,749	\$ 75.12	\$ 2,882	9,000	\$ 65.23	\$ 2,641

**Compensation expenses recognized under deferred share and other plans**

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
Deferred share unit plans	\$ (1)	\$ 61	\$ 53
Deferred bonus plan	(139)	121	284
Performance deferred share award plans	135	243	249
RBC U.S. Wealth Accumulation Plan	36	147	211
Other share-based plans	39	65	46
	\$ 70	\$ 637	\$ 843

**Note 23 Income and expenses from selected financial instruments**

Gains and losses arising from financial instruments held at FVTPL, except for those supporting our insurance operations, are reported in Non-interest income. Related interest and dividend income are reported in Net interest income.

**Net gains (losses) from financial instruments held at fair value through profit or loss** <sup>(1)</sup>

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
<b>Net gains (losses)</b>			
Classified as at fair value through profit or loss <sup>(2)</sup>	\$ (218)	\$ 922	\$ 875
Designated as at fair value through profit or loss <sup>(3)</sup>	750	(132)	(30)
	\$ 532	\$ 790	\$ 845
<b>By product line</b>			
Interest rate and credit	\$ 149	\$ 603	\$ 593
Equities	(89)	(190)	(55)
Foreign exchange and commodities	472	377	307
	\$ 532	\$ 790	\$ 845

(1) The following related to our insurance operations are excluded from Non-interest income and included in Insurance premiums, investment and fee income in the Consolidated Statements of Income: Net gains (losses) from financial instruments designated as at FVTPL of \$51 million (October 31, 2014 – \$515 million; October 31, 2013 – \$(496) million).

(2) Excludes derivatives designated in a hedging relationship. Refer to Note 8 for net gains (losses) on these derivatives.

(3) For the year ended October 31, 2015, \$1,118 million of net fair value gains on financial liabilities designated as at FVTPL, other than those attributable to changes in our own credit risk, were included in Non-interest income (October 31, 2014 – losses of \$414 million).

**Net interest income from financial instruments** <sup>(1)</sup>

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
<b>Interest income</b>			
Financial instruments held as at fair value through profit or loss	\$ 4,810	\$ 4,246	\$ 3,959
Other categories of financial instruments <sup>(2)</sup>	17,919	17,773	17,189
	22,729	22,019	21,148
<b>Interest expense</b>			
Financial instruments held as at fair value through profit or loss	\$ 2,621	\$ 2,198	\$ 2,260
Other categories of financial instruments	5,337	5,705	5,639
	7,958	7,903	7,899
<b>Net interest income</b>	\$ 14,771	\$ 14,116	\$ 13,249

(1) The following related to our insurance operations are excluded from Net-interest income and included in Insurance premiums, investment and fee income in the Consolidated Statements of Income: Interest income of \$449 million (October 31, 2014 – \$435 million; October 31, 2013 – \$470 million), and Interest expense of \$3 million (October 31, 2014 – \$nil; October 31, 2013 – \$nil).

(2) Refer to Note 5 for interest income accrued on impaired financial assets.

**Income from other categories of financial instruments** <sup>(1), (2)</sup>

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
Net gains (losses) arising from financial instruments measured at amortized cost <sup>(3)</sup>	\$ (6)	\$ (7)	\$ –
Net fee income which does not form an integral part of the effective interest rate of financial assets and liabilities	4,604	4,190	3,869
Net fee income arising from trust and other fiduciary activities	9,587	9,138	7,990

(1) Refer to Note 4 for net gains (losses) on AFS securities.

(2) Refer to Note 4 for impairment losses on AFS and held-to-maturity securities, and Note 5 for impairment losses on loans.

(3) Financial instruments measured at amortized cost include held-to-maturity securities, loans and financial liabilities measured at amortized cost.

**Note 24 Income taxes**

The components of tax expense are as follows.

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
<i>(Millions of Canadian dollars)</i>			
<b>Income taxes (recoveries) in Consolidated Statements of Income</b>			
Current tax			
Tax expense for current year	\$ 2,244	\$ 2,858	\$ 2,516
Adjustments for prior years	91	(64)	(289)
Recoveries arising from previously unrecognized tax loss, tax credit or temporary difference of a prior period	(5)	(4)	(2)
	<b>2,330</b>	<b>2,790</b>	<b>2,225</b>
Deferred tax			
Origination and reversal of temporary difference	312	(156)	(100)
Effects of changes in tax rates	35	(3)	(1)
Adjustments for prior years	(74)	74	(5)
Recoveries arising from previously unrecognized tax loss, tax credit or temporary difference of a prior period	(6)	(3)	(46)
Write-down	–	4	32
	<b>267</b>	<b>(84)</b>	<b>(120)</b>
	<b>2,597</b>	<b>2,706</b>	<b>2,105</b>
<b>Income taxes (recoveries) in Consolidated Statements of Comprehensive Income and Changes in Equity</b>			
Other comprehensive income			
Net unrealized gains (losses) on available-for-sale securities	(22)	70	3
Reclassification of net losses (gains) on available-for-sale securities to income	(12)	(12)	(20)
Unrealized foreign currency translation gains (losses)	8	5	2
Net foreign currency translation gains (losses) from hedging activities	(1,140)	(561)	(322)
Reclassification of losses (gains) on net investment hedging activities to income	38	1	–
Net gains (losses) on derivatives designated as cash flow hedges	(193)	(39)	(4)
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	117	10	(11)
Remeasurements of employee benefit plans	206	(88)	121
Net fair value change due to credit risk on financial liabilities designated as at fair value through profit or loss	127	(22)	–
Issuance costs	(7)	(7)	–
	<b>(878)</b>	<b>(643)</b>	<b>(231)</b>
<b>Total income taxes</b>	<b>\$ 1,719</b>	<b>\$ 2,063</b>	<b>\$ 1,874</b>

Our effective tax rate changed from 23.1% for 2014 to 20.6% for 2015, principally due to net favourable tax adjustments related to prior years recorded in 2015, which are presented in Other in the table below.

The following is an analysis of the differences between the income tax expense reflected in the Consolidated Statements of Income and the amounts calculated at the Canadian statutory rate.

**Reconciliation to statutory tax rate**

	For the year ended					
	October 31, 2015		October 31, 2014		October 31, 2013	
<i>(Millions of Canadian dollars, except for percentage amounts)</i>						
Income taxes at Canadian statutory tax rate	\$ 3,320	26.3%	\$ 3,080	26.3%	\$ 2,737	26.2%
Increase (decrease) in income taxes resulting from						
Lower average tax rate applicable to subsidiaries	(116)	(0.9)	(272)	(2.3)	(190)	(1.8)
Tax-exempt income from securities	(452)	(3.6)	(386)	(3.3)	(294)	(2.8)
Tax rate change	35	0.3	(3)	–	(1)	–
Effect of previously unrecognized tax loss, tax credit or temporary differences	(11)	(0.1)	(7)	(0.1)	(48)	(0.5)
Other	(179)	(1.4)	294	2.5	(99)	(1.0)
Income taxes in Consolidated Statements of Income / effective tax rate	<b>\$ 2,597</b>	<b>20.6%</b>	<b>\$ 2,706</b>	<b>23.1%</b>	<b>\$ 2,105</b>	<b>20.1%</b>

Deferred tax assets and liabilities result from tax loss carryforwards and temporary differences between the tax basis of assets and liabilities and their carrying amounts on our Consolidated Balance Sheets.



**Significant components of deferred tax assets and liabilities**

	As at October 31, 2015							Net Asset October 31, 2015
	Net Asset November 1, 2014	Change through equity	Change through profit or loss	Exchange rate differences	Acquisitions/ disposals	Other		
(Millions of Canadian dollars)								
<b>Net deferred tax asset/(liability)</b>								
Allowance for credit losses	\$ 376	\$ –	\$ (2)	\$ (2)	\$ –	\$ –	\$ –	\$ 372
Deferred compensation	1,513	–	(375)	158	–	–	–	1,296
Business realignment charges	9	–	(4)	1	–	–	–	6
Tax loss carryforwards	44	2	4	4	–	–	–	54
Deferred income	120	–	27	–	–	–	–	147
Available-for-sale securities	30	(8)	(13)	3	–	–	–	12
Premises and equipment	(322)	–	50	2	1	–	–	(269)
Deferred expense	(98)	9	3	–	–	–	–	(86)
Pension and post-employment related	566	(201)	46	1	–	–	–	412
Intangibles	(282)	–	31	(19)	–	–	–	(270)
Other	222	–	(34)	10	(1)	–	–	197
	<b>\$ 2,178</b>	<b>\$ (198)</b>	<b>\$ (267)</b>	<b>\$ 158</b>	<b>\$ –</b>	<b>\$ –</b>	<b>\$ –</b>	<b>\$ 1,871</b>
<b>Comprising</b>								
Deferred tax assets	\$ 2,382							\$ 2,072
Deferred tax liabilities	(204)							(201)
	<b>\$ 2,178</b>							<b>\$ 1,871</b>
As at October 31, 2014								
	Net Asset November 1, 2013	Change through equity	Change through profit or loss	Exchange rate differences	Acquisitions/ disposals	Other		Net Asset October 31, 2014
(Millions of Canadian dollars)								
<b>Net deferred tax asset/(liability)</b>								
Allowance for credit losses	\$ 413	\$ –	\$ (37)	\$ –	\$ –	\$ –	\$ –	\$ 376
Deferred compensation	1,290	–	151	72	–	–	–	1,513
Business realignment charges	6	–	3	–	–	–	–	9
Tax loss carryforwards	62	–	(19)	1	–	–	–	44
Deferred income	42	–	78	–	–	–	–	120
Available-for-sale securities	102	(49)	(19)	(4)	–	–	–	30
Premises and equipment	(227)	–	(99)	4	–	–	–	(322)
Deferred expense	(80)	7	(25)	–	–	–	–	(98)
Pension and post-employment related	492	88	(16)	2	–	–	–	566
Intangibles	(279)	–	5	(8)	–	–	–	(282)
Other	150	–	62	10	–	–	–	222
	<b>\$ 1,971</b>	<b>\$ 46</b>	<b>\$ 84</b>	<b>\$ 77</b>	<b>\$ –</b>	<b>\$ –</b>	<b>\$ –</b>	<b>\$ 2,178</b>
<b>Comprising</b>								
Deferred tax assets	\$ 2,141							\$ 2,382
Deferred tax liabilities	(170)							(204)
	<b>\$ 1,971</b>							<b>\$ 2,178</b>

The tax loss carryforwards amount of deferred tax assets relates to losses in our Caribbean, U.K., U.S. and Japanese operations. Deferred tax assets of \$54 million were recognized at October 31, 2015 (October 31, 2014 – \$44 million) in respect of tax losses incurred in current or preceding years for which recognition is dependent on the projection of future taxable profits. Management's forecasts support the assumption that it is probable that the results of future operations will generate sufficient taxable income to utilize the deferred tax assets. The forecasts rely on continued liquidity and capital support to our business operations, including tax planning strategies implemented in relation to such support.

As at October 31, 2015, unused tax losses, tax credits and deductible temporary differences of \$525 million, \$356 million and \$6 million (October 31, 2014 – \$532 million, \$267 million and \$7 million) available to be offset against potential tax adjustments or future taxable income were not recognized as deferred tax assets. This amount includes unused tax losses of \$158 million which expire within one year (October 31, 2014 – \$nil), \$28 million which expire in two to four years (October 31, 2014 - \$167 million), and \$339 million which expire after four years (October 31, 2014 – \$365 million). There are \$11 million of tax credits that will expire in two to four years (October 31, 2014 - \$6 million) and \$345 million that will expire after four years (October 31, 2014 – \$261 million). In addition, there are deductible temporary differences of \$1 million that will expire within one year (October 31, 2014 - \$nil) and \$5 million that will expire after four years (October 31, 2014 – \$7 million).

The amount of temporary differences associated with investments in subsidiaries, branches and associates and interests in joint ventures for which deferred tax liabilities have not been recognized in the parent bank is \$11.2 billion as at October 31, 2015 (October 31, 2014 – \$9.0 billion).

## Note 25 Earnings per share

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars, except share and per share amounts)			
<b>Basic earnings per share</b>			
Net Income	\$ 10,026	\$ 9,004	\$ 8,342
Preferred share dividends	(191)	(213)	(253)
Net income attributable to non-controlling interest	(101)	(94)	(98)
Net income available to common shareholders	9,734	8,697	7,991
Weighted average number of common shares (in thousands)	1,442,935	1,442,553	1,443,735
Basic earnings per share (in dollars)	\$ 6.75	\$ 6.03	\$ 5.53
<b>Diluted earnings per share</b>			
Net income available to common shareholders	\$ 9,734	\$ 8,697	\$ 7,991
Dilutive impact of exchangeable shares	15	21	53
Net income available to common shareholders including dilutive impact of exchangeable shares	9,749	8,718	8,044
Weighted average number of common shares (in thousands)	1,442,935	1,442,553	1,443,735
Stock options <sup>(1)</sup>	2,446	2,938	2,320
Issuable under other share-based compensation plans	–	–	74
Exchangeable shares <sup>(2)</sup>	4,128	6,512	20,400
Average number of diluted common shares (in thousands)	1,449,509	1,452,003	1,466,529
Diluted earnings per share (in dollars)	\$ 6.73	\$ 6.00	\$ 5.49

(1) The dilutive effect of stock options was calculated using the treasury stock method. When the exercise price of options outstanding is greater than the average market price of our common shares, the options are excluded from the calculation of diluted earnings per share. For the year ended October 31, 2015, an average of 703,808 outstanding options with an average exercise price of \$78.59 were excluded from the calculation of diluted earnings per share; for the years ended October 31, 2014 and 2013 – no outstanding options were excluded from the calculation of diluted earnings per share.

(2) Includes exchangeable preferred shares and trust capital securities.

## Note 26 Guarantees, commitments, pledged assets and contingencies

### Guarantees and commitments

We use guarantees and other off-balance sheet credit instruments to meet the financing needs of our clients.

The table below summarizes our maximum exposure to credit losses related to our guarantees and commitments provided to third parties. The maximum exposure to credit risk relating to a guarantee is the maximum risk of loss if there was a total default by the guaranteed parties, without consideration of possible recoveries under recourse provisions, insurance policies or from collateral held or pledged. The maximum exposure to credit risk relating to a loan commitment is the full amount of the commitment. In both cases, the maximum risk exposure is significantly greater than the amount recognized as a liability in our Consolidated Balance Sheets.

	Maximum exposure to credit losses	
	As at	
	October 31 2015	October 31 2014
(Millions of Canadian dollars)		
<b>Financial guarantees</b>		
Financial standby letters of credit	\$ 17,494	\$ 17,208
<b>Commitments to extend credit</b>		
Backstop liquidity facilities <sup>(1)</sup>	40,387	32,183
Credit enhancements <sup>(1)</sup>	3,348	2,530
Documentary and commercial letters of credit	216	180
Other commitments to extend credit	172,924	137,623
<b>Other credit-related commitments</b>		
Securities lending indemnifications	74,239	62,319
Performance guarantees	6,042	6,115
Other	221	110

(1) Amounts have been revised from those previously reported.

Our credit review process, our policy for requiring collateral security, and the types of collateral security held are generally the same for guarantees and commitments as for loans. Our clients generally have the right to request settlement of, or draw on, our guarantees and commitments within one year. However, certain guarantees can only be drawn if specified conditions are met. These conditions, along with collateral requirements, are described below. We believe that it is highly unlikely that all or substantially all of the guarantees and commitments will be drawn or settled within one year, and contracts may expire without being drawn or settled.

### Financial guarantees

#### Financial standby letters of credit

Financial standby letters of credit represent irrevocable assurances that we will make payments in the event that a client cannot meet its obligations to the third party. For certain guarantees, the guaranteed party can request payment from us even though the client has not defaulted on its obligations. The term of these guarantees can range up to eight years.

Our policy for requiring collateral security with respect to these instruments and the types of collateral security held is generally the same as for loans. When collateral security is taken, it is determined on an account-by-account basis according to the risk of the borrower and the specifics of the transaction. Collateral security may include cash, securities and other assets pledged.

### Commitments to extend credit

#### *Backstop liquidity facilities*

Backstop liquidity facilities are provided to asset-backed commercial paper conduit programs administered by us and third parties, as an alternative source of financing in the event that such programs are unable to access commercial paper markets, or in limited circumstances, when predetermined performance measures of the financial assets owned by these programs are not met. The average remaining term of these liquidity facilities is approximately three years.

Backstop liquidity facilities are also provided to non-asset backed programs such as variable rate demand notes issued by third parties. These standby facilities provide liquidity support to the issuer to buy the notes if the issuer is unable to remarket the notes, as long as the instrument and/or the issuer maintain the investment grade rating.

The terms of the backstop liquidity facilities do not require us to advance money to these programs in the event of bankruptcy or insolvency events and generally do not require us to purchase non-performing or defaulted assets.

#### *Credit enhancements*

We provide partial credit enhancement to multi-seller programs administered by us to protect commercial paper investors in the event that the collection on the underlying assets, the transaction-specific credit enhancement or the liquidity proves to be insufficient to pay for maturing commercial paper. Each of the asset pools is structured to achieve a high investment-grade credit profile through credit enhancements from us and other third parties related to each transaction. The average remaining term of these credit facilities is approximately three years.

#### *Documentary and commercial letters of credit*

Documentary and commercial letters of credit, which are written undertakings by us on behalf of a client authorizing a third party to draw drafts on us up to a stipulated amount under specific terms and conditions, are collateralized by the underlying shipment of goods to which they relate.

#### *Other commitments to extend credit*

Commitments to extend credit represent unused portions of authorizations to extend credit in the form of loans, bankers' acceptances or letters of credit.

### Other credit-related commitments

#### *Securities lending indemnifications*

In securities lending transactions, we act as an agent for the owner of a security, who agrees to lend the security to a borrower for a fee, under the terms of a pre-arranged contract. The borrower must fully collateralize the security loaned at all times. As part of this custodial business, an indemnification may be provided to securities lending customers to ensure that the fair value of securities loaned will be returned in the event that the borrower fails to return the borrowed securities and the collateral held is insufficient to cover the fair value of those securities. These indemnifications normally terminate without being drawn upon. The term of these indemnifications varies, as the securities loaned are recallable on demand. Collateral held for our securities lending transactions typically includes cash or securities that are issued or guaranteed by the Canadian government, U.S. government or other OECD countries.

#### *Performance guarantees*

Performance guarantees represent irrevocable assurances that we will make payments to third-party beneficiaries in the event that a client fails to perform under a specified non-financial contractual obligation. Such obligations typically include works and service contracts, performance bonds, and warranties related to international trade. The term of these guarantees can range up to eight years.

Our policy for requiring collateral security with respect to these instruments and the types of collateral security held is generally the same as for loans. When collateral security is taken, it is determined on an account-by-account basis according to the risk of the borrower and the specifics of the transaction. Collateral security may include cash, securities and other assets pledged.

#### *Indemnifications*

In the normal course of our operations, we provide indemnifications which are often standard contractual terms to counterparties in transactions such as purchase and sale contracts, fiduciary, agency, licensing, custodial and service agreements, director/officer contracts and leasing transactions. These indemnification agreements may require us to compensate the counterparties for costs incurred as a result of changes in laws and regulations (including tax legislation) or as a result of litigation claims or statutory sanctions that may be suffered by the counterparty as a consequence of the transaction. The terms of these indemnification agreements will vary based on the contract. The nature of the indemnification agreements prevents us from making a reasonable estimate of the maximum potential amount we could be required to pay to counterparties. Historically, we have not made any significant payments under such indemnifications.

#### *Uncommitted amounts*

Uncommitted amounts represent undrawn credit facilities for which we have the ability to unilaterally withdraw the credit extended to the borrower. These include both retail and commercial commitments. As at October 31, 2015, the total balance of uncommitted amounts was \$209 billion (October 31, 2014 – \$195 billion).

### Other commitments

We act as underwriter for certain new issuances under which we alone or together with a syndicate of financial institutions purchase the new issuances for resale to investors. In connection with these activities, our commitments were \$353 million as at October 31, 2015 (October 31, 2014 – \$1,109 million).

### Pledged assets and collateral

In the ordinary course of business, we pledge assets and enter in collateral agreements with terms and conditions that are usual and customary to our regular lending, borrowing and trading activities recorded on our Consolidated Balance Sheets. The following are examples of our general terms and conditions on pledged assets and collateral:

- The risks and rewards of the pledged assets reside with the pledgor.
- The pledged asset is returned to the pledgor when the necessary conditions have been satisfied.
- The right of the pledgee to sell or re-pledge the asset is dependent on the specific agreement under which the collateral is pledged.
- If there is no default, the pledgee must return the comparable asset to the pledgor upon satisfaction of the obligation.

We are also required to provide intraday pledges to the Bank of Canada when we use the Large Value Transfer System (LVTS), which is a real-time electronic wire transfer system that continuously processes all Canadian dollar large-value or time-critical payments throughout the day. The pledged assets earmarked for LVTS activities are normally released back to us at the end of the settlement cycle each day. Therefore, the pledged assets amount is not included in the table below. For the year ended October 31, 2015, we had on average of \$3.5 billion of assets pledged intraday to the Bank of Canada on a daily basis (October 31, 2014 – \$3.1 billion). There are infrequent occasions where we are required to take an overnight advance from the Bank of Canada to cover a settlement requirement, in which case an equivalent value of the pledged assets would be used to secure the advance. There were no overnight advances taken on October 31, 2015 and October 31, 2014.

Details of assets pledged against liabilities and collateral assets held or re-pledged are shown in the following tables:

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
<b>Sources of pledged assets and collateral</b>		
Bank assets		
Cash and due from banks	\$ –	\$ 243
Interest-bearing deposits with banks	1	90
Loans	81,397	72,191
Securities	63,761	59,476
Other assets	22,305	11,887
	167,464	143,887
Client assets		
Collateral received and available for sale or re-pledging	232,499	189,229
Less: not sold or re-pledged	(74,471)	(67,747)
	158,028	121,482
	\$ 325,492	\$ 265,369
<b>Uses of pledged assets and collateral</b>		
Securities lent	\$ 21,767	\$ 21,550
Securities borrowed	33,306	25,150
Obligations related to securities sold short	47,658	50,345
Obligations related to securities lent or sold under repurchase agreements	88,834	61,184
Securitization	44,203	45,089
Covered bonds	36,422	26,589
Derivative transactions	27,411	17,068
Foreign governments and central banks	2,770	2,167
Clearing systems, payment systems and depositories	4,017	4,947
Other	19,104	11,280
	\$ 325,492	\$ 265,369

#### Lease commitments

##### Finance lease commitments

We lease computer equipment from third parties under finance lease arrangements. The leases have various terms, escalation and renewal rights. The future minimum lease payments under the finance leases are as follows:

(Millions of Canadian dollars)	As at					
	October 31, 2015			October 31, 2014		
	Total future minimum lease payments	Future interest charges	Present value of finance lease commitments	Total future minimum lease payments	Future interest charges	Present value of finance lease commitments
<b>Future minimum lease payments</b>						
No later than one year	\$ 38	\$ (4)	\$ 34	\$ 59	\$ (6)	\$ 53
Later than one year and no later than five years	22	(3)	19	51	(6)	45
	\$ 60	\$ (7)	\$ 53	\$ 110	\$ (12)	\$ 98

The net carrying amount of computer equipment held under finance lease as at October 31, 2015 was \$65 million (October 31, 2014 – \$113 million).

**Operating lease commitments**

We are obligated under a number of non-cancellable operating leases for premises and equipment. These leases have various terms, escalation and renewal rights. The minimum future lease payments under non-cancellable operating leases are as follows.

(Millions of Canadian dollars)	As at			
	October 31, 2015		October 31, 2014	
	Land and buildings	Equipment	Land and buildings	Equipment
<b>Future minimum lease payments</b>				
No later than one year	\$ 590	\$ 131	\$ 536	\$ 134
Later than one year and no later than five years	1,822	80	1,663	200
Later than five years	1,811	–	1,294	–
	4,223	211	3,493	334
Less: Future minimum sublease payments to be received	(14)	–	(17)	–
<b>Net future minimum lease payments</b>	<b>\$ 4,209</b>	<b>\$ 211</b>	<b>\$ 3,476</b>	<b>\$ 334</b>

**Note 27 Litigation**

We are a large global institution that is subject to many different complex legal and regulatory requirements that continue to evolve. As a result, Royal Bank of Canada and its subsidiaries are and have been subject to a variety of legal proceedings, including civil claims and lawsuits, regulatory examinations, investigations, audits and requests for information by various governmental regulatory agencies and law enforcement authorities in various jurisdictions. Some of these matters may involve novel legal theories and interpretations and may be advanced under criminal as well as civil statutes, and some proceedings could result in the imposition of civil, regulatory enforcement or criminal penalties. Management reviews the status of all proceedings on an ongoing basis and will exercise its judgment in resolving them in such manner as management believes to be in the Bank's best interest. This is an area of significant judgment and uncertainty and the extent of our financial and other exposure to these proceedings could be material to our results of operations in any particular period. The following is a description of our significant legal proceedings.

**Rural/Metro litigation**

On October 14, 2014, the Delaware Court of Chancery (the Court of Chancery) in a class action brought by former shareholders of Rural/Metro Corporation, held RBC Capital Markets, LLC liable for aiding and abetting a breach of fiduciary duty by three Rural/Metro directors, but did not make an additional award for attorney's fees. A final judgment was entered on February 19, 2015 in the amount of US\$93 million plus post-judgment interest. RBC Capital Markets, LLC appealed the Court of Chancery's determination of liability and quantum of damages, and the plaintiffs cross-appealed the ruling on additional attorneys' fees. On November 30, 2015, the Delaware Supreme Court affirmed the Court of Chancery with respect to both the appeal and cross-appeal. RBC Capital Markets, LLC is cooperating with an investigation by the U.S. Securities and Exchange Commission relating to this matter.

**LIBOR regulatory investigations and litigation**

Various regulators and competition and enforcement authorities around the world, including in Canada, the United Kingdom, and the U.S., are conducting investigations related to certain past submissions made by panel banks in connection with the setting of the U.S. dollar London interbank offered rate (LIBOR). These investigations focus on allegations of collusion between the banks that were on the panel to make submissions for certain LIBOR rates. As Royal Bank of Canada is a member of certain LIBOR panels, including the U.S. dollar LIBOR panel, we have been the subject of regulatory demands for information and are cooperating with those investigations. In addition, Royal Bank of Canada and other U.S. dollar panel banks have been named as defendants in private lawsuits filed in the U.S. with respect to the setting of LIBOR including a number of class action lawsuits which have been consolidated before the U.S. District Court for the Southern District of New York (the Court). The complaints in those actions assert claims against us and other panel banks under various U.S. laws, including U.S. antitrust laws, the U.S. Commodity Exchange Act, and state law. The Court has issued five detailed rulings on various motions in the consolidated cases and based on the Court's decisions to date, many of the claims against Royal Bank of Canada have been dismissed; however, these decisions are subject to appeal and the claims that have been dismissed may be refiled based upon the appeal decisions. The parties are currently working with the Court to confirm the cases which remain active.

Based on the facts currently known, it is not possible at this time for us to predict the ultimate outcome of these investigations or proceedings or the timing of their resolution.

**Royal Bank of Canada Trust Company (Bahamas) Limited Proceedings**

On April 13, 2015, a French investigating judge notified Royal Bank of Canada Trust Limited (RBC Bahamas) of the issuance of an *ordonnance de renvoi* referring RBC Bahamas and other unrelated persons to the French *tribunal correctionnel* to face the charge of complicity in estate tax fraud relating to actions taken relating to a trust for which RBC Bahamas serves as trustee. The trial for this matter is expected to commence in January 2016. RBC Bahamas believes that its actions did not violate French law and intends to contest the charge in the French court. Based on the facts currently known, it is not possible to predict the ultimate outcome of this proceeding; however, management believes that its ultimate resolution will not have a material effect on our consolidated financial position, although it may be material to our results of operations in the period it occurs.

**Interchange fees litigation**

Since 2011, seven proposed class actions have been commenced in Canada: *Bancroft-Snell v. Visa Canada Corporation, et al.*, 9085-4886 *Quebec Inc. v. Visa Canada Corporation, et al.*, *Coburn and Watson's Metropolitan Home v. Bank of America Corporation, et al. (Watson)*, *Macaronies Hair Club and Laser Centre Inc. v. BofA Canada Bank, et al.*, 1023926 *Alberta Ltd. v. Bank of America Corporation, et al.*, *The Crown & Hand Pub Ltd. v. Bank of America Corporation, et al.*, and *Hello Baby Equipment Inc. v. BofA Canada Bank, et al.* The defendants in each action are VISA Canada Corporation (Visa), MasterCard International Incorporated (MasterCard), Royal Bank of Canada and other financial institutions. The plaintiff class members are Canadian merchants who accept Visa and/or MasterCard branded credit cards for payment. The actions allege,

among other things, that from March 2001 to the present, Visa and MasterCard conspired with their issuing banks and acquirers to set default interchange rates and merchant discount fees and that certain rules (Honour All Cards and No Surcharge) have the effect of increasing the merchant discount fees. The actions include claims of civil conspiracy, breach of the *Competition Act*, interference with economic relations and unjust enrichment. The claims seek unspecified general and punitive damages. In *Watson*, a decision to partially certify the action as a class proceeding was released on March 27, 2014, and was appealed. On August 19, 2015, the British Columbia Court of Appeal struck the plaintiff class representative's cause of action under section 45 of the *Competition Act* and reinstated the plaintiff class representative's cause of action in civil conspiracy by unlawful means, among other rulings. Based on the facts currently known, it is not possible at this time for us to predict the ultimate outcome of this proceeding or the timing of its resolution.

#### *Foreign Exchange Matters*

On July 2, 2015, the Brazilian civil antitrust authority Administrative Council for Economic Defense (CADE) initiated an administrative proceeding to investigate possible violations of Brazilian antitrust law by a number of banks, including Royal Bank of Canada, regarding foreign exchange trading. The matter is in its initial stages.

On July 31, 2015, RBC Capital Markets, LLC was added as a new defendant in a pending putative class action initially filed in November 2013 in the United States District Court for the Southern District of New York. The action is brought against multiple foreign exchange dealers and alleges collusive behaviour, among other allegations, in foreign exchange trading. The action is in its initial stages as it relates to the new defendants, including RBC Capital Markets, LLC. On September 11, 2015, a class action lawsuit was filed in the Ontario Superior Court of Justice and a motion for authorization of a class action was filed in the Quebec Superior Court, both on behalf of an alleged class of Canadian investors, against Royal Bank of Canada, RBC Capital Markets, LLC and a number of other foreign exchange dealers. The Canadian class actions allege that the defendants conspired to manipulate the prices of currency trades and are in their initial stages. Based on the facts currently known, it is not possible to predict the ultimate outcome of the Foreign Exchange Matters or the timing of their ultimate resolution.

#### *Wisconsin school districts litigation*

RBC Capital Markets, LLC, RBC Europe, Ltd. and RBC USA Holdco Corporation are defendants in a lawsuit relating to their role in transactions involving investments made by a number of Wisconsin school districts in certain collateralized debt obligations. These transactions were also the subject of a regulatory investigation. In September 2011, we reached a settlement with the Securities and Exchange Commission which was paid to the school districts through a Fair Fund. Based on the facts currently known, it is not possible at this time to predict the ultimate outcome of this proceeding or the timing of its resolution; however, management believes the ultimate resolution of this proceeding will not have a material adverse effect on our consolidated financial position or results of operations.

#### *Other matters*

We are a defendant in a number of other actions alleging that certain of our practices and actions were improper. The lawsuits involve a variety of complex issues and the timing of their resolution is varied and uncertain. Management believes that we will ultimately be successful in resolving these lawsuits, to the extent that we are able to assess them, without material financial impact to the Bank. This is, however, an area of significant judgment and the potential liability resulting from these lawsuits could be material to our results of operations in any particular period.

Various other legal proceedings are pending that challenge certain of our other practices or actions. While this is an area of significant judgment and some matters are currently inestimable, we consider that the aggregate liability, to the extent that we are able to assess it, resulting from these other proceedings will not be material to our consolidated financial position or results of operations.

**Note 28 Contractual repricing and maturity schedule**

The following table details our exposure to interest rate risk. The carrying amounts of financial assets and financial liabilities are reported below based on the earlier of their contractual repricing date or maturity date.

The following table does not incorporate management's expectation of future events where expected repricing or maturity dates differ significantly from the contractual dates. We incorporate these assumptions in the management of interest rate risk exposure. These assumptions include expected repricing of trading instruments and certain loans and deposits. Taking into account these assumptions on the consolidated contractual repricing and maturity schedule at October 31, 2015, would result in a change in the under-one-year gap from \$11.5 billion to \$82.3 billion.

(Millions of Canadian dollars)	As at October 31, 2015							
	Immediately interest rate-sensitive	Under 3 months	3 to 6 months	6 to 12 months	1 to 5 years	Over 5 years	Non-rate-sensitive	Total
<b>Assets</b>								
Cash and deposits with banks	\$ 11,712	\$ 17,162	\$ 17	\$ –	\$ –	\$ –	\$ 6,251	\$ 35,142
Trading securities	59	29,399	11,229	14,777	22,678	32,143	48,418	158,703
Available-for-sale securities	–	23,406	2,865	1,194	17,387	10,103	1,850	56,805
Assets purchased under reverse repurchase agreements and securities borrowed	1,467	147,194	21,242	4,157	–	–	663	174,723
Loans (net of allowance for loan losses)	179,940	70,297	21,094	25,187	162,856	8,234	4,615	472,223
Derivatives	105,626	–	–	–	–	–	–	105,626
Segregated fund net assets	–	–	–	–	–	–	830	830
Other assets	177	22,828	–	–	–	106	47,045	70,156
	<b>\$ 298,981</b>	<b>\$ 310,286</b>	<b>\$ 56,447</b>	<b>\$ 45,315</b>	<b>\$ 202,921</b>	<b>\$ 50,586</b>	<b>\$ 109,672</b>	<b>\$ 1,074,208</b>
<b>Liabilities</b>								
Deposits	\$ 257,456	\$ 166,310	\$ 22,988	\$ 37,906	\$ 104,122	\$ 25,322	\$ 83,123	\$ 697,227
Obligations related to assets sold under repurchase agreements and securities loaned	1,709	78,533	1,400	1,199	–	–	447	83,288
Obligations related to securities sold short	5	2,335	547	664	9,580	13,447	21,080	47,658
Derivatives	107,860	–	–	–	–	–	–	107,860
Segregated fund net liabilities	–	–	–	–	–	–	830	830
Other liabilities	89	15,221	24	57	1,790	7,193	41,665	66,039
Subordinated debentures	–	1,951	–	–	4,191	1,220	–	7,362
Non-controlling interests	–	1,207	–	–	518	–	73	1,798
Shareholders' equity	–	700	300	1,050	2,301	751	57,044	62,146
	<b>\$ 367,119</b>	<b>\$ 266,257</b>	<b>\$ 25,259</b>	<b>\$ 40,876</b>	<b>\$ 122,502</b>	<b>\$ 47,933</b>	<b>\$ 204,262</b>	<b>\$ 1,074,208</b>
<b>Total gap</b>	<b>\$ (68,138)</b>	<b>\$ 44,029</b>	<b>\$ 31,188</b>	<b>\$ 4,439</b>	<b>\$ 80,419</b>	<b>\$ 2,653</b>	<b>\$ (94,590)</b>	<b>\$ –</b>
Canadian dollar	\$ (51,779)	\$ 14,274	\$ 12,805	\$ (678)	\$ 109,580	\$ (2,800)	\$ (81,403)	\$ (1)
Foreign currency	(16,359)	29,755	18,383	5,117	(29,161)	5,453	(13,187)	1
<b>Total gap</b>	<b>\$ (68,138)</b>	<b>\$ 44,029</b>	<b>\$ 31,188</b>	<b>\$ 4,439</b>	<b>\$ 80,419</b>	<b>\$ 2,653</b>	<b>\$ (94,590)</b>	<b>\$ –</b>

**Related parties**

Related parties include associated companies, post-employment benefit plans for the benefit of our employees, key management personnel, the Board of Directors (Directors), close family members of key management personnel and Directors, and entities which are, directly or indirectly, controlled by, jointly controlled by or significantly influenced by key management personnel, Directors or their close family members.

**Key management personnel and Directors**

Key management personnel are defined as those persons having authority and responsibility for planning, directing and controlling our activities, directly or indirectly. They include the senior members of our organization called the Group Executive. The Group Executive is comprised of the President and Chief Executive Officer and individuals that report directly to him, including the Chief Administrative Officer and Chief Financial Officer, Chief Human Resources Officer, Chief Risk Officer, and Group Heads for Wealth Management and Insurance, Capital Markets and Investor & Treasury Services, Technology & Operations, and Personal & Commercial Banking. The Directors do not plan, direct, or control the activities of the entity; they oversee the management of the business and provide stewardship.

**Compensation of key management personnel and Directors**

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014 (1)	October 31 2013
Salaries and other short-term employee benefits (2)	\$ 21	\$ 22	\$ 23
Post-employment benefits	2	7	3
Share-based payments	37	26	30
	\$ 60	\$ 55	\$ 56

(1) During the year ended October 31, 2014, certain executives who were members of the Bank's Group Executive as at October 31, 2013 left the Bank and therefore, were no longer part of key management personnel. Compensation for the year ended October 31, 2014, attributable to the former executives, including benefits and share based payments relating to awards granted in prior years was \$60 million.

(2) Includes the portion of the annual variable short-term incentive bonus that certain executives elected to receive in the form of DSUs. Refer to Note 22 for further details.

**Stock options, stock awards and shares held by key management personnel, Directors and their close family members**

(Millions of Canadian dollars, except number of shares)	As at			
	October 31, 2015		October 31, 2014	
	No. of units held	Value	No. of units held	Value
Stock options	2,494,007	\$ 44	2,472,134	\$ 66
Other non-option stock based awards	1,485,976	111	1,447,763	116
RBC common and preferred shares	738,777	55	686,674	55
	4,718,760	\$ 210	4,606,571	\$ 237

**Transactions, arrangements and agreements involving key management personnel, Directors and their close family members**

In the normal course of business, we provide certain banking services to key management personnel, Directors, and their close family members. These transactions were made on substantially the same terms, including interest rates and security, as for comparable transactions with persons of a similar standing and did not involve more than the normal risk of repayment or present other unfavourable features.

As at October 31, 2015, total loans to key management personnel, Directors and their close family members were \$7 million (October 31, 2014 – \$7 million). No guarantees, pledges or commitments have been given to key management personnel, Directors or their close family members.

**Joint ventures and associates**

In the normal course of business, we provide certain banking and financial services to our joint ventures and associates, including loans, interest and non-interest bearing deposits. These transactions meet the definition of related party transactions and were made on substantially the same terms as for comparable transactions with third-party counterparties.

As at October 31, 2015, loans to joint ventures and associates were \$65 million (October 31, 2014 – \$57 million) and deposits from joint ventures and associates were \$27 million (October 31, 2014 – \$14 million). No guarantees have been given to joint ventures or associates.

**Other transactions, arrangements or agreements involving joint ventures or associates**

(Millions of Canadian dollars)	As at or for the year ended		
	October 31 2015	October 31 2014	October 31 2013
Commitments and other contingencies	\$ 365	\$ 315	\$ 240
Other fees received for services rendered	41	45	47
Other fees paid for services received	182	185	191

**Restricted net assets**

Certain of our subsidiaries and joint ventures are subject to regulatory requirements of the jurisdictions in which they operate. When these subsidiaries and joint ventures are subject to such requirements, they may be restricted from transferring to us, our share of their assets in the form of cash dividends, loans or advances. At October 31, 2015, restricted net assets of these subsidiaries and joint ventures were \$30.8 billion (October 31, 2014 – \$16 billion).



### Composition of business segments

For management purposes, based on the products and services offered, we are organized into five business segments: Personal & Commercial Banking, Wealth Management, Insurance, Investor & Treasury Services and Capital Markets.

Personal & Commercial Banking is comprised of our personal and business banking operations, and our auto financing and retail investment businesses and operates through four business lines: Personal Financial Services, Business Financial Services, Cards and Payment Solutions (Canadian Banking), and Caribbean & U.S. Banking. In Canada, we provide a broad suite of financial products and services to our individual and business clients through our extensive branch, automated teller machines, online and telephone banking networks, as well as through a large number of proprietary sales professionals. In the Caribbean, we offer a broad range of financial products and services to individuals, business clients and public institutions in targeted markets. In the United States, we serve the cross-border banking needs of Canadian clients within the United States, as well as the banking product needs of our U.S. wealth management clients.

Wealth Management is comprised of Canadian Wealth Management, U.S. & International Wealth Management and Global Asset Management. We serve affluent, high net worth and ultra high net worth clients in Canada, the United States, the United Kingdom, Europe, and Asia with a comprehensive suite of investment, trust, banking, credit and other wealth management solutions. We also provide asset management products and services directly to institutional and individual clients as well as through RBC distribution channels and third-party distributors.

Insurance is comprised of our insurance operations in Canada and globally and operates under two business lines: Canadian Insurance and International Insurance, providing a wide range of life, health, property and casualty, and reinsurance products and solutions. In Canada, we offer our products and services through our proprietary distribution channels, comprised of the field sales force which includes retail insurance branches, our field sales representatives, advice centers and online, as well as through independent insurance advisors and affinity relationships. Outside North America, we operate in reinsurance markets globally offering life, accident and annuity reinsurance products.

Investor & Treasury Services offers global custody, fund and pension administration, as well as an integrated suite of products to institutional investors worldwide. We also provide cash management, correspondent banking and trade finance services to financial institutions globally and funding and liquidity management for RBC as well as other select institutions.

Capital Markets is comprised of a majority of our global wholesale banking businesses providing public and private companies, institutional investors, governments and central banks with a wide range of products and services across our two main business lines: Global Markets and Corporate and Investment Banking. In North America, we offer a full suite of products and services which include corporate and investment banking, equity and debt origination and distribution, and structuring and trading. Outside North America, we have a select presence in the U.K., Europe, and Other international, where we offer a diversified set of capabilities in our key sectors of expertise such as energy, mining and infrastructure.

All other enterprise level activities that are not allocated to these five business segments, such as enterprise funding, securitizations, net charges associated with unattributed capital, and consolidation adjustments, including the elimination of the Taxable equivalent basis (Teb) gross-up amounts, are included in Corporate Support. Teb adjustments gross up Net interest income from certain tax-advantaged sources (Canadian taxable corporate dividends) to their effective tax equivalent value with the corresponding offset recorded in the provision for income taxes. Management believes that these adjustments are necessary for Capital Markets to reflect how it is managed. The use of the Teb adjustments enhances the comparability of revenue across our taxable and tax-advantaged sources. Our use of Teb adjustments may not be comparable to similarly adjusted amounts at other financial institutions. The Teb adjustment for the year ended October 31, 2015 was \$570 million (October 31, 2014 – \$492 million, October 31, 2013 – \$380 million).

### Geographic segments

For geographic reporting, our segments are grouped into Canada, United States and Other International. Transactions are primarily recorded in the location that best reflects the risk due to negative changes in economic conditions and prospects for growth due to positive economic changes. This location frequently corresponds with the location of the legal entity through which the business is conducted and the location of our clients. Transactions are recorded in the local currency and are subject to foreign exchange rate fluctuations with respect to the movement in the Canadian dollar.

### Management reporting framework

Our management reporting framework is intended to measure the performance of each business segment as if it were a stand-alone business and reflects the way our business segments are managed. This approach is intended to ensure that our business segments' results reflect all relevant revenue and expenses associated with the conduct of their businesses. Management regularly monitors these segments' results for the purpose of making decisions about resource allocation and performance assessment. These items do not impact our consolidated results.

The expenses in each business segment may include costs or services directly incurred or provided on their behalf at the enterprise level. For other costs not directly attributable to one of our business segments, we use a management reporting framework that uses assumptions, estimates and methodologies for allocating overhead costs and indirect expenses to our business segments and that assists in the attribution of capital and the transfer pricing of funds to our business segments in a manner that fairly and consistently measures and aligns the economic costs with the underlying benefits and risks of that specific business segment. Activities and business conducted between our business segments are generally at market rates. All other enterprise level activities that are not allocated to our five business segments are reported under Corporate Support.

Our assumptions and methodologies used in our management reporting framework are periodically reviewed by management to ensure that they remain valid. The capital attribution methodologies involve a number of assumptions and estimates that are revised periodically.

(Millions of Canadian dollars)	For the year ended October 31, 2015									
	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1)	Total	Canada	United States	Other International
Net interest income (2), (3)	\$ 10,004	\$ 493	\$ –	\$ 818	\$ 3,970	\$ (514)	\$ 14,771	\$ 11,538	\$ 1,977	\$ 1,256
Non-interest income	4,309	6,282	4,436	1,220	4,093	210	20,550	10,889	4,619	5,042
Total revenue	14,313	6,775	4,436	2,038	8,063	(304)	35,321	22,427	6,596	6,298
Provision for credit losses	984	46	–	(1)	71	(3)	1,097	933	98	66
Insurance policyholder benefits, claims and acquisition expense	–	–	2,963	–	–	–	2,963	1,976	–	987
Non-interest expense	6,611	5,292	613	1,301	4,696	125	18,638	10,139	4,762	3,737
Net income (loss) before income taxes	6,718	1,437	860	738	3,296	(426)	12,623	9,379	1,736	1,508
Income taxes (recoveries)	1,712	396	154	182	977	(824)	2,597	1,727	649	221
<b>Net income</b>	<b>\$ 5,006</b>	<b>\$ 1,041</b>	<b>\$ 706</b>	<b>\$ 556</b>	<b>\$ 2,319</b>	<b>\$ 398</b>	<b>\$ 10,026</b>	<b>\$ 7,652</b>	<b>\$ 1,087</b>	<b>\$ 1,287</b>
Non-interest expense includes:										
Depreciation and amortization	\$ 345	\$ 157	\$ 16	\$ 54	\$ 28	\$ 639	\$ 1,239	\$ 1,046	\$ 40	\$ 153
Impairment of other intangibles	1	4	–	–	–	2	7	3	1	3
Restructuring provisions	–	83	–	–	–	–	83	25	45	13
<b>Total assets</b>	<b>\$ 397,132</b>	<b>\$ 26,891</b>	<b>\$ 14,139</b>	<b>\$ 132,294</b>	<b>\$ 478,289</b>	<b>\$ 25,463</b>	<b>\$ 1,074,208</b>	<b>\$ 584,419</b>	<b>\$ 252,845</b>	<b>\$ 236,944</b>
Total assets include: Additions to premises and equipment and intangibles	\$ 327	\$ 122	\$ 23	\$ 46	\$ 256	\$ 644	\$ 1,418	\$ 1,071	\$ 206	\$ 141
<b>Total liabilities</b>	<b>\$ 397,157</b>	<b>\$ 26,906</b>	<b>\$ 14,160</b>	<b>\$ 132,275</b>	<b>\$ 478,291</b>	<b>\$ (38,525)</b>	<b>\$ 1,010,264</b>	<b>\$ 520,420</b>	<b>\$ 252,970</b>	<b>\$ 236,874</b>

(Millions of Canadian dollars)	For the year ended October 31, 2014 (4)									
	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1)	Total	Canada	United States	Other International
Net interest income (2), (3)	\$ 9,743	\$ 469	\$ –	\$ 732	\$ 3,485	\$ (313)	\$ 14,116	\$ 11,128	\$ 1,697	\$ 1,291
Non-interest income	3,987	5,844	4,964	1,152	3,881	164	19,992	10,488	4,257	5,247
Total revenue	13,730	6,313	4,964	1,884	7,366	(149)	34,108	21,616	5,954	6,538
Provision for credit losses	1,103	19	–	–	44	(2)	1,164	922	52	190
Insurance policyholder benefits, claims and acquisition expense	–	–	3,573	–	–	–	3,573	2,188	1	1,384
Non-interest expense	6,563	4,800	579	1,286	4,344	89	17,661	9,650	4,199	3,812
Net income (loss) before income taxes	6,064	1,494	812	598	2,978	(236)	11,710	8,856	1,702	1,152
Income taxes (recoveries)	1,589	411	31	157	923	(405)	2,706	1,983	660	63
<b>Net income</b>	<b>\$ 4,475</b>	<b>\$ 1,083</b>	<b>\$ 781</b>	<b>\$ 441</b>	<b>\$ 2,055</b>	<b>\$ 169</b>	<b>\$ 9,004</b>	<b>\$ 6,873</b>	<b>\$ 1,042</b>	<b>\$ 1,089</b>
Non-interest expense includes:										
Depreciation and amortization	\$ 338	\$ 147	\$ 16	\$ 58	\$ 28	\$ 578	\$ 1,165	\$ 971	\$ 39	\$ 155
Impairment of other intangibles	–	6	–	–	2	–	8	2	6	–
Restructuring provisions	20	16	–	–	–	–	36	–	16	20
<b>Total assets</b>	<b>\$ 376,188</b>	<b>\$ 27,084</b>	<b>\$ 12,930</b>	<b>\$ 103,822</b>	<b>\$ 400,314</b>	<b>\$ 20,212</b>	<b>\$ 940,550</b>	<b>\$ 496,120</b>	<b>\$ 194,879</b>	<b>\$ 249,551</b>
Total assets include: Additions to premises and equipment and intangibles	\$ 318	\$ 105	\$ 16	\$ 30	\$ 147	\$ 563	\$ 1,179	\$ 924	\$ 154	\$ 101
<b>Total liabilities</b>	<b>\$ 376,154</b>	<b>\$ 27,022</b>	<b>\$ 12,988</b>	<b>\$ 103,798</b>	<b>\$ 400,114</b>	<b>\$ (34,029)</b>	<b>\$ 886,047</b>	<b>\$ 441,607</b>	<b>\$ 194,946</b>	<b>\$ 249,494</b>

**Note 30 Results by business segment** (continued)

For the year ended October 31, 2013 (4)										
(Millions of Canadian dollars)	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1)	Total	Canada	United States	Other International
Net interest income (2), (3)	\$ 9,434	\$ 396	\$ –	\$ 671	\$ 2,872	\$ (124)	\$ 13,249	\$ 10,961	\$ 1,448	\$ 840
Non-interest income	3,585	5,091	3,928	1,133	3,708	(12)	17,433	8,601	3,810	5,022
Total revenue	13,019	5,487	3,928	1,804	6,580	(136)	30,682	19,562	5,258	5,862
Provision for credit losses	995	51	–	–	188	3	1,237	892	78	267
Insurance policyholder benefits, claims and acquisition expense	–	–	2,784	–	–	–	2,784	1,425	10	1,349
Non-interest expense	6,168	4,219	551	1,348	3,856	72	16,214	9,210	3,663	3,341
Net income (loss) before income taxes	5,856	1,217	593	456	2,536	(211)	10,447	8,035	1,507	905
Income taxes (recoveries)	1,476	331	(2)	117	836	(653)	2,105	1,710	370	25
<b>Net income</b>	<b>\$ 4,380</b>	<b>\$ 886</b>	<b>\$ 595</b>	<b>\$ 339</b>	<b>\$ 1,700</b>	<b>\$ 442</b>	<b>\$ 8,342</b>	<b>\$ 6,325</b>	<b>\$ 1,137</b>	<b>\$ 880</b>
Non-interest expense includes:										
Depreciation and amortization	\$ 279	\$ 135	\$ 13	\$ 56	\$ 25	\$ 503	\$ 1,011	\$ 838	\$ 36	\$ 137
Impairment of other intangibles	1	–	–	5	–	4	10	10	–	–
Restructuring provisions	21	–	–	44	–	–	65	9	–	56
<b>Total assets</b>	<b>\$ 362,932</b>	<b>\$ 23,361</b>	<b>\$ 12,275</b>	<b>\$ 90,621</b>	<b>\$ 358,036</b>	<b>\$ 12,520</b>	<b>\$ 859,745</b>	<b>\$ 494,306</b>	<b>\$ 181,703</b>	<b>\$ 183,736</b>
Total assets include:										
Additions to premises and equipment and intangibles	\$ 468	\$ 90	\$ 13	\$ 35	\$ 107	\$ 517	\$ 1,230	\$ 966	\$ 132	\$ 132
<b>Total liabilities</b>	<b>\$ 362,892</b>	<b>\$ 23,306</b>	<b>\$ 12,325</b>	<b>\$ 90,793</b>	<b>\$ 357,872</b>	<b>\$ (36,903)</b>	<b>\$ 810,285</b>	<b>\$ 444,781</b>	<b>\$ 181,815</b>	<b>\$ 183,689</b>

(1) Taxable equivalent basis (Teb).

(2) Inter-segment revenue and share of profits in joint ventures and associates are not material.

(3) Interest revenue is reported net of interest expense as management relies primarily on net interest income as a performance measure.

(4) Certain amounts have been revised from those previously reported.

**Revenue by business line**

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
Personal Financial Services	\$ 7,634	\$ 7,285	\$ 6,948
Business Financial Services	3,091	3,135	2,990
Cards and Payment Solutions	2,654	2,449	2,282
Caribbean & U.S. Banking	934	861	799
Canadian Wealth Management	2,226	2,186	1,889
U.S. & International Wealth Management	2,729	2,430	2,225
Global Asset Management	1,820	1,697	1,373
Insurance	4,436	4,964	3,928
Investor & Treasury services	2,038	1,884	1,804
Corporate and Investment Banking	3,697	3,437	3,014
Global Markets (1)	4,477	3,896	3,314
Other Capital Markets (1)	(111)	33	252
Corporate Support	(304)	(149)	(136)
	<b>\$ 35,321</b>	<b>\$ 34,108</b>	<b>\$ 30,682</b>

(1) Certain amounts have been revised from those previously reported.

**Note 31 Nature and extent of risks arising from financial instruments**

We are exposed to credit, market and liquidity and funding risks as a result of holding financial instruments. Our risk measurement and objectives, policies and methodologies for managing these risks are disclosed in the shaded text along with those tables specifically marked with an asterisk (\*) on pages 56 to 82 of the Management's Discussion and Analysis. These shaded text and tables are an integral part of these Consolidated Financial Statements.

Concentrations of credit risk exist if a number of our clients are engaged in similar activities, are located in the same geographic region or have comparable economic characteristics such that their ability to meet contractual obligations would be similarly affected by changes in economic, political or other conditions.

Concentrations of credit risk indicate the relative sensitivity of our performance to developments affecting a particular industry or geographic location. The amounts of credit exposure associated with certain of our on- and off-balance sheet financial instruments are summarized in the following table.

(Millions of Canadian dollars, except percentage amounts)	As at October 31, 2015								
	Canada	%	United States	%	Europe	%	Other International	%	Total
<b>On-balance sheet assets other than derivatives (1)</b>	\$ 453,650	68%	\$ 110,341	17%	\$ 56,984	9%	\$ 41,453	6%	\$ 662,428
Derivatives before master netting agreement (2), (3)	20,911	11	22,877	12	143,414	74	7,254	3	194,456
	\$ 474,561	55%	\$ 133,218	16%	\$ 200,398	23%	\$ 48,707	6%	\$ 856,884
<b>Off-balance sheet credit instruments (4)</b>									
Committed and uncommitted (5)	\$ 239,351	57%	\$ 137,204	33%	\$ 32,638	8%	\$ 10,312	2%	\$ 419,505
Other	49,740	51	17,520	18	29,213	30	1,523	1	97,996
	\$ 289,091	56%	\$ 154,724	30%	\$ 61,851	12%	\$ 11,835	2%	\$ 517,501

  

(Millions of Canadian dollars, except percentage amounts)	As at October 31, 2014								
	Canada	%	United States	%	Europe	%	Other International	%	Total
<b>On-balance sheet assets other than derivatives (1)</b>	\$ 422,498	72%	\$ 79,140	14%	\$ 46,596	8%	\$36,031	6%	\$ 584,265
Derivatives before master netting agreement (2), (3)	12,825	9	23,039	16	102,368	70	7,009	5	145,241
	\$ 435,323	60%	\$ 102,179	14%	\$ 148,964	20%	\$43,040	6%	\$ 729,506
<b>Off-balance sheet credit instruments (4)</b>									
Committed and uncommitted (5)	\$ 224,849	62%	\$ 102,253	28%	\$ 28,312	8%	\$ 7,876	2%	\$ 363,290
Other	45,600	53	14,579	17	25,023	29	550	1	85,752
	\$ 270,449	60%	\$ 116,832	26%	\$ 53,335	12%	\$ 8,426	2%	\$ 449,042

(1) Includes assets purchased under reverse repurchase agreements and securities borrowed, loans and customers' liability under acceptances. The largest concentrations in Canada are Ontario at 47% (October 31, 2014 – 46%), the Prairies at 21% (October 31, 2014 – 21%), British Columbia and the territories at 16% (October 31, 2014 – 16%) and Quebec at 11% (October 31, 2014 – 12%). No industry accounts for more than 35% (October 31, 2014 – 33%) of total on-balance sheet credit instruments.

(2) The largest concentration of credit exposure by counterparty type is banks at 29% (October 31, 2014 – 36%).

(3) Excludes credit derivatives classified as other than trading.

(4) Represents financial instruments with contractual amounts representing credit risk.

(5) Retail and wholesale commitments respectively comprise 36% and 64% of our total commitments (October 31, 2014 – 38% and 62%). The largest concentrations in the wholesale portfolio related to Financing products at 15% (October 31, 2014 – 14%), Non-bank financial services at 10% (October 31, 2014 – 9%), Oil and gas at 10% (October 31, 2014 – 9%), Utilities at 9% (October 31, 2014 – 9%), and Real estate and related at 8% (October 31, 2014 – 9%).

## Note 32 Capital management

### Regulatory capital and capital ratios

OSFI formally establishes risk-based capital and leverage targets for deposit-taking institutions in Canada. We are required to calculate our capital ratios using the Basel III framework. Under Basel III, regulatory capital includes Common Equity Tier 1 (CET1), Tier 1 and Tier 2 capital. CET1 capital mainly consists of common shares, retained earnings and other components of equity. Regulatory adjustments under Basel III include deductions of goodwill and other intangibles, certain deferred tax assets, defined benefit pension fund assets, investments in banking, financial and insurance entities, and the shortfall of provisions to expected losses. Tier 1 capital comprises predominantly CET1, with additional items that consist of capital instruments such as certain preferred shares, and certain non-controlling interests in subsidiaries. Tier 2 capital includes subordinated debentures that meet certain criteria and certain loan loss allowances. Total capital is the sum of CET1, additional Tier 1 capital and Tier 2 capital. Regulatory capital ratios are calculated by dividing CET1, Tier 1 and Total capital by risk-weighted assets.

**Note 32 Capital management** (continued)

Beginning this year, the asset-to-capital multiple has been replaced by a leverage ratio. The leverage ratio is calculated by dividing Tier 1 capital by an exposure measure. The exposure measure consists of total assets (excluding items deducted from Tier 1 capital) and certain off-balance sheet items converted into credit exposure equivalents. Adjustments are also made to derivatives and secured financing transactions to reflect credit and other risks. During 2015 and 2014, we complied with all capital and leverage requirements imposed by OSFI.

	As at	
	October 31 2015	October 31 2014
(Millions of Canadian dollars, except percentage and multiple amounts)		
<b>Capital</b> (1)		
Common Equity Tier 1 capital	\$ 43,715	\$ 36,406
Tier 1 capital	50,541	42,202
Total capital	58,004	50,020
<b>Risk-weighted assets used in calculation of capital ratios</b> (1), (2)		
Common Equity Tier 1 capital ratio	411,756	368,594
Tier 1 capital ratio	412,941	369,976
Total capital ratio	413,957	372,050
<b>Total capital risk-weighted assets</b> (1)		
Credit risk	323,870	286,327
Market risk	39,786	38,460
Operational risk	50,301	47,263
	\$ 413,957	\$ 372,050
<b>Capital ratios, leverage ratios and multiples</b> (1)		
Common Equity Tier 1 capital ratio	10.6%	9.9%
Tier 1 capital ratio	12.2%	11.4%
Total capital ratio	14.0%	13.4%
Leverage ratio (3)	4.3%	n.a.
Assets-to-capital multiple (4)	n.a.	17.0X

- (1) Capital, risk-weighted assets and capital ratios and multiples are calculated using OSFI Capital Adequacy Requirements. Leverage ratio is calculated using OSFI Leverage Requirements.
- (2) Effective the third quarter of 2014, the credit valuation adjustment to our risk-weighted asset calculation implemented in the first quarter of 2014, must reflect different percentages for each tier of capital. This change reflects a phase-in of credit valuation adjustments ending in the fourth quarter of 2018. During this phase-in period, risk-weighted assets for Common Equity Tier 1, Tier 1 and Total capital ratios will be subject to different annual credit valuation adjustment percentages.
- (3) Exposure measure as at October 31, 2015 was \$1,170 billion.
- (4) Beginning this year, the asset-to-capital multiple has been replaced by a leverage ratio. Gross adjusted assets as at October 31, 2014 were \$885 billion.
- n.a. not applicable

**Note 33 Offsetting financial assets and financial liabilities**

Offsetting within our balance sheet may be achieved where financial assets and liabilities are subject to master netting arrangements that provide the currently enforceable right of offset and where there is an intention to settle on a net basis, or realize the assets and liabilities simultaneously. For derivative contracts and repurchase and reverse repurchase arrangements, this is generally achieved when there is a market mechanism for settlement (e.g. central counterparty exchange, or clearing house) which provides daily net settlement of cash flows arising from these contracts. Margin receivables and margin payables are generally offset as they settle simultaneously through a market settlement mechanism. These are generally classified as Other assets or Other liabilities.

Amounts that do not qualify for offsetting include master netting arrangements that only permit outstanding transactions with the same counterparty to be offset in an event of default or occurrence of other predetermined events. Such master netting arrangements include the ISDA Master Agreement or derivative exchange or clearing counterparty agreements for derivative contracts, global master repurchase agreement and global master securities lending agreements for repurchase, reverse repurchase and other similar secured lending and borrowing arrangements.

The amount of the financial collateral received or pledged subject to master netting arrangement or similar agreements but not qualified for offsetting refers to the collateral received or pledged to cover the net exposure between counterparties, by enabling the collateral to be realized in an event of default or the occurrence of other predetermined events. Certain amounts of collateral are restricted from being sold or re-pledged unless there is an event of default or the occurrence of other predetermined events.

The tables below provide the amount of financial instruments that have been offset on the Consolidated Balance Sheets and the amounts that do not qualify for offsetting but are subject to enforceable master netting arrangements or similar agreements. The amounts presented are not intended to represent our actual exposure to credit risk.

**Financial assets subject to offsetting, enforceable master netting arrangements and similar agreements**

	As at October 31, 2015							
	Amounts subject to offsetting and enforceable netting arrangements						Amounts not subject to enforceable netting arrangements	
	Gross amounts of financial assets before balance sheet offsetting	Amounts of financial liabilities offset on the balance sheet	Net amount of financial assets presented on the balance sheet	Impact of master netting agreements	Financial collateral received (2)	Net amount	Amounts subject to master netting arrangements or similar agreements but do not qualify for offsetting on the balance sheet (1)	
Amounts subject to enforceable netting arrangements							Total amount recognized on the balance sheet	
(Millions of Canadian dollars)								
Assets purchased under reverse repurchase agreements and securities borrowed	\$ 183,493	\$ 9,846	\$ 173,647	\$ 30	\$ 172,910	\$ 707	\$ 1,076	\$ 174,723
Derivative assets (3)	185,654	87,527	98,127	71,833	14,956	11,338	7,499	105,626
Other financial assets	1,560	1,283	277	-	52	225	78	355
	\$ 370,707	\$ 98,656	\$ 272,051	\$ 71,863	\$ 187,918	\$ 12,270	\$ 8,653	\$ 280,704

As at October 31, 2014								
Amounts subject to offsetting and enforceable netting arrangements								
(Millions of Canadian dollars)	Gross amounts of financial assets before balance sheet offsetting	Amounts of financial liabilities offset on the balance sheet	Net amount of financial assets presented on the balance sheet	Amounts subject to master netting arrangements or similar agreements but do not qualify for offsetting on the balance sheet (1)			Amounts not subject to enforceable netting arrangements	Total amount recognized on the balance sheet
				Impact of master netting agreements	Financial collateral received (2)	Net amount		
Assets purchased under reverse repurchase agreements and securities borrowed	\$ 149,348	\$ 14,038	\$ 135,310	\$ 56	\$ 134,985	\$ 269	\$ 270	\$ 135,580
Derivative assets (3)	136,230	57,068	79,162	60,546	8,993	9,623	8,240	87,402
Other financial assets	1,345	1,247	98	–	70	28	60	158
	\$ 286,923	\$ 72,353	\$ 214,570	\$ 60,602	\$ 144,048	\$ 9,920	\$ 8,570	\$ 223,140

- (1) Financial collateral is reflected at fair value. The amount of financial instruments and financial collateral disclosed is limited to the net balance sheet exposure, and any over-collateralization is excluded from the table.
- (2) Includes cash collateral of \$11,345 million (October 31, 2014 – \$8,719 million) and non-cash collateral of \$177 billion (October 31, 2014 – \$135 billion).
- (3) Includes cash margin of \$1,512 million (October 31, 2014 – \$1,326 million) which offset against the derivative balance on the balance sheet.

### Financial liabilities subject to offsetting, enforceable master netting arrangements and similar agreements

As at October 31, 2015								
Amounts subject to offsetting and enforceable netting arrangements								
(Millions of Canadian dollars)	Gross amounts of financial liabilities before balance sheet offsetting	Amounts of financial assets offset on the balance sheet	Net amount of financial liabilities presented on the balance sheet	Amounts subject to master netting arrangements or similar agreements but do not qualify for offsetting on the balance sheet (1)			Amounts not subject to enforceable netting arrangements	Total amount recognized on the balance sheet
				Impact of master netting agreements	Financial collateral pledged (2)	Net amount		
Obligations related to assets sold under repurchase agreements and securities loaned	\$ 92,564	\$ 9,846	\$ 82,718	\$ 30	\$ 82,476	\$ 212	\$ 570	\$ 83,288
Derivative liabilities (3)	186,400	87,960	98,440	71,833	15,060	11,547	9,420	107,860
Other financial liabilities	2,348	1,517	831	–	551	280	3	834
	\$ 281,312	\$ 99,323	\$ 181,989	\$ 71,863	\$ 98,087	\$ 12,039	\$ 9,993	\$ 191,982

As at October 31, 2014								
Amounts subject to offsetting and enforceable netting arrangements								
(Millions of Canadian dollars)	Gross amounts of financial liabilities before balance sheet offsetting	Amounts of financial assets offset on the balance sheet	Net amount of financial liabilities presented on the balance sheet	Amounts subject to master netting arrangements or similar agreements but do not qualify for offsetting on the balance sheet (1)			Amounts not subject to enforceable netting arrangements	Total amount recognized on the balance sheet
				Impact of master netting agreements	Financial collateral pledged (2)	Net amount		
Obligations related to assets sold under repurchase agreements and securities loaned	\$ 78,029	\$ 14,038	\$ 63,991	\$ 56	\$ 63,790	\$ 145	\$ 340	\$ 64,331
Derivative liabilities (3)	135,662	56,982	78,680	60,546	9,184	8,950	10,302	88,982
Other financial liabilities	1,921	1,333	588	–	478	110	8	596
	\$ 215,612	\$ 72,353	\$ 143,259	\$ 60,602	\$ 73,452	\$ 9,205	\$ 10,650	\$ 153,909

- (1) Financial collateral is reflected at fair value. The amount of financial instruments and financial collateral disclosed is limited to the net balance sheet exposure, and any over-collateralization is excluded from the table.
- (2) Includes cash collateral of \$13,233 million (October 31, 2014 – \$7,187 million) and non-cash collateral of \$85 billion (October 31, 2014 – \$66 billion).
- (3) Includes cash margin of \$1,277 million (October 31, 2014 – \$1,240 million) which offset against the derivative balance on the balance sheet.

**Note 34 Recovery and settlement of on-balance sheet assets and liabilities**

The table below presents an analysis of assets and liabilities recorded on our Consolidated Balance Sheets by amounts to be recovered or settled within one year and after one year, as at the balance sheet date, based on contractual maturities and certain other assumptions outlined in the footnotes below. As warranted, we manage the liquidity risk of various products based on historical behavioural patterns that are often not aligned with contractual maturities. Amounts to be recovered or settled within one year, as presented below, may not be reflective of management's long-term view of the liquidity profile of certain balance sheet categories.

(Millions of Canadian dollars)	As at					
	October 31, 2015			October 31, 2014 <sup>(1)</sup>		
	Within one year	After one year	Total	Within one year	After one year	Total
<b>Assets</b>						
Cash and due from banks <sup>(2)</sup>	\$ 10,466	\$ 1,986	\$ 12,452	\$ 16,649	\$ 772	\$ 17,421
Interest-bearing deposits with banks	22,690	–	22,690	7,494	905	8,399
Securities						
Trading securities <sup>(3)</sup>	149,150	9,553	158,703	141,399	9,981	151,380
Available-for-sale securities	12,338	44,467	56,805	12,318	35,450	47,768
Assets purchased under reverse repurchase agreements and securities borrowed	172,122	2,601	174,723	133,438	2,142	135,580
Loans						
Retail	92,012	256,171	348,183	78,435	255,834	334,269
Wholesale	25,842	100,227	126,069	22,491	80,463	102,954
Allowance for loan losses	–	–	(2,029)	–	–	(1,994)
Segregated fund net assets	–	830	830	–	675	675
Other						
Customers' liability under acceptances	13,446	7	13,453	11,456	6	11,462
Derivatives <sup>(3)</sup>	103,618	2,008	105,626	85,688	1,714	87,402
Premises and equipment, net	–	2,728	2,728	–	2,684	2,684
Goodwill	–	9,289	9,289	–	8,647	8,647
Other intangibles	–	2,814	2,814	–	2,775	2,775
Investments in joint ventures and associates	–	360	360	–	295	295
Employee benefit assets	–	245	245	–	138	138
Other assets	35,350	5,917	41,267	24,414	6,281	30,695
	<b>\$ 637,034</b>	<b>\$ 439,203</b>	<b>\$ 1,074,208</b>	<b>\$ 533,782</b>	<b>\$ 408,762</b>	<b>\$ 940,550</b>
<b>Liabilities</b>						
Deposits <sup>(4)</sup>	\$ 528,109	\$ 169,118	\$ 697,227	\$ 451,065	\$ 163,035	\$ 614,100
Segregated fund net liabilities	–	830	830	–	675	675
Other						
Acceptances	13,446	7	13,453	11,456	6	11,462
Obligations related to securities sold short	41,156	6,502	47,658	46,125	4,220	50,345
Obligations related to assets sold under repurchase agreements and securities loaned	82,498	790	83,288	64,331	–	64,331
Derivatives <sup>(3)</sup>	105,271	2,589	107,860	87,830	1,152	88,982
Insurance claims and policy benefit liabilities	97	9,013	9,110	135	8,429	8,564
Employee benefit liabilities	–	1,969	1,969	–	2,420	2,420
Other liabilities	28,563	12,944	41,507	25,228	12,081	37,309
Subordinated debentures	1,500	5,862	7,362	200	7,659	7,859
	<b>\$ 800,640</b>	<b>\$ 209,624</b>	<b>\$ 1,010,264</b>	<b>\$ 686,370</b>	<b>\$ 199,677</b>	<b>\$ 886,047</b>

(1) Certain amounts have been revised from those previously reported.

(2) Cash and due from banks are assumed to be recovered within one year, except for cash balances not available for use by the bank.

(3) Trading securities classified as at FVTPL and trading derivatives not designated in hedging relationships are presented as within one year as this best represents in most instances the short-term nature of our trading activities. Non-trading derivatives designated in hedging relationships are presented according to the recovery or settlement of the related hedged item.

(4) Demand deposits of \$312 billion (October 31, 2014 – \$289 billion) are presented as within one year due to their being repayable on demand or at short notice on a contractual basis. In practice, these deposits relate to a broad range of individuals and customer-types which form a stable base for our operations and liquidity needs.

## Note 35 Parent company information

The following table presents information regarding the legal entity of Royal Bank of Canada with its subsidiaries presented on an equity accounted basis.

### Condensed Balance Sheets

(Millions of Canadian dollars)	As at	
	October 31 2015	October 31 2014
<b>Assets</b>		
Cash and due from banks	\$ 3,123	\$ 7,333
Interest-bearing deposits with banks	15,838	5,788
Securities	130,326	111,159
Investments in bank subsidiaries and associated corporations	22,907	20,240
Investments in other subsidiaries and associated corporations	60,378	53,131
Assets purchased under reverse repurchase agreements and securities borrowed	23,418	17,075
Loans, net of allowance for loan losses	444,169	407,440
Net balances due from bank subsidiaries	19,118	10,466
Other assets	147,330	120,052
	<b>\$ 866,607</b>	<b>\$ 752,684</b>
<b>Liabilities and shareholders' equity</b>		
Deposits	\$ 566,903	\$ 497,053
Net balances due to other subsidiaries	66,879	56,146
Other liabilities	163,379	138,989
	<b>797,161</b>	<b>692,188</b>
Subordinated debentures	7,300	7,806
Shareholders' equity	62,146	52,690
	<b>\$ 866,607</b>	<b>\$ 752,684</b>

### Condensed Statements of Income and Comprehensive Income

(Millions of Canadian dollars)	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
Interest income (1)	\$ 18,287	\$ 18,415	\$ 18,573
Interest expense	5,785	5,882	5,795
<b>Net interest income</b>	<b>12,502</b>	<b>12,533</b>	<b>12,778</b>
Non-interest income (2)	5,474	6,007	4,626
<b>Total revenue</b>	<b>17,976</b>	<b>18,540</b>	<b>17,404</b>
Provision for credit losses	1,027	1,010	1,147
Non-interest expense	8,051	7,801	7,304
<b>Income before income taxes</b>	<b>8,898</b>	<b>9,729</b>	<b>8,953</b>
Income taxes	1,939	2,283	1,537
<b>Net income before equity in undistributed income of subsidiaries</b>	<b>6,959</b>	<b>7,446</b>	<b>7,416</b>
Equity in undistributed income of subsidiaries	3,067	1,558	926
<b>Net income</b>	<b>10,026</b>	<b>9,004</b>	<b>8,342</b>
Other comprehensive income, net of taxes	3,153	915	696
<b>Total comprehensive income</b>	<b>\$ 13,179</b>	<b>\$ 9,919</b>	<b>\$ 9,038</b>

(1) Includes dividend income from investments in subsidiaries and associated corporations of \$120 million (2014 – \$10 million; 2013 – \$1,313 million).

(2) Includes share of profit from associated corporations of \$15 million (2014 – profit of \$7 million; 2013 – loss of \$9 million).



**Condensed Statements of Cash Flows**

	For the year ended		
	October 31 2015	October 31 2014	October 31 2013
(Millions of Canadian dollars)			
<b>Cash flows from operating activities</b>			
Net income	\$ 10,026	\$ 9,004	\$ 8,342
Adjustments to determine net cash from operating activities:			
Change in undistributed earnings of subsidiaries	(3,067)	(1,558)	(926)
Change in deposits, net of securitizations	70,802	41,428	31,183
Change in loans, net of securitizations	(33,904)	(22,865)	(18,927)
Change in trading securities	(10,663)	(4,193)	(19,048)
Change in obligations related to assets sold under repurchase agreements and securities loaned	2,687	(2,712)	1,730
Change in assets purchased under reverse repurchase agreements and securities borrowed	(6,343)	(2,497)	(3,668)
Change in obligations related to securities sold short	(1,244)	(1,305)	388
Other operating activities, net	(7,845)	182	(8,210)
<b>Net cash from (used in) operating activities</b>	<b>20,449</b>	<b>15,484</b>	<b>(9,136)</b>
<b>Cash flows from investing activities</b>			
Change in interest-bearing deposits with banks	(10,050)	(3,081)	(1,548)
Proceeds from sale of available-for-sale securities	620	1,225	1,641
Proceeds from maturity of available-for-sale securities	25,207	28,875	28,056
Purchases of available-for-sale securities	(36,408)	(36,165)	(26,392)
Net acquisitions of premises and equipment and other intangibles	(937)	(803)	(754)
Change in cash invested in subsidiaries	(978)	(2,409)	(7,323)
Change in net funding provided to subsidiaries	2,081	4,889	20,164
Proceeds from sale of associated corporations	4	70	–
<b>Net cash (used in) from investing activities</b>	<b>(20,461)</b>	<b>(7,399)</b>	<b>13,844</b>
<b>Cash flows from financing activities</b>			
Issue of subordinated debentures	1,000	2,000	2,046
Repayment of subordinated debentures	(1,700)	(1,600)	(2,000)
Issue of preferred shares	1,350	1,000	–
Issuance costs	(21)	(14)	–
Redemption of preferred shares	(325)	(1,525)	(222)
Issue of common shares	62	150	121
Common shares purchased for cancellation	–	(113)	(408)
Dividends paid	(4,564)	(4,211)	(3,810)
<b>Net cash used in financing activities</b>	<b>(4,198)</b>	<b>(4,313)</b>	<b>(4,273)</b>
<b>Net change in cash and due from banks</b>	<b>(4,210)</b>	<b>3,772</b>	<b>435</b>
Cash and due from banks at beginning of year	7,333	3,561	3,126
<b>Cash and due from banks at end of year</b>	<b>\$ 3,123</b>	<b>\$ 7,333</b>	<b>\$ 3,561</b>
<b>Supplemental disclosure of cash flow information</b>			
Amount of interest paid in year	\$ 5,786	\$ 5,814	\$ 5,943
Amount of interest received in year	18,001	18,582	17,281
Amount of dividends received in year	106	10	1,313
Amount of income taxes paid in year	1,323	1,286	265

**Note 36 Subsequent events**
**Acquisition and disposition**

On November 2, 2015, we completed the acquisition of City National. City National's business will give us an expansion platform for long-term growth in the U.S. By acquiring 100% of the voting equity interests, the acquisition provides us with the opportunity to enhance and complement our existing U.S. businesses in line with our strategic goals. Total consideration of \$7.1 billion (US\$5.5 billion) at the date of close includes US\$2.6 billion in cash, 41.6 million RBC common shares issued at a price of US\$57.16 per share, first preferred shares, Series C-1 and Series C-2 with a fair value of US\$290 million (par value of US\$275 million), issued upon the cancellation of the outstanding City National preferred shares, as well as amounts related to share based compensation. Due to the proximity of the close date to the release date of our Consolidated Financial Statements, we have not finalized the initial accounting for the acquisition as the valuation of assets acquired and liabilities assumed including loans, intangible assets, goodwill, share based compensation and contingent liabilities has not been completed.

On November 4, 2015, we entered into a purchase and sale agreement to sell our trust, custody and fund administration business in the Caribbean to SMP Group Limited. The transaction is subject to customary closing conditions including regulatory approvals.

**Capital and funding transactions**

On November 2, 2015, we redeemed all \$1.5 billion outstanding 3.18% subordinated debentures due on November 2, 2015 for 100% of their principal amount plus accrued interest to the redemption date.

On November 16, 2015, we announced our intention to redeem all issued and outstanding \$1.2 billion principal amount of RBC TruCS 2015 for cash at a redemption price of \$1,000 per unit. The redemption is expected to be completed on December 31, 2015.

Condensed Balance Sheet

(Millions of Canadian dollars)	IFRS					CGAAP					
	2015	2014	2013	2012	2011	2011	2010	2009	2008	2007	2006
<b>Assets</b>											
Cash and due from banks	\$ 12,452	\$ 17,421	\$ 15,550	\$ 12,428	\$ 12,428	\$ 13,247	\$ 8,440	\$ 7,584	\$ 11,086	\$ 4,226	\$ 4,401
Interest-bearing deposits with banks	22,690	8,399	9,039	10,246	6,460	12,181	13,254	8,919	20,041	11,881	10,502
Securities	215,508	199,148	182,710	161,602	167,022	179,558	183,519	177,298	171,134	178,255	184,869
Assets purchased under reverse repurchase agreements and securities borrowed	174,723	135,580	117,517	112,257	84,947	84,947	72,698	41,580	44,818	64,313	59,378
Loans net of allowance	472,223	435,229	408,850	378,241	347,530	296,284	273,006	258,395	289,540	237,936	208,530
Other	176,612	144,773	126,079	149,180	175,446	165,485	175,289	161,213	187,240	103,735	69,100
<b>Total Assets</b>	<b>\$ 1,074,208</b>	<b>\$ 940,550</b>	<b>\$ 859,745</b>	<b>\$ 823,954</b>	<b>\$ 793,833</b>	<b>\$ 751,702</b>	<b>\$ 726,206</b>	<b>\$ 654,989</b>	<b>\$ 723,859</b>	<b>\$ 600,346</b>	<b>\$ 536,780</b>
<b>Liabilities</b>											
Deposits	\$ 697,227	\$ 614,100	\$ 563,079	\$ 512,244	\$ 479,102	\$ 444,181	\$ 414,561	\$ 378,457	\$ 438,575	\$ 365,205	\$ 343,523
Other	305,675	264,088	239,763	259,174	263,625	256,124	263,030	229,699	242,744	201,404	160,575
Subordinated debentures	7,362	7,859	7,443	7,615	8,749	7,749	6,681	6,461	8,131	6,235	7,103
Trust capital securities	–	–	–	–	894	–	727	1,395	1,400	1,400	1,383
Preferred shares liabilities	–	–	–	–	–	–	–	–	–	300	298
Non-controlling interest in subsidiaries	–	n.a.	n.a.	n.a.	n.a.	1,941	2,256	2,071	2,371	1,483	1,775
<b>Total Liabilities</b>	<b>1,010,264</b>	<b>886,047</b>	<b>810,285</b>	<b>779,033</b>	<b>752,370</b>	<b>709,995</b>	<b>687,255</b>	<b>618,083</b>	<b>693,221</b>	<b>576,027</b>	<b>514,657</b>
<b>Equity attributable to shareholders</b>	<b>62,146</b>	<b>52,690</b>	<b>47,665</b>	<b>43,160</b>	<b>39,702</b>	<b>41,707</b>	<b>38,951</b>	<b>36,906</b>	<b>30,638</b>	<b>24,319</b>	<b>22,123</b>
<b>Non-controlling interest</b>	<b>1,798</b>	<b>1,813</b>	<b>1,795</b>	<b>1,761</b>	<b>1,761</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
<b>Total equity</b>	<b>63,944</b>	<b>54,503</b>	<b>49,460</b>	<b>44,921</b>	<b>41,463</b>	<b>41,707</b>	<b>38,951</b>	<b>36,906</b>	<b>30,638</b>	<b>24,319</b>	<b>22,123</b>
<b>Total liabilities and equity</b>	<b>\$ 1,074,208</b>	<b>\$ 940,550</b>	<b>\$ 859,745</b>	<b>\$ 823,954</b>	<b>\$ 793,833</b>	<b>\$ 751,702</b>	<b>\$ 726,206</b>	<b>\$ 654,989</b>	<b>\$ 723,859</b>	<b>\$ 600,346</b>	<b>\$ 536,780</b>

Condensed Income Statement

(Millions of Canadian dollars)	IFRS					CGAAP					
	2015	2014	2013	2012	2011	2011	2010	2009	2008	2007	2006
Net interest income	\$ 14,771	\$ 14,116	\$ 13,249	\$ 12,439	\$ 11,357	\$ 10,600	\$ 10,338	\$ 10,705	\$ 9,054	\$ 7,700	\$ 6,796
Non-interest income	20,550	19,992	17,433	16,708	16,281	16,830	15,744	15,736	12,528	14,762	13,481
Total revenue	35,321	34,108	30,682	29,147	27,638	27,430	26,082	26,441	21,582	22,462	20,637
Provision for credit losses (PCL)	1,097	1,164	1,237	1,299	1,133	975	1,240	2,167	1,595	791	429
Insurance policyholder benefits, claims and acquisition expense	2,963	3,573	2,784	3,621	3,358	3,360	3,546	3,042	1,631	2,173	2,509
Non-interest expense (NIE)	18,638	17,661	16,214	14,641	14,167	14,453	13,469	13,436	12,351	12,473	11,495
Non-controlling interest	n.a.	n.a.	n.a.	n.a.	n.a.	104	99	100	81	141	44
Net income from continuing operations	10,026	9,004	8,342	7,558	6,970	6,650	5,732	5,681	4,555	5,492	4,757
Net loss from discontinued operations	–	–	–	(51)	(526)	(1,798)	(509)	(1,823)	–	–	(29)
<b>Net income</b>	<b>10,026</b>	<b>9,004</b>	<b>8,342</b>	<b>7,507</b>	<b>6,444</b>	<b>4,852</b>	<b>5,223</b>	<b>3,858</b>	<b>4,555</b>	<b>5,492</b>	<b>4,728</b>

## Other Statistics – reported

(Millions of Canadian dollars, except percentages and per share amounts)

	IFRS					CGAAP					
	2015	2014	2013	2012	2011	2011	2010	2009	2008	2007	2006
<b>PROFITABILITY MEASURES (1)</b>											
Earnings per shares (EPS)											
– basic	\$ 6.75	\$ 6.03	\$ 5.53	\$ 4.96	\$ 4.25	\$ 3.21	\$ 3.49	\$ 2.59	\$ 3.41	\$ 4.24	\$ 3.65
– diluted	\$ 6.73	\$ 6.00	\$ 5.49	\$ 4.91	\$ 4.19	\$ 3.19	\$ 3.46	\$ 2.57	\$ 3.38	\$ 4.19	\$ 3.59
Return on common equity (ROE)	18.6%	19.0%	19.7%	19.6%	18.7%	12.9%	14.9%	11.9%	18.1%	24.7%	23.5%
Return on risk-weighted assets (RWA) (2)	2.45%	2.52%	2.67%	2.70%	2.44%	1.87%	2.03%	1.50%	1.78%	2.23%	2.21%
Efficiency ratio (3)	52.8%	51.8%	52.8%	50.2%	51.3%	52.7%	51.6%	50.8%	57.2%	55.5%	55.7%
<b>KEY RATIOS</b>											
PCL on impaired loans as a % of Average net loans and acceptances	0.24%	0.27%	0.31%	0.35%	0.33%	0.34%	0.45%	0.72%	0.53%	0.33%	0.23%
Net interest margin (total average assets)	1.40%	1.56%	1.56%	1.55%	1.52%	1.49%	1.59%	1.64%	1.39%	1.33%	1.35%
Non-interest income as a % of total revenue	58.2%	58.6%	56.8%	57.3%	58.9%	61.4%	60.4%	59.5%	58.0%	65.7%	67.1%
<b>SHARE INFORMATION (1)</b>											
Common shares outstanding (000s) – end of period	1,443,423	1,442,233	1,441,056	1,445,303	1,438,376	1,438,376	1,424,922	1,417,610	1,341,260	1,276,260	1,280,890
Dividends declared per common share	\$ 3.08	\$ 2.84	\$ 2.53	\$ 2.28	\$ 2.08	\$ 2.08	\$ 2.00	\$ 2.00	\$ 2.00	\$ 1.82	\$ 1.44
Dividend yield	4.1%	3.8%	4.0%	4.5%	3.9%	3.9%	3.6%	4.8%	4.2%	3.3%	3.1%
Dividend payout ratio (2)	46%	47%	46%	46%	45%	47%	52%	52%	59%	43%	40%
Book value per share	\$ 39.51	\$ 33.69	\$ 29.87	\$ 26.52	\$ 24.25	\$ 25.65	\$ 23.99	\$ 22.67	\$ 20.90	\$ 17.49	\$ 16.52
Common share price (RY on TSX) – close, end of period	\$ 74.77	\$ 80.01	\$ 70.02	\$ 56.94	\$ 48.62	\$ 48.62	\$ 54.39	\$ 54.80	\$ 46.84	\$ 56.04	\$ 49.80
Market capitalization (TSX)	107,925	115,393	100,903	82,296	69,934	69,934	77,502	77,685	62,825	71,522	63,788
Market price to book value	1.89	2.38	2.34	2.15	2.00	1.90	2.27	2.42	2.24	3.20	3.01
<b>CAPITAL MEASURES – CONSOLIDATED (4)</b>											
Common Equity Tier 1 capital ratio	10.6%	9.9%	9.6%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Tier 1 capital ratio	12.2%	11.4%	11.7%	13.1%	n.a.	13.3%	13.0%	13.0%	9.0%	9.4%	9.6%
Total capital ratio	14.0%	13.4%	14.0%	15.1%	n.a.	15.3%	14.4%	14.2%	11.0%	11.5%	11.9%
Assets-to-capital multiple	n.a.	17.0X	16.6X	16.7X	n.a.	16.1X	16.5X	16.3X	20.1X	20.0X	19.7X
Leverage Ratio	4.3%	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

(1) On April 6, 2006, we paid a stock dividend of one common share on each of our issued and outstanding common shares. The effect was the same as two-for-one split of our common shares. All common share and per share information have been adjusted retroactively for the stock dividend.

(2) Return on risk-weighted assets (RWA) for fiscal 2011 is based on RWA reported under CGAAP and Income reported under IFRS.

(3) Ratios for 2009-2012 represent continuing operations.

(4) Effective 2013 we calculate the capital ratios and multiples using the Basel III (all-in basis) framework unless otherwise stated. 2008-2012 capital ratios and multiples were calculated using the Basel II framework. 2004-2007 capital ratios and 2005-2007 asset-to-capital multiples were calculated using the Basel I framework. Capital ratios and multiples for 2011 were determined under Canadian GAAP.

## Acceptances

A bill of exchange or negotiable instrument drawn by the borrower for payment at maturity and accepted by a bank. The acceptance constitutes a guarantee of payment by the bank and can be traded in the money market. The bank earns a “stamping fee” for providing this guarantee.

## Allowance for credit losses

The amount deemed adequate by management to absorb identified credit losses as well as losses that have been incurred but are not yet identifiable as at the balance sheet date. This allowance is established to cover the lending portfolio including loans, acceptances, guarantees, letters of credit, and unfunded commitments. The allowance is increased by the provision for credit losses, which is charged to income and decreased by the amount of write-offs, net of recoveries in the period.

## Alt-A assets

A term used in the U.S. to describe assets (mainly mortgages) with a borrower risk profile between the prime and subprime categorizations. Categorization of assets as Alt-A (as opposed to prime) varies, such as limited verification or documentation of borrowers' income or a limited credit history.

## Asset-backed securities (ABS)

Securities created through the securitization of a pool of assets, for example auto loans or credit card loans.

## Assets-to-capital multiple (ACM)

Total assets plus specified off-balance sheet items, as defined by OSFI, divided by total regulatory capital on a transitional basis. ACM has been replaced in 2015 by the Basel III Leverage Ratio.

## Assets under administration (AUA)

Assets administered by us, which are beneficially owned by clients, as at October 31, unless otherwise noted. Services provided in respect of assets under administration are of an administrative nature, including safekeeping, collecting investment income, settling purchase and sale transactions, and record keeping.

## Assets under management (AUM)

Assets managed by us, which are beneficially owned by clients, as at October 31, unless otherwise noted. Services provided in respect of assets under management include the selection of investments and the provision of investment advice. We have assets under management that are also administered by us and included in assets under administration.

## Auction rate securities (ARS)

Securities issued through structured entities that hold long-term assets funded with long-term debt. In the U.S., these securities are issued by sponsors such as municipalities, student loan authorities or other sponsors through bank-managed auctions.

## Average earning assets

Average earning assets include interest-bearing deposits with other banks including certain components of cash and due from banks, securities, assets purchased under reverse repurchase agreements and securities borrowed, loans, and excludes segregated fund net assets and other assets. The averages are based on the daily balances for the period.

## Bank-owned life insurance contracts (BOLI)

Our legacy portfolio includes BOLI where we provided banks with BOLI stable value agreements (“wraps”), which insure the life insurance policy's cash surrender value from market fluctuations on the underlying investments, thereby allowing us to guarantee a minimum tax-exempt return to the counterparty. These wraps allow us to account for the underlying assets on an accrual basis instead of a mark-to-market basis.

## Basis point (bp)

One one-hundredth of a percentage point (.01%).

## Collateral

Assets pledged as security for a loan or other obligation. Collateral can take many forms, such as cash, highly rated securities, property, inventory, equipment and receivables.

## Collateralized debt obligation (CDO)

Securities with multiple tranches that are issued by structured entities and collateralized by debt obligations including bonds and loans. Each tranche offers a varying degree of risk and return so as to meet investor demand.

## Commercial mortgage-backed securities (CMBS)

Securities created through the securitization of commercial mortgages.

## Commitments to extend credit

Unutilized amount of credit facilities available to clients either in the form of loans, bankers' acceptances and other on-balance sheet financing, or through off-balance sheet products such as guarantees and letters of credit.

## Common Equity Tier 1 (CET1) capital

A regulatory Basel III capital measure comprised mainly of common shareholders' equity less regulatory deductions and adjustments for goodwill and intangibles, defined benefit pension fund assets, shortfall in allowances and other specified items.

## Common Equity Tier 1 capital ratio

A risk-based capital measure calculated as CET1 capital divided by risk-weighted assets.

## Covered bonds

Full recourse on-balance sheet obligations issued by banks and credit institutions that are also fully collateralized by assets over which investors enjoy a priority claim in the event of an issuer's insolvency.

## Credit default swaps (CDS)

A derivative contract that provides the purchaser with a one-time payment should the referenced entity/entities default (or a similar triggering event occur).

## Derivative

A contract between two parties, which requires little or no initial investment and where payments between the parties are dependent upon the movements in price of an underlying instrument, index or financial rate. Examples of derivatives include swaps, options, forward rate agreements and futures. The notional amount of the derivative is the contract amount used as a reference point to calculate the payments to be exchanged between the two parties, and the notional amount itself is generally not exchanged by the parties.

## Dividend payout ratio

Common dividends as a percentage of net income available to common shareholders.

## Earnings per share (EPS), basic

Calculated as net income available to common shareholders divided by the average number of shares outstanding.

## Earnings per share (EPS), diluted

Calculated as net income available to common shareholders divided by the average number of shares outstanding adjusted for the dilutive effects of stock options and other convertible securities.

## Economic capital

An estimate of the amount of equity capital required to underpin risks. It is calculated by estimating the level of capital that is necessary to support our various businesses, given their risks, consistent with our desired solvency standard and credit ratings. The identified risks for which we calculate Economic Capital are credit, market (trading and non-trading), operational, business, fixed asset, and insurance. Additionally, Economic Capital includes goodwill and intangibles, and allows for diversification benefits across risks and business segments.

## Fair value

Fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

**Funding Valuation Adjustment**

Funding valuation adjustments are calculated to incorporate cost and benefit of funding in the valuation of uncollateralized and under-collateralized OTC derivatives. Future expected cash flows of these derivatives are discounted to reflect the cost and benefit of funding the derivatives by using a funding curve, implied volatilities and correlations as inputs.

**Gross-adjusted assets (GAA)**

GAA are used in the calculation of the Assets-to-Capital multiple. They represent our total assets including specified off-balance sheet items and net of prescribed deductions. Off balance sheet items for this calculation are direct credit substitutes, including letters of credit and guarantees, transaction-related contingencies, trade-related contingencies and sale and repurchase agreements. Commencing Q1/15, the Asset-to-capital multiple and GAA have been replaced by with the leverage ratio and leverage ratio exposure respectively.

**Guarantees and standby letters of credit**

These primarily represent irrevocable assurances that a bank will make payments in the event that its client cannot meet its financial obligations to third parties. Certain other guarantees, such as bid and performance bonds, represent non-financial undertakings.

**Hedge**

A risk management technique used to mitigate exposure from market, interest rate or foreign currency exchange risk arising from normal banking operations. The elimination or reduction of such exposure is accomplished by establishing offsetting positions. For example, assets denominated in foreign currencies can be offset with liabilities in the same currencies or through the use of foreign exchange hedging instruments such as futures, options or foreign exchange contracts.

**Hedge funds**

A type of investment fund, marketed to accredited high net worth investors, that is subject to limited regulation and restrictions on its investments compared to retail mutual funds, and that often utilize aggressive strategies such as selling short, leverage, program trading, swaps, arbitrage and derivatives.

**High-quality liquid assets (HQLA)**

Assets are considered to be HQLA if they can be easily and immediately converted into cash at little or no loss of value during a time of stress.

**Home equity products**

This is comprised of residential mortgages and secured personal loans whereby the borrower pledges real estate as collateral.

**International Financial Reporting Standards (IFRS)**

IFRS are principles-based standards, interpretations and the framework adopted by the International Accounting Standards Board.

**Impaired loans**

Loans are classified as impaired when there has been a deterioration of credit quality to the extent that management no longer has reasonable assurance of timely collection of the full amount of principal and interest in accordance with the contractual terms of the loan agreement. Credit card balances are not classified as impaired as they are directly written off after payments are 180 days past due.

**Innovative capital instruments**

Innovative capital instruments are capital instruments issued by structured entities, whose primary purpose is to raise capital. We previously issued innovative capital instruments, RBC Trust Capital Securities (RBC TruCS) and RBC Trust Subordinated Notes (RBC TSNs), through three structured entities: RBC Capital Trust, RBC Capital Trust II and RBC Subordinated Notes Trust. As per OSFI Basel III guidelines, non-qualifying innovative capital instruments treated as additional Tier 1 capital are subject to phase out over a ten year period beginning on January 1, 2013.

**Leverage Ratio**

A Basel III regulatory measure, the ratio divides Tier 1 capital by the sum of total assets plus specified off-balance sheet items.

**Liquidity Coverage Ratio (LCR)**

The Liquidity Coverage Ratio is a Basel III metric that measures the sufficiency of HQLA available to meet net short-term financial obligations over a thirty day period in an acute stress scenario.

**Loan-to-value (LTV) ratio**

Calculated based on the total facility amount for the residential mortgage and homeline product divided by the value of the related residential property.

**Master netting agreement**

An agreement between us and a counterparty designed to reduce the credit risk of multiple derivative transactions through the creation of a legal right of offset of exposure in the event of a default.

**Net interest income**

The difference between what is earned on assets such as loans and securities and what is paid on liabilities such as deposits and subordinated debentures.

**Net interest margin (average assets)**

Net interest income as a percentage of total average assets.

**Net interest margin (on average earning assets)**

Calculated as net interest income divided by average earning assets.

**Normal course issuer bid (NCIB)**

A program for the repurchase of our own shares for cancellation through a stock exchange that is subject to the various rules of the relevant stock exchange and securities commission.

**Notional amount**

The contract amount used as a reference point to calculate payments for derivatives.

**Off-balance sheet financial instruments**

A variety of arrangements offered to clients, which include credit derivatives, written put options, backstop liquidity facilities, stable value products, financial standby letters of credit, performance guarantees, credit enhancements, mortgage loans sold with recourse, commitments to extend credit, securities lending, documentary and commercial letters of credit, note issuances and revolving underwriting facilities, securities lending indemnifications and indemnifications.

**Office of the Superintendent of Financial Institutions Canada (OSFI)**

The primary regulator of federally chartered financial institutions and federally administered pension plans in Canada. OSFI's mission is to safeguard policyholders, depositors and pension plan members from undue loss.

**Operating leverage**

The difference between our revenue growth rate and non-interest expense growth rate.

**Options**

A contract or a provision of a contract that gives one party (the option holder) the right, but not the obligation, to perform a specified transaction with another party (the option issuer or option writer) according to specified terms.

**Primary dealer**

A formal designation provided to a bank or securities broker-dealer permitted to trade directly with a country's central bank. Primary dealers participate in open market operations, act as market-makers of government debt and provide market information and analysis to assist with monetary policy.

**Provision for credit losses (PCL)**

The amount charged to income necessary to bring the allowance for credit losses to a level determined appropriate by management. This includes both specific and general provisions.

**Repurchase agreements**

These involve the sale of securities for cash and the simultaneous repurchase of the securities for value at a later date. These transactions normally do not constitute economic sales and therefore are treated as collateralized financing transactions.

**Residential mortgage-backed securities (RMBS)**

Securities created through the securitization of residential mortgage loans.

**Return on common equity (ROE)**

Net income available to common shareholders, expressed as a percentage of average common equity.

**Reverse repurchase agreements**

These involve the purchase of securities for cash and the simultaneous sale of the securities for value at a later date. These transactions normally do not constitute economic sales and therefore are treated as collateralized financing transactions.

**Risk-weighted assets (RWA)**

Assets adjusted by a regulatory risk-weight factor to reflect the riskiness of on and off-balance sheet exposures. Certain assets are not risk-weighted, but deducted from capital. The calculation is defined by guidelines issued by OSFI. For more details, refer to the Capital management section.

**Securities lending**

Transactions in which the owner of a security agrees to lend it under the terms of a prearranged contract to a borrower for a fee. The borrower must collateralize the security loan at all times. An intermediary such as a bank often acts as agent for the owner of the security. There are two types of securities lending arrangements: lending with and without credit or market risk indemnification. In securities lending without indemnification, the bank bears no risk of loss. For transactions in which the bank provides an indemnification, it bears the risk of loss if the borrower defaults and the value of the collateral declines concurrently.

**Securities sold short**

A transaction in which the seller sells securities and then borrows the securities in order to deliver them to the purchaser upon settlement. At a later date, the seller buys identical securities in the market to replace the borrowed securities.

**Securitization**

The process by which various financial assets are packaged into newly issued securities backed by these assets.

**Structured entities**

A structured entity is an entity in which voting or similar rights are not the dominant factor in deciding who controls the entity, such as when the activities that significantly affect the entity's returns are directed by means of contractual arrangements. Structured entities often have restricted activities, narrow and well defined objectives, insufficient equity to finance their activities, and financing in the form of multiple contractually-linked instruments.

**Standardized Approach**

Risk weights prescribed by OSFI are used to calculate risk-weighted assets for the credit risk exposures. Credit assessments by OSFI-recognized external credit rating agencies of S&P, Moody's, Fitch and DBRS are used to risk-weight our Sovereign and Bank exposures based on the standards and guidelines issued by OSFI. For our Business and Retail exposures, we use the standard risk weights prescribed by OSFI.

**Structured investment vehicle**

Managed investment vehicle that holds mainly highly rated asset-backed securities and funds itself using the short-term commercial paper market as well as the medium-term note (MTN) market.

**Subprime loans**

Subprime lending is the practice of making loans to borrowers who do not qualify for the best market interest rates because of their deficient credit history. Subprime lending carries more risk for lenders due to the combination of higher interest rates for the borrowers, poorer credit histories, and adverse financial situations usually associated with subprime applicants.

**Taxable equivalent basis (teb)**

Income from certain specified tax advantaged sources (eligible Canadian taxable corporate dividends) is increased to a level that would make it comparable to income from taxable sources. There is an offsetting adjustment in the tax provision, thereby generating the same after-tax net income.

**Tier 1 capital**

Tier 1 capital comprises predominantly of CET1 capital, with additional Tier 1 items such as preferred shares, innovative instruments and non-controlling interests in subsidiaries Tier 1 instruments.

**Tier 2 capital**

Tier 2 capital consists mainly of subordinated debentures that meet certain criteria, certain loan loss allowances and non-controlling interests in subsidiaries' Tier 2 instruments.

**Total capital and total capital ratio**

Total capital is defined as the total of Tier 1 and Tier 2 capital. The total capital ratio is calculated by dividing total capital by risk-weighted assets.

**Tranche**

A security class created whereby the risks and returns associated with a pool of assets are packaged into several classes of securities offering different risk and return profiles from those of the underlying asset pool. Tranches are typically rated by ratings agencies, and reflect both the credit quality of underlying collateral as well as the level of protection based on the tranches' relative subordination.

**Trust Capital Securities (RBC TruCS)**

Transferable trust units issued by structured entities RBC Capital Trust or RBC Capital Trust II for the purpose of raising innovative Tier 1 capital.

**Value-at-Risk (VaR)**

A generally accepted risk-measurement concept that uses statistical models based on historical information to estimate within a given level of confidence the maximum loss in market value we would experience in our trading portfolio from an adverse one-day movement in market rates and prices.