

Audited Consolidated Financial Statements

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Management's Responsibility for Financial Reporting

The consolidated financial statements of National Bank of Canada (the Bank) have been prepared in accordance with section 308(4) of the *Bank Act* (Canada), which states that, except as otherwise specified by the Office of the Superintendent of Financial Institutions (Canada) (OSFI), the financial statements are to be prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB). IFRS represent Canadian generally accepted accounting principles (GAAP). None of the OSFI accounting requirements are exceptions to IFRS.

Management maintains the accounting and internal control systems needed to discharge its responsibility, which is to provide reasonable assurance that the financial accounts are accurate and complete and that the Bank's assets are adequately safeguarded. Controls that are currently in place include quality standards on staff hiring and training; the implementation of organizational structures with clear divisions of responsibility and accountability for performance; the *Code of Professional Conduct*; and the communication of operating policies and procedures.

As Chief Executive Officer and as Chief Financial Officer, we have overseen the evaluation of the design and operation of the Bank's internal controls over financial reporting in accordance with *National Instrument 52-109 Certification of Disclosure in Issuers' Annual and Interim Filings* released by the Canadian Securities Administrators. Based on the evaluation work performed, we have concluded that the internal controls over financial reporting and the disclosure controls and procedures were effective as at October 31, 2021 and that they provide reasonable assurance that the financial information is reliable and that the Bank's consolidated financial statements have been prepared in accordance with IFRS.

The Board of Directors (the Board) is responsible for reviewing and approving the financial information contained in the *Annual Report*. Acting through the Audit Committee, the Board also oversees the presentation of the consolidated financial statements and ensures that accounting and control systems are maintained. Composed of directors who are neither officers nor employees of the Bank, the Audit Committee is responsible, through Internal Audit, for performing an independent and objective review of the Bank's internal control effectiveness, i.e., governance processes, risk management processes and control measures. Furthermore, the Audit Committee reviews the consolidated financial statements and recommends their approval to the Board.

The control systems are further supported by the presence of the Compliance Service, which exercises independent oversight and evaluation in order to assist managers in effectively managing regulatory compliance risk and to obtain reasonable assurance that the Bank is compliant with regulatory requirements.

Both the Senior Vice-President, Internal Audit and the Senior Vice-President, Chief Compliance Officer and Chief Anti-Money Laundering Officer have a direct functional link to the Chair of the Audit Committee and to the Chair of the Risk Management Committee. They both also have direct access to the President and Chief Executive Officer.

In accordance with the *Bank Act* (Canada), OSFI is mandated to protect the rights and interests of depositors. Accordingly, OSFI examines and enquires into the business and affairs of the Bank, as deemed necessary, to ensure that the provisions of the *Bank Act* (Canada) are being satisfied and that the Bank is in sound financial condition.

The independent auditor, Deloitte LLP, whose report follows, was appointed by the shareholders at the recommendation of the Board. The auditor has full and unrestricted access to the Audit Committee to discuss audit and financial reporting matters.

Laurent Ferreira
President and Chief Executive Officer

Ghislain Parent
Chief Financial Officer and Executive Vice-President, Finance

Montreal, Canada, November 30, 2021

Independent Auditor's Report

To the Shareholders of National Bank of Canada

Opinion

We have audited the consolidated financial statements of National Bank of Canada (the Bank), which comprise the consolidated balance sheets as at October 31, 2021 and 2020, and the consolidated statements of income, the consolidated statements of comprehensive income, the consolidated statements of changes in equity and the consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the “financial statements”).

In our opinion, the accompanying financial statements present fairly, in all material respects, the financial position of the Bank as at October 31, 2021 and 2020, and its financial performance and its cash flows for the years then ended in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board (IFRS).

Basis for Opinion

We conducted our audit in accordance with Canadian generally accepted auditing standards (Canadian GAAS). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are independent of the Bank in accordance with the ethical requirements that are relevant to our audit of the financial statements in Canada, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements for the year ended October 31, 2021. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

Allowances for Credit Losses — Refer to Notes 1 and 7 to the Financial Statements

Key Audit Matter Description

The allowances for credit losses represent management's estimate of expected credit losses (ECL) on financial assets calculated under the IFRS 9 – *Financial Instruments* ECL framework. The calculation of ECL is based on the probability of default (PD), loss given default (LGD), and exposure at default (EAD) of the underlying assets and represents an unbiased and probability-weighted estimate of losses expected to occur in the future based on forecasts of macroeconomic variables for three scenarios. Lifetime ECL is recorded for financial assets that have experienced significant increases in credit risk (SICR) since initial recognition or that are impaired; otherwise, 12-month ECL is recorded. Given uncertainty surrounding the key inputs used to measure credit losses, the Bank has applied expert credit judgment to adjust the modelled ECL results.

We have identified the allowances for credit losses as a key audit matter due to the inherent complexity of the ECL models used and the significant judgment required by management in relation to the forward-looking nature of some key assumptions, including the impact of the COVID-19 pandemic on the economy. Significant auditor judgment was required in evaluating: (i) the models and methodologies used to measure ECL; (ii) the forecasts of macroeconomic scenarios and their probability weighting; (iii) the determination of SICR; and (iv) the adjustments to the modelled ECL results representing management's expert credit judgment. Auditing the ECL models and the key judgments and assumptions required a high degree of auditor judgment and an increased extent of audit effort, including the involvement of professionals with specialized skills in credit risk and economics.

How the Key Audit Matter Was Addressed in the Audit

Our audit procedures related to the models and the key judgments and assumptions used by management to estimate the ECL included the following, among others:

- With the assistance of professionals with specialized skills in credit risk or economics:
 - For a selection of ECL models, evaluated the appropriateness of the models used to estimate ECL;
 - Evaluated the forecasts of macroeconomic scenarios and their probability weighting by comparing against independently developed forecasts and publicly available industry data, including the impact of the COVID-19 pandemic;
 - Assessed management's determination of SICR and the appropriateness of the related model's programming;
 - Assessed the adjustments to the modelled ECL results by evaluating management's expert credit judgment.

Income Taxes – Uncertain Tax Positions — Refer to Notes 1 and 24 to the Financial Statements

Key Audit Matter Description

In the normal course of its business, the Bank is involved in a number of transactions for which the tax impacts are uncertain. The Bank accounts for provisions for uncertain tax positions that adequately represent the risk stemming from tax matters under discussion or being audited by tax authorities or from other matters involving uncertainty. These provisions reflect management's best possible estimate of the amounts that may have to be paid based on qualitative assessments of all relevant factors. As disclosed in Note 24, the Bank was reassessed by the tax authorities for additional income taxes and interest in respect of certain Canadian dividends received by the Bank for certain taxation years and may be reassessed for subsequent taxation years in regard to similar activities. The Bank has not recognized any tax liability related to these uncertain tax positions.

We have identified the assessment of the accounting of the uncertain tax positions related to certain Canadian dividends as a key audit matter given the significant judgment made by management when evaluating the probability of acceptance of the Bank's tax positions and interpreting relevant tax and case law and administrative positions. Auditing these judgments required a high degree of auditor judgment and resulted in an increased extent of audit effort, including the involvement of tax specialists.

How the Key Audit Matter Was Addressed in the Audit

Our audit procedures pertaining to the assessment of the accounting of the uncertain tax positions related to certain Canadian dividends included the following, among others:

- With the assistance of tax specialists, evaluated management's assessment of the probability of acceptance of the Bank's tax positions by assessing:
 - The Bank's interpretations of relevant tax and case law and administrative positions;
 - The correspondence with the relevant tax authorities; and
 - The advice and legal opinions obtained by the Bank's external tax advisors.

Other Information

Management is responsible for the other information. The other information comprises:

- Management's Discussion and Analysis; and
- The information, other than the financial statements and our auditor's report thereon, in the Annual Report.

Our opinion on the financial statements does not cover the other information and we do not and will not express any form of assurance conclusion thereon. In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated.

We obtained Management's Discussion and Analysis and the Annual Report prior to the date of this auditor's report. If, based on the work we have performed on this other information, we conclude that there is a material misstatement of this other information, we are required to report that fact in this auditor's report. We have nothing to report in this regard.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Bank's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Bank or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Bank's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Canadian GAAS will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with Canadian GAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Bank's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Bank's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Bank to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Bank to express an opinion on the financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Carl Magnan.

/s/ Deloitte LLP¹

November 30, 2021
Montreal, Quebec

¹ CPA auditor, CA, public accountancy permit No. A121501

Consolidated Balance Sheets

As at October 31		2021	2020
Assets			
Cash and deposits with financial institutions		33,879	29,142
Securities	Notes 3, 4 and 6		
At fair value through profit or loss		84,811	78,326
At fair value through other comprehensive income		9,583	12,726
At amortized cost		11,910	11,079
		106,304	102,131
Securities purchased under reverse repurchase agreements and securities borrowed		7,516	14,512
Loans	Note 7		
Residential mortgage		72,542	64,959
Personal		41,053	37,613
Credit card		2,150	2,038
Business and government		61,106	54,422
		176,851	159,032
Customers' liability under acceptances		6,836	6,866
Allowances for credit losses		(998)	(1,158)
		182,689	164,740
Other			
Derivative financial instruments	Note 16	16,484	13,422
Investments in associates and joint ventures	Note 9	225	409
Premises and equipment	Note 10	1,216	1,155
Goodwill	Note 11	1,504	1,414
Intangible assets	Note 11	1,510	1,434
Other assets	Note 12	4,468	3,266
		25,407	21,100
		355,795	331,625
Liabilities and equity			
Deposits	Notes 4 and 13	240,938	215,878
Other			
Acceptances		6,836	6,866
Obligations related to securities sold short		20,266	16,368
Obligations related to securities sold under repurchase agreements and securities loaned	Note 8	17,293	33,859
Derivative financial instruments	Note 16	19,367	12,923
Liabilities related to transferred receivables	Notes 4 and 8	25,170	22,855
Other liabilities	Note 14	6,301	5,718
		95,233	98,589
Subordinated debt	Note 15	768	775
Equity			
Equity attributable to the Bank's shareholders and holders of other equity instruments	Notes 18 and 22		
Preferred shares and other equity instruments		2,650	2,950
Common shares		3,160	3,057
Contributed surplus		47	47
Retained earnings		13,028	10,444
Accumulated other comprehensive income		(32)	(118)
		18,853	16,380
Non-controlling interests	Note 19	3	3
		18,856	16,383
		355,795	331,625

The accompanying notes are an integral part of these audited consolidated financial statements.

Laurent Ferreira
President and Chief Executive Officer

Karen Kinsley
Director

Consolidated Statements of Income

Year ended October 31		2021	2020
Interest income			
Loans		5,460	5,915
Securities at fair value through profit or loss		1,092	1,140
Securities at fair value through other comprehensive income		181	224
Securities at amortized cost		178	211
Deposits with financial institutions		76	88
		6,987	7,578
Interest expense			
Deposits		1,635	2,552
Liabilities related to transferred receivables		372	392
Subordinated debt		17	19
Other		180	360
		2,204	3,323
Net interest income⁽¹⁾		4,783	4,255
Non-interest income			
Underwriting and advisory fees		415	314
Securities brokerage commissions		238	204
Mutual fund revenues		563	477
Investment management and trust service fees		900	735
Credit fees		506	467
Card revenues		148	138
Deposit and payment service charges		274	262
Trading revenues (losses)	Note 21	268	544
Gains (losses) on non-trading securities, net		151	93
Insurance revenues, net		131	128
Foreign exchange revenues, other than trading		202	164
Share in the net income of associates and joint ventures	Note 9	23	28
Other	Note 9	325	118
		4,144	3,672
Total revenues		8,927	7,927
Non-interest expenses			
Compensation and employee benefits		3,027	2,713
Occupancy		299	291
Technology	Notes 10 and 11	821	805
Communications		53	58
Professional fees		246	244
Other		407	434
		4,853	4,545
Income before provisions for credit losses and income taxes		4,074	3,382
Provisions for credit losses	Note 7	2	846
Income before income taxes		4,072	2,536
Income taxes	Note 24	895	453
Net income		3,177	2,083
Net income attributable to			
Preferred shareholders and holders of other equity instruments		123	118
Common shareholders		3,054	1,923
Bank shareholders and holders of other equity instruments		3,177	2,041
Non-controlling interests		–	42
		3,177	2,083
Earnings per share (dollars)	Note 25		
Basic		9.06	5.73
Diluted		8.96	5.70
Dividends per common share (dollars)	Note 18	2.84	2.84

The accompanying notes are an integral part of these audited consolidated financial statements.

(1) *Net interest income* includes dividend income. For additional information, see Note 1 to these audited consolidated financial statements.

Consolidated Statements of Comprehensive Income

Year ended October 31	2021	2020
Net income	3,177	2,083
Other comprehensive income, net of income taxes		
Items that may be subsequently reclassified to net income		
Net foreign currency translation adjustments		
Net unrealized foreign currency translation gains (losses) on investments in foreign operations	(314)	43
Net foreign currency translation (gains) losses on investments in foreign operations reclassified to net income	16	56
Impact of hedging net foreign currency translation gains (losses)	95	(14)
Impact of hedging net foreign currency translation (gains) losses reclassified to net income	–	(20)
	(203)	65
Net change in debt securities at fair value through other comprehensive income		
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income	6	240
Net (gains) losses on debt securities at fair value through other comprehensive income reclassified to net income	(34)	(155)
Change in allowances for credit losses on debt securities at fair value through other comprehensive income reclassified to net income	(2)	2
	(30)	87
Net change in cash flow hedges		
Net gains (losses) on derivative financial instruments designated as cash flow hedges	280	(271)
Net (gains) losses on designated derivative financial instruments reclassified to net income	26	(6)
	306	(277)
Share in the other comprehensive income of associates and joint ventures		
	–	3
Items that will not be subsequently reclassified to net income		
Remeasurements of pension plans and other post-employment benefit plans	475	238
Net gains (losses) on equity securities designated at fair value through other comprehensive income	64	(2)
Net fair value change attributable to credit risk on financial liabilities designated at fair value through profit or loss	(12)	(44)
	527	192
Total other comprehensive income (loss), net of income taxes	600	70
Comprehensive income	3,777	2,153
Comprehensive income attributable to		
Bank shareholders and holders of other equity instruments	3,790	2,099
Non-controlling interests	(13)	54
	3,777	2,153

The accompanying notes are an integral part of these audited consolidated financial statements.

Consolidated Statements of Comprehensive Income (cont.)

Income Taxes – Other Comprehensive Income

The following table presents the income tax expense or recovery for each component of other comprehensive income.

Year ended October 31	2021	2020
Items that may be subsequently reclassified to net income		
Net foreign currency translation adjustments		
Net unrealized foreign currency translation gains (losses) on investments in foreign operations	14	(13)
Net foreign currency translation (gains) losses on investments in foreign operations reclassified to net income	(2)	6
Impact of hedging net foreign currency translation gains (losses)	24	(4)
Impact of hedging net foreign currency translation (gains) losses reclassified to net income	–	(18)
	36	(29)
Net change in debt securities at fair value through other comprehensive income		
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income	2	86
Net (gains) losses on debt securities at fair value through other comprehensive income reclassified to net income	(12)	(56)
Change in allowances for credit losses on debt securities at fair value through other comprehensive income reclassified to net income	–	1
	(10)	31
Net change in cash flow hedges		
Net gains (losses) on derivative financial instruments designated as cash flow hedges	100	(97)
Net (gains) losses on designated derivative financial instruments reclassified to net income	9	(2)
	109	(99)
Share in the other comprehensive income of associates and joint ventures		
	–	1
Items that will not be subsequently reclassified to net income		
Remeasurements of pension plans and other post-employment benefit plans	170	86
Net gains (losses) on equity securities designated at fair value through other comprehensive income	24	–
Net fair value change attributable to credit risk on financial liabilities designated at fair value through profit or loss	(5)	(16)
	189	70
	324	(26)

The accompanying notes are an integral part of these audited consolidated financial statements.

Consolidated Statements of Changes in Equity

Year ended October 31		2021	2020
Preferred shares and other equity instruments at beginning	Note 18	2,950	2,450
Issuances of preferred shares and other equity instruments		500	500
Redemptions of preferred shares and other equity instruments for cancellation		(800)	–
Preferred shares and other equity instruments at end		2,650	2,950
Common shares at beginning	Note 18	3,057	2,949
Issuances of common shares pursuant to the Stock Option Plan		104	111
Repurchases of common shares for cancellation		–	(5)
Impact of shares purchased or sold for trading		(1)	2
Common shares at end		3,160	3,057
Contributed surplus at beginning		47	51
Stock option expense	Note 22	11	9
Stock options exercised		(11)	(13)
Contributed surplus at end		47	47
Retained earnings at beginning		10,444	9,312
Net income attributable to the Bank's shareholders and holders of other equity instruments		3,177	2,041
Dividends on preferred shares and distributions on other equity instruments	Note 18	(131)	(119)
Dividends on common shares	Note 18	(958)	(953)
Premium paid on common shares repurchased for cancellation	Note 18	–	(25)
Issuance expenses for shares and other equity instruments, net of income taxes		(4)	(5)
Remeasurements of pension plans and other post-employment benefit plans		475	238
Net gains (losses) on equity securities designated at fair value through other comprehensive income		64	(2)
Net fair value change attributable to the credit risk on financial liabilities designated at fair value through profit or loss		(12)	(44)
Impact of a financial liability resulting from put options written to non-controlling interests	Note 14	(25)	–
Other		(2)	1
Retained earnings at end		13,028	10,444
Accumulated other comprehensive income at beginning		(118)	16
Net foreign currency translation adjustments		(190)	53
Net change in unrealized gains (losses) on debt securities at fair value through other comprehensive income		(30)	87
Net change in gains (losses) on cash flow hedges		306	(277)
Share in the other comprehensive income of associates and joint ventures		–	3
Accumulated other comprehensive income at end		(32)	(118)
Equity attributable to the Bank's shareholders and holders of other equity instruments		18,853	16,380
Non-controlling interests at beginning	Note 19	3	358
Non-controlling interest from the Flinks Technology Inc. acquisition	Note 31	3	–
Purchase of the non-controlling interest of the Credigy Ltd. subsidiary	Note 31	10	–
Redemption of trust units issued by NBC Asset Trust		–	(350)
Net income attributable to non-controlling interests		–	42
Other comprehensive income attributable to non-controlling interests		(13)	12
Distributions to non-controlling interests		–	(59)
Non-controlling interests at end		3	3
Equity		18,856	16,383

Accumulated Other Comprehensive Income

As at October 31		2021	2020
Accumulated other comprehensive income			
Net foreign currency translation adjustments		(129)	61
Net unrealized gains (losses) on debt securities at fair value through other comprehensive income		71	101
Net gains (losses) on instruments designated as cash flow hedges		23	(283)
Share in the other comprehensive income of associates and joint ventures		3	3
		(32)	(118)

The accompanying notes are an integral part of these audited consolidated financial statements.

Consolidated Statements of Cash Flows

Year ended October 31	2021	2020
Cash flows from operating activities		
Net income	3,177	2,083
Adjustments for		
Provisions for credit losses	2	846
Depreciation of premises and equipment, including right-of-use assets	195	196
Amortization of intangible assets	286	252
Impairment losses on premises and equipment and on intangible assets	16	71
Gain on remeasurement of the previously held equity interest in Flinks Technology Inc.	(33)	–
Remeasurement at fair value of an investment	30	–
Foreign currency translation loss on disposal of subsidiaries	–	24
Deferred taxes	119	(158)
Losses (gains) on sales of non-trading securities, net	(151)	(93)
Share in the net income of associates and joint ventures	(23)	(28)
Stock option expense	11	9
Change in operating assets and liabilities		
Securities at fair value through profit or loss	(6,485)	(16,503)
Securities purchased under reverse repurchase agreements and securities borrowed	6,996	3,211
Loans and acceptances, net of securitization	(15,661)	(10,883)
Deposits	25,060	26,312
Obligations related to securities sold short	3,898	3,519
Obligations related to securities sold under repurchase agreements and securities loaned	(16,566)	11,959
Derivative financial instruments, net	3,382	778
Securitization – Credit cards	49	(846)
Interest and dividends receivable and interest payable	(186)	(156)
Current tax assets and liabilities	272	(167)
Other items	1,725	(445)
	6,113	19,981
Cash flows from financing activities		
Issuances of preferred shares and other equity instruments	500	500
Redemptions of preferred shares and other equity instruments for cancellation	(800)	–
Issuances of common shares (including the impact of shares purchased for trading)	92	100
Repurchases of common shares for cancellation	–	(30)
Purchase of the non-controlling interest of the Credigy Ltd. subsidiary	(300)	–
Investment in the Flinks Technology Inc. subsidiary	(30)	–
Redemption of trust units issued by NBC Asset Trust	–	(350)
Issuance expenses for shares and other equity instruments	(4)	(5)
Repayments of lease liabilities	(96)	(88)
Dividends paid on shares and distributions on other equity instruments	(1,101)	(1,300)
Distributions to non-controlling interests	–	(59)
	(1,739)	(1,232)
Cash flows from investing activities		
Acquisition of Flinks Technology Inc.	(73)	–
Net change in investments in associates and joint ventures	225	(4)
Purchases of non-trading securities	(7,348)	(16,247)
Maturities of non-trading securities	2,500	1,873
Sales of non-trading securities	6,655	11,543
Net change in premises and equipment, excluding right-of-use assets	(217)	(182)
Net change in intangible assets	(350)	(332)
	1,392	(3,349)
Impact of currency rate movements on cash and cash equivalents	(1,029)	44
Increase (decrease) in cash and cash equivalents	4,737	15,444
Cash and cash equivalents at beginning	29,142	13,698
Cash and cash equivalents at end⁽¹⁾	33,879	29,142
Supplementary information about cash flows from operating activities		
Interest paid	2,261	3,535
Interest and dividends received	6,858	7,634
Income taxes paid	542	536

The accompanying notes are an integral part of these audited consolidated financial statements.

(1) This item is the equivalent of Consolidated Balance Sheet item *Cash and deposits with financial institutions*. It includes an amount of \$6.8 billion as at October 31, 2021 (\$5.9 billion as at October 31, 2020) for which there are restrictions.

Notes to the Audited Consolidated Financial Statements

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Note 1 – Basis of Presentation and Summary of Significant Accounting Policies

National Bank of Canada (the Bank) is a financial institution incorporated and domiciled in Canada and whose shares are listed on the Toronto Stock Exchange. Its head office is located at 600 De La Gauchetière Street West in Montreal, Quebec, Canada. The Bank is a chartered bank under Schedule 1 of the *Bank Act* (Canada) and is regulated by the Office of the Superintendent of Financial Institutions Canada (OSFI).

National Bank of Canada offers financial services to individuals, businesses, institutional clients and governments throughout Canada as well as specialized services at the international level. It operates four business segments, namely, the Personal and Commercial segment, the Wealth Management segment, the Financial Markets segment, and the U.S. Specialty Finance and International (USSF&I) segment. Its full line of services includes banking and investing solutions for individuals and businesses, corporate banking and investment banking services, securities brokerage, insurance, and wealth management.

On November 30, 2021, the Board of Directors (the Board) authorized the publication of the Bank's audited annual consolidated financial statements (the consolidated financial statements) for the year ended October 31, 2021.

Basis of Presentation

The Bank's consolidated financial statements are prepared in accordance with International Financial Reporting Standards (IFRS), as issued by the International Accounting Standards Board (IASB). The financial statements also comply with section 308(4) of the *Bank Act* (Canada), which states that, except as otherwise specified by the OSFI, the consolidated financial statements are to be prepared in accordance with IFRS. IFRS represent Canadian generally accepted accounting principles (GAAP). None of the OSFI accounting requirements are exceptions to IFRS.

The accounting policies covered in the Summary of Significant Accounting Policies section have been applied consistently to all periods presented except for the changes described hereafter in the Accounting Policy Changes section, which have been applied since November 1, 2020 following the Bank's early adoption of amendments to IFRS 9 – *Financial Instruments* (IFRS 9) and to IAS 39 – *Financial Instruments: Recognition and Measurement* (IAS 39) as well as to the related standard IFRS 7 – *Financial Instruments: Disclosures* (IFRS 7), to IFRS 4 – *Insurance Contracts* (IFRS 4), and to IFRS 16 – *Leases* (IFRS 16) resulting from interest rate benchmark reform.

On November 1, 2020, the Bank amended the classification of certain Consolidated Statement of Income amounts to better reflect the nature of the revenues reported in the Wealth Management segment. The reclassifications were made retrospectively among the items presented in *Non-Interest Income*. These reclassifications had no impact on the total amount of this income or on *Net income*.

Unless otherwise indicated, all amounts are expressed in Canadian dollars, which is the Bank's functional and presentation currency.

Accounting Policy Changes

The Bank adopted the following new and amended standards on November 1, 2020.

Interest Rate Benchmark Reform

In August 2020, the IASB finalized its response to the ongoing reform of interbank offered rates (IBOR) and other interest rate benchmarks by issuing amendments to its new and former financial instrument standards, IFRS 9 – *Financial Instruments* (IFRS 9) and IAS 39 – *Financial Instruments: Recognition and Measurement* (IAS 39) as well as to related standard IFRS 7 – *Financial Instruments: Disclosures* (IFRS 7), to IFRS 4 – *Insurance Contracts* (IFRS 4), and to IFRS 16 – *Leases* (IFRS 16). The amendments complement those issued in 2019 and focus on how financial statements will be affected once existing benchmark rates are replaced with alternative benchmark rates. The amendments in this final phase relate to changes to contractual cash flows, hedge accounting, and disclosures. On November 1, 2020, the Bank early adopted the amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16.

The amendments introduce a practical expedient to account for a change in the basis for determining the contractual cash flows of non-derivative financial instruments by prospectively revising the effective interest rate to reflect the change in the interest rate benchmark if the change is a direct consequence of the interest rate benchmark reform and the new basis for determining the contractual cash flows is economically equivalent to the previous basis. If additional changes are made and are not directly related to the reform, the IFRS 9 requirements are to be applied.

A temporary relief is also provided to hedge accounting requirements such that existing relationships that do not qualify under IAS 39 will be permitted if the change is affected by the interest rate benchmark reform. The Bank will update the hedge documentation without discontinuing the hedging relationship. For cash flow hedges, if the hedged item is modified due to the interest rate benchmark reform, the cumulative gain or loss in the cash flow hedge reserve for designated IBOR cash flow hedges will be deemed to be based on the alternative benchmark rate. For the fair value hedges of a non-contractually specified benchmark component of interest rate risk, if that risk rate is not separately identifiable upon transition to the alternative benchmark rate at the date of designation, it will be deemed to have met the separately identifiable requirement at that date if the Bank reasonably expects the term-specific interest rate component to be separately identifiable within a period of 24 months from the date the alternative benchmark rate is first designated, regardless of the term for which the risk is designated in that hedge. The 24-month period will apply on a rate-by-rate basis.

The reform of interest rate benchmarks is a global initiative that is being coordinated and led by central banks and governments around the world, including Canada. The objective is to improve benchmarks by ensuring that they meet robust international standards. The initiative introduces other benchmarks as recommended rates (risk-free rates such as Secured Overnight Financing Rate (SOFR), Canadian Overnight Repo Rate Average (CORRA) and Euro Short-Term Rate (ESTR)) to replace the Interbank Offered Rate (IBOR), which are the benchmark rates used by the world's major banks for short-term lending in the interbank market. These rates, in particular LIBOR (London Interbank Offered Rates), are widely used around the world as benchmarks for derivative financial instruments, bonds, and other variable-rate instruments. To ensure an orderly transition to the risk-free rates for derivatives, the industry has proposed a solution through ISDA (International Swaps and Derivatives Association) via a protocol (2020 IBOR Fallbacks Protocol) as well as a supplement to the 2006 definitions, which came into force on January 25, 2021. The Bank adopted the 2020 IBOR Fallbacks Protocol on October 16, 2020 and is monitoring the adherence by its derivatives counterparties to plan the transition of its legacy derivatives contracts accordingly. For certain other types of contracts, contractual amendments are expected by the end of 2021, at which time certain LIBOR rates are expected to be withdrawn. On March 5, 2021, the Financial Conduct Authority (FCA) in the United Kingdom announced the cessation or loss of representativeness of all LIBOR rates in two phases: pound sterling (GBP), euro (EUR), Japanese yen (JPY), Swiss franc (CHF) rates as of December 31, 2021 and U.S. dollar (USD) rates as of June 30, 2023 (except for 1-week and 2-month USD LIBOR, which cease as of December 31, 2021). The risk-free rates Sterling OverNight Index Average (SONIA), ESTR, Tokyo OverNight Average Rate (TONAR), and Swiss Average Rate OverNight (SARON) are being recommended to replace LIBOR as of December 31, 2021. This official announcement had the effect of fixing spread adjustments between the LIBOR rates and the corresponding risk-free rates set out in the rate-replacement methodology proposed by ISDA. At the same time, the FCA announced that in the months ahead it is launching consultations to assess the appropriateness of publishing certain synthetic LIBOR rates for a given period; they would be calculated using the rate-replacement methodology and based on the corresponding risk-free rates with spread adjustments. This measure would be adopted from a consumer protection and market integrity viewpoint to mitigate the difficulty of amending certain types of contracts when replacing the applicable rate. On May 20, 2021 and June 24, 2021, the FCA issued two consultations on this topic. On September 29, 2021, the FCA confirmed that 1-, 3-, and 6-month GBP and JPY LIBOR rates would continue being published for a period of one year following the discontinuance thereof on December 31, 2021 using a “synthetic” methodology, i.e., to be calculated using the corresponding risk-free rates, namely, ICE Term SONIA and the Tokyo Term Risk-Free Rate (TORF), with the respective ISDA fixed spread adjustment. This announcement was accompanied by a consultation on the acceptable parameters for using these synthetic rates. On November 16, 2021, the FCA confirmed that the use of synthetic rates GBP and JPY LIBOR would be permitted until the end of 2022 for all pre-existing contracts except for cleared derivative financial instruments. In addition, on May 21, 2021, the group working on alternative reference rates in the United States, named the Alternative Reference Rates Committee (ARRC), announced that CME Group had been selected as the administrator for a secured overnight financing rate (SOFR) term rates and that the ARRC will be able to officially recommend these SOFR term rates once certain conditions are met; these rates are to be used in certain sectors of the market, in particular the commercial loans market. On July 29, 2021, the ARRC announced that it was formally recommending the SOFR term rate administered by CME Group.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

To prepare for the interest rate benchmark reform, the Bank developed an enterprise-wide project, put together a dedicated team, and established a formal governance structure. Several committees were created to ensure the success of the project and to prepare for the interest rate benchmark reform. The project team is made up of qualified resources from different fields of expertise to ensure an in-depth analysis of all aspects of the changes as well as the financial, legal, operational and technological impacts. Many of these experts, who have in-depth knowledge of accounting standards and reform-related activities, are involved in the Canadian Bankers Association's working group where representatives of the major Canadian banks discuss the issues and interpretations of the reform. The Bank also participates in meetings with OSFI to discuss these same issues and interpretations. Furthermore, workshops are held to analyze the impact of the reform's implementation, ensuring that information is disseminated to stakeholders affected by this reform; information-sharing meetings are held with all stakeholders affected by the reform, and participants from various industry committees share the latest developments.

The project team regularly reports on the project's progress to the project steering committee and the Financial Markets Risk Committee, which are committees made up of members of management and experts from all departments involved. As at October 31, 2021, the project was progressing according to schedule. Lastly, a training plan for staff, management, and board members has been created.

The Bank is exposed to several risks, including interest rate risk and operational risk, which arise from non-derivative financial assets, non-derivative financial liabilities, and derivative financial instruments. The project team ensures that risks are mitigated while ensuring a positive experience for its clients. The Bank is taking all necessary steps to identify, measure, and control all risks to ensure a smooth transition to the interest rate benchmark reform.

The following table discloses the non-derivative financial assets, non-derivative financial liabilities, and derivative financial instruments subject to the interest rate benchmark reform as at October 31, 2021 that have yet to transition to alternative benchmark rates and that will mature after December 31, 2021.

	As at October 31, 2021				
	USD LIBOR ⁽¹⁾	EUR LIBOR	GBP LIBOR	JPY LIBOR	CHF LIBOR
Non-derivative financial assets ⁽²⁾	8,084	48	131	–	–
Non-derivative financial liabilities ⁽³⁾	11	–	–	–	–
Derivative financial instruments ⁽⁴⁾	156,929	–	9,015	478	36

(1) Includes only non-derivative financial assets, non-derivative financial liabilities, and derivative financial instruments indexed at USD LIBOR that will mature after June 30, 2023.

(2) Non-derivative financial assets include the carrying values of securities and of securities purchased under reverse repurchase agreements and securities borrowed as well as the outstanding balances on loans.

(3) Non-derivative financial liabilities include the notional amounts of deposits and subordinated debt as well as the carrying values of obligations related to securities sold short and of obligations related to securities sold under repurchase agreements and securities loaned.

(4) Derivative financial instruments include the notional amounts of interest rate contracts and foreign exchange contracts.

Conceptual Framework for Financial Reporting

The Revised Conceptual Framework for Financial Reporting stipulates that financial information must be relevant and achieve fair presentation to be useful. The framework provides revised definitions and recognition criteria for assets and liabilities and confirms that different measurement bases are useful and permitted. The adoption of the Revised Conceptual Framework for Financial Reporting did not have a significant impact on the Bank.

International Financial Reporting Interpretations Committee (IFRIC) Final Agenda Decision

In April 2021, IFRIC issued a final agenda decision on accounting for configuration or customization costs on a supplier's software in a cloud computing arrangement, often referred to as a Software as a Service (SaaS) arrangement. In these types of arrangements, access to software is usually provided through the Internet. The main conclusion is that, where the costs do not give rise to an intangible asset that is separate from the software, they are recognized as an expense when the customer receives the configuration or customization services. IFRIC determined that sufficient guidance exists within the relevant accounting standards and that the conclusions, as set out in the final agenda decision, form part of the interpretation of IFRS. As such, any changes from these interpretations would be accounted for as a retrospectively applied accounting policy change in accordance with IAS 8 – *Accounting Policies, Changes in Accounting Estimates and Errors*. The Bank is currently assessing the impact of these interpretations on its consolidated financial statements and expects to finalize its assessment during the year ended October 31, 2022.

Summary of Significant Accounting Policies

Judgments, Estimates and Assumptions

In preparing consolidated financial statements in accordance with IFRS, management must exercise judgment and make estimates and assumptions that affect the reporting date carrying amounts of assets and liabilities, net income, and related information. Furthermore, certain accounting policies require complex judgments and estimates because they apply to matters that are inherently uncertain, in particular accounting policies applicable to the following: the fair value determination of financial instruments, the impairment of financial assets, the impairment of non-financial assets, pension plans and other post-employment benefits, income taxes, provisions, the consolidation of structured entities, and the classification of debt instruments. Descriptions of these judgments and estimates are provided in each of the notes related thereto in the consolidated financial statements. Actual results could therefore differ from these estimates, in which case the impacts are recognized in the consolidated financial statements of future fiscal periods. The accounting policies described in this note provide greater detail about the use of estimates and assumptions and reliance on judgment.

COVID-19 Pandemic Considerations

The COVID-19 pandemic continues to evolve, and, given the heightened uncertainty associated with the unprecedented nature of the pandemic, developing reliable estimates and applying judgment has become even more challenging. Some of the Bank's accounting policies, such as measurement of expected credit losses, require particularly complex judgments and estimates. The uncertainty regarding certain key inputs used in measuring expected credit losses (ECLs) is described in Note 7 to these consolidated financial statements.

Basis of Consolidation

Subsidiaries

These consolidated financial statements include all the assets, liabilities, operating results and cash flows of the Bank and its subsidiaries, after elimination of intercompany transactions and balances. Subsidiaries are entities, including structured entities, controlled by the Bank. A structured entity is an entity created to accomplish a narrow and well-defined objective and is designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements.

Management must exercise judgment in determining whether the Bank must consolidate an entity. The Bank controls an entity only if the following three conditions are met:

- it has decision-making authority regarding the entity's relevant activities;
- it has exposure or rights to variable returns from its involvement with the entity;
- it has the ability to use its power to affect the amount of the returns.

When determining decision-making authority, the Bank considers many factors, including the existence and effect of actual and potential voting rights held by the Bank that can be exercised as well as the holding of instruments that are convertible into voting shares. In addition, the Bank must determine whether, as an investor with decision-making rights, it acts as a principal or agent.

Based on these principles, an assessment of control is performed at the inception of a relationship between any entity and the Bank. When performing this assessment, the Bank considers all facts and circumstances, and it must reassess whether it still controls an investee if facts and circumstances indicate that one or more of the three conditions of control have changed.

The Bank consolidates the entities it controls from the date on which control is obtained and ceases to consolidate them from the date control ceases. The Bank uses the acquisition method to account for the acquisition of a subsidiary from a third party on the date control is obtained.

Non-Controlling Interests

Non-controlling interests in subsidiaries represent the equity interests held by third parties in the Bank's subsidiaries and are presented in total *Equity*, separately from *Equity attributable to the Bank's shareholders and holders of other equity instruments*. The non-controlling interests' proportionate shares of the net income and other comprehensive income of the Bank's subsidiaries are presented separately in the Consolidated Statement of Income and in the Consolidated Statement of Comprehensive Income, respectively.

With respect to units issued to third parties by mutual funds and certain other funds that are consolidated, they are presented at fair value in *Other liabilities* on the Consolidated Balance Sheet. Lastly, changes in ownership interests in subsidiaries that do not result in a loss of control are recognized as equity transactions. The difference between the adjustment in the carrying value of the non-controlling interest and the fair value of the consideration paid or received is recognized directly in *Equity attributable to the Bank's shareholders and holders of other equity instruments*.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Investments in Associates and Joint Ventures

The Bank exercises significant influence over an entity when it has the power to participate in the financial and operating policy decisions of the investee. The Bank has joint control when there's a contractually agreed sharing of control of an entity, and joint control exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

Investments in associates, i.e., entities over which the Bank exercises significant influence, and investments in joint ventures, i.e., entities over which the Bank has rights to the net assets and exercises joint control, are accounted for using the equity method. Under the equity method, the investment is initially recorded at cost and, following acquisition, the Bank's proportionate shares in the net income and in the other comprehensive income are recognized, respectively, in *Non-interest income* in the Consolidated Statement of Income and in *Other comprehensive income* in the Consolidated Statement of Comprehensive Income. The carrying value of the investment is adjusted by an equivalent amount on the Consolidated Balance Sheet and reduced by distributions received.

Translation of Foreign Currencies

The consolidated financial statements are presented in Canadian dollars, which is the Bank's functional and presentation currency. Each foreign operation within the Bank's scope of consolidation determines its own functional currency, and the items reported in the financial statements of each foreign operation are measured using that currency.

Monetary items and non-monetary items measured at fair value and denominated in foreign currencies are translated into the functional currency at exchange rates prevailing at the Consolidated Balance Sheet date. Non-monetary items not measured at fair value are translated into the functional currency at historical rates. Revenues and expenses denominated in foreign currencies are translated at the average exchange rates for the period. Translation gains and losses are recognized in *Non-interest income* in the Consolidated Statement of Income, except for equity instruments designated at fair value through other comprehensive income, for which unrealized gains and losses are recorded in *Other comprehensive income* and will not be subsequently reclassified to net income.

In the consolidated financial statements, the assets and liabilities of all foreign operations are translated into the Bank's functional currency at the exchange rates prevailing at the Consolidated Balance Sheet date, whereas the revenues and expenses of such foreign operations are translated into the Bank's functional currency at the average exchange rates for the period. Any goodwill resulting from the acquisition of a foreign operation that does not have the same functional currency as the parent company, and any fair value adjustments to the carrying amounts of assets and liabilities resulting from the acquisition, are treated as assets and liabilities of the foreign operation and translated at the exchange rates prevailing at the Consolidated Balance Sheet date. Unrealized translation gains and losses relating to foreign operations, along with the impact of hedges and income taxes on the related results, are presented in *Other comprehensive income*. Upon disposal of a foreign operation, any accumulated translation gains and losses, along with the related hedges, recorded in the *Accumulated other comprehensive income* item of this foreign operation, are reclassified to *Non-interest income* in the Consolidated Statement of Income.

Classification and Measurement of Financial Instruments

At initial recognition, all financial instruments are recorded at fair value on the Consolidated Balance Sheet. At initial recognition, financial assets must be classified as subsequently measured at fair value through other comprehensive income, at amortized cost, or at fair value through profit or loss. The Bank determines the classification based on the contractual cash flow characteristics of the financial assets and on the business model it uses to manage these financial assets. At initial recognition, financial liabilities are classified as subsequently measured at amortized cost or as at fair value through profit or loss.

For the purpose of classifying a financial asset, the Bank must determine whether the contractual cash flows associated with the financial asset are solely payments of principal and interest on the principal amount outstanding. The principal is generally the fair value of the financial asset at initial recognition. The interest consists of consideration for the time value of money, for the credit risk associated with the principal amount outstanding during a particular period, and for other basic lending risks and costs as well as of a profit margin. If the Bank determines that the contractual cash flows associated with a financial asset are not solely payments of principal and interest, the financial assets must be classified as measured at fair value through profit or loss.

When classifying financial assets, the Bank determines the business model used for each portfolio of financial assets that are managed together to achieve a same business objective. The business model reflects how the Bank manages its financial assets and the extent to which the financial asset cash flows are generated by the collection of the contractual cash flows, the sale of the financial assets, or both. The Bank determines the business model using scenarios that it reasonably expects to occur. Consequently, the business model determination is a matter of fact and requires the use of judgment and consideration of all the relevant evidence available at the date of determination.

A financial asset portfolio falls within a “hold to collect” business model when the Bank’s primary objective is to hold these financial assets in order to collect contractual cash flows from them and not to sell them. When the Bank’s objective is achieved both by collecting contractual cash flows and by selling the financial assets, the financial asset portfolio falls within a “hold to collect and sell” business model. In this type of business model, collecting contractual cash flows and selling financial assets are both integral components to achieving the Bank’s objective for this financial asset portfolio. Financial assets are mandatorily measured at fair value through profit or loss if they do not fall within either a “hold to collect” business model or a “hold to collect and sell” business model.

Financial Instruments Designated at Fair Value Through Profit or Loss

A financial asset may be irrevocably designated at fair value through profit or loss at initial recognition if certain conditions are met. The Bank may apply this option if, consistent with a documented risk management strategy, doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring financial assets or liabilities or recognizing gains and losses on them on different bases and if the fair values are reliable. Financial assets thus designated are recognized at fair value, and any change in fair value is recorded in *Non-interest income* in the Consolidated Statement of Income. Interest income arising from these financial instruments designated at fair value through profit or loss is recorded in *Net interest income* in the Consolidated Statement of Income.

A financial liability may be irrevocably designated at fair value through profit or loss when it is initially recognized. Financial liabilities thus designated are recognized at fair value, and any changes in fair value attributable to changes in the Bank’s own credit risk are recognized in *Other comprehensive income* unless these changes create or enlarge an accounting mismatch in *Net income*. Fair value changes not attributable to the Bank’s own credit risk are recognized in *Non-interest income* in the Consolidated Statement of Income. The amounts recognized in *Other comprehensive income* will not be subsequently reclassified to *Net income*. Interest expense arising from these financial liabilities designated at fair value through profit or loss is recorded in the *Net interest income* item of the Consolidated Statement of Income. The Bank may use this option in the following cases:

- if, consistent with a documented risk management strategy, using this option allows the Bank to eliminate or significantly reduce a measurement or recognition inconsistency that would otherwise arise from measuring financial assets or liabilities on different bases, and if the fair values are reliable;
- if a group of financial assets and financial liabilities to which an instrument belongs is managed and its performance is evaluated on a fair value basis, in accordance with the Bank’s documented risk management or investment strategy, and information is provided on that basis to senior management. Consequently, the Bank may use this option if it has implemented a documented risk management strategy to manage a group of financial instruments together on the fair value basis, if it can demonstrate that significant financial risks are eliminated or significantly reduced, and if the fair values are reliable;
- for hybrid financial instruments with one or more embedded derivatives that would significantly modify the cash flows of the financial instruments and that would otherwise be bifurcated and accounted for separately.

Financial Instruments Designated at Fair Value Through Other Comprehensive Income

At initial recognition, an investment in an equity instrument that is neither held for trading nor a contingent consideration recognized in a business combination may be irrevocably designated as being at fair value through other comprehensive income. In accordance with this designation, any change in fair value is recognized in *Other comprehensive income* with no subsequent reclassification to net income. Dividend income is recorded in *Interest income* in the Consolidated Statement of Income.

Securities Measured at Fair Value Through Other Comprehensive Income

Securities measured at fair value through other comprehensive income include: (i) debt securities for which the contractual terms of the financial asset give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal amount outstanding and that fall within a “hold to collect and sell” business model and (ii) equity securities designated at fair value through other comprehensive income with no subsequent reclassification of gains and losses to net income.

The Bank recognizes securities transactions at fair value through other comprehensive income on the trade date, and the transaction costs are capitalized. Interest income and dividend income are recognized in *Interest income* in the Consolidated Statement of Income.

Debt Securities Measured at Fair Value Through Other Comprehensive Income

Debt securities measured at fair value through other comprehensive income are recognized at fair value. Unrealized gains and losses are recognized, net of expected credit losses and income taxes, and provided that they are not hedged by derivative financial instruments in a fair value hedging relationship, in *Other comprehensive income*. When the securities are sold, realized gains or losses, determined on an average cost basis, are reclassified to *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income. Premiums, discounts and related transaction costs are amortized over the expected life of the instrument to interest income using the effective interest rate method.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Equity Securities Designated at Fair Value Through Other Comprehensive Income

Equity securities designated at fair value through other comprehensive income are recognized at fair value. Unrealized gains and losses are presented, net of income taxes, in *Other comprehensive income* with no subsequent reclassification of realized gains and losses to net income. Transaction costs incurred upon the purchase of such equity securities are not reclassified to net income upon the sale of the securities.

Securities Measured at Amortized Cost

Securities measured at amortized cost include debt securities for which the contractual terms give rise, on specified dates, to cash flows that are solely payments of principal and interest on the principal amount outstanding and that fall within a “hold to collect” business model.

The Bank recognizes these securities transactions at fair value on the trade date, and the transaction costs are capitalized. After initial recognition, debt securities in this category are recorded at amortized cost. Interest income is recognized in *Interest income* in the Consolidated Statement of Income. Premiums, discounts and related transaction costs are amortized over the expected life of the instrument to interest income using the effective interest rate method. Securities measured at amortized cost are presented net of allowances for credit losses on the Consolidated Balance Sheet.

Securities Measured at Fair Value Through Profit or Loss

Securities not classified or designated as measured at fair value through other comprehensive income or at amortized cost are classified as measured at fair value through profit or loss.

Securities measured at fair value through profit or loss include (i) securities held for trading, (ii) securities designated at fair value through profit or loss, (iii) all equity securities other than those designated as measured at fair value through other comprehensive income with no subsequent reclassifications of gains and losses to net income, and (iv) debt securities for which the contractual cash flows are not solely payments of principal and any interest on any principal amount outstanding.

The Bank recognizes securities transactions at fair value through profit or loss on the settlement date on the Consolidated Balance Sheet. Changes in fair value between the trade date and the settlement date are recognized in *Non-interest income* in the Consolidated Statement of Income.

Securities at fair value through profit or loss are recognized at fair value. Interest income, any transaction costs, as well as realized and unrealized gains or losses on securities held for trading are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income. Dividend income is recorded in *Interest income* in the Consolidated Statement of Income. Interest income on securities designated at fair value through profit or loss is recorded in *Interest income* in the Consolidated Statement of Income. Realized and unrealized gains or losses on these securities are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income.

Realized and unrealized gains or losses on equity securities at fair value through profit or loss, other than those held for trading, as well as debt securities for which the contractual cash flows are not solely payments of principal and interest on the principal amount outstanding, are recognized in *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income. The dividend and interest income on these financial assets are recognized in *Interest income* in the Consolidated Statement of Income.

Securities Purchased Under Reverse Repurchase Agreements, Obligations Related to Securities Sold Under Repurchase Agreements, and Securities Borrowed and Loaned

The Bank recognizes these transactions at amortized cost using the effective interest rate method, except when they are designated at fair value through profit or loss and are recorded at fair value. These transactions are held within a business model whose objective is to collect contractual cash flows, i.e., cash flows that are solely payments of principal and interest on the principal amount outstanding. Securities sold under repurchase agreements remain on the Consolidated Balance Sheet, whereas securities purchased under reverse repurchase agreements are not recognized. Reverse repurchase agreements and repurchase agreements are treated as collateralized lending and borrowing transactions.

The Bank also borrows and lends securities. Securities loaned remain on the Consolidated Balance Sheet while securities borrowed are not recognized. As part of these transactions, the Bank pledges or receives collateral in the form of cash or securities. Collateral pledged in the form of securities remains on the Consolidated Balance Sheet. Collateral received in the form of securities is not recognized on the Consolidated Balance Sheet. Collateral pledged or received in the form of cash is recognized in financial assets or liabilities on the Consolidated Balance Sheet.

When the collateral is pledged or received in the form of cash, the interest income and expense are recorded in *Net interest income* in the Consolidated Statement of Income.

Loans

Loans Measured at Amortized Cost

Loans classified as measured at amortized cost include loans originated or purchased by the Bank that are not classified as measured at fair value through profit or loss or designated at fair value through profit or loss. These loans are held within a business model whose objective is to collect contractual cash flows, i.e., cash flows that are solely payments of principal and interest on the principal amount outstanding. All loans originated by the Bank are recognized when cash is advanced to a borrower. Purchased loans are recognized when the cash consideration is paid by the Bank.

All loans are initially recognized at fair value plus directly attributable costs and are subsequently measured at amortized cost using the effective interest rate method, net of an allowance for expected credit losses. For purchased performing loans, the acquisition date fair value adjustment on each loan is amortized to interest income over the expected remaining life of the loan using the effective interest rate method. For purchased credit-impaired loans, the acquisition date fair value adjustment on each loan consists of management's estimate of the shortfall of principal and interest cash flows that the Bank expects to collect and of the time value of money. The time value of money component of the fair value adjustment is amortized to interest income over the remaining life of the loan using the effective interest rate method. Loans are presented net of allowances for credit losses on the Consolidated Balance Sheet.

Loans Measured at Fair Value Through Profit or Loss

Loans classified as measured at fair value through profit or loss, loans designated at fair value through profit or loss, and loans for which the contractual cash flows are not solely payments of principal and interest on the principal amount outstanding are recognized at fair value on the Consolidated Balance Sheet. The interest income on loans at fair value through profit or loss is recorded in *Interest income* in the Consolidated Statement of Income.

Changes in the fair value of loans classified as at fair value through profit or loss and loans designated at fair value through profit or loss are recognized in *Non-interest income – Trading revenues (losses)* in the Consolidated Statement of Income. With respect to loans whose contractual cash flows are not solely payments of principal and interest on the principal amount outstanding, changes in fair value are recognized in *Non-interest income – Other* in the Consolidated Statement of Income.

Reclassification of Financial Assets

A financial asset, other than a derivative financial instrument or a financial asset that, at initial recognition, was designated as measured at fair value through profit or loss, is reclassified only in rare situations, i.e., when there is a change in the business model used to manage the financial asset. The reclassification is applied prospectively from the reclassification date.

Establishing Fair Value

The fair value of a financial instrument is the price that would be received to sell a financial asset or paid to transfer a financial liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Unadjusted quoted prices in active markets, based on bid prices for financial assets and offered prices for financial liabilities, provide the best evidence of fair value. A financial instrument is considered quoted in an active market when prices in exchange, dealer, broker or principal-to-principal markets are accessible at the measurement date. An active market is one where transactions occur with sufficient frequency and volume to provide quoted prices on an ongoing basis.

When there is no quoted price in an active market, the Bank uses another valuation technique that maximizes the use of relevant observable inputs and minimizes the use of unobservable inputs. The chosen valuation technique incorporates all the factors that market participants would consider when pricing a transaction. Judgment is required when applying a large number of acceptable valuation techniques and estimates to determine fair value. The estimated fair value reflects market conditions on the valuation date and, consequently, may not be indicative of future fair value.

The best evidence of the fair value of a financial instrument at initial recognition is the transaction price, i.e., the fair value of the consideration received or paid. If there is a difference between the fair value at initial recognition and the transaction price, and the fair value is determined using a valuation technique based on observable market inputs or, in the case of a derivative, if the risks are fully offset by other contracts entered into with third parties, this difference is recognized in the Consolidated Statement of Income. In other cases, the difference between the fair value at initial recognition and the transaction price is deferred on the Consolidated Balance Sheet. The amount of the deferred gain or loss is recognized over the term of the financial instrument. The unamortized balance is immediately recognized in net income when (i) observable market inputs can be obtained and support the fair value of the transaction, (ii) the risks associated with the initial contract are substantially offset by other contracts entered into with third parties, (iii) the gain or loss is realized through a cash receipt or payment, or (iv) the transaction matures or is cancelled before maturity.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

In certain cases, measurement adjustments are recognized to address factors that market participants would use at the measurement date to determine fair value but that are not included in the measurement technique due to system limitations or uncertainty surrounding the measure. These factors include, but are not limited to, the unobservable nature of inputs used in the valuation model, assumptions about risk such as market risk, credit risk, or risk related to the valuation model, and future administration costs. The Bank may also consider market liquidity risk when determining the fair value of financial instruments when it believes these instruments could be disposed of for a consideration below the fair value otherwise determined due to a lack of market liquidity or an insufficient volume of transactions in a given market. The measurement adjustments also include the funding valuation adjustment applied to derivative financial instruments to reflect the market implied cost or benefits of funding collateral for uncollateralized or partly collateralized transactions.

As permitted when certain criteria are met, the Bank has elected to determine fair value based on net exposure to credit risk or market risk for certain portfolios of financial instruments, mainly derivative financial instruments.

Impairment of Financial Assets

At the end of each reporting period, the Bank applies a three-stage impairment approach to measure the expected credit losses (ECL) on all debt instruments measured at amortized cost or at fair value through other comprehensive income and on loan commitments and financial guarantees that are not measured at fair value. The ECL model is forward looking. Measurement of ECLs at each reporting period reflects reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions.

Determining the Stage

The ECL three-stage impairment approach is based on the change in the credit quality of financial assets since initial recognition. If, at the reporting date, the credit risk of non-impaired financial instruments has not increased significantly since initial recognition, these financial instruments are classified in Stage 1, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to 12-month expected credit losses is recorded. When there is a significant increase in credit risk since initial recognition, these non-impaired financial instruments are migrated to Stage 2, and an allowance for credit losses that is measured, at each reporting date, in an amount equal to lifetime expected credit losses is recorded. In subsequent reporting periods, if the credit risk of the financial instrument improves such that there is no longer a significant increase in credit risk since initial recognition, the ECL model requires reverting to Stage 1, i.e., recognition of 12-month expected credit losses. When one or more events that have a detrimental impact on the estimated future cash flows of a financial asset have occurred, the financial asset is considered credit-impaired and is migrated to Stage 3, and an allowance for credit losses equal to lifetime expected losses continues to be recorded or the financial asset is written off. Interest income is calculated on the gross carrying amount for financial assets in Stages 1 and 2 and on the net carrying amount for financial assets in Stage 3.

Assessment of Significant Increase in Credit Risk

In determining whether credit risk has increased significantly, the Bank uses an internal credit risk grading system, external risk ratings, and forward-looking information to assess deterioration in credit quality of a financial instrument. To assess whether or not the credit risk of a financial instrument has increased significantly, the Bank compares the probability of default (PD) occurring over its expected life as at the reporting date with the PD occurring over its expected life on the date of initial recognition and considers reasonable and supportable information indicative of a significant increase in credit risk since initial recognition. The Bank includes relative and absolute thresholds in the definition of significant increase in credit risk and a backstop of 30 days past due. All financial instruments that are 30 days past due are migrated to Stage 2 even if other metrics do not indicate that a significant increase in credit risk has occurred. The assessment of a significant increase in credit risk requires significant judgment.

Measurement of Expected Credit Losses

ECLs are measured as the probability-weighted present value of all expected cash shortfalls over the remaining expected life of the financial instrument, and reasonable and supportable information about past events, current conditions, and forecasts of future events and economic conditions is considered. The estimation and application of forward-looking information requires significant judgment. Cash shortfalls represent the difference between all contractual cash flows owed to the Bank and all cash flows that the Bank expects to receive.

The measurement of ECLs is primarily based on the product of the financial instrument's PD, loss given default (LGD), and exposure at default (EAD). Forward-looking macroeconomic factors such as unemployment rates, housing price indices, interest rates, and the gross domestic product (GDP) are incorporated into the risk parameters. The estimate of expected credit losses reflects an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes. The Bank incorporates three forward-looking macroeconomic scenarios in its ECL calculation process: a base scenario, an upside scenario, and a downside scenario. Probability weights are attributed to each scenario. The scenarios and probability weights are reassessed quarterly and are subject to management review. The Bank applies experienced credit judgment to adjust the modelled ECL results when it becomes evident that known or expected risk factors and information were not considered in the credit risk rating and modelling process.

ECLs for all financial instruments are recognized in *Provisions for credit losses* in the Consolidated Statement of Income. In the case of debt instruments measured at fair value through other comprehensive income, ECLs are recognized in *Provisions for credit losses* in the Consolidated Statement of Income, and a corresponding amount is recognized in *Other comprehensive income* with no reduction in the carrying amount of the asset on the Consolidated Balance Sheet. As for debt instruments measured at amortized cost, they are presented net of the related allowance for credit losses on the Consolidated Balance Sheet. Allowances for credit losses for off-balance-sheet credit exposures that are not measured at fair value are included in *Other liabilities* on the Consolidated Balance Sheet.

Purchased or Originated Credit-Impaired Financial Assets

On initial recognition of a financial asset, the Bank determines whether the asset is credit-impaired. For financial assets that are credit-impaired upon purchase or origination, the lifetime expected credit losses are reflected in the initial fair value. In subsequent reporting periods, the Bank recognizes only the cumulative changes in these lifetime ECLs since initial recognition as an allowance for credit losses. The Bank recognizes changes in ECLs in *Provisions for credit losses* in the Consolidated Statement of Income, even if the lifetime ECLs are less than the ECLs that were included in the estimated cash flows on initial recognition.

Definition of Default

The definition of default used by the Bank to measure ECLs and transfer financial instruments between stages is consistent with the definition of default used for internal credit risk management purposes. The Bank considers a financial asset, other than a credit card receivable, to be credit-impaired when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred or when contractual payments are 90 days past due. Credit card receivables are considered credit-impaired and are fully written off at the earlier of the following dates: when a notice of bankruptcy is received, a settlement proposal is made, or contractual payments are 180 days past due.

Write-Offs

A financial asset and its related allowance for credit losses are normally written off in whole or in part when the Bank considers the probability of recovery to be non-existent and when all guarantees and other remedies available to the Bank have been exhausted or if the borrower is bankrupt or winding up and balances owing are not likely to be recovered.

Derecognition of Financial Assets and Securitization

A financial asset is considered for derecognition when the Bank has transferred contractual rights to receive the cash flows or assumed an obligation to transfer these cash flows to a third party. The Bank derecognizes a financial asset when it considers that substantially all the risks and rewards of ownership of the asset have been transferred or when the contractual rights to the cash flows of the financial asset expire. When the Bank considers that it has retained substantially all the risks and rewards of ownership of the transferred asset, it continues to recognize the financial asset and, if applicable, recognizes a financial liability on the Consolidated Balance Sheet. If, due to a derivative financial instrument, the transfer of a financial asset does not result in derecognition, the derivative financial instrument is not recognized on the Consolidated Balance Sheet.

When the Bank has neither transferred nor retained substantially all the risks and rewards of ownership of the financial asset, it derecognizes the financial asset if it no longer controls. Any rights and obligations retained following the asset transfer are recognized separately as an asset or liability. If the Bank retains control of the financial asset, it continues to recognize the asset to the extent of its continuing involvement in that asset, i.e., to the extent to which it is exposed to changes in the value of the transferred asset.

In order to diversify its funding sources, the Bank participates in two Canada Mortgage and Housing Corporation (CMHC) securitization programs: the Mortgage-Backed Securities Program under the *National Housing Act* (Canada) (NHA) and Canada Mortgage Bond (CMB) program. Under the first program, the Bank issues NHA securities backed by insured residential mortgages and, under the second, the Bank sells NHA securities to Canada Housing Trust (CHT). As part of these transactions, the Bank retains substantially all the risks and rewards related to ownership of the mortgage loans sold. Therefore, the insured mortgage loans securitized under the CMB program continue to be recognized in the *Loans* item of the Bank's Consolidated Balance Sheet and the liabilities for the considerations received from the transfer are recognized in *Liabilities related to transferred receivables* on the Consolidated Balance Sheet. Moreover, insured mortgage loans securitized and retained by the Bank continue to be recognized in *Loans* on the Consolidated Balance Sheet.

Derecognition of Financial Liabilities

A financial liability is derecognized when the obligation is discharged, cancelled, or expires. The difference between the carrying value of the financial liability transferred and the consideration paid is recognized in the Consolidated Statement of Income.

Cash and Deposits With Financial Institutions

Cash and deposits with financial institutions consist of cash and cash equivalents, amounts pledged as collateral as well as amounts placed in escrow. Cash comprises cash and bank notes. Cash equivalents consist of deposits with the Bank of Canada, deposits with financial institutions, including net receivables related to cheques and other items in the clearing process as well as the net amount of cheques and other items in transit.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Acceptances and Customers' Liability Under Acceptances

The potential liability of the Bank under acceptances is recorded as a customer commitment liability on the Consolidated Balance Sheet. The Bank's potential recourse vis à vis clients is recorded as an equivalent offsetting asset. Fees are recorded in *Non-interest income* in the Consolidated Statement of Income.

Obligations Related to Securities Sold Short

This financial liability represents the Bank's obligation to deliver the securities it sold but did not own at the time of sale. Obligations related to securities sold short are recorded at fair value and presented as liabilities on the Consolidated Balance Sheet. Realized and unrealized gains and losses are recognized in *Non-interest income* in the Consolidated Statement of Income.

Derivative Financial Instruments

In the normal course of business, the Bank uses derivative financial instruments to meet the needs of its clients, to generate trading activity revenues, and to manage its exposure to interest rate risk, foreign exchange risk, credit risk, and other market risks.

All derivative financial instruments are measured at fair value on the Consolidated Balance Sheet. Derivative financial instruments with a positive fair value are included in assets, and derivative financial instruments with a negative fair value are included in liabilities on the Consolidated Balance Sheet. Where there are offsetting financial assets and financial liabilities, the net fair value of certain derivative financial instruments is reported either as an asset or as a liability.

Embedded Derivative Financial Instruments

An embedded derivative is a component of a hybrid contract that also includes a non-derivative host, the effect being that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative. An embedded derivative causes some or all of the cash flows that otherwise would be required by the contract to be modified according to a specified interest rate, financial instrument price, commodity price, foreign exchange rate, index of prices or rates, credit rating or credit index, or other variable, provided in the case of a non-financial variable that the variable is not specific to one of the parties to the contract.

A derivative embedded in a financial liability is separated from the host contract and treated as a separate derivative if, and only if, the following three conditions are met: the economic characteristics and risks of the embedded derivative are not closely related to those of the host contract, the embedded derivative is a separate instrument that meets the definition of a derivative financial instrument, and the hybrid contract is not measured at fair value through profit or loss.

Embedded derivatives that are separately accounted for are measured at fair value on the Consolidated Balance Sheet, and subsequent changes in fair value are recognized in *Non-interest income* in the Consolidated Statement of Income. In general, all embedded derivatives are presented on a combined basis with the host contract. However, certain embedded derivatives that are separated from the host contract are presented in *Derivative financial instruments* on the Consolidated Balance Sheet.

Held-for-Trading Derivative Financial Instruments

Derivative financial instruments are recognized at fair value, and the realized and unrealized gains and losses (including interest income and expense) are recorded in *Non-interest income* in the Consolidated Statement of Income.

Derivative Financial Instruments Designated as Hedging Instruments

Policy
The purpose of a hedging transaction is to modify the Bank's exposure to one or more risks by creating an offset between changes in the fair value of, or the cash flows attributable to, the hedged item and the hedging instrument. Hedge accounting ensures that offsetting gains, losses, revenues and expenses are recognized in the Consolidated Statement of Income in the same period or periods.

Documenting and Assessing Effectiveness

The Bank designates and formally documents each hedging relationship, at its inception, by detailing the risk management objective and the hedging strategy. The documentation identifies the specific asset, liability, or cash flows being hedged, the related hedging instrument, the nature of the specific risk exposure or exposures being hedged, the intended term of the hedging relationship, and the method for assessing the effectiveness or ineffectiveness of the hedging relationship. At the inception of the hedging relationship, and for every financial reporting period for which the hedge has been designated, the Bank ensures that the hedging relationship is highly effective and consistent with its originally documented risk management objective and strategy. When a hedging relationship meets the hedge accounting requirements, it is designated as either a fair value hedge, a cash flow hedge or a foreign exchange hedge of a net investment in a foreign operation.

Interest Rate Benchmark Reform

A hedging relationship is directly affected by interest rate benchmark reform such as Interbank Offered Rates (IBORs) only if the reform gives rise to uncertainties about (a) the interest rate benchmark (contractually or non-contractually specified) designated as a hedged risk; and/or (b) the timing or the amount of the interest-rate-benchmark-based cash flows of the hedged item or of the hedging instrument.

For such hedging relationships, the following temporary exceptions apply during the period of uncertainty:

- when determining whether a forecast transaction is highly probable or expected to occur, it is assumed that the interest rate benchmark on which the hedged cash flows (contractually or non-contractually specified) are based is not altered as a result of interest rate benchmark reform;
- when assessing whether a hedge is expected to be highly effective, it is assumed that the interest rate benchmark on which the hedged cash flows and/or the hedged risk (contractually or non-contractually specified) are based, or the interest rate benchmark on which the cash flows of the hedging instrument are based, is not altered as a result of interest rate benchmark reform;
- a hedge is not required to be discontinued if the actual results of the hedge are outside an effectiveness range of 80% to 125% as a result of interest rate benchmark reform;
- for a hedge of a non-contractually specified benchmark portion of interest rate risk, the requirement that the designated portion is separately identifiable need only be met at the inception of the hedging relationship.

Fair Value Hedges

For fair value hedges, the Bank mainly uses interest rate swaps to hedge changes in the fair value of a hedged item. The carrying amount of the hedged item is adjusted based on the effective portion of the gains or losses attributable to the hedged risk, which are recognized in the Consolidated Statement of Income, as well as the change in the fair value of the hedging instrument. The resulting ineffective portion is recognized in *Non-interest income* in the Consolidated Statement of Income.

The Bank prospectively discontinues hedge accounting if the hedging instrument is sold or expires or if the hedging relationship no longer qualifies for hedge accounting or if the Bank revokes the designation. When the designation is revoked, the hedged item is no longer adjusted to reflect changes in fair value, and the amounts previously recorded as cumulative adjustments with respect to the effective portion of gains and losses attributable to the hedged risk are amortized using the effective interest rate method and recognized in the Consolidated Statement of Income over the remaining useful life of the hedged item. If the hedged item is sold or terminated before maturity, the cumulative adjustments with respect to the effective portion of gains and losses attributable to the hedged risk are immediately recorded in the Consolidated Statement of Income.

Cash Flow Hedges

For cash flow hedges, the Bank mainly uses interest rate swaps and total return swaps to hedge variable cash flows attributable to the hedged risk related to a financial asset or liability (or to a group of financial assets or liabilities). The effective portion of changes in fair value of the hedging instrument is recognized in *Other comprehensive income* and the ineffective portion in *Non-interest income* in the Consolidated Statement of Income.

The amounts previously recorded in *Accumulated other comprehensive income* are reclassified to the Consolidated Statement of Income of the period or periods during which the cash flows of the hedged item affect the Consolidated Statement of Income. If the hedging instrument is sold or expires or if the hedging relationship no longer qualifies for hedge accounting or if the Bank cancels that designation, then the amounts previously recognized in *Accumulated other comprehensive income* are reclassified to the Consolidated Statement of Income in the period or periods during which the cash flows of the hedged item affect the Consolidated Statement of Income.

Hedges of Net Investments in Foreign Operations

Derivative and non-derivative financial instruments are used to hedge foreign exchange risk related to investments made in foreign operations whose functional currency is not the Canadian dollar. The effective portion of the gains and losses on the hedging instrument is recognized in *Other comprehensive income* and the ineffective portion in *Non-interest income* in the Consolidated Statement of Income. Upon the total or partial sale of a net investment in a foreign operation, amounts reported in *Accumulated other comprehensive income* are reclassified, in whole or in part, to *Non-interest income* in the Consolidated Statement of Income.

Offsetting of Financial Assets and Liabilities

Financial assets and liabilities are offset, and the net amount is presented on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to realize the asset and settle the liability simultaneously.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Premises and Equipment

Premises and equipment, except for land and the head office building under construction, are recognized at cost less accumulated depreciation and accumulated impairment losses, if any. Land and the head office building under construction are recorded at cost less any accumulated impairment losses. Right-of-use assets are presented in Premises and equipment on the Consolidated Balance Sheet. For additional information about the accounting treatment of right-of-use assets, see the Leases section presented below.

Buildings, computer equipment, and equipment and furniture are systematically depreciated over their estimated useful lives. The depreciation period for leasehold improvements is the lesser of the estimated useful life of the leasehold improvements or the non-cancellable period of the lease plus the first renewal option. Depreciation methods and estimated useful lives are reviewed on an annual basis. The depreciation expense is recorded in *Non-interest expenses* in the Consolidated Statement of Income.

	Method	Useful life
Buildings	5% declining balance	
Computer equipment	Straight-line	3-4 years
Equipment and furniture	Straight-line	1-8 years
Leasehold improvements	Straight-line	(1)

(1) The depreciation period is the lesser of the estimated useful life or the lease term plus the first renewal period.

Leases

At the inception date of a contract, the Bank assesses whether the contract is, or contains, a lease. A contract is, or contains, a lease if it conveys the right to control the use of an identified asset for a period of time in exchange for consideration. When the Bank is a lessee, it recognizes a right-of-use asset and a corresponding lease liability at the lease commencement date except for short-term leases (defined as leases with terms of 12 months or less) other than real estate leases and leases for which the underlying asset is of low value. For such leases, the Bank recognizes the lease payments as a non-interest expense on a straight-line basis over the lease term. As a practical expedient, the Bank elected for real estate leases not to separate non-lease components from lease components and instead account for them as a single lease component. When the Bank is the lessor, the leased assets remain on the Consolidated Balance Sheet and are reported in *Premises and equipment*, and the rental income is recognized net of related expenses in *Non-interest income* in the Consolidated Statement of Income.

Right-of-use assets are initially measured at cost, and subsequently measured at cost less accumulated depreciation and accumulated impairment losses, if any, and adjusted for certain remeasurements of lease liabilities. The cost of a right-of-use asset comprises the amount of the initial measurement of the lease liability, any lease payments made at or before the commencement date, any initial direct costs incurred when entering into the lease, and an estimate of costs to dismantle the asset or restore the site, less any lease incentives received. Right-of-use assets are depreciated on a straight-line basis over the lesser of the lease term and the estimated useful life of the asset. Right-of-use assets are presented in *Premises and equipment* on the Consolidated Balance Sheet. The depreciation expense and impairment losses, if any, are recorded in *Non-interest expenses* in the Consolidated Statement of Income.

The lease liability is initially measured at the present value of future lease payments net of lease incentives not yet received. The present value of lease payments is determined using the Bank's incremental borrowing rate. The lease liability is subsequently measured at amortized cost using the effective interest method. In determining the lease term, the Bank considers all the facts and circumstances that create an economic incentive to exercise an extension option or not to exercise a termination option. The lease term determined by the Bank comprises the non-cancellable period of lease contracts, the periods covered by an option to extend the lease if the Bank is reasonably certain to exercise that option, and the periods covered by an option to terminate the lease if the Bank is reasonably certain not to exercise that option. The Bank reassesses the lease term if a significant event or change in circumstances occurs and that is within its control. The Bank applies judgment to determine the lease term when the lease includes extension and termination options. Lease liabilities are presented in *Other liabilities* on the Consolidated Balance Sheet, and the interest expense is presented in the *Interest expense – Other* item of the Consolidated Statement of Income.

Goodwill

The Bank uses the acquisition method to account for business combinations. The consideration transferred in a business combination is measured at the acquisition-date fair value, and the transaction costs related to the acquisition are expensed as incurred. When the Bank acquires control of a business, all of the identifiable assets and liabilities of the acquiree, including intangible assets, are recorded at fair value. The interests previously held in the acquiree are also measured at fair value. Goodwill represents the excess of the purchase consideration and all previously held interests over the fair value of the identifiable net assets of the acquiree. If the fair value of the identifiable net assets exceeds the purchase consideration and all previously held interests, the difference is immediately recognized in income as a gain on a bargain purchase.

Non-controlling interests in the net assets of consolidated subsidiaries are identified separately from the Bank's ownership interest and can be initially measured at either fair value or at the non-controlling interest's proportionate share of the acquiree's identifiable net assets. The measurement basis is selected on a case-by-case basis. Following an acquisition, non-controlling interests consist of the value assigned to those interests at initial recognition plus the non-controlling interests' share of changes in equity since the date of the acquisition.

Intangible Assets

Intangible Assets With Finite Useful Lives

Software and certain other intangible assets are recognized at cost less accumulated amortization and accumulated impairment losses. These intangible assets are systematically amortized on a straight-line basis over their useful lives, which vary between four and ten years. The amortization expense is recorded in *Non-interest expenses* in the Consolidated Statement of Income.

Intangible Assets With Indefinite Useful Lives

The Bank's intangible assets with indefinite useful lives come from the acquisition of subsidiaries or groups of assets and consist of management contracts and a trademark. They are recognized at the acquisition-date fair value. The management contracts are for the management of open-ended funds. At the end of each reporting period, the Bank reviews the useful lives to determine whether facts and circumstances continue to support an indefinite useful life assessment. Intangible assets are deemed to have an indefinite useful life following an examination of all relevant factors, in particular: (a) the contracts do not have contractual maturities; (b) the stability of the business segment to which the intangible assets belong; (c) the Bank's capacity to control the future economic benefits of the intangible assets; and (d) the continued economic benefits generated by the intangible assets.

Impairment of Non-Financial Assets

Premises and equipment and intangible assets with finite useful lives are tested for impairment when events or changes in circumstances indicate that their carrying value may not be recoverable. At the end of each reporting period, the Bank determines whether there is an indication that premises and equipment or intangible assets with finite useful lives may be impaired. Goodwill and intangible assets that are not available for use or that have indefinite useful lives are tested for impairment annually or more frequently if there is an indication that the asset might be impaired.

An asset is tested for impairment by comparing its carrying amount with its recoverable amount. The recoverable amount must be estimated for the individual asset. Where it is not possible to estimate the recoverable amount of an individual asset, the recoverable amount of the cash-generating unit (CGU) to which the asset belongs will be determined. A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or groups of assets. The Bank uses judgment to identify CGUs.

An asset's recoverable amount is the higher of fair value less costs to sell and the value in use of the asset or CGU. Value in use is the present value of expected future cash flows from the asset or CGU. The recoverable amount of the CGU is determined using valuation models that consider various factors such as projected future cash flows, discount rates, and growth rates. The use of different estimates and assumptions in applying the impairment tests could have a significant impact on income.

Corporate assets, such as the head office building and computer equipment, do not generate cash inflows that are largely independent of the cash inflows generated by other assets or groups of assets. Therefore, the recoverable amount of an individual corporate asset cannot be determined unless management has decided to dispose of the asset. However, if there is an indication that a corporate asset may be impaired, the recoverable amount is determined for the CGU or group of CGUs to which the corporate asset belongs, and that recoverable amount is compared with the carrying amount of this CGU or group of CGUs.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Goodwill is always tested for impairment at the level of a CGU or group of CGUs. For impairment testing purposes, from the acquisition date, goodwill resulting from a business combination must be allocated to the CGU or group of CGUs expected to benefit from the synergies of the business combination. Each CGU or group of CGUs to which goodwill is allocated must represent the lowest level for which the goodwill is monitored internally at the Bank and must not be larger than an operating segment. The allocation of goodwill to a CGU or group of CGUs involves management's judgment. If an impairment loss is to be recognized, the Bank does so by first reducing the carrying amount of goodwill allocated to the CGU or group of CGUs and then reducing the carrying amounts of the other assets of the CGU or group of CGUs in proportion to the carrying amount of each asset in the CGU or group of CGUs.

If the recoverable amount of an asset or a CGU is less than its carrying amount, the carrying amount is reduced to its recoverable amount and an impairment loss is recognized in *Non-interest expenses* in the Consolidated Statement of Income. An impairment loss recognized in prior periods for an asset other than goodwill must be reversed if, and only if, there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment was recognized. If this is the case, the carrying amount of the asset is increased, given that the impairment loss was reversed, but shall not exceed the carrying amount that would have been determined, net of amortization, had no impairment loss been recognized for this asset in previous years.

Provisions

Provisions are liabilities of uncertain timing and amount. A provision is recognized when the Bank has a present obligation (legal or constructive) arising from a past event, when it is probable that an outflow of economic resources will be required to settle the obligation and when the amount of the obligation can be reliably estimated. Provisions are based on the Bank's best estimates of the economic resources required to settle the present obligation, given all relevant risks and uncertainties, and, when it is significant, the effect of the time value of money. Provisions are reviewed at the end of each reporting period. Provisions are presented in *Other liabilities* on the Consolidated Balance Sheet.

Interest Income and Expense

Interest income and expense, except for the interest income on securities classified as at fair value through profit or loss, are recognized in *Net interest income* and calculated using the effective interest method.

The effective interest rate is the rate that exactly discounts estimated future cash inflows and outflows through the expected life of the financial asset or financial liability to the gross carrying amount of a financial asset or to the amortized cost of a financial liability. When calculating the effective interest rate, the Bank estimates expected cash flows by considering all the contractual terms of the financial instrument but does not consider expected credit losses. The calculation includes all fees and points paid or received between the parties to the contract that are an integral part of the effective interest rate, transaction costs, and all other premiums or discounts. Interest income is calculated by applying the effective interest rate to the gross carrying amount of a financial asset except for purchased or originated credit-impaired financial assets and financial assets that were not impaired upon their purchase or origination but became impaired thereafter. For purchased or originated credit-impaired financial assets, the Bank applies the credit-adjusted effective interest rate to the amortized cost of the financial asset from initial recognition. The credit-adjusted effective interest rate reflects expected credit losses. As for loans that have subsequently become credit-impaired, interest income is calculated by applying the effective interest rate to the net carrying amount (net of allowances for credit losses) rather than to the carrying amount.

Loan origination fees, including commitment, restructuring, and renegotiation fees, are considered an integral part of the yield earned on the loan. They are deferred and amortized using the effective interest method, and the amortization is recognized in *Interest income* over the term of the loan. Direct costs for originating a loan are netted against the loan origination fees. If it is likely that a commitment will result in a loan, commitment fees receive the same accounting treatment, i.e., they are deferred and amortized using the effective interest rate method and the amortization is recognized in *Interest income* over the term of the loan. Otherwise, they are recorded in *Non-interest income* over the term of the commitment.

Loan syndication fees are recorded in *Non-interest income* unless the yield on the loan retained by the Bank is less than that of other comparable lenders involved in the financing. In such cases, an appropriate portion of the fees is deferred and amortized using the effective interest rate method, and the amortization is recognized in *Interest income* over the term of the loan. Certain mortgage loan prepayment fees are recognized in *Interest income* in the Consolidated Statement of Income when earned.

Dividend Income

Dividends from an equity instrument are recognized in *Net interest income* in the Consolidated Statement of Income when the Bank's right to receive payment is established.

Fee and Commission Income

Fee and commission income is recognized when, or as, a performance obligation is satisfied, i.e., when control of a promised service is transferred to a customer and in an amount that reflects the consideration that the entity expects to be entitled to receive in exchange for the service. The revenue may therefore be recognized at a point in time, upon completion of the service, or over time as services are provided.

The Bank must also determine whether its performance obligation is to provide the service itself or to arrange for another party to provide the service (in other words, whether the Bank is acting as a principal or agent). A principal may itself satisfy its performance obligation to provide the specified good or service or it may engage another party to satisfy some or all of the performance obligation on its behalf. A principal also has the primary responsibility for fulfilling the promise to provide the good or service to the customer and has discretion in establishing the price for the service. If the Bank is acting as a principal, revenue is recognized on a gross basis in an amount corresponding to the consideration to which the Bank expects to be entitled. If the Bank is acting as an agent, then revenue is recognized net of the service fees and other costs incurred in relation to the commission and fees earned.

Underwriting and Advisory Fees

Underwriting and advisory fees include underwriting fees, financial advisory fees, and loan syndication fees. These fees are mainly earned in the Financial Markets segment and are recognized at a point in time as revenue upon successful completion of the engagement. Financial advisory fees are fees earned for assisting customers with transactions related to mergers and acquisitions and financial restructurings. Loan syndication fees represent fees earned as the agent or lead lender responsible for structuring, arranging, and administering a loan syndication and are recorded in *Non-interest income* unless the yield on the loan retained by the Bank is less than that of other comparable lenders involved in the financing. In such cases, an appropriate portion of the fees is deferred and amortized using the effective interest rate method, and the amortization is recognized in *Interest income* over the term of the loan.

Securities Brokerage Commissions

Securities brokerage commissions are earned in the Wealth Management segment and are recognized when the transaction is executed.

Mutual Fund Revenues

Mutual fund revenues include management fees earned in the Wealth Management segment. Management fees are primarily calculated based on a fund's net asset value and are recorded in the period the services are performed.

Investment management and trust service fees

Investment management and trust service fees include management fees, trust service fees, and fees for other investment services provided to clients and earned in the Wealth Management segment. Generally, these fees are calculated using the balances of assets under administration and assets under management. Such fees are recognized in the period the service is performed.

Card Revenues

Card revenues are earned in the Personal and Commercial segment and include card fees such as annual and transactional fees as well as interchange fees. Interchange fees are recognized when a card transaction is settled. Card fees are recognized on the transaction date except for annual fees, which are recorded evenly throughout the year. Reward costs are recorded as a reduction to interchange fees.

Credit Fees and Deposit and Payment Service Charges

Credit fees and deposit and payment service charges are earned in the Personal and Commercial, Financial Markets, and U.S. Specialty Finance and International segments. Credit fees are generally recognized in income over the period the services are provided. Deposit and payment service charges include fees related to account maintenance activities and transaction-based service charges. Fees related to account maintenance activities are recognized in the period the services are provided, whereas transaction-based service charges are recognized when the transaction is executed.

Insurance Revenues

Insurance contracts, including reinsurance contracts, are arrangements under which one party accepts significant insurance risk by agreeing to compensate the policyholder if a specified uncertain future event was to occur. Gross premiums, net of premiums transferred under reinsurance contracts, are recognized when they become due. Royalties received from reinsurers are recognized when earned. Claims are recognized when received and an amount is estimated as they are being processed. All these amounts are recognized on a net basis in *Non-interest income* in the Consolidated Statement of Income.

Upon recognition of a premium, a reinsurance asset and insurance liability are recognized, respectively, in *Other assets* and in *Other liabilities* on the Consolidated Balance Sheet. Subsequent changes in the carrying value of the reinsurance asset and insurance liability are recognized on a net basis in *Non-interest income* in the Consolidated Statement of Income.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

Income Taxes

Income taxes include current taxes and deferred taxes and are recorded in net income except for income taxes generated by items recognized in *Other comprehensive income* or directly in equity.

Current tax is the amount of income tax payable on the taxable income for a period. It is calculated using the enacted or substantively enacted tax rates prevailing on the reporting date, and any adjustments recognized in the period for the current tax of prior periods. Current tax assets and liabilities are offset, and the net balance is presented in either *Other assets* or *Other liabilities* on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to simultaneously realize the asset and settle the liability.

Deferred tax is established based on temporary differences between the carrying values and the tax bases of assets and liabilities, in accordance with enacted or substantively enacted income tax laws and rates that will apply on the date the differences reverse. Deferred tax is not recognized for temporary differences related to the following:

- the initial accounting of goodwill;
- the initial accounting of an asset or liability in a transaction that is not a business combination and that, at the time of the transaction, affects neither accounting income nor taxable income;
- investments in subsidiaries, associates and joint ventures when it is probable that the temporary difference will not reverse in the foreseeable future and that the Bank controls the timing of the reversal of the temporary difference;
- investments in subsidiaries, associates and joint ventures when it is probable that the temporary difference will not reverse in the foreseeable future and that there will not be taxable income to which the temporary difference can be recognized.

Deferred tax assets are tax benefits in the form of deductions that the Bank may claim to reduce its taxable income in future years. At the end of each reporting period, the carrying amount of deferred tax assets is revised, and it is reduced to the extent that it is no longer probable that sufficient taxable income will be available to allow the benefit of the deferred tax asset to be utilized.

Deferred tax assets and liabilities are offset, and the net balance is presented in either *Other assets* or *Other liabilities* on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the current tax assets and liabilities and if the deferred tax assets and liabilities relate to taxes levied by the same taxation authority on the same taxable entity or on different taxable entities that intend to settle current tax assets and liabilities based on their net amount.

The Bank makes assumptions to estimate income taxes as well as deferred tax assets and liabilities. This process includes estimating the actual amount of current taxes and evaluating tax loss carryforwards and temporary differences arising from differences between the values of items reported for accounting and for income tax purposes. Deferred tax assets and liabilities presented on the Consolidated Balance Sheet are calculated according to the tax rates to be applied in future periods. Previously recorded deferred tax assets and liabilities must be adjusted when the date of the future event is revised based on current information.

The Bank is subject to the jurisdictions of various tax authorities. In the normal course of its business, the Bank is involved in a number of transactions for which the tax impacts are uncertain. As a result, the Bank accounts for provisions for uncertain tax positions that adequately represent the tax risk stemming from tax matters under discussion or being audited by tax authorities or from other matters involving uncertainty. The amounts of these provisions reflect the best possible estimates of the amounts that may have to be paid based on qualitative assessments of all relevant factors. The provisions are estimated at the end of each reporting period. However, it is possible that, at a future date, a provision might need to be adjusted following an audit by the tax authorities. When the final assessment differs from the initially provisioned amounts, the difference will impact the income taxes of the period in which the assessment was made.

Financial Guarantee Contracts

A financial guarantee contract is a contract or indemnification agreement that could require the Bank to make specified payments (in cash, financial instruments, other assets, Bank shares, or provisions of services) to reimburse a beneficiary in the event of a loss resulting from a debtor defaulting on the original or amended terms of a debt instrument.

To reflect the fair value of the obligation assumed at the inception of a financial guarantee, a liability is recorded in *Other liabilities* on the Consolidated Balance Sheet. After initial recognition, the Bank must measure financial guarantee contracts at the higher of the allowance for credit losses determined using the ECL model and of the initially recognized amount less, where applicable, the cumulative amount of revenue recognized. This revenue is recognized in *Credit fees* in the Consolidated Statement of Income.

Employee Benefits – Pension Plans and Other Post-Employment Benefit Plans

The Bank offers defined benefit pension plans and other post-employment benefit plans to eligible employees. Other post-employment benefit plans include post-employment medical, dental, and life insurance coverage. While pension plans are funded, the other plans are not.

Plan expenses and obligations are actuarially determined based on the projected benefit method prorated on service. The calculations use management's best estimates of various actuarial assumptions such as discount rates, rates of compensation increase, health care cost trend rates, mortality rates, and retirement age.

The net asset or net liability of pension plans and other post-employment benefit plans are calculated separately for each plan as the difference between the present value of the future benefits earned by employees in respect of current- and prior-period service and the fair value of plan assets. The net asset or net liability is included in either the *Other assets* or *Other liabilities* item of the Consolidated Balance Sheet.

The expense related to pension plans and other post-employment benefit plans consists of the following items: current service cost, net interest on the net plan asset or liability, administration costs, and past service cost, if any, recognized when a plan is amended. This expense is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income. The net amount of interest income and expense is determined by applying a discount rate to the net plan asset or liability amount.

Remeasurements resulting from pension plans and other post-employment benefit plans represent actuarial gains and losses related to the defined benefit obligation and the actual return on plan assets, excluding net interest determined by applying a discount rate to the net asset or liability of the plans. Remeasurements are immediately recognized in *Other comprehensive income* and will not be subsequently reclassified to net income; these cumulative gains and losses are reclassified to *Retained earnings*.

Share-Based Payments

The Bank has several share-based compensation plans: the Stock Option Plan, the Stock Appreciation Rights (SAR) Plan, the Deferred Stock Unit (DSU) Plan, the Restricted Stock Unit (RSU) Plan, the Performance Stock Unit (PSU) Plan, the Deferred Compensation Plan (DCP) of National Bank Financial, and the Employee Share Ownership Plan.

Compensation expense is recognized over the service period required for employees to become fully entitled to the award. This period is generally the same as the vesting period, except where the required service period begins before the award date. Compensation expense related to awards granted to employees eligible to retire on the award date is immediately recognized on the award date. Compensation expense related to awards granted to employees who will become eligible to retire during the vesting period is recognized over the period from the award date to the date the employee becomes eligible to retire. For all of these plans, as of the first year of recognition, the expense includes cancellation and forfeiture estimates. These estimates are subsequently revised as necessary. The Bank uses derivative financial instruments to hedge the risks associated with some of these plans. The compensation expense for these plans, net of related hedges, is recognized in the Consolidated Statement of Income.

Under the Stock Option Plan, the Bank uses the fair value method to account for stock options awarded. The options vest at 25% per year, and each tranche is treated as though it was a separate award. The fair value of each of the tranches is measured on the award date using the Black-Scholes model, and this fair value is recognized in *Compensation and employee benefits* and *Contributed surplus*. When the options are exercised, the *Contributed surplus* amount is credited to *Equity – Common shares* on the Consolidated Balance Sheet. The proceeds received from the employees when these options are exercised are also credited to *Equity – Common shares* on the Consolidated Balance Sheet.

SARs are recorded at fair value when awarded and their fair value is remeasured at the end of each reporting period until they are exercised. The cost is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income and in *Other liabilities* on the Consolidated Balance Sheet. The obligation that results from the change in fair value at each period is recognized in net income gradually over the vesting period, and periodically thereafter, until the SARs are exercised. When a SAR is exercised, the Bank makes a cash payment equal to the increase in the stock price since the date of the award.

Note 1 – Basis of Presentation and Summary of Significant Accounting Policies (cont.)

The obligation that results from the award of a DSU, RSU, PSU and DCP unit is recognized in net income, and the corresponding amount is included in *Other liabilities* on the Consolidated Balance Sheet. For the DSU, RSU and DCP plans, the change in the obligation attributable to variations in the share price and dividends paid on the common shares of these plans is recognized in *Compensation and employee benefits* in the Consolidated Statement of Income for the period in which the variations occur. On the redemption date, the Bank makes a cash payment equal to the value of the common shares on that date. For the PSU Plan, the change in the obligation attributable to changes in the stock price, adjusted upward or downward depending on the relative result of the performance criteria, and the change in the obligation attributable to dividends paid on the shares awarded under the plan, are recognized in *Compensation and employee benefits* in the Consolidated Statement of Income for the period in which the changes occur. On the redemption date, the Bank makes a cash payment equal to the value of the common shares on that date, adjusted upward or downward according to the performance criteria.

The Bank's contributions to the employee share ownership plan are expensed as incurred.

Note 2 – Future Accounting Policy Changes

The Bank closely monitors both new accounting standards and amendments to existing accounting standards issued by the IASB. The following standards have been issued but are not yet in effect. The Bank is currently assessing the impact of the application of these standards on the consolidated financial statements.

Effective Date – November 1, 2023

IFRS 17 – Insurance Contracts

In May 2017, the IASB issued IFRS 17 – *Insurance Contracts* (IFRS 17), a new standard that replaces IFRS 4, the current insurance contract accounting standard. IFRS 17 introduces a new accounting framework that will improve the comparability and quality of financial information. IFRS 17 provides guidance on the recognition, measurement, presentation and disclosure of insurance contracts. In June 2020, the IASB issued amendments to IFRS 17 that included a two-year deferral of the effective date along with other changes aimed at addressing concerns and implementation challenges identified after IFRS 17 was published in 2017. IFRS 17, as amended, is to be applied retrospectively for annual periods beginning on or after January 1, 2023, with earlier application permitted. If full retrospective application to a group of insurance contracts is impractical, the modified retrospective approach or the fair value approach may be used.

Note 3 – Fair Value of Financial Instruments

Fair Value and Carrying Value of Financial Instruments by Category

Financial assets and financial liabilities are recognized on the Consolidated Balance Sheet at fair value or at amortized cost in accordance with the categories set out in the accounting framework for financial instruments.

	As at October 31, 2021							Total carrying value	Total fair value
	Financial instruments classified as at fair value through profit or loss	Financial instruments designated at fair value through profit or loss	Debt securities classified as at fair value through other comprehensive income	Equity securities designated at fair value through other comprehensive income	Carrying value and fair value	Carrying value	Fair value		
					Financial instruments at amortized cost, net	Financial instruments at amortized cost, net			
Financial assets									
Cash and deposits with financial institutions	–	–	–	–	33,879	33,879	33,879	33,879	
Securities	83,464	1,347	8,966	617	11,910	11,897	106,304	106,291	
Securities purchased under reverse repurchase agreements and securities borrowed	–	–	–	–	7,516	7,516	7,516	7,516	
Loans and acceptances, net of allowances	8,539	–	–	–	174,150	173,769	182,689	182,308	
Other									
Derivative financial instruments	16,484	–	–	–	–	–	16,484	16,484	
Other assets	–	–	–	–	1,684	1,684	1,684	1,684	
Financial liabilities									
Deposits⁽¹⁾	–	14,018			226,920	227,054	240,938	241,072	
Other									
Acceptances	–	–			6,836	6,836	6,836	6,836	
Obligations related to securities sold short	20,266	–			–	–	20,266	20,266	
Obligations related to securities sold under repurchase agreements and securities loaned	–	–			17,293	17,293	17,293	17,293	
Derivative financial instruments	19,367	–			–	–	19,367	19,367	
Liabilities related to transferred receivables	–	11,398			13,772	13,724	25,170	25,122	
Other liabilities	–	–			1,709	1,709	1,709	1,709	
Subordinated debt	–	–			768	773	768	773	

(1) Includes embedded derivative financial instruments.

Note 3 – Fair Value of Financial Instruments (cont.)

								As at October 31, 2020	
	Financial instruments classified as at fair value through profit or loss	Financial instruments designated at fair value through profit or loss	Debt securities classified as at fair value through other comprehensive income	Equity securities designated at fair value through other comprehensive income	Carrying value and fair value	Carrying value	Fair value		
					Financial instruments at amortized cost, net	Financial instruments at amortized cost, net		Total carrying value	Total fair value
Financial assets									
Cash and deposits with financial institutions	–	–	–	–	29,142	29,142		29,142	29,142
Securities	75,647	2,679	12,107	619	11,079	11,290		102,131	102,342
Securities purchased under reverse repurchase agreements and securities borrowed	–	–	–	–	14,512	14,512		14,512	14,512
Loans and acceptances, net of allowances	8,109	–	–	–	156,631	159,473		164,740	167,582
Other									
Derivative financial instruments	13,422	–	–	–	–	–		13,422	13,422
Other assets	–	–	–	–	1,153	1,153		1,153	1,153
Financial liabilities									
Deposits⁽¹⁾	–	11,418			204,460	205,337		215,878	216,755
Other									
Acceptances	–	–			6,866	6,866		6,866	6,866
Obligations related to securities sold short	16,368	–			–	–		16,368	16,368
Obligations related to securities sold under repurchase agreements and securities loaned	–	–			33,859	33,859		33,859	33,859
Derivative financial instruments	12,923	–			–	–		12,923	12,923
Liabilities related to transferred receivables	–	8,762			14,093	14,432		22,855	23,194
Other liabilities	–	–			1,892	1,894		1,892	1,894
Subordinated debt	–	–			775	787		775	787

(1) Includes embedded derivative financial instruments.

Establishing Fair Value

The fair value of a financial instrument is the price that would be received to sell a financial asset or paid to transfer a financial liability in an orderly transaction in the principal market at the measurement date under current market conditions (i.e., an exit price).

Unadjusted quoted prices in active markets provide the best evidence of fair value. When there is no quoted price in an active market, the Bank applies other valuation techniques that maximize the use of relevant observable inputs and that minimize the use of unobservable inputs. Such valuation techniques include the following: using information available from recent market transactions, referring to the current fair value of a comparable financial instrument, applying discounted cash flow analysis, applying option pricing models, or relying on any other valuation technique that is commonly used by market participants and has proven to yield reliable estimates. Judgment is required when applying many of the valuation techniques. The Bank's valuation was based on its assessment of the conditions prevailing as at October 31, 2021 and may change in the future. Furthermore, there may be valuation uncertainty resulting from the choice of valuation model used.

Valuation Governance

Fair value is established in accordance with a rigorous control framework. The Bank has policies and procedures that govern the process for determining fair value. These policies are documented and periodically reviewed by the Risk Management Group. All valuation models are validated, and controls have been implemented to ensure that they are applied.

The fair value of existing or new products is determined and validated by functions independent of the risk-taking team. Complex fair value matters are reviewed by valuation committees made up of experts from various specialized functions.

For financial instruments classified in Level 3 of the fair value hierarchy, the Bank has documented the hierarchy classification policies, and there are controls in place to ensure that fair value is measured appropriately, reliably, and consistently. Valuation methods and the underlying assumptions are reviewed on a regular basis.

Valuation Methods and Assumptions

Financial Instruments Whose Fair Value Equals Carrying Value

The carrying value of the following financial instruments is a reasonable approximation of fair value:

- cash and deposits with financial institutions;
- securities purchased under reverse repurchase agreements and securities borrowed;
- obligations related to securities sold under repurchase agreements and securities loaned;
- customers' liability under acceptances;
- acceptances;
- certain items of other assets and other liabilities.

Securities and Obligations Related to Securities Sold Short

These financial instruments, except for securities at amortized cost, are recognized at fair value on the Consolidated Balance Sheet. Their fair value is based on quoted prices in active markets, i.e., bid prices for financial assets and offered prices for financial liabilities. If there are no quoted prices in an active market, fair value is estimated using prices for securities that, in substance, are identical. If such prices are not available, fair value is determined using valuation techniques that incorporate assumptions based primarily on observable market inputs such as current market prices, the contractual prices of the underlying instruments, the time value of money, credit risk, interest rate yield curves and currency rates.

When one or more significant inputs are not observable in the markets, fair value is established primarily using internal estimates and data that consider the valuation policies in effect at the Bank, economic conditions, the characteristics specific to the financial asset or liability, and other relevant factors.

Securities Issued or Guaranteed by Governments

Securities issued or guaranteed by governments include government debt securities of the governments of Canada (federal, provincial and municipal) as well as debt securities of the U.S. government (U.S. Treasury), of other U.S. agencies and of other foreign governments. The fair value of these securities is based on unadjusted quoted prices in active markets. For those classified in Level 2, quoted prices for identical or similar instruments in active markets are used to determine fair value. In the absence of an observable market, valuation techniques such as the discounted cash flow method could be used, incorporating assumptions on benchmark yields (CDOR, LIBOR and other) and the risk spreads of similar securities.

Equity Securities and Other Debt Securities

The fair value of equity securities is determined primarily by using quoted prices in active markets. For equity securities and other debt securities classified in Level 2, a valuation technique based on quoted prices of identical and similar instruments in an active market is used to determine fair value. In the absence of observable inputs, valuation techniques such as the discounted cash flow method could be used, incorporating assumptions on benchmark yields (CDOR, LIBOR and other) and the risk spreads of similar securities. For those classified in Level 3, fair value can be determined based on the net asset value, which represents the estimated value of a security based on valuations received from investment or fund managers or the general partners of the limited partnerships. Fair value can also be determined using internal valuation techniques adjusted for risk factors related to the financial instruments and for economic conditions.

Note 3 – Fair Value of Financial Instruments (cont.)

Derivative Financial Instruments

Derivative financial instruments are recorded at fair value on the Consolidated Balance Sheet. For exchange-traded derivative financial instruments, fair value is based on a quoted price in an active market.

For over-the-counter (OTC) derivative financial instruments, fair value is determined using well established valuation techniques that incorporate assumptions based primarily on observable market inputs such as current market prices and the contractual prices of the underlying instruments, the time value of money, interest rate yield curves, credit curves, currency rates as well as price and rate volatility factors. In establishing the fair value of OTC derivative financial instruments, the Bank also incorporates the following factors:

Credit Valuation Adjustment (CVA)

The CVA is a valuation adjustment applied to derivative financial instruments to reflect the credit risk of the counterparty. For each counterparty, the CVA is based on the expected positive exposure and probabilities of default through time. The exposures are determined by incorporating relevant factors such as current and potential future market values, master netting arrangements, collateral agreements and expected recovery rates. The default probabilities are inferred using credit default swap (CDS) spreads. When unavailable, relevant proxies are used. While the general methodology currently assumes independence between expected positive exposures and probabilities of default, adjustments are applied to certain types of transactions where there is a direct link between the exposure at default and the default probabilities.

Funding Valuation Adjustment (FVA)

The FVA is a valuation adjustment applied to derivative financial instruments to reflect the market-implied cost or benefits of funding collateral for uncollateralized or partly collateralized transactions. The expected exposures are determined using methodologies consistent with the CVA framework. The funding level used to determine the FVA is based on the average funding level of relevant market participants.

When the valuation techniques incorporate one or more significant inputs that are not observable in the markets, the fair value of OTC derivative financial instruments is established primarily on the basis of internal estimates and data that consider the valuation policies in effect at the Bank, economic conditions, the characteristics specific to the financial asset or financial liability, and other relevant factors.

Loans

The fair value of fixed-rate mortgage loans is determined by discounting expected future contractual cash flows, adjusted for several factors, including prepayment options, current market interest rates for similar loans, and other relevant variables where applicable. The fair value of variable-rate mortgage loans is deemed to equal carrying value.

The fair value of other fixed-rate loans is determined by discounting expected future contractual cash flows using current market interest rates charged for similar new loans. The fair value of other variable-rate loans is deemed to equal carrying value.

Deposits

The fair value of fixed-term deposits is determined primarily by discounting expected future contractual cash flows and considering several factors such as redemption options and market interest rates currently offered for financial instruments with similar conditions. For certain term funding instruments, fair value is determined using market prices for similar instruments. The fair value of demand deposits and notice deposits is deemed to equal carrying value.

The fair value of structured deposit notes is established using valuation models that maximize the use of observable inputs when available, such as benchmark indices, and also incorporates the Bank's own credit risk. In calculating the Bank's own credit risk, the market implied spreads of the Bank are used to infer its probabilities of default. Lastly, when fair value is determined using option pricing models, the valuation techniques are similar to those described for derivative financial instruments.

Liabilities Related to Transferred Receivables

These liabilities arise from sale transactions to Canada Housing Trust (CHT) of securities backed by insured residential mortgages and other securities under the Canada Mortgage Bond (CMB) program. These transactions do not qualify for derecognition. They are recorded as guaranteed borrowings, which results in the recording of liabilities on the Consolidated Balance Sheet. The fair value of these liabilities is established using valuation techniques based on observable market inputs such as Canada Mortgage Bond prices.

Other Liabilities and Subordinated Debt

The fair value of these financial liabilities is based on quoted market prices in an active market. If there is no active market, fair value is determined by discounting contractual cash flows using the current market interest rates offered for similar financial instruments that have the same term to maturity.

Hierarchy of Fair Value Measurements

Determining the Levels of the Fair Value Measurement Hierarchy

IFRS establishes a fair value measurement hierarchy that classifies the inputs used in financial instrument fair value measurement techniques according to three levels. This fair value hierarchy requires observable market inputs to be used whenever such inputs exist. According to the hierarchy, the highest level of inputs are unadjusted quoted prices in active markets for identical instruments and the lowest level of inputs are unobservable inputs. If inputs from different levels of the hierarchy are used, the financial instrument is classified in the same level as the lowest level input that is significant to the fair value measurement. The fair value measurement hierarchy has the following levels:

Level 1

Inputs corresponding to unadjusted quoted prices in active markets for identical assets and liabilities and accessible to the Bank at the measurement date. These instruments consist primarily of equity securities, derivative financial instruments traded in active markets, and certain highly liquid debt securities actively traded in over-the-counter markets.

Level 2

Valuation techniques based on inputs, other than the quoted prices included in Level 1 inputs, that are directly or indirectly observable in the market for the asset or liability. These inputs are quoted prices of similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; inputs other than quoted prices used in a valuation model that are observable for that instrument; and inputs that are derived principally from or corroborated by observable market inputs by correlation or other means. These instruments consist primarily of certain loans, certain deposits, derivative financial instruments traded in over-the-counter markets, certain debt securities, certain equity securities whose value is not directly observable in an active market, liabilities related to transferred receivables, and certain other liabilities.

Level 3

Valuation techniques based on one or more significant inputs that are not observable in the market for the asset or liability. The Bank classifies financial instruments in Level 3 when the valuation technique is based on at least one significant input that is not observable in the markets. The valuation technique may also be partly based on observable market inputs.

Financial instruments whose fair values are classified in Level 3 consist of the following:

- financial instruments measured at fair value through profit or loss: investments in hedge funds for which there are certain restrictions on unit or security redemptions, equity securities and debt securities of private companies, as well as certain derivative financial instruments whose fair value is established using internal valuation models that are based on significant unobservable market inputs;
- securities at fair value through other comprehensive income: equity and debt securities of private companies;
- certain loans and certain deposits (structured deposit notes) whose fair value is established using internal valuation models that are based on significant unobservable market inputs.

Transfers Between the Fair Value Hierarchy Levels

Transfers of financial instruments between Levels 1 and 2 and transfers to (or from) Level 3 are deemed to have taken place at the beginning of the quarter in which the transfer occurred. Significant transfers can occur between the fair value hierarchy levels due to new information on inputs used to determine fair value and the observable nature of those inputs.

During fiscal 2021, \$31 million in securities classified as at fair value through profit or loss and \$2 million in obligations related to securities sold short were transferred from Level 2 to Level 1 resulting from changing market conditions (\$15 million in securities classified as at fair value through profit or loss in fiscal 2020). In addition, during fiscal 2021, \$30 million in securities classified as at fair value through profit or loss were transferred from Level 1 to Level 2 resulting from changing market conditions (for fiscal 2020, \$10 million in securities classified as at fair value through profit or loss).

During fiscal years 2021 and 2020, financial instruments were transferred to (or from) Level 3 due to changes in the availability of observable market inputs resulting from changing market conditions.

Note 3 – Fair Value of Financial Instruments (cont.)

Financial Instruments Recorded at Fair Value on the Consolidated Balance Sheet

The following tables show financial instruments recorded at fair value on the Consolidated Balance Sheet according to the fair value hierarchy.

	As at October 31, 2021			Total financial assets/liabilities at fair value
	Level 1	Level 2	Level 3	
Financial assets				
Securities				
At fair value through profit or loss				
Securities issued or guaranteed by				
Canadian government	2,661	6,716	–	9,377
Canadian provincial and municipal governments	–	8,998	–	8,998
U.S. Treasury, other U.S. agencies and other foreign governments	2,547	1,878	–	4,425
Other debt securities	–	2,484	47	2,531
Equity securities	58,539	517	424	59,480
	63,747	20,593	471	84,811
At fair value through other comprehensive income				
Securities issued or guaranteed by				
Canadian government	19	4,214	–	4,233
Canadian provincial and municipal governments	–	2,313	–	2,313
U.S. Treasury, other U.S. agencies and other foreign governments	1,384	252	–	1,636
Other debt securities	–	784	–	784
Equity securities	–	311	306	617
	1,403	7,874	306	9,583
Loans	–	8,242	297	8,539
Other				
Derivative financial instruments	203	16,278	3	16,484
	65,353	52,987	1,077	119,417
Financial liabilities				
Deposits	–	14,215	–	14,215
Other				
Obligations related to securities sold short	15,546	4,720	–	20,266
Derivative financial instruments	693	18,673	1	19,367
Liabilities related to transferred receivables	–	11,398	–	11,398
	16,239	49,006	1	65,246

As at October 31, 2020

	Level 1	Level 2	Level 3	Total financial assets/liabilities at fair value
Financial assets				
Securities				
At fair value through profit or loss				
Securities issued or guaranteed by				
Canadian government	1,852	7,632	–	9,484
Canadian provincial and municipal governments	–	9,105	–	9,105
U.S. Treasury, other U.S. agencies and other foreign governments	7,852	996	–	8,848
Other debt securities	–	2,048	40	2,088
Equity securities	47,941	443	417	48,801
	57,645	20,224	457	78,326
At fair value through other comprehensive income				
Securities issued or guaranteed by				
Canadian government	877	3,535	–	4,412
Canadian provincial and municipal governments	–	4,154	–	4,154
U.S. Treasury, other U.S. agencies and other foreign governments	2,165	284	–	2,449
Other debt securities	–	1,092	–	1,092
Equity securities	–	246	373	619
	3,042	9,311	373	12,726
Loans	–	7,737	372	8,109
Other				
Derivative financial instruments	343	13,049	30	13,422
	61,030	50,321	1,232	112,583
Financial liabilities				
Deposits⁽¹⁾	–	11,575	(2)	11,573
Other				
Obligations related to securities sold short	11,575	4,793	–	16,368
Derivative financial instruments	242	12,680	1	12,923
Liabilities related to transferred receivables	–	8,762	–	8,762
	11,817	37,810	(1)	49,626

(1) The amount classified in Level 3 represents the fair value of embedded derivative financial instruments in deposits.

Note 3 – Fair Value of Financial Instruments (cont.)

Financial Instruments Classified in Level 3

The Bank classifies financial instruments in Level 3 when the valuation technique is based on at least one significant input that is not observable in the markets. The valuation technique may also be based, in part, on observable market inputs. The following table shows the significant unobservable inputs used for the fair value measurements of financial instruments classified in Level 3 of the hierarchy.

					As at October 31, 2021	
	Fair value	Primary valuation techniques	Significant unobservable inputs	Range of input values		
				Low	High	
Financial assets						
Securities						
Equity securities and other debt securities	777	Net asset value Market comparable	Net asset value EV/EBITDA ⁽¹⁾ multiple	100 % 18 x	100 % 20 x	
		Discounted cash flows	Credit spread	560 Bps ⁽²⁾	560 Bps ⁽²⁾	
		Discounted cash flows	Discount rate	4.50 %	19.00 %	
Loans						
Loans at fair value through profit or loss	297	Discounted cash flows	Discount rate	3.25 %	7.09 %	
		Discounted cash flows	Liquidity premium	1.98 %	6.27 %	
Other						
Derivative financial instruments						
Interest rate contracts	3	Discounted cash flows	Discount rate	2.20 %	2.20 %	
	1,077					
Financial liabilities						
Other						
Derivative financial instruments						
Equity contracts	1	Option pricing model	Long-term volatility	6 %	86 %	
			Market correlation	(5) %	90 %	
	1					

					As at October 31, 2020	
	Fair value	Primary valuation techniques	Significant unobservable inputs	Range of input values		
				Low	High	
Financial assets						
Securities						
Equity securities and other debt securities	830	Net asset value Market comparable	Net asset value EV/EBITDA ⁽¹⁾ multiple	100 % 18 x	100 % 20 x	
		Discounted cash flows	Credit spread	460 Bps ⁽²⁾	705 Bps ⁽²⁾	
		Discounted cash flows	Discount rate	4.50 %	19.00 %	
Loans						
Loans at fair value through profit or loss	372	Discounted cash flows	Discount rate	3.54 %	9.84 %	
		Discounted cash flows	Liquidity premium	3.11 %	9.56 %	
Other						
Derivative financial instruments						
Interest rate contracts	11	Discounted cash flows	Discount rate	2.20 %	2.20 %	
Equity contracts	6	Option pricing model	Long-term volatility	7 %	91 %	
			Market correlation	29 %	93 %	
Credit derivative contracts	13	Discounted cash flows	Liquidity premium	(6) %	6 %	
	1,232					
Financial liabilities						
Deposits						
Structured deposit notes ⁽³⁾	(2)	Option pricing model	Long-term volatility	8 %	49 %	
			Market correlation	(68) %	94 %	
Other						
Derivative financial instruments						
Credit derivative contracts	1	Discounted cash flows	Liquidity premium	(2) %	2 %	
	(1)					

(1) EV/EBITDA means Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization.

(2) Bps or basis point is a unit of measure equal to 0.01%.

(3) The amount represents the fair value of the embedded derivative financial instruments related to structured deposit notes.

Significant Unobservable Inputs Used for Fair Value Measurements of Financial Instruments Classified in Level 3

Net Asset Value

Net asset value is the estimated value of a security based on valuations received from the investment or fund managers, the administrators of the conduits, or the general partners of limited partnerships. The net asset value of a fund is the total fair value of assets less liabilities.

EV/EBITDA (Enterprise Value/Earnings Before Interest, Taxes, Depreciation and Amortization) Multiple and Price Equivalent

Private equity valuation inputs include earnings multiples, which are determined based on comparable companies, and a higher multiple will translate into a higher fair value. Price equivalent is a percentage of the market price based on the liquidity of the security.

Credit Spread

A credit spread (yield) is the difference between the instrument's yield and a benchmark yield. Benchmark instruments have high credit quality ratings with similar maturities. The credit spread 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 credit quality in the estimated cash flows. A higher credit spread will result in a lower value.

Discount Rate

The discount rate is the input used to bring future cash flows to their present value. A higher discount rate will translate into a lower fair value.

Liquidity Premium

A liquidity premium may be applied when few or no transactions exist to support the valuations. A higher liquidity premium will result in a lower value.

Long-Term Volatility

Volatility is a measure of the expected future variability of market prices. Volatility is generally observable in the market through options prices. However, the long-term volatility of options with a longer maturity might not be observable. An increase (decrease) in long-term volatility is generally associated with an increase (decrease) in long-term correlation. Higher long-term volatility may increase or decrease an instrument's fair value depending on its terms.

Market Correlation

Correlation is a measure of the inter-relationship between two different variables. A positive correlation means that the variables tend to move in the same direction; a negative correlation means that the variables tend to move in opposite directions. Correlation is used to measure financial instruments whose future returns depend on several variables. Changes in correlation will either increase or decrease a financial instrument's fair value depending on the terms of its contractual payout.

Sensitivity Analysis of Financial Instruments Classified in Level 3

The Bank performs sensitivity analyses for the fair value measurements of financial instruments classified in Level 3, substituting unobservable inputs with one or more reasonably possible alternative assumptions.

For equity securities and other debt securities, the Bank varies significant unobservable inputs such as net asset values, EV/EBITDA multiples, or price equivalents and establishes a reasonable fair value range that could result in a \$115 million increase or decrease in the fair value recorded as at October 31, 2021 (a \$102 million increase or decrease as at October 31, 2020).

For loans, the Bank varies unobservable inputs such as a liquidity premium and establishes a reasonable fair value range that could result in a \$28 million increase or decrease in the fair value recorded as at October 31, 2021 (a \$57 million increase or decrease as at October 31, 2020).

For derivative financial instruments and embedded derivative financial instruments related to structured deposit notes, the Bank varies long-term volatility, market correlation inputs, and the liquidity premium and establishes a reasonable fair value range. As at October 31, 2021, for derivative financial instruments, the net fair value could result in a \$1 million increase or decrease (a \$12 million increase or decrease as at October 31, 2020), whereas for structured deposit notes, the net fair value could have resulted in a \$1 million increase or decrease as at October 31, 2020.

For all Level 3 financial instruments, the reasonable fair value ranges could result in an 5% increase or decrease in net income as at October 31, 2021 (an 8% increase or decrease in net income as at October 31, 2020).

Note 3 – Fair Value of Financial Instruments (cont.)

Change in the Fair Value of Financial Instruments Classified in Level 3

The Bank may hedge the fair value of financial instruments classified in the various levels through offsetting hedge positions. Gains and losses for financial instruments classified in Level 3 presented in the following tables do not reflect the inverse gains and losses on financial instruments used for economic hedging purposes that may have been classified in Level 1 or 2 by the Bank. In addition, the Bank may hedge the fair value of financial instruments classified in Level 3 using other financial instruments classified in Level 3. The effect of these hedges is not included in the net amount presented in the following tables. The gains and losses presented hereafter may comprise changes in fair value based on observable and unobservable inputs.

	Year ended October 31, 2021				
	Securities at fair value through profit or loss	Securities at fair value through other comprehensive income	Loans	Derivative financial instruments ⁽¹⁾	Deposits ⁽²⁾
Fair value as at October 31, 2020	457	373	372	29	2
Total realized and unrealized gains (losses) included in <i>Net income</i> ⁽³⁾	13	–	24	(28)	–
Total realized and unrealized gains (losses) included in <i>Other comprehensive income</i>	–	(10)	–	–	–
Purchases	43	–	–	–	–
Sales	(42)	(113)	–	–	–
Issuances	–	–	12	–	–
Settlements and other ⁽⁴⁾	–	56	(111)	(1)	–
Financial instruments transferred into Level 3	–	–	–	(1)	–
Financial instruments transferred out of Level 3	–	–	–	3	(2)
Fair value as at October 31, 2021	471	306	297	2	–
Change in unrealized gains and losses included in <i>Net income</i> with respect to financial assets and financial liabilities held as at October 31, 2021 ⁽⁵⁾	14	–	24	(28)	–

	Year ended October 31, 2020				
	Securities at fair value through profit or loss	Securities at fair value through other comprehensive income	Loans	Derivative financial instruments ⁽¹⁾	Deposits ⁽²⁾
Fair value as at October 31, 2019	458	362	360	4	–
Total realized and unrealized gains (losses) included in <i>Net income</i> ⁽⁶⁾	8	–	(17)	(10)	5
Total realized and unrealized gains (losses) included in <i>Other comprehensive income</i>	–	7	–	–	–
Purchases	26	4	–	–	–
Sales	(35)	–	–	–	–
Issuances	–	–	12	–	(18)
Settlements and other	–	–	(160)	(1)	–
Financial instruments transferred into Level 3	–	–	177	29	(9)
Financial instruments transferred out of Level 3	–	–	–	7	24
Fair value as at October 31, 2020	457	373	372	29	2
Change in unrealized gains and losses included in <i>Net income</i> with respect to financial assets and financial liabilities held as at October 31, 2020 ⁽⁷⁾	21	–	(17)	(10)	5

(1) The derivative financial instruments include assets and liabilities presented on a net basis.

(2) The amounts represent the fair value of embedded derivative financial instruments in deposits.

(3) Total gains (losses) included in *Non-interest income* was a gain of \$9 million.

(4) On October 31, 2021, the Bank concluded that it had lost significant influence over AfrAsia Bank Limited (AfrAsia) and therefore ceased using the equity method to account for this investment. The Bank designated its investment in AfrAsia as a financial asset measured at fair value through other comprehensive income in an amount of \$56 million. For additional information, see Note 9 to these consolidated financial statements.

(5) Total unrealized gains (losses) included in *Non-interest income* was an unrealized gain of \$10 million.

(6) Total gains (losses) included in *Non-interest income* was a loss of \$14 million.

(7) Total unrealized gains (losses) included in *Non-interest income* was an unrealized loss of \$1 million.

Financial Instruments Not Recorded at Fair Value on the Consolidated Balance Sheet

The following tables show the financial instruments that have not been recorded at fair value on the Consolidated Balance Sheet according to the fair value hierarchy, except for those whose carrying value is a reasonable approximation of fair value.

	As at October 31, 2021			Total
	Level 1	Level 2	Level 3	
Financial assets				
Securities at amortized cost				
Securities issued or guaranteed by				
Canadian government	–	5,793	–	5,793
Canadian provincial and municipal governments	–	2,227	–	2,227
U.S. Treasury, other U.S. agencies and other foreign governments	–	–	–	–
Other debt securities	–	3,877	–	3,877
	–	11,897	–	11,897
Loans, net of allowances	–	67,149	99,872	167,021
Financial liabilities				
Deposits	–	227,054	–	227,054
Other				
Liabilities related to transferred receivables	–	13,724	–	13,724
Other liabilities	–	114	–	114
Subordinated debt	–	773	–	773
	–	241,665	–	241,665

	As at October 31, 2020			Total
	Level 1	Level 2	Level 3	
Financial assets				
Securities at amortized cost				
Securities issued or guaranteed by				
Canadian government	–	6,298	–	6,298
Canadian provincial and municipal governments	–	2,416	–	2,416
U.S. Treasury, other U.S. agencies and other foreign governments	–	21	–	21
Other debt securities	–	2,555	–	2,555
	–	11,290	–	11,290
Loans, net of allowances	–	62,486	90,214	152,700
Financial liabilities				
Deposits	–	205,337	–	205,337
Other				
Liabilities related to transferred receivables	–	14,432	–	14,432
Other liabilities	–	67	–	67
Subordinated debt	–	787	–	787
	–	220,623	–	220,623

Note 4 – Financial Instruments Designated at Fair Value Through Profit or Loss

The Bank chose to designate certain financial instruments at fair value through profit or loss according to the criteria presented in Note 1 to these consolidated financial statements. Consistent with its risk management strategy and in accordance with the fair value option, which permits the designation if it eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring financial assets and liabilities or recognizing the gains and losses thereon on different bases, the Bank designated at fair value through profit or loss certain securities, and certain liabilities related to transferred receivables. The fair value of liabilities related to transferred receivables does not include credit risk, as the holders of these liabilities are not exposed to the Bank's credit risk. The Bank also designated certain deposits that include embedded derivative financial instruments at fair value through profit or loss.

To determine a change in fair value arising from a change in the credit risk of deposits designated at fair value through profit or loss, the Bank calculates, at the beginning of the period, the present value of the instrument's contractual cash flows using the following rates: first, using an observed discount rate for similar securities that reflects the Bank's credit spread and, then, using a rate that excludes the Bank's credit spread. The difference obtained between the two values is then compared to the difference obtained using the same rates at the end of the period.

Information about the financial assets and financial liabilities designated at fair value through profit or loss is provided in the following tables.

	Carrying value as at October 31, 2021	Unrealized gains (losses) for the year ended October 31, 2021	Unrealized gains (losses) since the initial recognition of the instrument
Financial assets designated at fair value through profit or loss			
Securities	1,347	(55)	27
	1,347	(55)	27
Financial liabilities designated at fair value through profit or loss			
Deposits ⁽¹⁾⁽²⁾	14,018	(636)	(316)
Liabilities related to transferred receivables	11,398	253	27
	25,416	(383)	(289)

	Carrying value as at October 31, 2020	Unrealized gains (losses) for the year ended October 31, 2020	Unrealized gains (losses) since the initial recognition of the instrument
Financial assets designated at fair value through profit or loss			
Securities	2,679	68	93
	2,679	68	93
Financial liabilities designated at fair value through profit or loss			
Deposits ⁽¹⁾⁽²⁾	11,418	628	592
Liabilities related to transferred receivables	8,762	(150)	(223)
	20,180	478	369

(1) For the year ended October 31, 2021, the change in the fair value of deposits designated at fair value through profit or loss attributable to credit risk, and recorded in *Other comprehensive income*, resulted in a loss of \$17 million (\$60 million loss for the year ended October 31, 2020).

(2) The amount at maturity that the Bank will be contractually required to pay to the holders of these deposits varies and will differ from the reporting date fair value.

Note 5 – Offsetting Financial Assets and Financial Liabilities

Financial assets and liabilities are offset and the net amount is presented on the Consolidated Balance Sheet when the Bank has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis or to realize the asset and settle the liability simultaneously.

Generally, over-the-counter financial derivatives subject to master netting arrangements of the International Swaps & Derivatives Association, Inc. or other similar agreements do not meet the netting criteria on the Consolidated Balance Sheet because the right of set-off is legally enforceable only in the event of default, insolvency, or bankruptcy.

Generally, securities purchased under reverse repurchase agreements and securities borrowed as well as obligations related to securities sold under repurchase agreements and securities loaned, subject to master agreements, do not meet the netting criteria if they confer only a right of set-off that is enforceable only in the event of default, insolvency, or bankruptcy.

However, the above-mentioned transactions may be subject to contractual netting agreements concluded with clearing houses. If the netting criteria are met, these transactions are netted on the Consolidated Balance Sheet. In addition, as part of these transactions, the Bank may give or receive cash or other financial instruments used as collateral.

The following tables present information on financial assets and financial liabilities that are netted on the Consolidated Balance Sheet because they meet the netting criteria and on those that are not netted and are subject to an enforceable master netting arrangement or similar agreement.

As at October 31, 2021						
	Gross amounts recognized	Amounts set off on the Consolidated Balance Sheet	Net amounts reported on the Consolidated Balance Sheet	Associated amounts not set off on the Consolidated Balance Sheet		Net amounts
				Financial instruments ⁽¹⁾	Financial assets received/pledged as collateral ⁽²⁾⁽³⁾	
Financial assets						
Securities purchased under reverse repurchase agreements and securities borrowed	15,216	7,700	7,516	1,413	6,042	61
Derivative financial instruments	20,936	4,452	16,484	9,398	2,475	4,611
	36,152	12,152	24,000	10,811	8,517	4,672
Financial liabilities						
Obligations related to securities sold under repurchase agreements and securities loaned	24,993	7,700	17,293	1,413	15,759	121
Derivative financial instruments	23,819	4,452	19,367	9,398	4,015	5,954
	48,812	12,152	36,660	10,811	19,774	6,075

As at October 31, 2020						
	Gross amounts recognized	Amounts set off on the Consolidated Balance Sheet	Net amounts reported on the Consolidated Balance Sheet	Associated amounts not set off on the Consolidated Balance Sheet		Net amounts
				Financial instruments ⁽¹⁾	Financial assets received/pledged as collateral ⁽²⁾⁽⁴⁾	
Financial assets						
Securities purchased under reverse repurchase agreements and securities borrowed	15,471	959	14,512	3,596	10,852	64
Derivative financial instruments	19,332	5,910	13,422	6,204	3,308	3,910
	34,803	6,869	27,934	9,800	14,160	3,974
Financial liabilities						
Obligations related to securities sold under repurchase agreements and securities loaned	34,818	959	33,859	3,596	30,181	82
Derivative financial instruments	18,833	5,910	12,923	6,204	3,993	2,726
	53,651	6,869	46,782	9,800	34,174	2,808

(1) Carrying amount of financial instruments that are subject to an enforceable master netting agreement or similar agreement but that do not satisfy offsetting criteria.

(2) Excludes non-financial instruments collateral.

(3) As at October 31, 2021, the financial assets pledged as collateral to the Bank of Canada included covered bonds issued by the Bank.

(4) As at October 31, 2020, the financial assets pledged as collateral to the Bank of Canada had included bearer deposit notes and covered bonds issued by the Bank.

Note 6 – Securities

Residual Contractual Maturities of Securities

As at October 31					2021	2020
	1 year or less	Over 1 year to 5 years	Over 5 years	No specified maturity	Total	Total
Securities at fair value through profit or loss						
Securities issued or guaranteed by						
Canadian government	1,628	5,460	2,289	–	9,377	9,484
Canadian provincial and municipal governments	896	2,775	5,327	–	8,998	9,105
U.S. Treasury, other U.S. agencies and other foreign governments	3,564	311	550	–	4,425	8,848
Other debt securities	342	945	1,244	–	2,531	2,088
Equity securities	–	–	–	59,480	59,480	48,801
	6,430	9,491	9,410	59,480	84,811	78,326
Securities at fair value through other comprehensive income						
Securities issued or guaranteed by						
Canadian government	65	4,134	34	–	4,233	4,412
Canadian provincial and municipal governments	1	525	1,787	–	2,313	4,154
U.S. Treasury, other U.S. agencies and other foreign governments	619	153	864	–	1,636	2,449
Other debt securities	4	282	498	–	784	1,092
Equity securities	–	–	–	617	617	619
	689	5,094	3,183	617	9,583	12,726
Securities at amortized cost⁽¹⁾						
Securities issued or guaranteed by						
Canadian government	500	5,276	35	–	5,811	6,163
Canadian provincial and municipal governments	525	945	755	–	2,225	2,353
U.S. Treasury, other U.S. agencies and other foreign governments	–	–	–	–	–	21
Other debt securities	599	3,233	42	–	3,874	2,542
	1,624	9,454	832	–	11,910	11,079

(1) As at October 31, 2021, securities at amortized cost are presented net of \$3 million in allowances for credit losses (\$1 million as at October 31, 2020).

Credit Quality

As at October 31, 2021 and 2020, securities at fair value through other comprehensive income and securities at amortized cost are classified in Stage 1, with their credit quality falling mostly in the “Excellent” category according to the Bank’s internal risk-rating categories. For additional information on the reconciliation of allowances for credit losses, see Note 7 to these consolidated financial statements.

Unrealized Gross Gains (Losses) on Securities at Fair Value Through Other Comprehensive Income

	As at October 31, 2021			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying value ⁽¹⁾
Securities issued or guaranteed by				
Canadian government	4,241	30	(38)	4,233
Canadian provincial and municipal governments	2,345	27	(59)	2,313
U.S. Treasury, other U.S. agencies and other foreign governments	1,648	–	(12)	1,636
Other debt securities	782	9	(7)	784
Equity securities	569	57	(9)	617
	9,585	123	(125)	9,583

	As at October 31, 2020			
	Amortized cost	Gross unrealized gains	Gross unrealized losses	Carrying value ⁽¹⁾
Securities issued or guaranteed by				
Canadian government	4,302	110	–	4,412
Canadian provincial and municipal governments	4,013	142	(1)	4,154
U.S. Treasury, other U.S. agencies and other foreign governments	2,430	19	–	2,449
Other debt securities	1,051	42	(1)	1,092
Equity securities	633	13	(27)	619
	12,429	326	(29)	12,726

(1) The allowances for credit losses on securities at fair value through other comprehensive income, representing \$1 million as at October 31, 2021 (\$3 million as at October 31, 2020), are reported in *Other comprehensive income*. For additional information, see Note 7 to these consolidated financial statements.

Equity Securities Designated at Fair Value Through Other Comprehensive Income

The Bank designated certain equity securities, the main business objective of which is to generate dividend income, at fair value through other comprehensive income without subsequent reclassification of gains and losses to net income. During the year ended October 31, 2021, a dividend income amount of \$34 million was recognized for these investments (\$21 million for the year ended October 31, 2020), including an amount of \$17 million in dividend income for investments that were sold during the year ended October 31, 2021 (\$2 million for investments that were sold during the year ended October 31, 2020).

	Year ended October 31, 2021			Year ended October 31, 2020		
	Equity securities of private companies	Equity securities of public companies	Total	Equity securities of private companies	Equity securities of public companies	Total
Fair value at beginning	373	246	619	362	260	622
Change in fair value	(10)	98	88	7	(9)	(2)
Designated at fair value through other comprehensive income ⁽¹⁾	56	71	127	4	91	95
Sales ⁽²⁾	(113)	(104)	(217)	–	(96)	(96)
Fair value at end	306	311	617	373	246	619

(1) On October 31, 2021, the Bank concluded that it had lost significant influence over AfrAsia Bank Limited (AfrAsia) and therefore ceased using the equity method to account for this investment. The Bank designated its investment in AfrAsia as a financial asset measured at fair value through other comprehensive income in an amount of \$56 million. For additional information, see Note 9 to these consolidated financial statements.

(2) The Bank disposed of private and public company equity securities for economic reasons.

Gains (Losses) on Disposals of Securities at Amortized Cost

During the years ended October 31, 2021 and 2020, the Bank sold certain debt securities measured at amortized cost. The carrying value of these securities upon disposal was \$179 million for the year ended October 31, 2021 (\$258 million for the year ended October 31, 2020), and the Bank recognized negligible gains for the year ended October 31, 2021 (\$6 million for the year ended October 31, 2020) in *Non-interest income – Gains (losses) on non-trading securities, net* in the Consolidated Statement of Income.

Note 7 – Loans and Allowances for Credit Losses

Loans are recognized either at fair value through profit or loss or at amortized cost using the financial asset classification criteria defined in IFRS 9.

Determining and Measuring Expected Credit Losses (ECL)

Determining Expected Credit Losses

Expected credit losses are determined using a three-stage impairment approach that is based on the change in the credit quality of financial assets since initial recognition.

Stage 1

Financial assets that have experienced no significant increase in credit risk between initial recognition and the reporting date and for which 12-month expected credit losses are recorded at the reporting date are classified in Stage 1.

Stage 2

Financial assets that have experienced a significant increase in credit risk between initial recognition and the reporting date, and for which lifetime expected credit losses are recorded at the reporting date, are classified in Stage 2.

Stage 3

Financial assets for which there is objective evidence of impairment, for which one or more events have had a detrimental impact on the estimated future cash flows of these financial assets at the reporting date, and for which lifetime expected credit losses are recorded, are classified in Stage 3.

POCI

Financial assets that are credit-impaired when purchased or originated (POCI) are classified in the POCI category.

Impairment Governance

A rigorous control framework is applied to the determination of expected credit losses. The Bank has policies and procedures that govern impairments arising from credit risk. These policies are documented and periodically reviewed by the Risk Management group. All models used to calculate expected credit losses are validated, and controls are in place to ensure they are applied.

These models are validated by groups that are independent of the team that prepares the calculations. Complex questions on measurement methodologies and assumptions are reviewed by a group of experts from various functions. Furthermore, the inputs and assumptions used to determine expected credit losses are reviewed on a regular basis.

Measurement of Expected Credit Losses (ECL)

Expected credit losses are estimated using three main variables: (1) probability of default (PD), (2) loss given default (LGD) and (3) exposure at default (EAD). For accounting purposes, 12-month PD and lifetime PD are the probabilities of a default occurring over the next 12 months or over the life of a financial instrument, respectively, based on conditions existing at the balance sheet date and on future economic conditions that have, or will have, an impact on credit risk. LGD reflects the losses expected should default occur and considers such factors as the mitigating effects of collateral, the realizable value thereof, and the time value of money. EAD is the expected balance owing at default and considers such factors as repayments of principal and interest between the balance sheet date and the time of default as well as any amounts expected to be drawn on a committed facility. Twelve-month expected credit losses are estimated by multiplying 12-month PD by LGD and by EAD. Lifetime expected credit losses are estimated using the lifetime PD.

For most financial instruments, expected credit losses are measured on an individual basis. Financial instruments that have credit losses measured on a collective basis are grouped according to similar credit risk characteristics such as type of instrument, geographic location, comparable risk level, and business sector or industry.

Inputs, Assumptions and Estimation Techniques

The Bank's approach to calculating expected credit losses consists essentially of leveraging existing regulatory models and then adjusting their parameters for IFRS 9 purposes. These models have the advantage of having been thoroughly tested and validated. In addition, using the same base models, regardless of the purpose, provides consistency across risk assessments. These models use inputs, assumptions and estimation techniques that require a high degree of management judgment. The main factors that contribute to changes in ECL that are subject to significant judgment include the following:

- calibration of regulatory parameters in order to obtain point-in-time and forward-looking parameters;
- forecasts of macroeconomic variables for multiple scenarios and the probability weighting of the scenarios;
- determination of the significant increases in credit risk (SICR) of a loan.

Main Parameters

PD Estimates

Since the objective of the regulatory calibration of PD is to align historical data to the long-run default rate, adjustments are required to obtain a point-in-time, forward-looking PD, as required by IFRS 9. The Bank performs the following: (1) A point-in-time calibration, where the PD of the portfolio is aligned with the appropriate default rate. The resulting PD estimate generally equals the prior-year default rate. The prior-year default rate is selected for the calibration performed at this stage, as it often reflects one of the most accurate and appropriate estimates of the current-year default rate; (2) Forward-looking adjustments are incorporated through, among other measures, a calibration factor based on forecasts produced by the stress testing team's analyses. The team considers three macroeconomic scenarios, and, for each scenario, produces a forward-looking assessment covering the three upcoming years.

LGD Estimates

The LGD estimation method consists of using, for each of the three macroeconomic scenarios, expected LGD based on the LGD values observed using backtesting, the economic LGD estimated and used to calculate economic capital, and lastly, the estimated downturn LGD used to calculate regulatory capital.

EAD Estimates

For term loans, the Bank uses expected EAD, which is the outstanding balance anticipated at each point in time. Expected EAD decreases over time according to contractual repayments and to prepayments. For revolving loans, the EAD percentage is based on the percentage estimated by the corresponding regulatory model and, thereafter, is converted to dollars according to the authorized balance.

Expected Life

For most financial instruments, the expected life used when measuring expected credit losses is the remaining contractual life. For revolving financial instruments where there is no contractual maturity, such as credit cards or lines of credit, the expected life is based on the behavioural life of clients who have defaulted or closed their account.

Incorporation of Forward-Looking Information

The Bank's Economy and Strategy Group is responsible for developing three macroeconomic scenarios and for recommending probability weights for each scenario. Macroeconomic scenarios are not developed for specific portfolios, as the Economy and Strategy Group provides a set of variables for each of the defined scenarios for the next three years. The PDs are also adjusted to incorporate economic assumptions (interest rates, unemployment rates, GDP forecasts, oil prices, housing price indices, etc.) that can be statistically tied to PD changes that will have an impact beyond the next 12 months. These statistical relationships are determined using the processes developed for stress testing. In addition, the group considers other relevant factors that may not be adequately reflected in the information used to calculate the PDs (including late payments and whether the financial asset is subject to additional monitoring within the watchlist process for business and government loan portfolios).

Determination of a Significant Increase in the Credit Risk of a Financial Instrument

At each reporting period, the Bank determines whether credit risk has increased significantly since initial recognition by examining the change in the risk of default occurring over the remaining life of the financial instrument. First, the Bank compares the point-in-time forward-looking remaining lifetime PD at the reporting date with the expected point-in-time forward-looking remaining lifetime PD established at initial recognition. Based on this comparison, the Bank determines whether the loan has deteriorated when compared to the initial conditions. Because the comparison includes an adjustment based on origination-date forward-looking information and reporting-date forward-looking information, the deterioration may be caused by the following factors: (i) deterioration of the economic outlook used in the forward-looking assessment; (ii) deterioration of the borrower's conditions (payment defaults, worsening financial ratios, etc.); or (iii) a combination of both factors. The quantitative criteria used to determine a significant increase in credit risk are a series of relative and absolute thresholds, and a backstop is also applied. All financial instruments that are over 30 days past due but below 90 days past due are migrated to Stage 2, even if the other criteria do not indicate a significant increase in credit risk.

Credit Quality of Loans

The following tables present the gross carrying amounts of loans as at October 31, 2021 and 2020, according to credit quality and ECL impairment stage of each loan category at amortized cost, and according to credit quality for loans at fair value through profit or loss. For additional information on credit quality according to the Advanced Internal Rating-Based (AIRB) categories, see the Internal Default Risk Ratings table on page 81 in the Credit Risk section of the MD&A for the year ended October 31, 2021.

Note 7 – Loans and Allowances for Credit Losses (cont.)

As at October 31, 2021						
	Non-impaired loans ⁽¹⁾		Impaired loans		Loans at fair value through profit or loss ⁽²⁾	Total
	Stage 1	Stage 2	Stage 3	POCI		
Residential mortgage						
Excellent	28,911	1	–	–	–	28,912
Good	17,083	53	–	–	–	17,136
Satisfactory	9,165	2,318	–	–	–	11,483
Special mention	314	266	–	–	–	580
Substandard	83	128	–	–	–	211
Default	–	–	82	–	–	82
AIRB approach	55,556	2,766	82	–	–	58,404
Standardized approach	5,803	129	57	332	7,817	14,138
Gross carrying amount	61,359	2,895	139	332	7,817	72,542
Allowances for credit losses ⁽³⁾	50	52	29	(60)	–	71
Carrying amount	61,309	2,843	110	392	7,817	72,471
Personal						
Excellent	16,211	57	–	–	–	16,268
Good	11,439	1,041	–	–	–	12,480
Satisfactory	4,665	1,580	–	–	–	6,245
Special mention	336	483	–	–	–	819
Substandard	121	129	–	–	–	250
Default	–	–	101	–	–	101
AIRB approach	32,772	3,290	101	–	–	36,163
Standardized approach	4,692	51	15	132	–	4,890
Gross carrying amount	37,464	3,341	116	132	–	41,053
Allowances for credit losses ⁽³⁾	70	98	63	(29)	–	202
Carrying amount	37,394	3,243	53	161	–	40,851
Credit card						
Excellent	559	–	–	–	–	559
Good	322	–	–	–	–	322
Satisfactory	623	38	–	–	–	661
Special mention	294	149	–	–	–	443
Substandard	38	62	–	–	–	100
Default	–	–	–	–	–	–
AIRB approach	1,836	249	–	–	–	2,085
Standardized approach	65	–	–	–	–	65
Gross carrying amount	1,901	249	–	–	–	2,150
Allowances for credit losses ⁽³⁾	33	89	–	–	–	122
Carrying amount	1,868	160	–	–	–	2,028
Business and government⁽⁴⁾						
Excellent	5,086	–	–	–	269	5,355
Good	24,395	131	–	–	53	24,579
Satisfactory	22,808	6,254	–	–	140	29,202
Special mention	128	1,509	–	–	–	1,637
Substandard	45	194	–	–	–	239
Default	–	–	326	–	–	326
AIRB approach	52,462	8,088	326	–	462	61,338
Standardized approach	6,179	84	81	–	260	6,604
Gross carrying amount	58,641	8,172	407	–	722	67,942
Allowances for credit losses ⁽³⁾	111	205	287	–	–	603
Carrying amount	58,530	7,967	120	–	722	67,339
Total loans and acceptances						
Gross carrying amount	159,365	14,657	662	464	8,539	183,687
Allowances for credit losses ⁽³⁾	264	444	379	(89)	–	998
Carrying amount	159,101	14,213	283	553	8,539	182,689

(1) In response to the COVID-19 pandemic, the Bank has approved certain payment deferrals for all types of loans. As at October 31, 2021, the gross carrying value of loans for which deferrals have been approved totalled \$181 million for business and government loans. These loans are presented in the stage in which they were positioned immediately prior to application of the payment deferral.

(2) Not subject to expected credit losses.

(3) The allowances for credit losses do not include the amounts related to undrawn commitments reported in the *Other liabilities* item of the Consolidated Balance Sheet.

(4) Includes customers' liability under acceptances.

As at October 31, 2020

	Non-impaired loans ⁽¹⁾		Impaired loans		Loans at fair value through profit or loss ⁽²⁾	Total
	Stage 1	Stage 2	Stage 3	POCI		
Residential mortgage						
Excellent	23,139	29	–	–	–	23,168
Good	15,753	108	–	–	–	15,861
Satisfactory	10,418	741	–	–	–	11,159
Special mention	730	299	–	–	–	1,029
Substandard	283	174	–	–	–	457
Default	–	–	149	–	–	149
AIRB approach	50,323	1,351	149	–	–	51,823
Standardized approach	4,993	31	44	531	7,537	13,136
Gross carrying amount	55,316	1,382	193	531	7,537	64,959
Allowances for credit losses ⁽³⁾	63	23	35	(56)	–	65
Carrying amount	55,253	1,359	158	587	7,537	64,894
Personal						
Excellent	15,072	40	–	–	–	15,112
Good	9,680	1,039	–	–	–	10,719
Satisfactory	4,395	2,024	–	–	–	6,419
Special mention	300	696	–	–	–	996
Substandard	116	185	–	–	–	301
Default	–	–	140	–	–	140
AIRB approach	29,563	3,984	140	–	–	33,687
Standardized approach	3,532	48	22	324	–	3,926
Gross carrying amount	33,095	4,032	162	324	–	37,613
Allowances for credit losses ⁽³⁾	87	145	76	(10)	–	298
Carrying amount	33,008	3,887	86	334	–	37,315
Credit card						
Excellent	385	–	–	–	–	385
Good	307	–	–	–	–	307
Satisfactory	660	28	–	–	–	688
Special mention	335	205	–	–	–	540
Substandard	29	64	–	–	–	93
Default	–	–	–	–	–	–
AIRB approach	1,716	297	–	–	–	2,013
Standardized approach	25	–	–	–	–	25
Gross carrying amount	1,741	297	–	–	–	2,038
Allowances for credit losses ⁽³⁾	45	124	–	–	–	169
Carrying amount	1,696	173	–	–	–	1,869
Business and government⁽⁴⁾						
Excellent	4,732	–	–	–	289	5,021
Good	21,380	10	–	–	163	21,553
Satisfactory	19,421	7,037	–	–	73	26,531
Special mention	218	1,915	–	–	–	2,133
Substandard	10	246	–	–	–	256
Default	–	–	361	–	–	361
AIRB approach	45,761	9,208	361	–	525	55,855
Standardized approach	5,122	163	101	–	47	5,433
Gross carrying amount	50,883	9,371	462	–	572	61,288
Allowances for credit losses ⁽³⁾	135	250	241	–	–	626
Carrying amount	50,748	9,121	221	–	572	60,662
Total loans and acceptances						
Gross carrying amount	141,035	15,082	817	855	8,109	165,898
Allowances for credit losses ⁽³⁾	330	542	352	(66)	–	1,158
Carrying amount	140,705	14,540	465	921	8,109	164,740

(1) In response to the COVID-19 pandemic, the Bank approved certain payment deferrals for all types of loans. As at October 31, 2020, the gross carrying value of loans for which deferrals were approved had totalled \$695 million for residential mortgages and \$1,182 million for business and government loans. These loans are presented in the stage in which they had been positioned immediately prior to application of the payment deferral.

(2) Not subject to expected credit losses.

(3) The allowances for credit losses do not include the amounts related to undrawn commitments reported in the *Other liabilities* item of the Consolidated Balance Sheet.

(4) Includes customers' liability under acceptances.

Note 7 – Loans and Allowances for Credit Losses (cont.)

The following table presents the credit risk exposures of off-balance-sheet commitments as at October 31, 2021 and 2020 according to credit quality and ECL impairment stage.

As at October 31	2021				2020			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Off-balance-sheet commitments⁽¹⁾								
Retail								
Excellent	17,053	72	–	17,125	15,255	43	–	15,298
Good	3,750	323	–	4,073	3,967	309	–	4,276
Satisfactory	1,085	229	–	1,314	1,273	255	–	1,528
Special mention	197	57	–	254	84	69	–	153
Substandard	16	13	–	29	4	12	–	16
Default	–	–	3	3	–	–	3	3
Non-retail								
Excellent	14,097	–	–	14,097	10,616	–	–	10,616
Good	17,497	2	–	17,499	17,442	343	–	17,785
Satisfactory	7,575	2,377	–	9,952	5,013	3,450	–	8,463
Special mention	14	336	–	350	28	324	–	352
Substandard	5	38	–	43	2	84	–	86
Default	–	–	3	3	–	–	6	6
AIRB approach	61,289	3,447	6	64,742	53,684	4,889	9	58,582
Standardized approach	14,872	–	1	14,873	10,335	5	1	10,341
Total exposure	76,161	3,447	7	79,615	64,019	4,894	10	68,923
Allowances for credit losses	104	58	–	162	115	61	–	176
Total exposure, net of allowances	76,057	3,389	7	79,453	63,904	4,833	10	68,747

(1) Represent letters of guarantee and documentary letters of credit, undrawn commitments, and backstop liquidity and credit enhancement facilities.

Loans Past Due But Not Impaired⁽¹⁾

As at October 31	2021 ⁽²⁾				2020 ⁽²⁾			
	Residential mortgage	Personal	Credit card	Business and government ⁽³⁾	Residential mortgage	Personal	Credit card	Business and government ⁽³⁾
Past due but not impaired								
31 to 60 days	48	71	20	24	58	74	20	22
61 to 90 days	18	21	9	13	24	27	9	10
Over 90 days ⁽⁴⁾	–	–	21	–	–	–	24	–
	66	92	50	37	82	101	53	32

(1) Loans less than 31 days past due are not presented as they are not considered past due from an administrative standpoint.

(2) In response to the COVID-19 pandemic, the Bank approved certain payment deferrals for all types of loans. These loans are presented in the loan category in which they were positioned immediately prior to the application of the payment deferral.

(3) Includes customers' liability under acceptances.

(4) All loans more than 90 days past due, except for credit card receivables, are considered impaired (Stage 3).

Impaired Loans

As at October 31	2021			2020		
	Gross	Allowances for credit losses	Net	Gross	Allowances for credit losses	Net
Loans – Stage 3						
Residential mortgage	139	29	110	193	35	158
Personal	116	63	53	162	76	86
Credit card ⁽¹⁾	–	–	–	–	–	–
Business and government ⁽²⁾	407	287	120	462	241	221
	662	379	283	817	352	465
Loans – POCI	464	(89)	553	855	(66)	921
	1,126	290	836	1,672	286	1,386

(1) Credit card receivables are considered impaired, at the latest, when payment is 180 days past due, and they are written off at that time.

(2) Includes customers' liability under acceptances.

Maximum Exposure to Credit Risk on Impaired Loans

The following table presents the maximum exposure to credit risk of impaired loans, the percentage of exposure covered by guarantees, and the main types of collateral and guarantees held for each loan category.

As at October 31	2021		2020		Types of collateral and guarantees
	Gross impaired loans	Percentage covered by guarantees ⁽¹⁾	Gross impaired loans	Percentage covered by guarantees ⁽¹⁾	
Loans – Stage 3					
Residential mortgage	139	100 %	193	100 %	Residential buildings
Personal	116	47 %	162	49 %	Buildings and automobiles
Business and government ⁽²⁾	407	62 %	462	65 %	Buildings, equipment, government and bank guarantees
Loans – POCI	464	36 %	855	31 %	Buildings and automobiles

(1) For gross impaired loans, the ratio is calculated on a weighted average basis using the estimated value of the collateral and guarantees held for each loan category presented. The value of the collateral and guarantees held for a specific loan may exceed the balance of the loan; when this is the case, the ratio is capped at 100%.

(2) Includes customers' liability under acceptances.

Note 7 – Loans and Allowances for Credit Losses (cont.)

Allowances for Credit Losses

The following tables present a reconciliation of the allowances for credit losses by Consolidated Balance Sheet item and by type of off-balance-sheet commitment.

	Year ended October 31, 2021					Allowances for credit losses as at October 31, 2021
	Allowances for credit losses as at October 31, 2020	Provisions for credit losses	Write-offs ⁽¹⁾	Disposals	Recoveries and other	
Balance sheet						
Cash and deposits with financial institutions⁽²⁾⁽³⁾	5	–	–	–	–	5
Securities⁽³⁾						
At fair value through other comprehensive income ⁽⁴⁾	3	(2)	–	–	–	1
At amortized cost ⁽²⁾	1	2	–	–	–	3
Securities purchased under reverse repurchase agreements and securities borrowed⁽²⁾⁽³⁾	–	–	–	–	–	–
Loans⁽⁵⁾						
Residential mortgage	65	12	(6)	–	–	71
Personal	298	(29)	(69)	(14)	16	202
Credit card	169	(5)	(59)	–	17	122
Business and government	533	43	(58)	–	(3)	515
Customers' liability under acceptances	93	(5)	–	–	–	88
	1,158	16	(192)	(14)	30	998
Other assets⁽²⁾⁽³⁾	–	–	–	–	–	–
Off-balance-sheet commitments⁽⁶⁾						
Letters of guarantee and documentary letters of credit	15	(2)	–	–	–	13
Undrawn commitments	157	(14)	–	–	–	143
Backstop liquidity and credit enhancement facilities	4	2	–	–	–	6
	176	(14)	–	–	–	162
	1,343	2	(192)	(14)	30	1,169

	Year ended October 31, 2020					Allowances for credit losses as at October 31, 2020
	Allowances for credit losses as at October 31, 2019	Provisions for credit losses	Write-offs ⁽¹⁾	Disposals	Recoveries and other	
Balance sheet						
Cash and deposits with financial institutions⁽²⁾⁽³⁾	2	3	–	–	–	5
Securities⁽³⁾						
At fair value through other comprehensive income ⁽⁴⁾	–	3	–	–	–	3
At amortized cost ⁽²⁾	1	–	–	–	–	1
Securities purchased under reverse repurchase agreements and securities borrowed⁽²⁾⁽³⁾	–	–	–	–	–	–
Loans⁽⁵⁾						
Residential mortgage	21	48	(6)	–	2	65
Personal	232	168	(121)	–	19	298
Credit card	128	116	(90)	–	15	169
Business and government	268	342	(77)	–	–	533
Customers' liability under acceptances	29	64	–	–	–	93
	678	738	(294)	–	36	1,158
Other assets⁽²⁾⁽³⁾	–	–	–	–	–	–
Off-balance-sheet commitments⁽⁶⁾						
Letters of guarantee and documentary letters of credit	6	9	–	–	–	15
Undrawn commitments	66	91	–	–	–	157
Backstop liquidity and credit enhancement facilities	2	2	–	–	–	4
	74	102	–	–	–	176
	755	846	(294)	–	36	1,343

(1) The contractual amount outstanding on financial assets that were written off during the year ended October 31, 2021 and that are still subject to enforcement activity was \$105 million (\$155 million for the year ended October 31, 2020).

(2) These financial assets are presented net of the allowances for credit losses on the Consolidated Balance Sheet.

(3) As at October 31, 2021 and 2020, these financial assets were mainly classified in Stage 1 and their credit quality fell mostly within the *Excellent* category.

(4) The allowances for credit losses are reported in the *Accumulated other comprehensive income* item of the Consolidated Balance Sheet.

(5) The allowances for credit losses are reported in the *Allowances for credit losses* item of the Consolidated Balance Sheet.

(6) The allowances for credit losses are reported in the *Other liabilities* item of the Consolidated Balance Sheet.

The following tables present the reconciliation of allowances for credit losses for each loan category at amortized cost according to ECL impairment stage.

Year ended October 31	2021					2020				
	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans		Total	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans		Total
	Stage 1	Stage 2	Stage 3	POCI ⁽¹⁾		Stage 1	Stage 2	Stage 3	POCI ⁽¹⁾	
Residential mortgage										
Balance at beginning	63	23	35	(56)	65	37	12	25	(53)	21
Originations or purchases	12	-	-	-	12	11	-	-	-	11
Transfers ⁽²⁾ :										
to Stage 1	18	(13)	(5)	-	-	32	(23)	(9)	-	-
to Stage 2	(4)	5	(1)	-	-	(3)	5	(2)	-	-
to Stage 3	-	(1)	1	-	-	-	(4)	4	-	-
Net remeasurement of loss allowances ⁽³⁾	(33)	39	6	(7)	5	(12)	35	21	(3)	41
Derecognitions ⁽⁴⁾	(3)	(1)	(1)	-	(5)	(2)	(2)	-	-	(4)
Changes to models	-	-	-	-	-	-	-	-	-	-
Provisions for credit losses	(10)	29	-	(7)	12	26	11	14	(3)	48
Write-offs	-	-	(6)	-	(6)	-	-	(6)	-	(6)
Disposals	-	-	-	-	-	-	-	-	-	-
Recoveries	-	-	2	-	2	-	-	2	-	2
Foreign exchange movements and other	(3)	-	(2)	3	(2)	-	-	-	-	-
Balance at end	50	52	29	(60)	71	63	23	35	(56)	65
Includes:										
Amounts drawn	50	52	29	(60)	71	63	23	35	(56)	65
Undrawn commitments ⁽⁵⁾	-	-	-	-	-	-	-	-	-	-
Personal										
Balance at beginning	89	148	76	(10)	303	65	104	69	(4)	234
Originations or purchases	41	-	-	-	41	39	-	-	-	39
Transfers ⁽²⁾ :										
to Stage 1	73	(66)	(7)	-	-	87	(79)	(8)	-	-
to Stage 2	(12)	14	(2)	-	-	(19)	22	(3)	-	-
to Stage 3	-	(27)	27	-	-	(4)	(53)	57	(4)	-
Net remeasurement of loss allowances ⁽³⁾	(96)	58	19	(19)	(38)	(69)	165	64	(4)	156
Derecognitions ⁽⁴⁾	(12)	(15)	(2)	-	(29)	(10)	(12)	(3)	-	(25)
Changes to models	-	-	-	-	-	1	-	-	-	1
Provisions for credit losses	(6)	(36)	35	(19)	(26)	25	43	107	(4)	171
Write-offs	-	-	(69)	-	(69)	-	-	(121)	-	(121)
Disposals	(8)	(6)	-	-	(14)	-	-	-	-	-
Recoveries	-	-	21	-	21	-	-	24	-	24
Foreign exchange movements and other	(2)	(3)	-	-	(5)	(1)	1	(3)	(2)	(5)
Balance at end	73	103	63	(29)	210	89	148	76	(10)	303
Includes:										
Amounts drawn	70	98	63	(29)	202	87	145	76	(10)	298
Undrawn commitments ⁽⁵⁾	3	5	-	-	8	2	3	-	-	5

- (1) The total amount of undiscounted initially expected credit losses on the POCI loans acquired during the year ended October 31, 2021 was \$11 million (\$66 million for the year ended October 31, 2020). The expected credit losses reflected in the purchase price have been discounted.
- (2) Represent stage transfers deemed to have taken place at the beginning of the quarter in which the transfer occurred.
- (3) Includes the net remeasurement of loss allowances (after transfers) attributable mainly to changes in volumes and in the credit quality of existing loans as well as to changes in risk parameters.
- (4) Represent reversals to loss allowances arising from full loan repayments (excluding write-offs and disposals).
- (5) The allowances for credit losses on undrawn commitments are reported in the *Other liabilities* item of the Consolidated Balance Sheet.

Note 7 – Loans and Allowances for Credit Losses (cont.)

Year ended October 31	2021									2020	
	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans		Total	Allowances for credit losses on non-impaired loans		Allowances for credit losses on impaired loans			Total
	Stage 1	Stage 2	Stage 3	POCI ⁽³⁾		Stage 1	Stage 2	Stage 3	POCI ⁽¹⁾		
Credit card											
Balance at beginning	68	137	–	–	205	47	113	–	–	160	
Originations or purchases	10	–	–	–	10	10	–	–	–	10	
Transfers ⁽²⁾ :											
to Stage 1	100	(100)	–	–	–	111	(111)	–	–	–	
to Stage 2	(15)	15	–	–	–	(18)	18	–	–	–	
to Stage 3	(1)	(29)	30	–	–	(1)	(40)	41	–	–	
Net remeasurement of loss allowances ⁽³⁾	(100)	84	12	–	(4)	(78)	159	34	–	115	
Derecognitions ⁽⁴⁾	(2)	(2)	–	–	(4)	(3)	(2)	–	–	(5)	
Changes to models	(3)	(4)	–	–	(7)	–	–	–	–	–	
Provisions for credit losses	(11)	(36)	42	–	(5)	21	24	75	–	120	
Write-offs	–	–	(59)	–	(59)	–	–	(90)	–	(90)	
Disposals	–	–	–	–	–	–	–	–	–	–	
Recoveries	–	–	17	–	17	–	–	15	–	15	
Foreign exchange movements and other	–	–	–	–	–	–	–	–	–	–	
Balance at end	57	101	–	–	158	68	137	–	–	205	
Includes:											
Amounts drawn	33	89	–	–	122	45	124	–	–	169	
Undrawn commitments ⁽⁵⁾	24	12	–	–	36	23	13	–	–	36	
Business and government⁽⁶⁾											
Balance at beginning	214	287	241	–	742	83	105	141	–	329	
Originations or purchases	116	–	–	–	116	93	–	–	–	93	
Transfers ⁽²⁾ :											
to Stage 1	60	(58)	(2)	–	–	28	(23)	(5)	–	–	
to Stage 2	(43)	48	(5)	–	–	(46)	51	(5)	–	–	
to Stage 3	–	(21)	21	–	–	–	(49)	49	–	–	
Net remeasurement of loss allowances ⁽³⁾	(131)	24	98	–	(9)	77	235	142	–	454	
Derecognitions ⁽⁴⁾	(38)	(42)	(6)	–	(86)	(20)	(32)	(5)	–	(57)	
Changes to models	–	–	–	–	–	–	–	–	–	–	
Provisions for credit losses	(36)	(49)	106	–	21	132	182	176	–	490	
Write-offs	–	–	(58)	–	(58)	–	–	(77)	–	(77)	
Disposals	–	–	–	–	–	–	–	–	–	–	
Recoveries	–	–	4	–	4	–	–	3	–	3	
Foreign exchange movements and other	(1)	–	(6)	–	(7)	(1)	–	(2)	–	(3)	
Balance at end	177	238	287	–	702	214	287	241	–	742	
Includes:											
Amounts drawn	111	205	287	–	603	135	250	241	–	626	
Undrawn commitments ⁽⁵⁾	66	33	–	–	99	79	37	–	–	116	
Total allowances for credit losses at end⁽⁷⁾	357	494	379	(89)	1,141	434	595	352	(66)	1,315	
Includes:											
Amounts drawn	264	444	379	(89)	998	330	542	352	(66)	1,158	
Undrawn commitments ⁽⁵⁾	93	50	–	–	143	104	53	–	–	157	

(1) The total amount of undiscounted initially expected credit losses on the POCI loans acquired during the year ended October 31, 2021 was \$11 million (\$66 million for the year ended October 31, 2020). The expected credit losses reflected in the purchase price have been discounted.

(2) Represent stage transfers deemed to have taken place at the beginning of the quarter in which the transfer occurred.

(3) Includes the net remeasurement of loss allowances (after transfers) attributable mainly to changes in volumes and in the credit quality of existing loans as well as to changes in risk parameters.

(4) Represent reversals to loss allowances arising from full loan repayments (excluding write-offs and disposals).

(5) The allowances for credit losses on undrawn commitments are reported in the *Other liabilities* item of the Consolidated Balance Sheet.

(6) Includes customers' liability under acceptances.

(7) Excludes allowances for credit losses on other financial assets at amortized cost and on off-balance-sheet commitments other than undrawn commitments.

Distribution of Gross and Impaired Loans by Borrower Category Under the Basel Asset Classes

	2021					2020				
	As at October 31			Year ended October 31		As at October 31			Year ended October 31	
	Gross loans ⁽¹⁾	Impaired loans ⁽¹⁾	Allowances for credit losses on impaired loans ⁽¹⁾⁽²⁾	Provisions for credit losses	Write-offs	Gross loans ⁽¹⁾	Impaired loans ⁽¹⁾	Allowances for credit losses on impaired loans ⁽¹⁾⁽²⁾	Provisions for credit losses	Write-offs
Retail										
Residential mortgage ⁽³⁾	89,035	153	31	(2)	6	81,543	234	40	17	8
Qualifying revolving retail ⁽⁴⁾	3,589	12	10	48	77	3,599	20	16	94	112
Other retail ⁽⁵⁾	12,949	67	49	32	51	11,569	83	54	85	97
	105,573	232	90	78	134	96,711	337	110	196	217
Non-retail										
Agriculture	7,357	30	4	(5)	1	6,696	79	8	3	–
Oil and gas and pipelines	4,325	55	49	3	9	5,052	80	57	40	17
Mining	529	–	–	–	–	756	–	–	–	–
Utilities	5,387	102	93	73	–	4,352	30	20	21	–
Non-real-estate construction ⁽⁶⁾	1,541	37	27	11	–	1,079	37	16	19	4
Manufacturing	5,502	40	25	3	2	5,545	32	27	11	10
Wholesale	2,598	29	23	10	3	2,206	36	14	4	–
Retail	2,978	27	18	2	1	2,955	33	18	15	1
Transportation	1,811	8	7	–	–	1,528	9	7	8	1
Communications	1,441	19	8	2	10	1,184	25	18	12	7
Finance and insurance	4,960	3	1	–	–	4,347	6	1	1	–
Real estate services and real estate construction ⁽⁷⁾	18,195	36	16	1	2	14,171	38	15	4	3
Professional services	1,872	8	4	–	5	1,490	11	6	2	1
Education and health care	4,073	5	3	5	4	3,800	3	2	15	32
Other services	5,875	26	9	(1)	21	5,296	55	32	20	1
Government	1,159	–	–	–	–	1,160	–	–	–	–
Other	8,047	5	2	1	–	6,715	6	1	1	–
	77,650	430	289	105	58	68,332	480	242	176	77
Stages 1 and 2⁽⁸⁾			879	(155)				1,057	481	
POCI	464	464	(89)	(26)		855	855	(66)	(7)	
	183,687	1,126	1,169	2	192	165,898	1,672	1,343	846	294

- (1) Includes customers' liability under acceptances.
- (2) Allowances for credit losses on drawn amounts.
- (3) Includes residential mortgages on one-to-four-unit dwellings (Basel definition) and home equity lines of credit.
- (4) Includes lines of credit and credit card receivables.
- (5) Includes consumer loans and other retail loans but excludes SME loans.
- (6) Includes civil engineering loans, public-private partnership loans, and project finance loans.
- (7) Includes residential mortgages on dwellings of five or more units and SME loans.
- (8) Includes other financial assets at amortized cost and off-balance-sheet commitments.

Note 7 – Loans and Allowances for Credit Losses (cont.)

Main Macroeconomic Factors

The following tables show the main macroeconomic factors used to estimate the allowances for credit losses on loans. For each scenario, namely, the base scenario, upside scenario, and downside scenario, the average values of the macroeconomic factors over the next 12 months (used for Stage 1 credit loss calculations) and over the remaining forecast period (used for Stage 2 credit loss calculations) are presented.

	As at October 31, 2021					
	Base scenario		Upside scenario		Downside scenario	
	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period
Macroeconomic factors⁽¹⁾						
GDP growth ⁽²⁾	4.2 %	1.6 %	4.7 %	1.9 %	(5.5) %	3.7 %
Unemployment rate	6.6 %	6.3 %	6.3 %	5.6 %	9.5 %	7.8 %
Housing price index growth ⁽²⁾	2.0 %	0.2 %	4.0 %	1.9 %	(11.5) %	1.2 %
BBB spread ⁽³⁾	1.7 %	1.9 %	1.6 %	1.7 %	3.1 %	2.2 %
S&P/TSX growth ⁽²⁾⁽⁴⁾	4.8 %	2.1 %	8.6 %	3.1 %	(25.6) %	5.5 %
WTI oil price ⁽⁵⁾ (US\$ per barrel)	70	65	77	77	35	34

	As at October 31, 2020					
	Base scenario		Upside scenario		Downside scenario	
	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period	Next 12 months	Remaining forecast period
Macroeconomic factors⁽¹⁾						
GDP growth ⁽²⁾	3.0 %	2.6 %	3.7 %	2.8 %	0.4 %	2.7 %
Unemployment rate	8.9 %	8.0 %	8.4 %	7.3 %	10.4 %	9.8 %
Housing price index growth ⁽²⁾	(5.2) %	2.4 %	(1.5) %	2.9 %	(9.9) %	(0.1) %
BBB spread ⁽³⁾	2.0 %	1.9 %	1.8 %	1.8 %	2.9 %	2.4 %
S&P/TSX growth ⁽²⁾⁽⁴⁾	(1.1) %	3.3 %	6.9 %	3.2 %	(15.6) %	5.1 %
WTI oil price ⁽⁵⁾ (US\$ per barrel)	41	54	51	64	26	32

- (1) All macroeconomic factors are based on the Canadian economy unless otherwise indicated.
- (2) Growth rate is annualized.
- (3) Yield on corporate BBB bonds less yield on Canadian federal government bonds with 10-year maturity.
- (4) Main stock index in Canada.
- (5) The West Texas Intermediate (WTI) index is commonly used as a benchmark for the price of oil.

The main macroeconomic factors used for the personal credit portfolio are unemployment rate and growth in the housing price index, based on the economy of Canada or Quebec. The main macroeconomic factors used for the business and government credit portfolio are unemployment rate, spread on corporate BBB bonds, S&P/TSX growth, and WTI oil price.

An increase in unemployment rate or BBB spread will generally correlate with higher allowances for credit losses, whereas an increase in the other macroeconomic factors (GDP, S&P/TSX, housing price index and WTI oil price) will generally correlate with lower allowances for credit losses.

During the year ended October 31, 2021, the macroeconomic outlook generally improved.

According to the base scenario, the Canadian economy will continue to recover as vaccines allow for a gradual easing of health measures. The labour market will continue to bounce back, and the unemployment rate will stand at 6.4% after 12 months but remain slightly above its pre-recession level (5.7%). The increase in housing prices will slow to 2.0% year over year. The S&P/TSX will stand at 21,370 points after one year, with the price of oil at US\$66.

According to the upside scenario, the economy will rebound more strongly as a result of effective vaccination campaigns, particularly against variants, and as a result of improvements in supply chains. Consumer spending will trend upward given the excess savings accumulated since the start of the pandemic. The unemployment rate one year after the scenario will be more favourable than the base scenario (five-tenths lower). Housing prices will climb 4.0%, and the S&P/TSX will stand at 22,160 points after one year, with the price of oil at US\$80.

According to the downside scenario, vaccines will prove to be ineffective against certain variants, and the economy will be adversely affected by new lockdown measures. Supply chain bottlenecks will hinder profitability. Governments will continue to support households and businesses, but, due to budgetary constraints, will not be able to match the generosity of the programs adopted at the start of the pandemic. This will cause the economy to tumble and slip back into recession. The unemployment rate will therefore trend upward to 10.3% after 12 months. Housing prices will decrease considerably. The S&P/TSX will stand at 15,170 points after one year, with the price of oil at US\$24.

Given uncertainty surrounding key inputs used to measure credit losses, the Bank has applied expert credit judgment to adjust the modelled ECL results.

Sensitivity Analysis of Allowances for Credit Losses on Non-Impaired Loans

Scenarios

The following table shows a comparison of the Bank's allowances for credit losses on non-impaired loans (Stages 1 and 2) as at October 31, 2021 based on the probability weightings of three scenarios with allowances for credit losses resulting from simulations of each scenario weighted at 100%.

	Allowances for credit losses on non-impaired loans
Balance as at October 31, 2021	851
Simulations	
100% upside scenario	583
100% base scenario	626
100% downside scenario	1,281

Migration

The following table shows a comparison of the Bank's allowances for credit losses on non-impaired loans (Stages 1 and 2) as at October 31, 2021 with the estimated allowances for credit losses that would result if all these non-impaired loans were in Stage 1.

	Allowances for credit losses on non-impaired loans
Balance as at October 31, 2021	851
Simulations	
Non-impaired loans if they were all in Stage 1	688

Note 8 – Financial Assets Transferred But Not Derecognized

In the normal course of its business, the Bank enters into transactions in which it transfers financial assets such as securities or loans directly to third parties, in particular structured entities. According to the terms of some of those transactions, the Bank retains substantially all of the risks and rewards related to those financial assets. The risks include credit risk, interest rate risk, foreign exchange risk, prepayment risk and other price risks, whereas the rewards include income streams associated with the financial assets. As such, those financial assets are not derecognized and the transactions are treated as collateralized or secured borrowings. The nature of those transactions is described below.

Securities Sold Under Repurchase Agreements and Securities Loaned

When securities are sold under repurchase agreements and securities loaned under securities lending agreements, the Bank transfers financial assets to third parties in accordance with the standard terms for such transactions. These third parties may have an unlimited right to resell or repledge the financial assets received. If cash collateral is received, the Bank records the cash along with an obligation to return the cash, which is included in *Obligations related to securities sold under repurchase agreements and securities loaned* on the Consolidated Balance Sheet. Where securities are received as collateral, the Bank does not record the collateral on the Consolidated Balance Sheet.

Financial Assets Transferred to Structured Entities

Under the Canada Mortgage Bond (CMB) program, the Bank sells securities backed by insured residential mortgages and other securities to Canada Housing Trust (CHT), which finances the purchase through the issuance of insured mortgage bonds. Third-party CMB investors have legal recourse only to the transferred assets. The cash received for these transferred assets is treated as a secured borrowing, and a corresponding liability is recorded in *Liabilities related to transferred receivables* on the Consolidated Balance Sheet.

The following table provides additional information about the nature of the transferred financial assets that do not qualify for derecognition and the associated liabilities.

As at October 31	2021	2020
Carrying value of financial assets transferred but not derecognized		
Securities ⁽¹⁾	68,296	61,599
Residential mortgages	22,413	20,731
	90,709	82,330
Carrying value of associated liabilities⁽²⁾	40,779	45,781
Fair value of financial assets transferred but not derecognized		
Securities ⁽¹⁾	68,296	61,599
Residential mortgages	22,249	21,252
	90,545	82,851
Fair value of associated liabilities⁽²⁾	40,731	46,120

(1) The amount related to the securities loaned is the maximum amount of Bank securities that can be lent. For obligations related to securities sold under repurchase agreements, the amount includes the Bank's own financial assets as well as those of third parties and excludes bearer deposit notes issued by the Bank and covered bonds issued by the Bank.

(2) Associated liabilities include liabilities related to transferred receivables and obligations related to securities sold under repurchase agreements before the offsetting impact of \$3,367 million as at October 31, 2021 (\$959 million as at October 31, 2020) excluding repurchase agreements guaranteed by bearer deposit notes issued by the Bank and covered bonds issued by the Bank. Liabilities related to securities loaned are not included, as the Bank can lend its own financial assets and those of third parties. The carrying value and fair value of liabilities related to securities loaned stood at \$7,993 million before the offsetting impact of \$4,333 million as at October 31, 2021 (\$6,327 million before a negligible offsetting impact as at October 31, 2020).

The following table specifies the nature of the transactions related to financial assets transferred but not derecognized.

As at October 31	2021	2020
Carrying value of financial assets transferred but not derecognized		
Securities backed by insured residential mortgages and other securities sold to CHT	24,034	21,211
Securities sold under repurchase agreements	17,553	25,442
Securities loaned	49,122	35,677
	90,709	82,330

Note 9 – Investments in Associates and Joint Ventures

As at October 31		2021	2020
	Business segment	Carrying value	Carrying value
Listed associate			
TMX Group Limited ⁽¹⁾	Other	184	278
Unlisted associates			
AfrAsia Bank Limited ⁽²⁾	USSF&I	–	74
Other ⁽³⁾		41	57
		41	131
		225	409

- (1) The Bank exercises significant influence over TMX Group Limited (TMX) mainly through its equity interest, debt financing, and presence on TMX's board of directors. As at October 31, 2021, the Bank's ownership interest in TMX was 5.2% (8.2% as at October 31, 2020), and the fair value of this investment based on quoted prices in active markets was \$390 million (\$596 million as at October 31, 2020).
- (2) On October 31, 2021, the Bank concluded that it had lost significant influence over AfrAsia Bank Limited (AfrAsia), an associate entity headquartered in Mauritius, and therefore ceased using the equity method to account for this investment. The Bank designated its investment in AfrAsia as a financial asset measured at fair value through other comprehensive income in an amount of \$56 million. Following the fair value measurement, a \$30 million loss was recorded in the *Non-interest income – Other* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results. As at October 31, 2021, the Bank's ownership interest in AfrAsia was 20.5% (20.5% as at October 31, 2020).
- (3) On September 8, 2021, the Bank finalized the acquisition of Flinks Technology Inc. (Flinks), an associate in which the Bank had been holding an equity interest of 30.2% for an amount of \$8 million (32.0% for an amount of \$11 million as at October 31, 2020). At the time of acquisition, this interest was remeasured at fair value, resulting in a non-taxable gain on remeasurement of \$33 million, which was recorded in the *Non-interest income – Other* item of the Consolidated Statement of Income. For additional information, see Note 31 to these consolidated financial statements.

As at October 31, 2021 and 2020, there were no significant restrictions limiting the ability of associates to transfer funds to the Bank in the form of dividends or to repay any loans or advances. Furthermore, the Bank has not made any specific commitment or contracted any contingent liability with respect to associates.

TMX Group Limited

TMX is a Canadian corporation that directly or indirectly controls a number of entities that operate stock exchanges and clearing houses and provide clearing and settlement services. During the year ended October 31, 2021, TMX paid \$12 million in dividends to the Bank (\$13 million for the year ended October 31, 2020). The following table provides summarized financial information on TMX.

As at October 31 ⁽¹⁾		2021	2020
Balance sheet			
Current assets		36,077	34,496
Non-current assets		5,387	5,248
Current liabilities		35,817	34,415
Non-current liabilities		1,971	1,720
Income statement			
Total revenues		948	848
Net income		322	255
Other comprehensive income		(1)	48
Comprehensive income		321	303

- (1) The balance sheet amounts are the balances reported in the unaudited financial statements as at September 30, 2021 and 2020, i.e., the most recent available, and the income statement amounts are based on the cumulative balances for the 12-month periods ended September 30, 2021 and 2020.

AfrAsia Bank Limited

AfrAsia is a financial group headquartered in Port Louis, Mauritius. During the year ended October 31, 2021, AfrAsia paid \$2 million in dividends to the Bank (\$3 million for the year ended October 31, 2020).

The table below provides summarized financial information related to the Bank's proportionate share in all unlisted associates that are not individually significant.

Year ended October 31 ⁽¹⁾		2021	2020
Net income		1	7
Other comprehensive income		–	–
Comprehensive income		1	7

- (1) The amounts are based on the cumulative balances for the 12-month periods ended September 30, 2021 and 2020.

Note 10 – Premises and Equipment

	Owned assets held						Right-of-use assets	Total
	Land	Head office building under construction ⁽¹⁾	Buildings	Computer equipment	Equipment and furniture	Leasehold improvements	Real estate	
Cost								
As at October 31, 2019	70	48	75	323	110	322		948
Impact of adopting IFRS 16 ⁽²⁾							648	648
Additions and modifications	1	72	3	55	14	37	50	232
Disposals	–	–	(7)	–	–	(5)	–	(12)
Impairment losses ⁽³⁾	–	–	–	(38)	–	–	–	(38)
Fully amortized assets	–	–	–	–	(12)	(24)	–	(36)
Impact of foreign currency translation	–	–	–	–	–	1	–	1
As at October 31, 2020	71	120	71	340	112	331	698	1,743
Additions and modifications	–	128	6	44	13	32	48	271
Disposals	–	–	(3)	(3)	(2)	(4)	–	(12)
Impairment losses	–	–	–	–	–	–	(5)	(5)
Fully amortized assets	–	–	(26)	(124)	(10)	(18)	(3)	(181)
Impact of foreign currency translation	–	–	–	(2)	(3)	(3)	(6)	(14)
As at October 31, 2021	71	248	48	255	110	338	732	1,802
Accumulated amortization								
As at October 31, 2019			58	194	57	149		458
Depreciation for the year			3	55	11	28	99	196
Disposals			(7)	–	–	(4)	–	(11)
Impairment losses ⁽³⁾			–	(19)	–	–	–	(19)
Fully amortized assets			–	–	(12)	(24)	–	(36)
Impact of foreign currency translation			–	–	–	–	–	–
As at October 31, 2020			54	230	56	149	99	588
Depreciation for the year			2	48	12	30	103	195
Disposals			(3)	(3)	(2)	(4)	–	(12)
Impairment losses			–	–	–	–	(1)	(1)
Fully amortized assets			(26)	(124)	(10)	(18)	(3)	(181)
Impact of foreign currency translation			–	(1)	(1)	(1)	–	(3)
As at October 31, 2021			27	150	55	156	198	586
Carrying value as at October 31, 2020	71	120	17	110	56	182	599	1,155
Carrying value as at October 31, 2021	71	248	21	105	55	182	534	1,216

- (1) As at October 31, 2021, contractual commitments related to the head office building under construction stood at \$295 million, covering a period up to 2023.
(2) On November 1, 2019, the Bank adopted IFRS 16. It recognized right-of-use assets totalling \$648 million (\$668 million reduced by provisions for onerous lease contracts of \$20 million).
(3) During the year ended October 31, 2020, the Bank decided to stop using certain computer equipment. Consequently, an amount of \$19 million in impairment losses related to this equipment was recognized in the *Non-interest expenses – Technology* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results.

Assets Leased Under Operating Leases

The Bank is a lessor under operating lease agreements for certain buildings. These leases have terms varying from one year to five years and do not contain any bargain purchase options or contingent rent.

The following table breaks down the future minimum payments receivable under these operating leases. These amounts include sub-lease revenues of \$7 million related to real estate right-of-use assets.

	As at October 31, 2021
1 year or less	2
Over 1 year to 2 years	2
Over 2 years to 3 years	2
Over 3 years to 4 years	1
Over 4 years to 5 years	1
Over 5 years	1
	9

Leases Recognized in the Consolidated Statement of Income

	As at October 31, 2021
Interest expense	16
Expense relating to leases of low-value assets ⁽¹⁾	5
Expense relating to variable lease payments	97
Income from leasing and sub-leasing ⁽²⁾	4

(1) The expense relates to payments for leases for which the underlying asset is of low value that are part of the exemptions permitted by the practical expedients of IFRS 16.

(2) These amounts include variable lease payments of \$2 million.

For the year ended October 31, 2021, the cash outflows for leases amounted to \$214 million (2020: \$213 million).

Note 11 – Goodwill and Intangible Assets

Goodwill

The following table presents changes in the carrying amounts of goodwill by cash-generating unit (CGU) and by business segment for the years ended October 31, 2021 and 2020.

	Personal and Commercial ⁽¹⁾	Wealth Management			Total	Financial Markets ⁽¹⁾	USSF&I			Other Flinks Technology Inc.	Total
		Third-Party Solutions ⁽¹⁾	Securities Brokerage ⁽¹⁾	Managed Solutions ⁽¹⁾			Credigy Ltd. ⁽¹⁾	Advanced Bank of Asia Limited ⁽¹⁾	Total		
Balance as at October 31, 2019	54	256	434	269	959	235	33	131	164		1,412
Impact of foreign currency translation	–	–	–	–	–	–	–	2	2		2
Balance as at October 31, 2020	54	256	434	269	959	235	33	133	166	–	1,414
Acquisition of Flinks ⁽²⁾										101	101
Impact of foreign currency translation	–	–	–	–	–	–	(2)	(9)	(11)	–	(11)
Balance as at October 31, 2021	54	256	434	269	959	235	31	124	155	101	1,504

(1) Constitutes a CGU.

(2) On September 8, 2021, the Bank finalized the acquisition of Flinks. For additional information, see Note 31 to these consolidated financial statements.

Goodwill Impairment Testing and Significant Assumptions

For impairment testing purposes, goodwill resulting from a business combination must be allocated, as of the acquisition date, to the CGU or group of CGUs expected to benefit from the synergies of the business combination. Goodwill is tested for impairment annually or more frequently if events or circumstances indicate that the recoverable value of the CGU or group of CGUs may have fallen below its carrying amount.

Goodwill was tested for impairment during the years ended October 31, 2021 and 2020, and no impairment loss was recognized.

The recoverable value of a CGU or group of CGUs is based on the value in use that is calculated based on discounted pre-tax cash flows. Future pre-tax cash flows are estimated based on a five-year period, which is the reference period used for the most recent financial forecasts approved by management. Cash flows beyond that period are extrapolated using a long-term growth rate.

The discount rate used for each CGU or group of CGUs is calculated using the cost of debt financing and the cost related to the Bank's equity. This rate corresponds to the Bank's weighted average cost of capital and reflects the risk specific to the CGU. The long-term growth rate used in calculating discounted cash flow estimates is based on the forecasted growth rate plus a risk premium. The rate is constant over the entire five-year period for which the cash flows were determined. Growth rates are determined, among other factors, based on past growth rates, economic trends, inflation, competition and the impact of the Bank's strategic initiatives. As at October 31, 2021, for each CGU or CGU group, the discount rate used was 13.2% (13.2% as at October 31, 2020), and the long-term growth rate varied between 2% and 5%, depending on the CGU, as at October 31, 2021 and 2020.

Note 11 – Goodwill and Intangible Assets (cont.)

Estimating a CGU's value in use requires significant judgment regarding the inputs used in applying the discounted cash flow method. The Bank conducts sensitivity analyses by varying the after-tax discount rate upward by 1% and the terminal growth rates downward by 1%. Such sensitivity analyses demonstrate that a reasonable change in assumptions would not result in a CGU's carrying value exceeding its value in use.

Intangible Assets

	Indefinite useful life			Finite useful life			Total	
	Management contracts ⁽¹⁾	Trademark	Total	Internally-generated software ⁽²⁾	Other software	Other intangible assets		
Cost								
As at October 31, 2019	161	11	172	1,703	156	103	1,962	2,134
Acquisitions	-	-	-	317	15	-	332	332
Impairment losses ⁽³⁾	-	-	-	(95)	-	-	(95)	(95)
Fully amortized intangible assets				(3)	(2)	(34)	(39)	(39)
As at October 31, 2020	161	11	172	1,922	169	69	2,160	2,332
Acquisitions	-	-	-	354	20	-	374	374
Impairment losses ⁽⁴⁾	(1)	(2)	(3)	(9)	-	-	(9)	(12)
Fully amortized intangible assets				(92)	(69)	(5)	(166)	(166)
As at October 31, 2021	160	9	169	2,175	120	64	2,359	2,528
Accumulated amortization								
As at October 31, 2019				547	105	76	728	728
Amortization for the year				223	22	7	252	252
Impairment losses ⁽³⁾				(43)	-	-	(43)	(43)
Fully amortized intangible assets				(3)	(2)	(34)	(39)	(39)
As at October 31, 2020				724	125	49	898	898
Amortization for the year				260	19	7	286	286
Impairment losses ⁽⁴⁾				-	-	-	-	-
Fully amortized intangible assets				(92)	(69)	(5)	(166)	(166)
As at October 31, 2021				892	75	51	1,018	1,018
Carrying value as at October 31, 2020	161	11	172	1,198	44	20	1,262	1,434
Carrying value as at October 31, 2021	160	9	169	1,283	45	13	1,341	1,510

(1) For annual impairment testing purposes, management contracts are allocated to the Managed Solutions CGU.

(2) The remaining amortization period for significant internally-generated software is five years.

(3) During the year ended October 31, 2020, the Bank had written off certain technology developments due to obsolescence and decided to discontinue them. The recoverable amount of those technology developments was estimated to be nil. An amount of \$52 million in impairment losses was recognized in the *Non-interest expenses – Technology* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results.

(4) During the year ended October 31, 2021, the Bank recorded \$3 million in impairment losses resulting from the impairment test carried out on intangible assets with indefinite useful life as well as an amount of \$9 million related to software under development that will no longer be brought to completion. The impairment losses were recognized in the *Non-interest expenses – Technology* item of the Consolidated Statement of Income and reported in the *Other* heading of segment results.

Note 12 – Other Assets

As at October 31	2021	2020
Receivables, prepaid expenses and other items	1,228	946
Interest and dividends receivable	696	567
Due from clients, dealers and brokers	988	586
Defined benefit asset (Note 23)	691	126
Deferred tax assets (Note 24)	354	643
Current tax assets	445	360
Reinsurance assets	28	30
Insurance assets	38	8
	4,468	3,266

Note 13 – Deposits

As at October 31				2021	2020
	On demand ⁽¹⁾	After notice ⁽²⁾	Fixed term ⁽³⁾	Total	Total
Personal	6,128	34,845	29,103	70,076	67,499
Business and government	58,863	31,867	77,140	167,870	143,787
Deposit-taking institutions	1,206	483	1,303	2,992	4,592
	66,197	67,195	107,546	240,938	215,878

(1) Demand deposits are deposits for which the Bank does not have the right to require notice of withdrawal and consist essentially of deposits in chequing accounts.

(2) Notice deposits are deposits for which the Bank may legally require a notice of withdrawal and consist mainly of deposits in savings accounts.

(3) Fixed-term deposits are deposits that can be withdrawn by the holder on a specified date and include term deposits, guaranteed investment certificates, savings accounts and plans, covered bonds, and similar instruments.

The *Deposits – Business and government* item includes, among other items, covered bonds, as described below, and an \$11.9 billion amount of deposits as at October 31, 2021 (\$8.4 billion as at October 31, 2020) that are subject to the bank bail-in conversion regulations issued by the Government of Canada. These regulations provide certain powers to the Canada Deposit Insurance Corporation (CDIC), notably the power to convert certain eligible Bank shares and liabilities into common shares should the Bank become non-viable.

Covered Bonds

NBC Covered Bond Guarantor (Legislative) Limited Partnership

In December 2013, the Bank established the covered bond legislative program under which covered bonds are issued. It therefore created NBC Covered Bond Guarantor (Legislative) Limited Partnership (the Guarantor) to guarantee payment of the principal and interest owed to the bondholders. The Bank sold uninsured residential mortgages to the Guarantor and granted it loans to facilitate the acquisition of these assets. During the year ended October 31, 2021, covered bonds in amounts of US\$470 million, 250 million pounds sterling, and 1.0 billion euros came to maturity, and the Bank issued 1.25 billion euros in covered bonds (US\$200 million in covered bonds issued during the year ended October 31, 2020). The covered bonds totalled \$8.8 billion as at October 31, 2021 (\$10.1 billion as at October 31, 2020). For additional information, see Note 27 to these consolidated financial statements.

The Bank has limited access to the assets owned by this structured entity according to the terms of the agreements that apply to this transaction. The assets owned by this entity totalled \$16.0 billion as at October 31, 2021 (\$17.2 billion as at October 31, 2020), of which \$15.7 billion (\$16.8 billion as at October 31, 2020) is presented in *Residential mortgage* loans on the Bank's Consolidated Balance Sheet.

Note 14 – Other Liabilities

As at October 31	2021	2020
Accounts payable and accrued expenses	2,469	1,993
Subsidiaries' debts to third parties	437	386
Interest and dividends payable	552	621
Lease liabilities	575	628
Due to clients, dealers and brokers	735	652
Defined benefit liability (Note 23)	143	156
Allowances for credit losses – Off-balance-sheet commitments (Note 7)	162	176
Deferred tax liabilities (Note 24)	10	–
Current tax liabilities	478	121
Insurance liabilities	11	–
Other items ⁽¹⁾⁽²⁾⁽³⁾	729	985
	6,301	5,718

(1) As at October 31, 2021, *Other items* included \$12 million in litigation provision (\$7 million as at October 31, 2020).

(2) As at October 31, 2021, *Other items* included \$33 million in provisions for onerous contracts (\$33 million as at October 31, 2020).

(3) As at October 31, 2021, *Other items* included the financial liability resulting from put options written to non-controlling interests of Flinks in an amount of \$25 million. For additional information, see Note 31 to these consolidated financial statements.

Note 15 – Subordinated Debt

The subordinated debt represents direct unsecured obligations, in the form of notes and debentures, to the Bank's debt holders. The rights of the Bank's note and debenture holders are subordinate to the claims of depositors and certain other creditors. Approval from OSFI is required before the Bank can redeem its subordinated notes and debentures in whole or in part.

As at October 31			2021	2020
Maturity date	Interest rate	Characteristics		
February 2028	3.183% ⁽¹⁾	Redeemable ⁽²⁾	750	750
February 2087	Variable ⁽³⁾	Redeemable at the Bank's option since February 28, 1993	9	9
			759	759
		Fair value hedge adjustment	10	17
		Unamortized issuance costs ⁽⁴⁾	(1)	(1)
		Total	768	775

- (1) Bearing interest at a rate of 3.183%, payable semi-annually until February 1, 2023, and thereafter bearing interest at a floating rate equal to the three-month CDOR rate plus 0.72%, payable quarterly.
- (2) With the prior approval of OSFI, the Bank may, at its option, redeem these notes as of February 1, 2023, in whole or in part, at their nominal value plus accrued and unpaid interest. These notes contain non-viability contingent capital (NVCC) provisions and qualify for the purposes of calculating regulatory capital under Basel III. In the case of a trigger event as defined by OSFI, each note will be automatically and immediately converted, on a full and permanent basis, without the consent of the holder, into a specified number of common shares of the Bank as determined using 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; (ii) the current market price of common shares, which represents the volume weighted average price of common shares for the ten trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board. The number of shares issued is determined by dividing the par value of the note (plus accrued and unpaid interest on such note) by the conversion price and then applying the multiplier.
- (3) Debentures denominated in foreign currency totalling US\$7 million as at October 31, 2021 (2020: US\$7 million) and bearing interest at a rate of 1/8% above six-month LIBOR.
- (4) The unamortized costs related to the issuance of the subordinated debt represent the initial cost, net of accumulated amortization, calculated using the effective interest rate method.

Note 16 – Derivative Financial Instruments

Derivative financial instruments are financial contracts whose value is derived from an underlying interest rate, exchange rate, equity price, commodity price, credit spread, or index.

The main types of derivative financial instruments used are presented below.

Forwards and Futures

Forwards and futures are contractual obligations to buy or deliver a specified amount of currency, interest rate, commodity, or financial instrument on a specified future date at a specified price. Forwards are tailor-made agreements transacted in the over-the-counter market. Futures are traded on organized exchanges and are subject to cash margining calculated daily by clearing houses.

Swaps

Swaps are over-the-counter contracts in which two parties agree to exchange cash flows. The Bank uses the following types of swap contracts:

- Cross-currency swaps are transactions in which counterparties exchange fixed-rate interest payments and principal payments in different currencies.
- Interest rate swaps are transactions in which counterparties exchange fixed and floating rate interest payments based on the notional principal value in the same currency.
- Commodity swaps are transactions in which counterparties exchange fixed and floating rate payments based on the notional principal value of a commodity.
- Equity swaps are transactions in which counterparties agree to exchange the return on one equity or group of equities for a payment based on an interest rate benchmark.
- Credit default swaps are transactions in which one of the parties agrees to pay returns to the other party so that the latter can make a payment if a credit event occurs.

Options

Options are agreements between two parties in which the writer of the option grants the buyer the right, but not the obligation, to buy or sell, either at a specified date or dates or at any time prior to a predetermined expiry date, a specific amount of currency, commodity, or financial instrument at an agreed-upon price upon the sale of the option. The writer receives a premium for the sale of this instrument.

Notional Amounts⁽¹⁾

As at October 31						2021	2020	
	Term to maturity					Contracts held for trading purposes	Contracts designated as hedges	Total contracts
	3 months or less	Over 3 months to 12 months	Over 1 year to 5 years	Over 5 years	Total contracts			
Interest rate contracts								
OTC contracts								
Forward rate agreements								
Not settled by central counterparties	5,091	967	–	–	6,058	6,058	–	5,046
Settled by central counterparties	–	495	–	–	495	495	–	586
Swaps								
Not settled by central counterparties	5,052	12,751	54,379	47,198	119,380	118,388	992	121,513
Settled by central counterparties	118,819	215,394	262,125	93,859	690,197	641,369	48,828	495,440
Options purchased	124	429	3,255	1,025	4,833	4,813	20	7,235
Options written	465	196	4,510	1,300	6,471	5,578	893	5,678
	129,551	230,232	324,269	143,382	827,434	776,701	50,733	635,498
Exchange-traded contracts								
Futures								
Long positions	30,782	9,482	16,629	–	56,893	56,893	–	21,870
Short positions	13,372	30,377	5,882	–	49,631	49,631	–	37,483
Options purchased	5,308	5,095	5,571	–	15,974	15,974	–	15,590
Options written	3,311	–	5,571	–	8,882	8,882	–	15,574
	52,773	44,954	33,653	–	131,380	131,380	–	90,517
Foreign exchange contracts								
OTC contracts								
Forwards	53,132	18,398	5,849	1,022	78,401	78,401	–	57,591
Swaps	242,180	78,108	98,532	28,727	447,547	430,574	16,973	363,538
Options purchased	7,557	7,723	2,015	–	17,295	17,295	–	12,728
Options written	8,348	9,065	1,511	–	18,924	18,924	–	13,617
	311,217	113,294	107,907	29,749	562,167	545,194	16,973	447,474
Exchange-traded contracts								
Futures								
Long positions	54	–	–	–	54	54	–	68
Short positions	83	–	–	–	83	83	–	73
	137	–	–	–	137	137	–	141
Equity, commodity and credit derivative contracts⁽²⁾								
OTC contracts								
Forwards	–	27	4,097	164	4,288	4,288	–	2,609
Swaps								
Not settled by central counterparties	27,986	20,266	25,366	6,449	80,067	79,936	131	79,344
Settled by central counterparties	402	280	2,167	864	3,713	3,713	–	10,138
Options purchased	775	298	552	–	1,625	1,625	–	916
Options written	233	340	1,161	232	1,966	1,966	–	1,560
	29,396	21,211	33,343	7,709	91,659	91,528	131	94,567
Exchange-traded contracts								
Futures								
Long positions	5,985	569	560	59	7,173	7,173	–	4,873
Short positions	10,417	2,402	840	–	13,659	13,659	–	11,950
Options purchased	21,126	1,503	481	–	23,110	23,110	–	17,069
Options written	20,857	2,123	1,540	2	24,522	24,522	–	14,894
	58,385	6,597	3,421	61	68,464	68,464	–	48,786
	581,459	416,288	502,593	180,901	1,681,241	1,613,404	67,837	1,316,983

(1) Notional amounts are not presented in assets or liabilities on the Consolidated Balance Sheet. They represent the reference amount of the contract to which a rate or price is applied to determine the amount of cash flows to be exchanged.

(2) Includes precious metal contracts.

Note 16 – Derivative Financial Instruments (cont.)

Credit Risk

Credit risk on derivative financial instruments is the risk of financial loss that the Bank will have to assume if a counterparty fails to honour its contractual obligations. Credit risk related to derivative financial instruments is subject to the same credit approval, credit limit, and credit monitoring standards as those applied to the Bank's other credit transactions. Consequently, the Bank evaluates the creditworthiness of counterparties and manages the size of the portfolios as well as the diversification and maturity profiles of these financial instruments.

The Bank limits the credit risk of over-the-counter contracts by dealing with creditworthy counterparties and entering into contracts that provide for the exchange of collateral between parties where the fair value of the outstanding transactions exceeds an agreed threshold. The Bank also negotiates master netting agreements that provide for the simultaneous close-out and settling of all transactions with a given counterparty in the event of default, insolvency, or bankruptcy. However, overall exposure to credit risk, reduced through master netting agreements, may change substantially after the balance sheet date because it is affected by all transactions subject to a contract as well as by changes in the market rates of the underlying instruments.

The Bank also uses financial intermediaries to have access to established clearing houses in order to minimize the settlement risk arising from financial derivative transactions. In some cases, the Bank has direct access to clearing houses for settling derivative financial instruments. In addition, certain derivative financial instruments traded over the counter are settled directly or indirectly by central counterparties.

In the case of exchange-traded contracts, exposure to credit risk is limited because these transactions are standardized contracts executed on established exchanges, each of which is associated with a well-capitalized clearing house that assumes the obligations of both counterparties and guarantees their performance obligations. All exchange-traded contracts are subject to initial margins and daily settlement.

Terms Used

Replacement Cost

Replacement cost is the Bank's maximum credit risk associated with derivative financial instruments as at the Consolidated Balance Sheet date. This amount is the positive fair value of all derivative financial instruments, before all master netting agreements and collateral held.

Credit Risk Equivalent

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

Risk-Weighted Amount

The risk-weighted amount is determined by applying the OSFI guidance to the credit risk equivalent.

Credit Risk Exposure of the Derivative Financial Instrument Portfolio

As at October 31	2021			2020		
	Replacement cost	Credit risk equivalent ⁽¹⁾	Risk-weighted amount ⁽¹⁾	Replacement cost	Credit risk equivalent ⁽¹⁾	Risk-weighted amount ⁽¹⁾
Interest rate contracts	1,975	3,239	814	3,534	3,839	1,383
Foreign exchange contracts	6,453	4,361	1,405	4,391	4,829	1,542
Equity, commodity and credit derivative contracts	8,056	12,113	3,316	5,497	7,874	1,820
	16,484	19,713	5,535	13,422	16,542	4,745
Impact of master netting agreements	(9,398)			(6,204)		
	7,086	19,713	5,535	7,218	16,542	4,745

(1) The amounts are presented net of the Impact of master netting agreements.

Credit Risk Exposure of the Derivative Financial Instrument Portfolio by Counterparty

As at October 31	2021		2020	
	Replacement cost	Credit risk equivalent	Replacement cost	Credit risk equivalent
OECD ⁽¹⁾ member-country governments	771	2,604	1,265	2,280
Banks of OECD member countries	714	3,492	837	3,399
Other	5,601	13,617	5,116	10,863
	7,086	19,713	7,218	16,542

(1) Organisation for Economic Co-operation and Development.

Fair Value of Derivative Financial Instruments

As at October 31	2021			2020		
	Positive	Negative	Net	Positive	Negative	Net
Contracts held for trading purposes						
Interest rate contracts						
Forwards	30	54	(24)	41	20	21
Swaps	909	1,316	(407)	2,622	2,599	23
Options	74	68	6	131	73	58
	1,013	1,438	(425)	2,794	2,692	102
Foreign exchange contracts						
Forwards	2,190	2,365	(175)	1,292	1,318	(26)
Swaps	4,026	3,601	425	2,816	2,477	339
Options	234	250	(16)	221	201	20
	6,450	6,216	234	4,329	3,996	333
Equity, commodity and credit derivative contracts						
Forwards	1,369	886	483	850	278	572
Swaps	2,375	5,198	(2,823)	2,502	3,430	(928)
Options	4,305	4,922	(617)	2,145	1,334	811
	8,049	11,006	(2,957)	5,497	5,042	455
Total – Contracts held for trading purposes	15,512	18,660	(3,148)	12,620	11,730	890
Contracts designated as hedges						
Interest rate contracts						
Swaps	962	268	694	740	765	(25)
Options	–	207	(207)	–	289	(289)
	962	475	487	740	1,054	(314)
Foreign exchange contracts						
Swaps	3	232	(229)	62	136	(74)
Options	–	–	–	–	–	–
	3	232	(229)	62	136	(74)
Equity, commodity and credit derivative contracts						
Swaps	7	–	7	–	3	(3)
Options	–	–	–	–	–	–
	7	–	7	–	3	(3)
Total – Contracts designated as hedges	972	707	265	802	1,193	(391)
Designated as fair value hedges	644	272	372	549	578	(29)
Designated as cash flow hedges	328	435	(107)	253	615	(362)
Designated as a hedge of a net investment in a foreign operation	–	–	–	–	–	–
Total fair value	16,484	19,367	(2,883)	13,422	12,923	499
Impact of master netting agreements	(9,398)	(9,398)	–	(6,204)	(6,204)	–
	7,086	9,969	(2,883)	7,218	6,719	499

Note 17 – Hedging Activities

The Bank's market risk exposure, risk management objectives, policies and procedures, and risk measurement methods are presented in the Risk Management section of the MD&A for the year ended October 31, 2021.

The Bank has elected, as permitted under IFRS 9, to continue applying the hedge accounting requirements of IAS 39. Some of the tables present information on currencies, specifically, the U.S. dollar (USD), the Australian dollar (AUD), the Canadian dollar (CAD), the Hong Kong dollar (HKD), the euro (EUR), the pound sterling (GBP), and the Brazilian real (BRL).

The table on the following page shows the notional amounts and the weighted average rates by term to maturity of the designated derivative instruments and their fair value by type of hedging relationship.

As at October 31						2021			2020	
	Term to maturity					Fair value			Fair value	
	1 year or less	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	Total	Assets	Liabilities	Total	Assets	Liabilities
Fair value hedges										
Interest rate risk										
Interest rate swaps										
Notional amount – LIBOR reform ⁽¹⁾	–	–	517	1,508	2,025	642	63	2,335	536	288
Notional amount – Other ⁽²⁾	1,207	2,212	10,437	2,716	16,572			15,632		
Average fixed interest rate – Pay fixed	0.5 %	1.3 %	1.2 %	1.2 %	1.2 %			1.1 %		
Average fixed interest rate – Receive fixed	0.9 %	2.0 %	1.8 %	2.2 %	2.0 %			1.9 %		
Cross-currency swaps										
Notional amount – LIBOR reform ⁽¹⁾	–	–	–	22	22	2	2	–	13	–
Notional amount – Other ⁽²⁾	–	110	–	–	110			118		
Average USD-AUD exchange rate	–	–	–	\$ 0.7351	\$ 0.7351			\$ –		
Average CAD-HKD exchange rate	–	\$ 0.1621	–	–	\$ 0.1621			\$ 0.1621		
Options										
Notional amount – LIBOR reform ⁽¹⁾	–	–	–	372	372	–	207	440	–	290
Notional amount – Other ⁽²⁾	12	48	–	481	541			577		
Average fixed interest rate – Purchased	–	(0.8) %	–	–	(0.8) %			(0.6) %		
Average fixed interest rate – Written	2.0 %	2.9 %	–	2.8 %	2.8 %			2.7 %		
	1,219	2,370	10,954	5,099	19,642	644	272	19,102	549	578
Cash flow hedges										
Interest rate risk										
Interest rate swaps										
Notional amount – LIBOR reform ⁽¹⁾	–	–	–	–	–	320	205	1,199	204	477
Notional amount – Other ⁽²⁾	5,709	10,262	13,134	2,118	31,223			21,581		
Average fixed interest rate – Pay fixed	1.9 %	1.7 %	1.4 %	1.7 %	1.6 %			1.7 %		
Average fixed interest rate – Receive fixed	0.9 %	0.6 %	0.3 %	0.6 %	0.6 %			0.5 %		
Cross-currency swaps										
Notional amount – LIBOR reform ⁽¹⁾	–	4,627	7,257	1,440	13,324	1	230	13,467	49	135
Notional amount – Other ⁽²⁾	3,512	–	–	–	3,512			1,461		
Average CAD-USD exchange rate	\$ 1.2906	\$ 1.3182	\$ 1.2899	\$ 1.2503	\$ 1.2945			\$ 1.3074		
Average USD-EUR exchange rate	\$ 1.1145	\$ 1.1397	\$ 1.1841	\$ 1.1889	\$ 1.1587			\$ 1.1510		
Average USD-GBP exchange rate	–	–	–	–	–			\$ 1.2921		
Equity price risk										
Equity swaps										
Notional amount	131	–	–	–	131	7	–	89	–	3
Average price	\$ 97.54	–	–	–	\$ 97.54			\$ 65.71		
	9,352	14,889	20,391	3,558	48,190	328	435	37,797	253	615
Hedges of net investments in foreign operations⁽³⁾										
Foreign exchange risk										
Cross-currency swaps										
Notional amount	5	–	–	–	5	–	–	10	–	–
Average CAD-USD exchange rate	\$ 1.2378	–	–	–	\$ 1.2378			\$ 1.3177		
Average USD-HKD exchange rate	–	–	–	–	–			\$ 0.1290		
	5	–	–	–	5	–	–	10	–	–
	10,576	17,259	31,345	8,657	67,837	972	707	56,909	802	1,193

(1) Includes only contracts that reference USD LIBOR and that will mature after June 30, 2023.

(2) Includes contracts that reference the Canadian Dollar Offered Rate (CDOR), a benchmark rate in Canada, a multi-rate jurisdiction.

(3) As at October 31, 2021, the Bank also designated \$1,313 million in foreign currency deposits denominated in U.S. dollars as net investment hedging instruments (\$1,279 million as at October 31, 2020).

Fair Value Hedges

Fair value hedge transactions consist of using derivative financial instruments (interest rate swaps and options) to hedge changes in the fair value of a financial asset or financial liability caused by interest rate fluctuations. Changes in the fair values of the derivative financial instruments used as hedging instruments offset changes in the fair value of the hedged items. The Bank applies this strategy mainly to portfolios of securities measured at fair value through other comprehensive income, fixed-rate mortgage loans, fixed-rate deposits, liabilities related to transferred receivables, and subordinated debt.

In addition, when a fixed-rate asset or liability is denominated in a foreign currency, the Bank sometimes uses cross-currency swaps to hedge the associated foreign exchange risk. The Bank may designate a cross-currency swap to exchange the fixed-rate foreign currency for the functional currency at a floating rate in a single hedging relationship addressing both interest rate risk and foreign exchange risk. In certain cases, given that interest rate risk and foreign exchange risk are hedged in a single hedging relationship, the information below does not distinguish between interest rate risk and the combination of interest rate risk and foreign exchange risk as two separate risk categories. The Bank applies this strategy mainly to foreign currency fixed-rate deposits.

Regression analysis is used to test hedge effectiveness and determine the hedge ratio. For fair value hedges, the main source of potential hedge ineffectiveness is a circumstance where the critical terms of the hedging instrument and the hedged item are not closely aligned.

The following tables show amounts related to hedged items as well as the results of the fair value hedges.

	As at October 31, 2021			Year ended October 31, 2021		
	Carrying value of hedged items	Cumulative hedge adjustments from active hedges	Cumulative adjustments from discontinued hedges	Gains (losses) on the hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on the hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾
Securities at fair value through other comprehensive income	7,471	(183)	27	(309)	310	1
Mortgages	7,609	(192)	(17)	(222)	234	12
Deposits	3,190	42	70	121	(123)	(2)
Liabilities related to transferred receivables	105	–	105	23	(23)	–
Subordinated debt	10	–	10	–	–	–
				(387)	398	11

	As at October 31, 2020			Year ended October 31, 2020		
	Carrying value of hedged items	Cumulative hedge adjustments from active hedges	Cumulative adjustments from discontinued hedges	Gains (losses) on the hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on the hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾
Securities at fair value through other comprehensive income	9,883	141	26	229	(229)	–
Mortgages	5,124	10	2	12	(12)	–
Deposits	3,371	172	83	(83)	84	1
Liabilities related to transferred receivables	1,041	13	162	(71)	72	1
Subordinated debt	17	–	17	(7)	7	–
				80	(78)	2

(1) Amounts are presented on a pre-tax basis.

Note 17 – Hedging Activities (cont.)

Cash Flow Hedges

Cash flow hedge transactions consist of using interest rate swaps to hedge the risk of changes in future cash flows caused by floating-rate assets or liabilities. In addition, the Bank sometimes uses cross-currency swaps to hedge the foreign exchange risk caused by assets or liabilities denominated in foreign currencies. In certain cases, given that interest rate risk and foreign exchange risk are hedged in a single hedging relationship, the information below does not distinguish between interest rate risk and the combination of interest rate risk and foreign exchange risk as two separate risk categories. The Bank applies this strategy mainly to its loan, personal credit line, acceptance, and deposit portfolios as well as liabilities related to transferred receivables.

The Bank also uses total return swaps to hedge the risk of changes in future cash flows related to the Restricted Stock Unit (RSU) Plan. Some of these swaps are designated as part of a cash flow hedge against a portion of the unrecognized obligation of the RSU Plan. In cash flow hedges, the derivative financial instruments used as hedging instruments reduce the variability of the future cash flows related to the hedged items.

Regression analysis is used to assess hedge effectiveness and to determine the hedge ratio. For cash flow hedges, the main source of potential hedge ineffectiveness is a circumstance where the critical terms of the hedging instrument and the hedged item are not closely aligned.

The following tables show the amounts related to hedged items as well as the results of the cash flow hedges.

	As at October 31, 2021		Year ended October 31, 2021				
	<i>Accumulated other comprehensive income from active hedges</i>	<i>Accumulated other comprehensive income from discontinued hedges</i>	Gains (losses) on hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾	Unrealized gains (losses) included in <i>Other comprehensive income</i> as the effective portion of the hedging instrument ⁽¹⁾	Losses (gains) reclassified to <i>Net interest income</i> ⁽¹⁾
Interest rate risk							
Loans	(76)	(10)	87	(85)	–	(84)	(2)
Deposits	(15)	(8)	488	(487)	–	163	(5)
Acceptances	161	(113)	(208)	214	6	208	46
Liabilities related to transferred receivables	48	–	(54)	56	2	54	–
	118	(131)	313	(302)	8	341	39
Equity price risk							
Other liabilities	47	–	(35)	35	–	39	(4)
	165	(131)	278	(267)	8	380	35
	As at October 31, 2020		Year ended October 31, 2020				
	<i>Accumulated other comprehensive income from active hedges</i>	<i>Accumulated other comprehensive income from discontinued hedges</i>	Gains (losses) on hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾	Unrealized gains (losses) included in <i>Other comprehensive income</i> as the effective portion of the hedging instrument ⁽¹⁾	Losses (gains) reclassified to <i>Net interest income</i> ⁽¹⁾
Interest rate risk							
Loans	2	(1)	(31)	31	–	30	(17)
Deposits	(178)	(2)	23	(21)	–	(208)	(11)
Acceptances	(71)	(136)	193	(199)	(7)	(193)	26
Liabilities related to transferred receivables	(6)	–	7	(6)	–	(6)	–
	(253)	(139)	192	(195)	(7)	(377)	(2)
Equity price risk							
Other liabilities	9	4	(13)	13	–	9	(6)
	(244)	(135)	179	(182)	(7)	(368)	(8)

(1) Amounts are presented on a pre-tax basis.

Hedges of Net Investments in Foreign Operations

The Bank's structural foreign exchange risk arises from investments in foreign operations denominated in currencies other than the Canadian dollar. The Bank measures this risk by assessing the impact of foreign currency fluctuations and hedges it using derivative and non-derivative financial instruments (cross-currency swaps and deposits). In a hedge of a net investment in a foreign operation (net investment hedge), the financial instruments used offset the foreign exchange gains and losses on the investments. When non-derivative financial instruments are designated as foreign exchange risk hedges, only the changes in fair value that are attributable to foreign exchange risk are taken into account when assessing and calculating the effectiveness of the hedge.

Assessing the effectiveness of net investment hedges consists of comparing changes in the carrying value of the deposits or the fair value of the derivative attributable to exchange rate fluctuations with changes in the net investment in a foreign operation attributable to exchange rate fluctuations. Inasmuch as the notional amount of the hedging instruments and the hedged net investments are aligned, no ineffectiveness is expected.

The following tables present the amounts related to hedged items as well as the results of the net investment hedges.

	As at October 31, 2021		Year ended October 31, 2021				
	<i>Accumulated other comprehensive income from active hedges</i>	<i>Accumulated other comprehensive income from discontinued hedges</i>	Gains (losses) on hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾	Unrealized gains (losses) included in <i>Other comprehensive income</i> as the effective portion of the hedging instrument ⁽¹⁾	Losses (gains) reclassified to the <i>Non-interest income item</i> ⁽¹⁾
Net investments in foreign operations denominated in:							
USD	35	(120)	(119)	119	–	119	–
BRL	–	–	–	–	–	–	–
	35	(120)	(119)	119	–	119	–

	As at October 31, 2020		Year ended October 31, 2020				
	<i>Accumulated other comprehensive income from active hedges</i>	<i>Accumulated other comprehensive income from discontinued hedges</i>	Gains (losses) on hedged items for ineffectiveness measurement ⁽¹⁾	Gains (losses) on hedging instruments for ineffectiveness measurement ⁽¹⁾	Hedge ineffectiveness ⁽¹⁾	Unrealized gains (losses) included in <i>Other comprehensive income</i> as the effective portion of the hedging instrument ⁽¹⁾	Losses (gains) reclassified to the <i>Non-interest income item</i> ⁽¹⁾
Net investments in foreign operations denominated in:							
USD	(1)	(202)	18	(18)	–	(18)	–
BRL	–	–	–	–	–	–	(38)
	(1)	(202)	18	(18)	–	(18)	(38)

(1) Amounts are presented on a pre-tax basis.

Note 17 – Hedging Activities (cont.)

Reconciliation of Equity Components

The following table presents a reconciliation by risk category of *Accumulated other comprehensive income* attributable to hedge accounting.

As at October 31	2021		2020	
	Net gains (losses) on cash flow hedges	Net foreign currency translation adjustments	Net gains (losses) on cash flow hedges	Net foreign currency translation adjustments
Balance at beginning	(283)	61	(6)	8
Hedges of net investments in foreign operations⁽¹⁾				
Gains (losses) included as the effective portion		119		(18)
Losses (gains) reclassified to <i>Non-interest income</i>		–		(38)
Foreign currency translation gains (losses) on investments in foreign operations		(286)		92
Cash flow hedges⁽¹⁾				
Gains (losses) included as the effective portion				
Interest rate risk	341		(377)	
Equity price risk	39		9	
Losses (gains) reclassified to <i>Net interest income</i>				
Interest rate risk	39		(2)	
Equity price risk	(4)		(6)	
Other comprehensive income attributable to non-controlling interests	–	13	–	(12)
Income taxes	(109)	(36)	99	29
Balance at end	23	(129)	(283)	61

(1) Amounts are presented on a pre-tax basis.

Note 18 – Share Capital and Other Equity Instruments

Authorized

Common Shares

An unlimited number of shares without par value.

First Preferred Shares

An unlimited number of shares, without par value, issuable for a maximum aggregate consideration of \$5 billion.

First Preferred Shares and Other Equity Instruments

As at October 31, 2021					
	Redemption and conversion date ⁽¹⁾⁽²⁾	Redemption price per share or LRCN (\$) ⁽¹⁾	Convertible into preferred shares ⁽²⁾	Dividend per share (\$) or interest rate per LRCN ⁽³⁾	Reset premium of the dividend rate or interest rate
First preferred shares issued and outstanding					
Series 30 ⁽⁴⁾	May 15, 2024 ⁽⁵⁾⁽⁶⁾	25.00	Series 31	0.25156 ⁽⁷⁾	2.40 %
Series 32 ⁽⁴⁾	February 15, 2025 ⁽⁵⁾⁽⁶⁾	25.00	Series 33	0.23994 ⁽⁷⁾	2.25 %
Series 38 ⁽⁴⁾	November 15, 2022 ⁽⁵⁾⁽⁶⁾	25.00	Series 39	0.27813 ⁽⁸⁾	3.43 %
Series 40 ⁽⁴⁾	May 15, 2023 ⁽⁵⁾⁽⁶⁾	25.00	Series 41	0.28750 ⁽⁸⁾	2.58 %
Series 42 ⁽⁴⁾	November 15, 2023 ⁽⁵⁾⁽⁶⁾	25.00	Series 43	0.30938 ⁽⁸⁾	2.77 %
First preferred shares issued and held in a limited recourse trust					
Series 44 ⁽⁹⁾	October 15, 2025 ⁽⁵⁾	1,000.00	n.a.	Floating rate ⁽⁹⁾	3.943 %
Series 45 ⁽⁹⁾	July 15, 2026 ⁽⁵⁾	1,000.00	n.a.	Floating rate ⁽⁹⁾	3.045 %
Other equity instruments issued and outstanding					
Limited Recourse Capital Notes (LRCN)					
Series 1 (LRCN – Series 1) ⁽⁹⁾⁽¹⁰⁾	October 15, 2025 ⁽⁵⁾	1,000.00	Series 44 ⁽¹⁰⁾	4.30 % ⁽¹¹⁾	3.943 %
Series 2 (LRCN – Series 2) ⁽⁹⁾⁽¹⁰⁾	July 15, 2026 ⁽⁵⁾	1,000.00	Series 45 ⁽¹⁰⁾	4.05 % ⁽¹¹⁾	3.045 %
First preferred shares authorized but not issued					
Series 31 ⁽⁴⁾	May 15, 2024 ⁽⁵⁾	25.00 ⁽¹²⁾	n.a.	Floating rate ⁽¹³⁾	2.40 %
Series 33 ⁽⁴⁾	February 15, 2025 ⁽⁵⁾	25.00 ⁽¹²⁾	n.a.	Floating rate ⁽¹³⁾	2.25 %
Series 39 ⁽⁴⁾	November 15, 2022 ⁽⁵⁾	25.50 ⁽¹⁴⁾	n.a.	Floating rate ⁽¹³⁾	3.43 %
Series 41 ⁽⁴⁾	May 15, 2023 ⁽⁵⁾	25.50 ⁽¹⁴⁾	n.a.	Floating rate ⁽¹³⁾	2.58 %
Series 43 ⁽⁴⁾	November 15, 2023 ⁽⁵⁾	25.50 ⁽¹⁴⁾	n.a.	Floating rate ⁽¹³⁾	2.77 %

n.a. Not applicable

- (1) Redeemable in cash at the Bank's option, in whole or in part, subject to the provisions of the *Bank Act* (Canada) and to OSFI approval. For the preferred shares, the redemption prices are increased by all the declared and unpaid dividends on the preferred shares to the date fixed for redemption. In the case of LRCN, the redemption price is increased by interest accrued and unpaid up to the redemption date.
- (2) Convertible at the option of the holders of first preferred shares issued and outstanding, subject to certain conditions.
- (3) The dividends are non-cumulative and payable quarterly, except for Series 44 and 45, for which the dividends, when payable, are paid semi-annually. Interest on the LRCN is payable semi-annually.
- (4) Upon the occurrence of a trigger event, as defined by OSFI, each outstanding preferred share will be automatically and immediately converted, on a full and permanent basis, without the consent of the holder, into a number of Bank common shares determined pursuant to an automatic conversion formula. This conversion will be calculated by dividing the value of the preferred shares, i.e., \$25.00 per share, plus all declared and unpaid dividends as at the date of the trigger event, by the value of the common shares. The value of the common shares will be the greater of a \$5.00 floor price or the current market price of the common shares. Current market price means the volume weighted average trading price of common shares for the ten consecutive trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board.
- (5) For the preferred shares, redeemable at the date fixed for redemption and on the same date every five years thereafter. In the case of LRCN, the redemption occurs automatically upon the redemption of the Series 44 and the Series 45 preferred shares held in the limited recourse trust. The Series 44 and the Series 45 preferred shares are redeemable at the date fixed for redemption and on the same date every five years thereafter.
- (6) Convertible on the date fixed for conversion and on the same date every five years thereafter, subject to certain conditions.
- (7) The dividend amount is set for the five-year period commencing on May 16, 2019 for Series 30 as well as February 16, 2020 for Series 32 and ending on the redemption date. Thereafter, these shares carry a non-cumulative quarterly fixed dividend in an amount per share determined by multiplying the rate of interest equal to the sum of the five-year Government of Canada bond yield on the applicable fixed-rate calculation date by \$25.00, plus the reset premium.
- (8) The dividend amount is set for the initial period ending on the date fixed for redemption. Thereafter, these shares carry a non-cumulative quarterly fixed dividend in an amount per share determined by multiplying the rate of interest equal to the sum of the five-year Government of Canada bond yield on the applicable fixed-rate calculation date by \$25.00, plus the reset premium.

Note 18 – Share Capital and Other Equity Instruments (cont.)

- (9) Series 44 and Series 45 preferred shares are held by a consolidated limited recourse trust on the Bank's balance sheet and are therefore eliminated for financial reporting purposes. Dividends are payable semi-annually and the dividend rate is the Government of Canada bond yield on the calculation date plus the reset premium; however, no dividend will be payable before the date on which all Series 44 and Series 45 preferred shares are issued to the holders of LRCN – Series 1 and LRCN – Series 2. Upon the occurrence of a trigger event, as defined by OSFI; (i) each LRCN will be automatically redeemed and the redemption price will be covered by delivery of the trust's assets that consist of Series 44 and Series 45 preferred shares; (ii) each outstanding preferred share will be automatically and immediately converted on a full and permanent basis, without the consent of the holder, into a number of Bank common shares determined pursuant to an automatic conversion formula. This conversion will be calculated by dividing the value of the preferred shares, i.e., \$1,000 per share, plus all accrued and unpaid interest as at the date of the trigger event, by the value of the common shares. The value of the common shares will be the greater of a \$5.00 floor price or the current market price of the common shares. Current market price means the volume weighted average trading price of common shares for the ten consecutive trading days ending on the trading day preceding the date of the trigger event. If the common shares are not listed on an exchange when this price is being established, the price will be the fair value reasonably determined by the Bank's Board.
- (10) The LRCN – Series 1 and LRCN – Series 2 are notes for which recourse is limited to the assets held by an independent trustee in a consolidated limited recourse trust. The trust assets consist of Series 44 and Series 45 preferred shares issued by the Bank in conjunction with the LRCN – Series 1 and LRCN – Series 2. In the event of (i) non-payment of interest on any of the interest payment dates, (ii) non-payment of the redemption amount upon redemption of the LRCN, (iii) non-payment of the principal amount upon maturity of the LRCN, or (iv) an event of default in respect of the LRCN, the noteholders will have recourse only to the assets of the trust, and each noteholder will be entitled to its pro rata share of the assets of the trust. In such circumstances, delivery of the assets of the trust will eliminate all of the Bank's obligations with respect to the LRCN. The LRCN – Series 1 and LRCN – Series 2 are redeemable at maturity or earlier to the extent that the Bank redeems the Series 44 and Series 45 preferred shares on certain redemption dates specified in the terms and conditions of the preferred shares, and subject to OSFI's consent and approval.
- (11) The interest rate is set for the initial period ending on the date fixed for redemption. Every five years thereafter until November 15, 2075 for the LRCN – Series 1 and until August 15, 2076 for the LRCN – Series 2, the interest rate on the notes will be adjusted and will be an annual interest rate equal to the five-year Government of Canada bond yield on the applicable interest rate calculation date, plus the interest rate reset premium.
- (12) As of the date fixed for redemption, and every five years thereafter, the redemption price will be \$25.00 per share.
- (13) The dividend period begins as of the date fixed for redemption. The amount of the floating quarterly non-cumulative dividend is determined by multiplying by \$25.00 the rate of interest equal to the sum of the 90-day Government of Canada treasury bill yield on the floating rate calculation date, plus the reset premium.
- (14) As of the date fixed for redemption, the redemption price will be \$25.50 per share. Thereafter, on the same date every five years, the redemption price will be \$25.00 per share.

Second Preferred Shares

15 million shares without par value, issuable for a total maximum consideration of \$300 million. As at October 31, 2021, no shares had been issued or traded.

Shares and Other Equity Instruments Outstanding

As at October 31	2021		2020	
	Number of shares or LRCN	Shares or LRCN \$	Number of shares or LRCN	Shares or LRCN \$
First Preferred Shares				
Series 30	14,000,000	350	14,000,000	350
Series 32	12,000,000	300	12,000,000	300
Series 34	–	–	16,000,000	400
Series 36	–	–	16,000,000	400
Series 38	16,000,000	400	16,000,000	400
Series 40	12,000,000	300	12,000,000	300
Series 42	12,000,000	300	12,000,000	300
	66,000,000	1,650	98,000,000	2,450
Other equity instruments				
LRCN – Series 1	500,000	500	500,000	500
LRCN – Series 2	500,000	500	–	–
	1,000,000	1,000	500,000	500
Preferred shares and other equity instruments	67,000,000	2,650	98,500,000	2,950
Common shares at beginning of year	335,997,660	3,057	334,172,411	2,949
Issued pursuant to the Stock Option Plan	1,930,033	104	2,318,926	111
Repurchase of common shares for cancellation	–	–	(525,000)	(5)
Impact of shares purchased or sold for trading ⁽¹⁾	(14,432)	(1)	31,323	2
Other	(978)	–	–	–
Common shares at end of year	337,912,283	3,160	335,997,660	3,057

- (1) As at October 31, 2021, a total of 13,045 shares were sold short for trading, representing \$1 million (27,477 shares were sold short for trading representing \$2 million as at October 31, 2020).

Dividends Declared and Distributions on Other Equity Instruments

Year ended October 31	2021		2020	
	Dividends or interest \$	Dividends per share	Dividends or interest \$	Dividends per share
First Preferred Shares				
Series 30	14	1.0063	14	1.0063
Series 32	12	0.9598	12	0.9636
Series 34	11	0.7000	22	1.4000
Series 36	16	1.0125	22	1.3500
Series 38	18	1.1125	18	1.1125
Series 40	14	1.1500	14	1.1500
Series 42	14	1.2375	14	1.2375
	99		116	
Other equity instruments				
LRCN – Series 1 ⁽¹⁾	21		3	
LRCN – Series 2 ⁽²⁾	11		–	
	32		3	
Preferred shares and other equity instruments	131		119	
Common shares	958	2.8400	953	2.8400
	1,089		1,072	

(1) The LRCN – Series 1 bear interest at a fixed rate of 4.30% per annum.

(2) The LRCN – Series 2 bear interest at a fixed rate of 4.05% per annum.

Issuances of Other Equity Instruments

On April 21, 2021, the Bank issued \$500 million of LRCN – Series 2 for which recourse of the noteholders is limited to the assets held by an independent trustee in a consolidated limited recourse trust. The trust's assets consist of \$500 million of Series 45 first preferred shares issued by the Bank in conjunction with the LRCN – Series 2. The LRCN – Series 2 sell for \$1,000 each and bear interest at a fixed rate of 4.05% per annum until August 15, 2026 exclusively and, thereafter, at an annual rate equal to the five-year Government of Canada bond yield plus 3.045% until August 15, 2076. The LRCN – Series 2 will mature on August 15, 2081.

On September 9, 2020, the Bank had issued \$500 million of LRCN – Series 1 for which recourse of the noteholders is limited to the assets held by an independent trustee in a consolidated limited recourse trust. The trust's assets consist of \$500 million of Series 44 first preferred shares issued by the Bank in conjunction with the LRCN – Series 1. The LRCN – Series 1 sell for \$1,000 each and bear interest at a fixed rate of 4.30% per annum until November 15, 2025 exclusively and, thereafter, at an annual rate equal to the five-year Government of Canada bond yield plus 3.943% until November 15, 2075. The LRCN – Series 1 will mature on November 15, 2080.

In the event of (i) non-payment of interest on any of the interest payment dates, (ii) non-payment of the redemption amount upon redemption of the LRCN, (iii) non-payment of the principal amount upon maturity of the LRCN, or (iv) an event of default in respect of the notes, the noteholders will have recourse only to the assets of the trust, and each noteholder will be entitled to its pro rata share of the assets of the trust. In such circumstances, delivery of the assets of the trust will eliminate all of the Bank's obligations with respect to the LRCN. The LRCN – Series 1 and LRCN – Series 2 are redeemable at maturity or earlier to the extent that the Bank redeems the Series 44 and Series 45 preferred shares on certain redemption dates specified in the terms and conditions of said preferred shares, and subject to OSFI's consent and approval.

Given that the LRCN – Series 1 and LRCN – Series 2 satisfy the non-viability contingent capital requirements, they qualify for the purposes of calculating regulatory capital under Basel III.

Redemptions of Preferred Shares

On August 16, 2021, i.e., the first business day after the August 15, 2021 redemption date, the Bank redeemed all the issued and outstanding Non-Cumulative 5-Year Rate-Reset Series 36 First Preferred Shares. Pursuant to the share conditions, the redemption price was \$25.00 per share plus the periodic dividend declared and unpaid. The Bank redeemed 16,000,000 Series 36 preferred shares for a total amount of \$400 million, which reduced *Preferred share* capital.

On May 17, 2021, i.e., the first business day after the May 15, 2021 redemption date, the Bank redeemed all the issued and outstanding Non-Cumulative 5-Year Rate-Reset Series 34 First Preferred Shares. Pursuant to the share conditions, the redemption price was \$25.00 per share plus the periodic dividend declared and unpaid. The Bank redeemed 16,000,000 Series 34 preferred shares for a total amount of \$400 million, which reduced *Preferred share* capital.

Note 18 – Share Capital and Other Equity Instruments (cont.)

Repurchases of Common Shares

During the year ended October 31, 2020, the Bank had repurchased 525,000 common shares for \$30 million, which had reduced *Common share* capital by \$5 million and *Retained earnings* by \$25 million. These repurchases had been carried out before March 13, 2020, which was the date on which OSFI had lowered the domestic stability buffer and had indicated that it was expecting all banks to cease any dividend increases or share buybacks.

Reserved Common Shares

As at October 31, 2021 and 2020, there were 15,507,568 common shares reserved under the Dividend Reinvestment and Share Purchase Plan. As at October 31, 2021, there were 22,935,672 common shares (17,365,705 as at October 31, 2020) reserved under the Stock Option Plan.

Common Shares Held in Escrow

As part of the acquisition of Wellington West Holdings Inc. in 2011, the Bank had issued common shares held in escrow. During the year ended October 31, 2021, a total of 20,532 shares were released, and 978 shares were cancelled. As at October 31, 2021, the number of common shares held in escrow was nil (21,510 as at October 31, 2020), ending the Bank's settlement of the remaining shares in escrow.

Restriction on the Payment of Dividends

The Bank is prohibited from declaring dividends on its common or preferred shares if there are reasonable grounds for believing that the Bank would, by so doing, be in contravention of the regulations of the *Bank Act* (Canada) or OSFI's capital adequacy and liquidity guidelines. In addition, the ability to pay common share dividends is restricted by the terms of the outstanding preferred shares pursuant to which the Bank may not pay dividends on its common shares without the approval of the holders of the outstanding preferred shares, unless all preferred share dividends have been declared and paid or set aside for payment.

Dividend Reinvestment and Share Purchase Plan

National Bank has a Dividend Reinvestment and Share Purchase Plan for holders of its common and preferred shares under which they can acquire common shares of the Bank without paying commissions or administration fees. Participants acquire common shares through the reinvestment of cash dividends paid on the shares they hold or through optional cash payments of at least \$1 per payment, up to a maximum of \$5,000 per quarter. Common shares subscribed by participants are purchased on their behalf in the secondary market through the Bank's transfer agent, Computershare Trust Company of Canada, at a price equal to the average purchase price of the common shares during the three business days immediately following the dividend payment date.

Note 19 – Non-Controlling Interests

As at October 31	2021	2020
Flinks Technology Inc. ⁽¹⁾	3	–
Credigy Ltd. ⁽²⁾	–	3
	3	3

(1) As at October 31, 2021, the non-controlling interest in Flinks stood at 14.1%. For additional information, see Note 31 to these consolidated financial statements.

(2) During the year ended October 31, 2021, the Bank acquired the entire remaining non-controlling interest in the Credigy Ltd. subsidiary. For additional information, see Note 31 to these consolidated financial statements.

Note 20 – Capital Disclosure

Capital Management Objectives, Policies and Procedures

Capital management has a dual role of ensuring a competitive return to the Bank's shareholders while maintaining a solid capital foundation that covers the risks inherent to the Bank's business, supports its business segments, and protects its clients.

The Bank's capital management policy defines the guiding principles as well as the roles and responsibilities regarding its internal capital adequacy assessment process. This process is a key tool in establishing the Bank's capital strategy and is subject to quarterly reviews and periodic amendments.

Capital Management

Capital ratios are obtained by dividing capital (as defined by OSFI's *Capital Adequacy Requirements* guideline) by risk-weighted assets and are expressed as percentages. Risk-weighted assets are calculated in accordance with the rules established by OSFI for on- and off-balance-sheet risks. Credit, market, and operational risks are factored into the risk-weighted assets calculation for regulatory purposes. The definition adopted by the Basel Committee on Banking Supervision (BCBS) distinguishes between three types of capital. Common Equity Tier 1 (CET1) capital consists of common shareholders' equity less goodwill, intangible assets, and other CET1 capital deductions. Additional Tier 1 (AT1) capital consists of eligible non-cumulative preferred shares, limited recourse capital notes, and other AT1 capital adjustments. The sum of CET1 and AT1 capital forms what is known as Tier 1 capital. Tier 2 capital consists of the eligible portion of subordinated debt and certain allowances for credit losses. Total regulatory capital is the sum of Tier 1 and Tier 2 capital.

The Bank and all other major Canadian banks have to maintain minimum capital ratios established by OSFI: a CET1 capital ratio of at least 10.5%, a Tier 1 capital ratio of at least 12.0%, and a Total capital ratio of at least 14.0%. All of these ratios are to include a capital conservation buffer of 2.5% established by the BCBS and OSFI, a 1.0% surcharge applicable solely to D-SIBs, and a 2.5% domestic stability buffer. On June 17, 2021, OSFI raised the domestic stability buffer from 1.0% to 2.5% effective on October 31, 2021. The domestic stability buffer, which varies from 0% to 2.5% of risk-weighted assets, consists exclusively of CET1 capital. A D-SIB that fails to meet this buffer requirement is not subject to automatic constraints to reduce capital distributions but must provide a remediation plan to OSFI. The banks also have to meet the capital floor that sets the regulatory capital level according to the Basel II Standardized approach. If the capital requirement under Basel III is less than 70% of the capital requirement as calculated under Basel II, the difference is added to risk-weighted assets. Lastly, OSFI is requiring Canadian banks to meet a Basel III leverage ratio of at least 3.0%. The leverage ratio is a measure independent of risk that is calculated by dividing the amount of Tier 1 capital by total exposure. Total exposure is defined as the sum of on-balance-sheet assets (including derivative exposures and securities financing transaction exposures) and off-balance-sheet items. The assets deducted from Tier 1 capital are also deducted from total exposure.

During the years ended October 31, 2021 and 2020, the Bank was in compliance with all of OSFI's regulatory capital requirements.

Note 20 – Capital Disclosure (cont.)

Regulatory Capital and Ratios Under Basel III⁽¹⁾

As at October 31	2021		2020	
	Adjusted ⁽²⁾		Adjusted ⁽²⁾	
Capital				
CET1	12,866	12,973	10,924	11,167
Tier 1	15,515	15,622	13,869	14,112
Total	16,643	16,643	15,167	15,167
Risk-weighted assets	104,358	104,358	94,808	94,808
Total exposure	351,160	351,160	321,038	321,038
Capital ratios				
CET1	12.3 %	12.4 %	11.5 %	11.8 %
Tier 1	14.9 %	15.0 %	14.6 %	14.9 %
Total	15.9 %	15.9 %	16.0 %	16.0 %
Leverage ratio	4.4 %	4.4 %	4.3 %	4.4 %

(1) Regulatory capital and ratios are calculated in accordance with the Basel III rules, as set out in OSFI's *Capital Adequacy Requirements* guideline.

(2) Adjusted regulatory capital and ratios are calculated in accordance with the Basel III rules, as set out in OSFI's *Capital Adequacy Requirements* guideline, and exclude the transitional measure for provisioning expected credit losses. For additional information, see the section entitled COVID-19 Pandemic – Key Measures Introduced by the Regulatory Authorities on page 17 of the MD&A.

Note 21 – Trading Activity Revenues

Trading activity revenues consist of the net interest income and the non-interest income related to trading activities.

Net interest income comprises dividends related to financial assets and liabilities associated with trading activities, net of interest expenses and interest income related to the financing of these financial assets and liabilities.

Non-interest income consists of realized and unrealized gains and losses as well as interest income on securities measured at fair value through profit or loss, income from held-for-trading derivative financial instruments, changes in the fair value of loans at fair value through profit or loss, changes in the fair value of financial instruments designated at fair value through profit or loss, certain commission income as well as other income related to trading activities, and any applicable transaction costs.

Year ended October 31	2021	2020 ⁽¹⁾
Net interest income	777	522
Non-interest income	282	625
	1,059	1,147

(1) For the year ended October 31, 2020, certain amounts have been reclassified, notably to better reflect the nature of the revenues reported in the Wealth Management segment.

Note 22 – Share-Based Payments

The compensation expense information provided below excludes the impact of hedging.

Stock Option Plan

The Bank's Stock Option Plan is for officers and other designated persons of the Bank and its subsidiaries. Under this plan, options are awarded annually and provide participants with the right to purchase common shares at an exercise price equal to the closing price of the Bank's common share on the Toronto Stock Exchange on the day preceding the award. The options vest evenly over a four-year period and expire ten years from the award date or, in certain circumstances set out in the plan, within specified time limits. The Stock Option Plan contains provisions for retiring employees that allow the participant's rights to continue vesting in accordance with the stated terms of the grant agreement. The maximum number of common shares that may be issued under the Stock Option Plan was 22,935,672 as at October 31, 2021 (17,365,705 as at October 31, 2020). The number of common shares reserved for a participant may not exceed 5% of the total number of Bank shares issued and outstanding.

As at October 31	2021		2020	
	Number of options	Weighted average exercise price	Number of options	Weighted average exercise price
Stock Option Plan				
Outstanding at beginning	11,425,403	\$ 53.96	12,103,626	\$ 49.15
Awarded	2,043,196	\$ 71.55	1,789,280	\$ 71.86
Exercised	(1,930,033)	\$ 47.96	(2,318,926)	\$ 42.18
Cancelled ⁽¹⁾	(189,886)	\$ 67.02	(148,577)	\$ 60.99
Outstanding at end	11,348,680	\$ 57.93	11,425,403	\$ 53.96
Exercisable at end	6,737,850	\$ 50.81	6,908,779	\$ 47.05

(1) Includes 35,342 expired options during the year ended October 31, 2021 (1,800 expired options during the year ended October 31, 2020).

Exercise price	Options outstanding	Options exercisable	Expiry date
\$34.09	469,944	469,944	December 2021
\$38.36	579,123	579,123	December 2022
\$44.96	805,068	805,068	December 2023
\$47.93	1,036,567	1,036,567	December 2024
\$42.17	832,244	832,244	December 2025
\$54.69	969,582	969,582	December 2026
\$64.14	1,313,992	910,503	December 2027
\$58.79	1,709,075	749,457	December 2028
\$71.86	1,646,805	385,362	December 2029
\$71.55	1,986,280	–	December 2030
	11,348,680	6,737,850	

During the year ended October 31, 2021, the Bank awarded 2,043,196 stock options (1,789,280 stock options during the year ended October 31, 2020) with an average fair value of \$8.24 per option (\$5.11 for the year ended October 31, 2020).

The average fair value of options awarded was estimated on the award date using the Black-Scholes model as well as the following assumptions.

Year ended October 31	2021	2020
Risk-free interest rate	1.02%	1.94%
Expected life of options	7 years	7 years
Expected volatility	22.59%	14.97%
Expected dividend yield	4.24%	4.29%

Note 22 – Share-Based Payments (cont.)

The expected life of the options is based on historical data and is not necessarily representative of how options will be exercised in the future. Expected volatility is extrapolated from the implied volatility of the Bank's share price and observable market inputs, which are not necessarily representative of actual results. The expected dividend yield represents the annualized dividend divided by the Bank's share price at the award date. The risk-free interest rate is based on the Canadian dollar swap curve at the award date. The exercise price is equal to the Bank's share price at the award date. No other market parameter has been included in the fair value measurement of the options.

An \$11 million compensation expense was recognized in the Consolidated Statement of Income for the year ended October 31, 2021 with respect to this plan (\$9 million for the year ended October 31, 2020).

Stock Appreciation Rights (SAR) Plan

The SAR Plan is for officers and other designated persons of the Bank and its subsidiaries. Under this plan, participants receive, upon exercising the right, a cash amount equal to the difference between the closing price of the Bank's common share on the Toronto Stock Exchange on the day preceding the exercise date and the closing price on the day preceding the award date. SARs vest evenly over a four-year period and expire 10 years after the award date or, in certain circumstances set out in the plan, within specified time limits. The SAR Plan contains provisions for retiring employees that allow the participant's rights to continue vesting in accordance with the stated terms of the grant agreement. A \$7 million compensation expense was recognized in the Consolidated Statement of Income for the year ended October 31, 2021 with respect to this plan (a negligible amount for the year ended October 31, 2020).

As at October 31	2021		2020	
	Number of SARs	Weighted average exercise price	Number of SARs	Weighted average exercise price
SAR Plan⁽¹⁾				
Outstanding at beginning	292,896	\$ 53.66	334,997	\$ 49.61
Awarded	30,504	\$ 71.55	42,876	\$ 71.86
Exercised	(57,325)	\$ 44.88	(84,977)	\$ 46.88
Outstanding at end	266,075	\$ 57.61	292,896	\$ 53.66
Exercisable at end	164,225	\$ 51.43	167,545	\$ 45.87

(1) No SARs cancelled or expired during the years ended October 31, 2021 and 2020.

Exercise price	SARs outstanding	SARs exercisable	Expiry date
\$34.09	4,150	4,150	December 2021
\$38.36	14,904	14,904	December 2022
\$44.96	21,136	21,136	December 2023
\$47.93	31,572	31,572	December 2024
\$42.17	19,748	19,748	December 2025
\$54.69	28,079	28,079	December 2026
\$64.14	41,320	25,615	December 2027
\$58.79	31,786	8,302	December 2028
\$71.86	42,876	10,719	December 2029
\$71.55	30,504	–	December 2030
	266,075	164,225	

Deferred Stock Unit (DSU) Plans

The DSU Plans are for officers and other designated persons of the Bank and its subsidiaries as well as directors. These plans allow the Bank to tie a portion of the value of the compensation of participants to the future value of the Bank's common shares. A DSU is a right that has a value equal to the closing price of a common share of the Bank on the Toronto Stock Exchange on the day preceding the award. DSUs generally vest evenly over four years. Additional DSUs are credited to the accounts of participants in an amount equal to the dividends declared on Bank common shares and vest evenly over the same period as the reference DSUs. DSUs may be cashed only when participants retire or leave the Bank or, for directors, when their term ends. The DSU Plans contain provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the award agreement.

During the year ended October 31, 2021, the Bank awarded 55,545 DSUs at a weighted average price of \$75.55 (44,292 DSUs at a weighted average price of \$67.35 for the year ended October 31, 2020). A total of 514,841 DSUs were outstanding as at October 31, 2021 (483,009 DSUs as at October 31, 2020). A \$23 million compensation expense was recognized in the Consolidated Statement of Income for the year ended October 31, 2021 with respect to these plans (\$3 million for the year ended October 31, 2020).

Restricted Stock Unit (RSU) Plan

The RSU Plan is for certain officers and other designated persons of the Bank and its subsidiaries. The objective of this plan is to ensure that the compensation of certain officers and other designated persons is competitive and to foster retention. An RSU represents a right that has a value equal to the average closing price of the Bank's common share, as published by the Toronto Stock Exchange, over the ten trading days preceding the sixth business day in December. RSUs generally vest evenly over three years, although some RSUs vest on the sixth business day of December of the third year following the date of the award, the date on which all RSUs expire. Additional RSUs are credited to the accounts of participants in an amount equal to the dividends declared on the Bank common shares and vest over the same period as the reference RSUs. The RSU Plan contains provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the award agreement.

During the year ended October 31, 2021, the Bank awarded 1,960,326 RSUs at a weighted average price of \$72.76 (1,868,580 RSUs at a weighted average price of \$71.36 for the year ended October 31, 2020). As at October 31, 2021, a total of 4,398,019 RSUs were outstanding (4,606,456 RSUs as at October 31, 2020). A \$256 million compensation expense was recognized in the Consolidated Statement of Income for the year ended October 31, 2021 with respect to this plan (\$135 million for the year ended October 31, 2020).

Performance Stock Unit (PSU) Plan

The PSU Plan is for officers and other designated persons of the Bank. The objective of this plan is to tie a portion of the value of the compensation of these officers and other designated persons to the future value of the Bank's common shares. A PSU represents a right that has a value equal to the average closing price of the Bank's common share, as published by the Toronto Stock Exchange, over the ten trading days preceding the sixth business day in December, adjusted upward or downward according to performance criteria, which is based on the Bank's total shareholder return (TSR) growth index over three years compared to the average TSR growth index of the comparator group composed of Canadian banks over three years. PSUs vest on the sixth business day of December of the third year following the date of the award, the date on which all PSUs expire. Additional PSUs are credited to the accounts of participants in an amount equal to the dividends declared on the Bank's common shares and vest over the same period as the reference PSUs. The PSU Plan contains provisions for retiring employees whereby participants may continue vesting units in accordance with the stated terms of the award agreement.

During the year ended October 31, 2021, the Bank awarded 235,949 PSUs at a weighted average price of \$72.76 (235,987 PSUs at a weighted average price of \$71.36 for the year ended October 31, 2020). As at October 31, 2021, a total of 794,440 PSUs were outstanding (796,340 PSUs as at October 31, 2020). A \$42 million compensation expense was recognized in the Consolidated Statement of Income for the year ended October 31, 2021 with respect to this plan (\$25 million for the year ended October 31, 2020).

Deferred Compensation Plan

This plan is exclusively for key employees of the Wealth Management segment. The purpose of this plan is to foster the retention of key employees and promote the growth in income and the continuous improvement in profitability at the Wealth Management segment. Under this plan, participants can defer a portion of their annual compensation, and the Bank may pay a contribution to key employees when certain financial objectives are met. Amounts awarded by the Bank and the compensation deferred by participants are invested in, among other items, Bank common share units. These share units represent a right, the value of which corresponds to the closing price of the Bank's common share on the Toronto Stock Exchange on the award date. Additional units are paid to the accounts of participants in an amount equal to the dividends declared on the Bank's common shares. Share units representing the amounts awarded by the Bank vest evenly over four years. When a participant retires, or in certain cases when the participant's employment ceases, the participant receives a cash amount representing the value of the vested share units.

During the year ended October 31, 2021, the Bank awarded 124,981 share units at a weighted average price of \$80.23 (137,465 share units at a weighted average price of \$69.80 for the year ended October 31, 2020). As at October 31, 2021, a total of 2,038,003 share units were outstanding (1,904,866 share units as at October 31, 2020). During the year ended October 31, 2021, an \$83 million compensation expense was recognized in the Consolidated Statement of Income for this plan (\$2 million for the year ended October 31, 2020).

Employee Share Ownership Plan

Under the Bank's Employee Share Ownership Plan, employees who meet the eligibility criteria can contribute up to 8% of their annual gross salary by way of payroll deductions. The Bank matches 25% of the employee contribution up to a maximum of \$1,500 per annum. Bank contributions vest to the employee after one year of uninterrupted participation in the plan. Subsequent contributions vest immediately. The Bank's contributions, amounting to \$14 million for the year ended October 31, 2021 (\$13 million for the year ended October 31, 2020), were recognized when paid in the *Compensation and employee benefits* item of the Consolidated Statement of Income. As at October 31, 2021, a total of 6,149,769 common shares were held for this plan (6,167,265 common shares as at October 31, 2020).

Plan shares are purchased on the open market and are considered to be outstanding for earnings per share calculations. Dividends paid on the Bank's common shares held for the Employee Share Ownership Plan are used to purchase other common shares on the open market.

Plan Liabilities and Intrinsic Value

Total liabilities arising from the Bank's share-based compensation plans amounted to \$816 million as at October 31, 2021 (\$507 million as at October 31, 2020). The intrinsic value of these liabilities that had vested as at October 31, 2021 was \$364 million (\$213 million as at October 31, 2020).

Note 23 – Employee Benefits – Pension Plans and Other Post-Employment Benefits

The Bank offers defined benefit pension plans and other post-employment benefit plans to eligible employees. The pension plans provide benefits based on years of plan participation and average earnings at retirement. Other post-employment benefit plans include post-employment medical, dental, and life insurance coverage. While pension plans are funded, the other plans are not. The fair value of plan assets and the present value of defined benefit obligations are measured as at October 31.

The Bank's most significant pension plan is the *Employee Pension Plan of the National Bank of Canada*; it is registered with OSFI and the Canada Revenue Agency and subject to the *Pension Benefits Standards Act, 1985* and the *Income Tax Act*.

The defined benefit plans expose the Bank to specific risks such as investment performance, changes to the discount rate used to calculate the obligation, the longevity of plan members and future inflation. While management believes that the assumptions used in the actuarial valuation process are reasonable, there remains a degree of risk and uncertainty that may cause future results to differ significantly from these assumptions, which could give rise to gains or losses.

According to the Bank's governance rules, the policies and risk management related to the defined benefit plans are overseen at different levels by the pension committees, the Bank's management, and the Board's Human Resources Committee. The defined benefit plans are examined on an ongoing basis in order to monitor the funding and investment policies, the financial status of the plans, and the Bank's funding requirements.

The Bank's funding policy for the defined benefit pension plans is to make at least the minimum annual contributions required by pension regulators.

For funded plans, the Bank determines whether an economic benefit exists in the form of potential reductions in future contributions and in the form of refunds from the plan surplus, where permitted by applicable regulations and plan provisions.

Defined Benefit Obligation, Plan Assets and Funded Status

As at October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Defined benefit obligation				
Balance at beginning	5,027	4,703	156	157
Current service cost	146	126	1	2
Interest cost	149	148	4	5
Remeasurements				
Actuarial (gains) losses arising from changes in demographic assumptions	9	5	1	1
Actuarial (gains) losses arising from changes in financial assumptions	(538)	195	(14)	1
Actuarial (gains) losses arising from experience adjustments	107	–	4	(1)
Employee contributions	58	54		
Benefits paid	(213)	(204)	(9)	(9)
Balance at end	4,745	5,027	143	156
Plan assets				
Fair value at beginning	5,153	4,569		
Interest income	148	140		
Administration cost	(4)	(3)		
Remeasurements				
Return on plan assets (excluding interest income)	214	525		
Bank contributions ⁽¹⁾	80	72		
Employee contributions	58	54		
Benefits paid	(213)	(204)		
Fair value at end	5,436	5,153		
Defined benefit asset (liability) at end	691	126	(143)	(156)

(1) For fiscal 2022, the Bank expects to pay an employer contribution of \$86 million to the defined benefit pension plans.

Defined Benefit Asset (Liability)

As at October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Defined benefit asset included in <i>Other assets</i>	691	126		
Defined benefit liability included in <i>Other liabilities</i>	–	–	(143)	(156)
	691	126	(143)	(156)

Cost for Pension Plans and Other Post-employment Benefits

Year ended October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Current service cost	146	126	1	2
Interest expense (income), net	1	8	4	5
Administration costs	4	3		
Expense recognized in <i>Net income</i>	151	137	5	7
Remeasurements⁽¹⁾				
Actuarial (gains) losses on defined benefit obligation	(422)	200	(9)	1
Return on plan assets ⁽²⁾	(214)	(525)		
Remeasurements recognized in <i>Other comprehensive income</i>	(636)	(325)	(9)	1
	(485)	(188)	(4)	8

(1) Changes related to the discount rate and to the return on plan assets are reviewed and updated on a quarterly basis. All other assumptions are updated annually.

(2) Excludes interest income.

Allocation of the Fair Value of Pension Plan Assets

As at October 31

	2021			2020		
	Quoted in an active market ⁽¹⁾	Not quoted in an active market	Total	Quoted in an active market ⁽¹⁾	Not quoted in an active market	Total
Asset classes						
Cash and cash equivalents	–	171	171	–	135	135
Equity securities	1,290	935	2,225	1,432	613	2,045
Debt securities						
Canadian government	175	–	175	48	–	48
Canadian provincial and municipal governments	–	1,593	1,593	–	1,656	1,656
Other issuers	–	1,248	1,248	–	1,125	1,125
Other	–	24	24	–	144	144
	1,465	3,971	5,436	1,480	3,673	5,153

(1) Unadjusted quoted prices in active markets for identical assets that the Bank can access at the measurement date.

The Bank's investment strategy for plan assets considers several factors, including the time horizon of pension plan obligations and investment risk. For each plan, an allocation range per asset class is defined using a mix of equity and debt securities to optimize the risk-return profile of plan assets and minimize asset/liability mismatching.

The pension plan assets may include investment securities issued by the Bank. As at October 31, 2021 and 2020, the pension plan assets do not include any securities issued by the Bank.

For fiscal 2021, the Bank and its related entities received \$15 million (\$11 million in fiscal 2020) in fees from the pension plans for related management, administration and custodial services.

Note 23 – Employee Benefits – Pension Plans and Other Post-Employment Benefits (cont.)

Allocation of the Defined Benefit Obligation by the Status of Defined Benefit Plan Participants

As at October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Active employees	42 %	42 %	13 %	14 %
Retirees	51 %	51 %	87 %	86 %
Participants with deferred vested benefits	7 %	7 %		
	100 %	100 %	100 %	100 %
Weighted average duration of the defined benefit obligation (in years)	16	17	12	13

Significant Actuarial Assumptions (Weighted Average)

Discount Rate

The discount rate assumption is based on an interest rate curve that represents the yields on corporate AA bonds. Short-term maturities are obtained using a curve based on observed data from corporate AA bonds. Long-term maturities are obtained using a curve based on observed data and extrapolated data.

To measure the pension plan and other post-employment plan obligation, the vested benefits that the Bank expects to pay in each future period are discounted to the measurement date using the spot rate associated with each of the respective periods based on the yield curve derived using the above methodology. The sum of discounted benefit amounts represents the defined benefit obligation. An average discount rate that replicates this obligation is then computed.

To better reflect current service cost, a separate discount rate was determined to account for the timing of future benefit payments associated with the additional year of service to be earned by the plan's active participants. Since these benefits are, on average, being paid at a later date than the benefits already earned by participants as a whole (i.e., longer duration), this method results in the use of a generally higher discount rate for calculating current service cost than that used to measure obligations where the yield curve is positively sloped. The methodology used to determine this discount rate is the same as the one used to establish the discount rate for measuring the obligation.

Other Assumptions

For measurement purposes, the estimated annual growth rate for health care costs was 4.52% as at October 31, 2021 (4.64% as at October 31, 2020). Based on the assumption retained, this rate is expected to decrease gradually to 3.28% in 2041 and remain steady thereafter.

Mortality assumptions are a determining factor when measuring the defined benefit obligation. Determining the expected benefit payout period is based on best estimate assumptions regarding mortality. Mortality tables are reviewed at least once a year, and the assumptions made are in accordance with accepted actuarial practice. New results regarding the plans are reviewed and used in calculating best estimates of future mortality.

As at October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Defined benefit obligation				
Discount rate	3.55 %	2.90 %	3.55 %	2.90 %
Rate of compensation increase	3.00 %	3.00 %	3.00 %	3.00 %
Health care cost trend rate			4.52 %	4.64 %
Life expectancy (in years) at 65 for a participant currently at				
Age 65				
Men	21.4	21.3	21.4	21.3
Women	23.7	23.7	23.7	23.7
Age 45				
Men	22.4	22.4	22.4	22.4
Women	24.7	24.6	24.7	24.6

Year ended October 31

	Pension plans		Other post-employment benefit plans	
	2021	2020	2021	2020
Pension plan expense				
Discount rate – Current service	3.10 %	3.20 %	3.10 %	3.20 %
Discount rate – Interest expense (income), net	2.90 %	3.10 %	2.90 %	3.10 %
Rate of compensation increase	3.00 %	3.00 %	3.00 %	3.00 %
Health care cost trend rate			4.64 %	5.17 %
Life expectancy (<i>in years</i>) at 65 for a participant currently at Age 65				
Men	21.3	21.2	21.3	21.2
Women	23.7	23.6	23.7	23.6
Age 45				
Men	22.4	22.3	22.4	22.3
Women	24.6	24.5	24.6	24.5

Sensitivity of Significant Assumptions for 2021

The following table shows the potential impacts of changes to key assumptions on the defined benefit obligation of the pension plans and other post-employment benefit plans as at October 31, 2021. These impacts are hypothetical and should be interpreted with caution, as changes in each significant assumption may not be linear.

As at October 31, 2021

	Pension plans	Other post-employment benefit plans
	Change in the obligation	Change in the obligation
Impact of a 0.25% increase in the discount rate	(185)	(4)
Impact of a 0.25% decrease in the discount rate	198	4
Impact of a 0.25% increase in the rate of compensation increase	35	
Impact of a 0.25% decrease in the rate of compensation increase	(34)	
Impact of a 1.00% increase in the health care cost trend rate		6
Impact of a 1.00% decrease in the health care cost trend rate		(5)
Impact of an increase in the age of participants by one year	(121)	(2)
Impact of a decrease in the age of participants by one year	118	2

Projected Benefit Payments

Year ended October 31

	Pension plans	Other post-employment benefit plans
2022	221	10
2023	228	9
2024	235	9
2025	242	9
2026	249	8
2027 to 2031	1,362	37

Note 24 – Income Taxes

The Bank's income tax expense reported in the consolidated financial statements is as follows.

Year ended October 31	2021	2020
Consolidated Statement of Income		
Current taxes		
Current year	779	638
Prior period adjustments	(3)	(27)
	776	611
Deferred taxes		
Origination and reversal of temporary differences	109	(193)
Prior period adjustments	10	35
	119	(158)
	895	453
Consolidated Statement of Changes in Equity		
Share issuance expenses, other equity instruments and other	(10)	(2)
Consolidated Statement of Comprehensive Income		
Remeasurements of pension plans and other post-employment benefit plans	170	86
Net change in cash flow hedges	109	(99)
Other	45	(13)
	324	(26)
Income taxes	1,209	425

The breakdown of the income tax expense is as follows.

Year ended October 31	2021	2020
Current taxes	916	511
Deferred taxes	293	(86)
	1,209	425

The temporary differences and tax loss carryforwards resulting in deferred tax assets and liabilities are as follows.

	As at October 31		Year ended October 31		Year ended October 31	
	2021	2020	2021	2020	2021	2020
		Consolidated Balance Sheet	Consolidated Statement of Income		Consolidated Statement of Comprehensive Income	
Deferred tax assets						
Allowances for credit losses	225	326	(101)	176	–	–
Deferred charges	354	265	89	1	–	–
Defined benefit liability – Pension plans	–	–	–	–	–	(78)
Defined benefit liability – Other post-employment benefit plans	47	52	(3)	1	(2)	1
Investments in associates	57	98	(41)	15	–	1
Leases liabilities	132	145	(13)	145	–	–
Deferred revenue	51	47	4	6	–	–
Tax loss carryforwards	33	40	(7)	(55)	–	–
Other items ⁽¹⁾	29	59	(31)	(13)	–	–
	928	1,032	(103)	276	(2)	(76)
Deferred tax liabilities						
Premises and equipment and intangible assets	(361)	(326)	(29)	(138)	–	–
Defined benefit asset – Pension plans	(178)	(26)	16	16	(168)	(9)
Investments in associates	–	(4)	4	12	–	–
Other items ⁽²⁾	(45)	(33)	(7)	(8)	(5)	12
	(584)	(389)	(16)	(118)	(173)	3
Net deferred tax assets (liabilities)	344	643	(119)	158	(175)	(73)

(1) As at October 31, 2021, the Consolidated Balance Sheet included \$1 million in deferred tax assets related to share issuance costs (\$1 million as at October 31, 2020) reported in *Retained earnings* on the Consolidated Statement of Changes in Equity.

(2) As at October 31, 2021, the amount on the Consolidated Balance Sheet included \$6 million in deferred tax liabilities related to intangible assets acquired during the Flinks acquisition that had no impact on the Consolidated Statement of Comprehensive Income. For additional information, see Note 31 to these consolidated financial statements.

Net deferred tax assets are included in *Other assets* and net deferred tax liabilities are included in *Other liabilities*.

As at October 31	2021	2020
Deferred tax assets	354	643
Deferred tax liabilities	(10)	–
	344	643

According to forecasts, which are based on information available on October 31, 2021, the Bank believes that it is probable that the results of future operations will generate sufficient taxable income to utilize all the deferred tax assets before they expire.

As at October 31, 2021, the total amount of temporary differences, unused tax loss carryforwards, and unused tax credits for which no deferred tax asset has been recognized was \$424 million (\$498 million as at October 31, 2020).

As at October 31, 2021, the total amount of temporary differences related to investments in subsidiaries, associates, and joint ventures for which no deferred tax liability has been recognized was \$4,383 million (\$4,139 million as at October 31, 2020).

The following table provides a reconciliation of the Bank's income tax rate.

Year ended October 31	2021		2020	
	\$	%	\$	%
Income before income taxes	4,072	100.0	2,536	100.0
Income taxes at Canadian statutory income tax rate	1,079	26.5	672	26.5
Reduction in income tax rate due to				
Tax-exempt income from securities	(151)	(3.7)	(190)	(7.5)
Tax rates of subsidiaries, foreign entities and associates	(51)	(1.3)	(58)	(2.3)
Other items	18	0.5	29	1.2
	(184)	(4.5)	(219)	(8.6)
Income taxes reported in the Consolidated Statement of Income and effective income tax rate	895	22.0	453	17.9

Notice of Assessment

In June 2021, the Bank was reassessed by the Canada Revenue Agency (CRA) for additional income tax and interest of approximately \$115 million (including estimated provincial tax and interest) in respect of certain Canadian dividends received by the Bank during 2016.

In prior fiscal years, the Bank had been reassessed for additional income tax and interest of approximately \$610 million (including provincial tax and interest) in respect of certain Canadian dividends received by the Bank during the 2015, 2014, 2013 and 2012 taxation years.

In the reassessments, the CRA alleges that the dividends were received as part of a “dividend rental arrangement”.

The CRA may issue reassessments to the Bank for taxation years subsequent to 2016 in regard to activities similar to those that were the subject of the above-mentioned reassessments. The Bank remains confident that its tax position was appropriate and intends to vigorously defend its position. As a result, no amount has been recognized in the consolidated financial statements as at October 31, 2021.

Note 25 – Earnings Per Share

Diluted earnings per share is calculated by dividing net income attributable to common shareholders by the weighted average number of common shares outstanding after taking into account the dilution effect of stock options using the treasury stock method and any gain (loss) on the redemption of preferred shares.

Year ended October 31	2021	2020
Basic earnings per share		
Net income attributable to the Bank's shareholders and holders of other equity instruments	3,177	2,041
Dividends on preferred shares and distributions on LRCNs	123	118
Net income attributable to common shareholders	3,054	1,923
Weighted average basic number of common shares outstanding (<i>thousands</i>)	337,212	335,508
Basic earnings per share (<i>dollars</i>)	9.06	5.73
Diluted earnings per share		
Net income attributable to common shareholders	3,054	1,923
Weighted average basic number of common shares outstanding (<i>thousands</i>)	337,212	335,508
Adjustment to average number of common shares (<i>thousands</i>)		
Stock options ⁽¹⁾	3,649	2,072
Weighted average diluted number of common shares outstanding (<i>thousands</i>)	340,861	337,580
Diluted earnings per share (<i>dollars</i>)	8.96	5.70

(1) For the year ended October 31, 2021, as the exercise price of the options was lower than the average price of the Bank's common shares, no options were excluded from the diluted earnings per share calculation. For the year ended October 31, 2020, the calculation of diluted earnings per share had excluded an average number of 1,585,629 options outstanding with a weighted average exercise price of \$71.86, as the exercise price of these options was greater than the average price of the Bank's common shares.

Note 26 – Guarantees, Commitments and Contingent Liabilities

Guarantees

The maximum potential amount of future payments represents the maximum risk of loss if there were a total default by the guaranteed parties, without consideration of recoveries under recourse provisions, insurance policies or from collateral held or pledged. The maximum potential amount of future payments for significant guarantees issued by the Bank is presented in the following table.

As at October 31	2021	2020
Letters of guarantee ⁽¹⁾	6,083	5,802
Backstop liquidity, credit enhancement facilities and other ⁽¹⁾	7,264	7,658
Securities lending	–	92

(1) For additional information on allowances for credit losses related to off-balance-sheet commitments, see Note 7 to these consolidated financial statements.

Letters of Guarantee

In the normal course of business, the Bank issues letters of guarantee. These letters of guarantee represent irrevocable commitments that the Bank will make payments in the event that a client cannot meet its obligations to third parties. The Bank's policy for requiring collateral security with respect to letters of guarantee is similar to that for loans. Generally, the term of these letters of guarantee is less than two years.

Backstop Liquidity and Credit Enhancement Facilities

Facilities to Multi-Seller Conduits

The Bank administers multi-seller conduits that purchase financial assets from clients and finance those purchases by issuing asset-backed commercial paper. The Bank provides backstop liquidity facilities to these multi-seller conduits. As at October 31, 2021, the notional amount of the global-style backstop liquidity facilities totalled \$2.8 billion (\$3.2 billion as at October 31, 2020), representing the total amount of commercial paper outstanding.

These backstop liquidity facilities can be drawn if the conduits are unable to access the commercial paper market, even if there is no general market disruption. These facilities have terms of less than one year and can be periodically renewed. The terms and conditions of these backstop liquidity facilities do not require the Bank to advance money to the conduits if the conduits are insolvent or involved in bankruptcy proceedings or to fund non-performing assets beyond the amount of the available credit enhancements. The backstop liquidity facilities provided by the Bank have not been drawn to date.

The Bank also provides credit enhancement facilities to these multi-seller conduits. These facilities have terms of less than one year and are automatically renewable unless the Bank sends a non-renewal notice. As at October 31, 2021 and 2020, the committed notional value for these facilities was \$30 million. To date, the credit enhancement facilities provided by the Bank have not been drawn.

The maximum risk of loss for the Bank cannot exceed the total amount of commercial paper outstanding, i.e., \$2.8 billion as at October 31, 2021 (\$3.2 billion as at October 31, 2020). As at October 31, 2021, the Bank held \$22 million (\$123 million as at October 31, 2020) of this commercial paper and, consequently, the maximum potential amount of future payments was \$2.7 billion (\$3.1 billion as at October 31, 2020).

CDCC Overnight Liquidity Facility

Canadian Derivatives Clearing Corporation (CDCC) acts as a central clearing counterparty for multiple financial instrument transactions in Canada. Certain fixed-income clearing members of CDCC have provided an equally shared committed and uncommitted global overnight liquidity facility for the purpose of supporting CDCC in its clearing activities of securities purchased under reverse repurchase agreements or sold under repurchase agreements. The objective of this facility is to maintain sufficient liquidity in the event of a clearing member's default. As a fixed-income clearing member providing support to CDCC, the Bank provides a liquidity facility. As at October 31, 2021, the notional amount of the overnight uncommitted liquidity facility amounted to \$4.5 billion (\$4.5 billion as at October 31, 2020). As at October 31, 2021 and 2020, no amount had been drawn.

Securities Lending

Under securities lending agreements the Bank has entered into with certain clients who have entrusted it with the safekeeping of their securities, the Bank lends the securities to third parties and indemnifies its clients in the event of loss. In order to protect itself against any contingent loss, the Bank obtains, as security from the borrower, a cash amount or extremely liquid marketable securities with a fair value greater than that of the securities loaned. No amount has been recognized on the Consolidated Balance Sheet with respect to potential indemnities resulting from securities lending agreements.

Other Indemnification Agreements

In the normal course of business, including securitization transactions and discontinuances of businesses and operations, the Bank enters into numerous contractual agreements under which it undertakes to compensate the counterparty for costs incurred as a result of litigation, changes in laws and regulations (including tax legislation), claims with respect to past performance, incorrect representations or the non-performance of certain restrictive covenants. The Bank also undertakes to indemnify any person acting as a director or officer or performing a similar function within the Bank or one of its subsidiaries or another entity, at the request of the Bank, for all expenses incurred by that person in proceedings or investigations to which he or she is party in that capacity. Moreover, as a member of a securities transfer network and pursuant to the membership agreement and the regulations governing the operation of the network, the Bank granted collateral in favour of the Bank of Canada to guarantee any obligation of the Bank towards the Bank of Canada that could result from the Bank's participation in the securities transfer network. The durations of the indemnification agreements vary according to circumstance; as at October 31, 2021 and 2020, given the nature of the agreements, the Bank is unable to make a reasonable estimate of the maximum potential liability it could be required to pay to counterparties. No amount has been recognized on the Consolidated Balance Sheet with respect to these agreements.

Commitments

Credit Instruments

In the normal course of business, the Bank enters into various off-balance-sheet commitments. The credit instruments used to meet the financing needs of its clients represent the maximum amount of additional credit the Bank could be obligated to extend if the commitments were fully drawn.

As at October 31	2021	2020
Letters of guarantee ⁽¹⁾	6,083	5,802
Documentary letters of credit ⁽²⁾	160	171
Credit card receivables ⁽³⁾	9,081	7,999
Commitments to extend credit ⁽³⁾	77,983	70,329

(1) See the *Letters of Guarantee* item on page 214.

(2) Documentary letters of credit are documents issued by the Bank and used in international trade to enable a third party to draw drafts on the Bank up to an amount established under specific terms and conditions; these instruments are collateralized by the delivery of the goods to which they are related.

(3) Credit card receivables and commitments to extend credit represent the undrawn portions of credit authorizations granted in the form of loans, acceptances, letters of guarantee, and documentary letters of credit. The Bank is required at all times to make the undrawn portion of the credit authorization available, subject to certain conditions.

Financial Assets Received as Collateral

As at October 31, 2021, the fair value of financial assets received as collateral that the Bank was authorized to sell or repledge was \$74.8 billion (\$60.6 billion as at October 31, 2020). These financial assets received as collateral consist of securities related to securities financing and derivative transactions as well as securities purchased under reverse repurchase agreements and securities borrowed.

Note 26 – Guarantees, Commitments and Contingent Liabilities (cont.)

Other Commitments

The Bank acts as an investor in investment banking activities where it enters into agreements to finance external private equity funds and investments in equity and debt securities at market value at the time the agreements are signed. In connection with these activities, the Bank has commitments to invest up to \$124 million as at October 31, 2021 (\$78 million as at October 31, 2020). In addition, through one of its subsidiaries, the Bank purchases retail loans originated by other financial institutions at market value at the time of purchase. As at October 31, 2021, the Bank had commitments to purchase loans of up to \$77 million (no commitments to purchase loans as at October 31, 2020). As at October 31, 2021, the Bank had no financing commitments related to securitization transactions (\$200 million as at October 31, 2020).

Pledged Assets

In the normal course of business, the Bank pledges securities and other assets as collateral. A breakdown of encumbered assets pledged as collateral is provided in the following table. These transactions are concluded in accordance with standard terms and conditions for such transactions.

As at October 31	2021	2020
Assets pledged to		
Bank of Canada	502	502
Direct clearing organizations ⁽¹⁾	4,158	4,039
Assets pledged in relation to		
Derivative financial instrument transactions	6,339	4,380
Borrowing, securities lending and securities sold under reverse repurchase agreements	72,038	57,257
Securitization transactions	25,173	22,859
Covered bonds ⁽²⁾	9,542	14,337
Other	4	4
Total	117,756	103,378

(1) Includes assets pledged as collateral for activities in the systemically important payment system (designated as Lynx) as at October 31, 2021 (Large Value Transfer System (LVTS) as at October 31, 2020).

(2) The Bank has a covered bond program. For additional information, see Notes 13 and 27 to these consolidated financial statements.

Contingent Liabilities

Litigation

In the normal course of business, the Bank and its subsidiaries are involved in various claims relating, among other matters, to loan portfolios, investment portfolios, and supplier agreements, including court proceedings, investigations or claims of a regulatory nature, class actions or other legal remedies of varied natures.

More specifically, the Bank is involved as a defendant in class actions instituted by consumers contesting, *inter alia*, certain transaction fees or who wish to avail themselves of certain legislative provisions relating to consumer protection. The recent developments in the main legal proceedings involving the Bank are as follows:

Watson

In 2011, a class action was filed in the Supreme Court of British Columbia against Visa Corporation Canada (Visa) and Mastercard International Incorporated (Mastercard) (the Networks) as well as National Bank and a number of other Canadian financial institutions. A similar action was also initiated in Quebec, Ontario, Alberta and Saskatchewan. In each of the actions, the Networks and financial institutions are alleged to have been involved in a price-fixing system to maintain and increase the fees paid by merchants on transactions executed using the credit cards of the Networks. In so doing, they would notably be in breach of the *Competition Act*. An unspecified amount of compensatory and punitive damages is being claimed. In 2017, a settlement was reached with the plaintiffs; in 2018 it was approved by the trial courts in each of the five jurisdictions where the action was initiated. The rulings approving the settlement were the subject of appeal proceedings in all jurisdictions. These appeal proceedings were all rejected during the year ended October 31, 2021, thereby confirming approval of the settlement reached in 2017 and ending the Bank's involvement in the class action.

Defrance

On January 21, 2019, the Quebec Superior Court authorized a class action against the National Bank and several other Canadian financial institutions. The originating application was served to the Bank on April 23, 2019. The class action was initiated on behalf of consumers residing in Quebec. The plaintiffs allege that non-sufficient funds charges, billed by all of the defendants when a payment order is refused due to non-sufficient funds, are illegal and prohibited by the *Consumer Protection Act*. The plaintiffs are claiming, in the form of damages, the repayment of these charges as well as punitive damages.

It is impossible to determine the outcome of the claims instituted or which may be instituted against the Bank and its subsidiaries. The Bank estimates, based on the information at its disposal, that while the amount of contingent liabilities pertaining to these claims, taken individually or in the aggregate, could have a material impact on the Bank's consolidated results of operations for a particular period, it would not have a material adverse impact on the Bank's consolidated financial position.

Note 27 – Structured Entities

A structured entity is an entity created to accomplish a narrow and well-defined objective and is designed so that voting or similar rights are not the dominant factor in deciding who controls the entity, such as when any voting rights relate solely to administrative tasks and the relevant activities are directed by means of contractual arrangements. Structured entities are assessed for consolidation in accordance with the accounting treatment described in Note 1 to these consolidated financial statements. The Bank's maximum exposure to loss resulting from its interests in these structured entities consists primarily of the investments in these entities, the fair value of derivative financial instrument contracts entered into with them, and the backstop liquidity and credit enhancement facilities granted to certain structured entities.

In the normal course of business, the Bank may enter into financing transactions with third-party structured entities, including commercial loans, reverse repurchase agreements, prime brokerage margin lending, and similar collateralized lending transactions. While such transactions expose the Bank to the counterparty credit risk of the structured entities, this exposure is mitigated by the collateral related to these transactions. The Bank typically has neither power nor significant variable returns resulting from financing transactions with structured entities and does not consolidate such entities. Financing transactions with third-party-sponsored structured entities are included in the Bank's consolidated financial statements and are not included in the table accompanying this note on page 218.

Non-Consolidated Structured Entities

Multi-Seller Conduits

The Bank administers multi-seller conduits that purchase financial assets from clients and finance those purchases by issuing commercial paper backed by the assets acquired. Clients use these multi-seller conduits to diversify their funding sources and reduce borrowing costs, while continuing to manage the financial assets and providing some amount of first-loss protection. Notes issued by the conduits and held by third parties provide additional credit loss protection. The Bank acts as a financial agent and provides these conduits with administrative and transaction structuring services as well as backstop liquidity and credit enhancement facilities under the commercial paper program. These facilities are presented and described in Note 26. The Bank has concluded derivative financial instrument contracts with these conduits, the fair value of which is presented on the Bank's Consolidated Balance Sheet. Although the Bank has the ability to direct the relevant activities of these conduits, it cannot use its power to affect the amount of the returns it obtains, as it acts as an agent. Consequently, the Bank does not control these conduits and does not consolidate them.

Investment Funds

The Bank enters into derivative or other financial instrument contracts with third parties to provide them with the desired exposure to certain investment funds. The Bank economically hedges the risks related to these derivatives by investing in those investment funds. The Bank can also hold economic interests in certain investment funds as part of its investing activities. In addition, the Bank is sponsor and investment manager of mutual funds in which it has insignificant or no interest. The Bank does not control the funds where its holdings are not significant given that, in these circumstances, the Bank either acts only as an agent or does not have any power over the relevant activities. In both cases, it does not have significant exposure to the variable returns of the funds. Therefore, the Bank does not consolidate these funds.

Private Investments

As part of its investment banking operations, the Bank invests in several limited liability partnerships and other incorporated entities. These investment companies in turn invest in operating companies with a view to reselling these investments at a profit over the medium or long term. The Bank does not intervene in the operations of these entities; its only role is that of an investor. Consequently, it does not control these companies and does not consolidate them.

Third-Party Structured Entities

The Bank has invested in third-party structured entities, some of which are asset-backed. The underlying assets consist of residential mortgages, consumer loans, equipment loans, leases, and securities. The Bank does not have the ability to direct the relevant activities of these structured entities and has no exposure to their variable returns, other than the right to receive interest income and dividend income from its investments. Consequently, the Bank does not control these structured entities and does not consolidate them.

Note 27 – Structured Entities (cont.)

The following table presents the carrying amounts of the assets and liabilities relating to the Bank's interests in non-consolidated structured entities, the Bank's maximum exposure to loss from these interests, as well as the total assets of these structured entities. The structured entity Canada Housing Trust is not presented. For additional information, see Note 8 to these consolidated financial statements.

	As at October 31, 2021			
	Multi-seller conduits ⁽¹⁾	Investment funds ⁽²⁾	Private investments ⁽³⁾	Third-party structured entities ⁽⁴⁾
Assets on the Consolidated Balance Sheet				
Securities at fair value through profit or loss	22	197	54	–
Securities at amortized cost	–	–	–	2,942
	22	197	54	2,942
As at October 31, 2020	140	255	68	2,287
Liabilities on the Consolidated Balance Sheet				
Derivative financial instruments	(12)	–	–	(8)
	(12)	–	–	(8)
As at October 31, 2020	–	–	–	–
Maximum exposure to loss				
Securities	22	197	54	2,934
Liquidity, credit enhancement facilities and commitments	2,732	–	–	962
	2,754	197	54	3,896
As at October 31, 2020	3,366	255	68	2,712
Total assets of the structured entities				
As at October 31, 2020	3,304	1,900	431	8,139

(1) The main underlying assets, located in Canada, are residential mortgages, automobile loans, automobile inventory financings, and other receivables. As at October 31, 2021, the notional committed amount of the global-style liquidity facilities totalled \$2.8 billion (\$3.2 billion as at October 31, 2020), representing the total amount of commercial paper outstanding. The Bank also provides series-wide credit enhancement facilities for a notional committed amount of \$30 million (\$30 million as at October 31, 2020). The maximum exposure to loss cannot exceed the amount of commercial paper outstanding. As at October 31, 2021, the Bank held \$22 million in commercial paper (\$123 million as at October 31, 2020) and, consequently, the maximum potential amount of future payments as at October 31, 2021 was limited to \$2.7 billion (\$3.1 billion as at October 31, 2020), which represents the undrawn liquidity and credit enhancement facilities.

(2) The underlying assets are various financial instruments and are presented on a net asset basis. Certain investment funds are in a trading portfolio.

(3) The underlying assets are private investments. The amount of total assets of the structured entities corresponds to the amount for the most recent available period.

(4) The underlying assets are residential mortgages, consumer loans, equipment loans, leases, and securities.

Consolidated Structured Entities

Securitization Entity for the Bank's Credit Card Receivables

In April 2015, the Bank set up Canadian Credit Card Trust II (CCCT II) to continue its credit card securitization program on a revolving basis and to use the entity for capital management and funding purposes.

The Bank provides first-loss protection against the losses, since it retains the excess spread from the portfolio of sold receivables. The excess spread represents the residual net interest income after all the expenses related to this structure have been paid. The Bank also provides second-loss protection as it holds subordinated notes issued by CCCT II. In addition, the Bank acts as an administrative agent and servicer and as such is responsible for the daily administration and management of CCCT II's credit card receivables. The Bank therefore has the ability to direct the relevant activities of CCCT II and can exercise its power to affect the amount of returns it obtains. Consequently, the Bank controls CCCT II and consolidates it.

Multi-Seller Conduit

The Bank administers a multi-seller conduit that purchases various financial assets from clients and finances those purchases by issuing debt securities (including commercial paper) backed by the assets acquired. The clients use this multi-seller conduit to diversify their funding sources and reduce borrowing costs, while continuing to manage the financial assets and providing some amount of first-loss protection. The Bank holds the sole note issued by the conduit and has concluded a derivative financial instrument contract with the conduit. The Bank controls the relevant activities of this conduit through its involvement as a financial agent, agent for administrative and transaction structuring services as well as investor in the conduit's sole note. The Bank's functions and investment in the conduit confer to it decision-making power over the composition of assets acquired by the conduit and the selection of the seller as well as some exposure to the conduit's variable returns. Therefore, the Bank consolidates this conduit.

Investment Funds

The Bank enters into derivative or other financial instrument contracts with third parties to provide them with the desired exposure to certain investment funds. The Bank economically hedges the risks related to these derivatives by investing in those investment funds. The Bank can also hold economic interests in certain investment funds as part of its investing activities. The Bank controls the relevant activities of certain funds through its involvement as an investor and its significant exposure to their variable returns. Therefore, the Bank consolidates these funds.

Covered Bonds

NBC Covered Bond Guarantor (Legislative) Limited Partnership

In December 2013, the Bank established the covered bond legislative program under which covered bonds are issued. It therefore created NBC Covered Bond Guarantor (Legislative) Limited Partnership (the Guarantor) to guarantee payment of the principal and interest owed to the bondholders. The Bank sold uninsured residential mortgages to the Guarantor and granted it loans to facilitate the acquisition of these assets. The Bank acts as manager of the partnership and has decision-making authority over its relevant activities in accordance with the contractual terms governing the covered bond legislative program. In addition, the Bank is able, in accordance with the contractual terms governing the covered bond legislative program, to affect the variable returns of the partnership, which are directly related to the return on the mortgage loan portfolio and the interest on the loans from the Bank. Consequently, the Bank controls the partnership and consolidates it.

Third-Party Structured Entities

In 2018, the Bank, through one of its subsidiaries, provided financing to a third-party structured entity in exchange for a 100% interest in a loan portfolio, the sole asset held by that entity. The Bank controls and therefore consolidates the structured entity, as it has the ability to direct the entity's relevant activities through its involvement in the decision-making process. The Bank is also exposed to the entity's variable returns.

The following table presents the Bank's investments and other assets in the consolidated structured entities as well as the total assets of these entities.

As at October 31	2021		2020	
	Investments and other assets	Total assets ⁽¹⁾	Investments and other assets	Total assets ⁽¹⁾
Consolidated structured entities				
Securitization entity for the Bank's credit card receivables ⁽²⁾⁽³⁾	2,410	2,544	1,417	1,478
Multiseller conduit ⁽⁴⁾	256	256	172	172
Investment funds ⁽⁵⁾	121	121	174	174
Covered bonds ⁽⁶⁾	15,663	16,048	16,771	17,197
Third-party structured entities ⁽⁷⁾	169	169	191	191
	18,619	19,138	18,725	19,212

- (1) There are restrictions that stem mainly from regulatory requirements, corporate or securities laws, and contractual arrangements that limit the ability of certain consolidated structured entities to transfer funds to the Bank.
- (2) The underlying assets are credit card receivables.
- (3) The Bank's investment is presented net of third-party holdings.
- (4) The underlying assets, located in Canada, are residential mortgages.
- (5) The underlying assets are various financial instruments and are presented on a net asset basis. Certain investment funds are in a trading portfolio.
- (6) The underlying assets are uninsured residential mortgage loans of the Bank. The average maturity of these underlying assets is two years. As at October 31, 2021, the total amount of transferred mortgage loans was \$15.7 billion (\$16.8 billion as at October 31, 2020), and the total amount of covered bonds of \$8.8 billion was recognized in *Deposits* on the Consolidated Balance Sheet (\$10.1 billion as at October 31, 2020). For additional information, see Note 13 to these consolidated financial statements.
- (7) The underlying assets consist of a loan portfolio.

Note 28 – Related Party Disclosures

In the normal course of business, the Bank provides various banking services to related parties and enters into contractual agreements and other operations with related parties. The Bank considers the following to be related parties:

- its key officers and directors and members of their immediate family, i.e., spouses and children under 18 living in the same household;
- entities over which its key officers and directors and their immediate family have control or significant influence through their significant voting power;
- the Bank's associates and joint ventures;
- the Bank's pension plans (for additional information, see Note 23 to these consolidated financial statements).

According to the established definition, the Bank's key officers are those persons having authority and responsibility for planning, directing and controlling the Bank's activities, directly or indirectly.

Related Party Transactions

As at October 31

	Key officers and directors ⁽¹⁾		Related entities	
	2021	2020	2021	2020
Assets				
Mortgage loans and other loans	21	33	143 ⁽²⁾	347 ⁽²⁾
Liabilities				
Deposits	115	59	113 ⁽³⁾	517 ⁽³⁾
Other	–	–	38	1

(1) As at October 31, 2021, key officers, directors and their immediate family members were holding \$95 million of the Bank's common and preferred shares (\$66 million as at October 31, 2020).

(2) As at October 31, 2021, mortgage loans and other loans consisted of: (i) \$1 million in loans to the Bank's associates (\$1 million as at October 31, 2020) and (ii) \$142 million in loans to entities over which the Bank's key officers, directors or their immediate family members exercise control or significant influence through significant voting power (\$346 million as at October 31, 2020).

(3) As at October 31, 2021, deposits consisted of: (i) \$1 million in deposits from the Bank's associates (\$210 million as at October 31, 2020) and (ii) \$112 million in deposits from entities over which the Bank's key officers, directors or their immediate family members exercise control or significant influence through significant voting power (\$307 million as at October 31, 2020).

The contractual agreements and other transactions with related entities as well as with directors and key officers are entered into under conditions similar to those offered to non-related third parties. These agreements did not have a significant impact on the Bank's results. The Bank also offers a deferred stock unit plan to directors who are not Bank employees. For additional information, see Notes 9, 22 and 27 to these consolidated financial statements.

Compensation of Key Officers and Directors

Year ended October 31

	2021	2020
Compensation and other short-term and long-term benefits	23	21
Share-based payments	22	21

Principal Subsidiaries of the Bank⁽¹⁾

As at October 31, 2021				
Name	Business activity	Principal office address	Voting shares ⁽²⁾	Investment at cost
Canada and United States				
National Bank Acquisition Holding Inc.	Holding company	Montreal, Canada	100%	1,785
National Bank Financial Inc.	Investment dealer	Montreal, Canada	100%	
NBF International Holdings Inc.	Holding company	Montreal, Canada	100%	
National Bank of Canada Financial Group Inc.	Holding company	New York, NY, United States	100%	
Credigy Ltd.	Holding company	Atlanta, GA, United States	100%	
National Bank of Canada Financial Inc.	Investment dealer	New York, NY, United States	100%	
National Bank Investments Inc.	Mutual funds dealer	Montreal, Canada	100%	441
National Bank Life Insurance Company	Insurance	Montreal, Canada	100%	
Natcan Trust Company	Trustee	Montreal, Canada	100%	238
National Bank Trust Inc.	Trustee	Montreal, Canada	100%	195
National Bank Realty Inc.	Real estate	Montreal, Canada	100%	80
NatBC Holding Corporation	Holding company	Hollywood, FL, United States	100%	31
Natbank, National Association	Commercial bank	Hollywood, FL, United States	100%	
Flinks Technology Inc.	Information technology	Montreal, Canada	86%	144
Other countries				
Natcan Global Holdings Ltd.	Holding company	Sliema, Malta	100%	22
NBC Global Finance Limited	Investment services	Dublin, Ireland	100%	
NBC Financial Markets Asia Limited	Investment dealer	Hong Kong, China	100%	5
Advanced Bank of Asia Limited	Commercial bank	Phnom Penh, Cambodia	100%	621
ATA IT Ltd.	Information technology	Bangkok, Thailand	100%	3

(1) Excludes consolidated structured entities. For additional information, see Note 27 to these consolidated financial statements.

(2) The Bank's percentage of voting rights in these subsidiaries.

Note 29 – Management of the Risks Associated With Financial Instruments

The Bank is exposed to credit risk, market risk, and liquidity and funding risk. The Bank's objectives, policies, and procedures for managing risk and the risk measurement methods are presented in the Risk Management section of the MD&A for the year ended October 31, 2021. Text in grey shading and tables identified with an asterisk (*) in the Risk Management section of the MD&A for the year ended October 31, 2021 are an integral part of these consolidated financial statements.

Residual Contractual Maturities of Balance Sheet Items and Off-Balance-Sheet Commitments

The following tables present balance sheet items and off-balance-sheet commitments by residual contractual maturity as at October 31, 2021 and 2020. The information gathered from this maturity analysis is a component of liquidity and funding management. However, this maturity profile does not represent how the Bank manages its interest rate risk nor its liquidity risk and funding needs. The Bank considers factors other than contractual maturity when assessing liquid assets or determining expected future cash flows.

In the normal course of business, the Bank enters into various off-balance-sheet commitments. The credit instruments used to meet the funding needs of its clients represent the maximum amount of additional credit the Bank could be obligated to extend if the commitments were fully drawn.

The Bank also has future minimum commitments under leases for premises as well as under other contracts, mainly commitments to purchase loans and contracts for outsourced information technology services. Most of the lease commitments are related to operating leases.

Note 29 – Management of the Risks Associated With Financial Instruments (cont.)

	As at October 31, 2021									
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Assets										
Cash and deposits with financial institutions	7,510	334	374	146	368	–	–	–	25,147	33,879
Securities										
At fair value through profit or loss	1,946	1,929	1,061	702	792	3,037	6,454	9,410	59,480	84,811
At fair value through other comprehensive income	1	–	1	624	63	227	4,867	3,183	617	9,583
At amortized cost	1	181	213	425	804	3,589	5,865	832	–	11,910
	1,948	2,110	1,275	1,751	1,659	6,853	17,186	13,425	60,097	106,304
Securities purchased under reverse repurchase agreements and securities borrowed	1,113	1,199	59	–	371	619	–	–	4,155	7,516
Loans⁽¹⁾										
Residential mortgage	702	965	1,581	2,587	2,320	8,850	48,455	6,504	578	72,542
Personal	214	315	512	877	843	3,527	16,056	4,308	14,401	41,053
Credit card									2,150	2,150
Business and government	16,842	3,986	2,614	3,508	3,253	6,290	10,180	3,605	10,828	61,106
Customers' liability under acceptances	6,200	618	18	–	–	–	–	–	–	6,836
Allowances for credit losses									(998)	(998)
	23,958	5,884	4,725	6,972	6,416	18,667	74,691	14,417	26,959	182,689
Other										
Derivative financial instruments	1,868	3,678	1,019	2,190	823	1,865	2,491	2,550	–	16,484
Investments in associates and joint ventures									225	225
Premises and equipment									1,216	1,216
Goodwill									1,504	1,504
Intangible assets									1,510	1,510
Other assets ⁽¹⁾	1,829	137	148	129	56	727	88	17	1,337	4,468
	3,697	3,815	1,167	2,319	879	2,592	2,579	2,567	5,792	25,407
	38,226	13,342	7,600	11,188	9,693	28,731	94,456	30,409	122,150	355,795

(1) Amounts collectible on demand are considered to have no specified maturity.

	As at October 31, 2021									
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Liabilities and equity										
Deposits⁽¹⁾⁽²⁾										
Personal	1,396	3,433	4,596	2,194	1,945	4,157	6,468	4,914	40,973	70,076
Business and government	24,814	12,796	10,782	5,785	2,691	5,453	10,054	4,765	90,730	167,870
Deposit-taking institutions	1,011	128	38	66	23	1	–	36	1,689	2,992
	27,221	16,357	15,416	8,045	4,659	9,611	16,522	9,715	133,392	240,938
Other										
Acceptances	6,200	618	18	–	–	–	–	–	–	6,836
Obligations related to securities sold short ⁽³⁾	186	123	182	175	22	3,099	3,743	4,797	7,939	20,266
Obligations related to securities sold under repurchase agreements and securities loaned	7,330	2,668	3,633	246	–	–	–	–	3,416	17,293
Derivative financial instruments	3,048	3,061	1,171	1,921	880	1,485	3,273	4,528	–	19,367
Liabilities related to transferred receivables ⁽⁴⁾	–	1,688	1,523	1,054	411	5,501	10,771	4,222	–	25,170
Securitization – Credit card ⁽⁵⁾	36	–	–	–	–	28	48	–	–	112
Lease liabilities ⁽⁵⁾	7	15	21	22	22	88	214	186	–	575
Other liabilities – Other items ⁽¹⁾⁽⁵⁾	640	477	117	125	100	41	25	75	4,014	5,614
	17,447	8,650	6,665	3,543	1,435	10,242	18,074	13,808	15,369	95,233
Subordinated debt	–	–	–	–	–	–	–	768	–	768
Equity									18,856	18,856
	44,668	25,007	22,081	11,588	6,094	19,853	34,596	24,291	167,617	355,795
Off-balance-sheet commitments										
Letters of guarantee and documentary letters of credit	320	1,561	828	2,092	793	575	74	–	–	6,243
Credit card receivables ⁽⁶⁾	–	–	–	–	–	–	–	–	9,081	9,081
Backstop liquidity and credit enhancement facilities ⁽⁷⁾	15	–	4,502	15	–	–	–	–	2,732	7,264
Commitments to extend credit ⁽⁸⁾	2,848	9,139	6,195	6,737	3,872	3,105	3,667	48	42,372	77,983
Obligations related to:										
Lease commitments ⁽⁹⁾	1	1	1	1	1	1	3	3	–	12
Other contracts ⁽¹⁰⁾	54	58	50	48	46	152	19	–	124	551

- (1) Amounts payable upon demand or notice are considered to have no specified maturity.
- (2) The *Deposits* item is presented in greater detail than it is on the Consolidated Balance Sheet.
- (3) Amounts are disclosed according to the residual contractual maturity of the underlying security.
- (4) These amounts mainly include liabilities related to the securitization of mortgage loans.
- (5) The *Other liabilities* item is presented in greater detail than it is on the Consolidated Balance Sheet.
- (6) These amounts are unconditionally revocable at the Bank's discretion at any time.
- (7) In the event of payment on one of the backstop liquidity facilities, the Bank will receive as collateral government bonds in an amount up to \$4.5 billion.
- (8) These amounts include \$40.8 billion that is unconditionally revocable at the Bank's discretion at any time.
- (9) These amounts include leases for which the underlying asset is of low value and leases other than for real estate of less than one year.
- (10) These amounts include \$0.3 billion in contractual commitments related to the head office building under construction.

Note 29 – Management of the Risks Associated With Financial Instruments (cont.)

	As at October 31, 2020									
	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Assets										
Cash and deposits with financial institutions	6,126	345	372	264	488	–	–	–	21,547	29,142
Securities										
At fair value through profit or loss	4,084	2,352	2,778	603	1,832	2,383	6,080	9,413	48,801	78,326
At fair value through other comprehensive income	1	–	858	1,060	400	984	5,322	3,482	619	12,726
At amortized cost	20	256	306	367	1,678	2,218	5,450	784	–	11,079
	4,105	2,608	3,942	2,030	3,910	5,585	16,852	13,679	49,420	102,131
Securities purchased under reverse repurchase agreements and securities borrowed	7,984	1,658	133	–	–	666	–	–	4,071	14,512
Loans⁽¹⁾										
Residential mortgage	1,352	1,230	2,043	3,170	3,152	9,320	38,719	5,343	630	64,959
Personal	278	447	660	796	890	3,221	13,435	3,475	14,411	37,613
Credit card									2,038	2,038
Business and government Customers' liability under acceptances	8,815	2,548	3,608	3,971	4,208	5,679	13,563	3,622	8,408	54,422
Allowances for credit losses	6,049	765	52	–	–	–	–	–	–	6,866
									(1,158)	(1,158)
	16,494	4,990	6,363	7,937	8,250	18,220	65,717	12,440	24,329	164,740
Other										
Derivative financial instruments	1,816	2,586	1,139	706	318	968	2,298	3,591	–	13,422
Investments in associates and joint ventures									409	409
Premises and equipment									1,155	1,155
Goodwill									1,414	1,414
Intangible assets									1,434	1,434
Other assets ⁽¹⁾	1,193	351	147	149	134	344	64	12	872	3,266
	3,009	2,937	1,286	855	452	1,312	2,362	3,603	5,284	21,100
	37,718	12,538	12,096	11,086	13,100	25,783	84,931	29,722	104,651	331,625

(1) Amounts collectible on demand are considered to have no specified maturity.

As at October 31, 2020

	1 month or less	Over 1 month to 3 months	Over 3 months to 6 months	Over 6 months to 9 months	Over 9 months to 12 months	Over 1 year to 2 years	Over 2 years to 5 years	Over 5 years	No specified maturity	Total
Liabilities and equity										
Deposits⁽¹⁾⁽²⁾										
Personal	1,845	2,728	3,462	1,647	2,084	6,909	6,958	2,962	38,904	67,499
Business and government	21,801	7,168	9,916	2,185	2,462	6,860	10,341	3,602	79,452	143,787
Deposit-taking institutions	1,435	111	14	80	17	5	1	42	2,887	4,592
	25,081	10,007	13,392	3,912	4,563	13,774	17,300	6,606	121,243	215,878
Other										
Acceptances	6,049	765	52	–	–	–	–	–	–	6,866
Obligations related to securities sold short ⁽³⁾	618	620	952	69	92	1,516	2,361	4,321	5,819	16,368
Obligations related to securities sold under repurchase agreements and securities loaned	14,084	3,335	8,803	136	–	1,487	–	–	6,014	33,859
Derivative financial instruments	1,738	2,070	877	603	266	875	3,116	3,378	–	12,923
Liabilities related to transferred receivables ⁽⁴⁾	–	2,138	311	1,850	397	3,430	11,059	3,670	–	22,855
Securitization – Credit card ⁽⁵⁾	–	–	–	–	–	36	28	–	–	64
Lease liabilities ⁽⁵⁾	8	14	21	22	21	85	224	233	–	628
Other liabilities – Other items ⁽⁴⁾⁽⁵⁾	1,087	192	200	87	76	85	37	281	2,981	5,026
	23,584	9,134	11,216	2,767	852	7,514	16,825	11,883	14,814	98,589
Subordinated debt	–	–	–	–	–	–	–	775	–	775
Equity	48,665	19,141	24,608	6,679	5,415	21,288	34,125	19,264	16,383	163,833
Off-balance-sheet commitments										
Letters of guarantee and documentary letters of credit Credit card receivables ⁽⁶⁾	200	1,579	603	948	1,187	1,322	134	–	–	5,973
									7,999	7,999
Backstop liquidity and credit enhancement facilities ⁽⁷⁾	–	15	4,502	15	–	–	–	–	3,126	7,658
Commitments to extend credit ⁽⁸⁾	2,846	4,143	4,504	6,429	5,688	5,651	10,690	1,165	29,213	70,329
Obligations related to:										
Lease commitments ⁽⁹⁾	1	1	2	2	1	4	2	1	–	14
Other contracts ⁽¹⁰⁾	15	28	41	41	39	145	114	–	278	701

(1) Amounts payable upon demand or notice are considered to have no specified maturity.

(2) The *Deposits* item is presented in greater detail than it is on the Consolidated Balance Sheet.

(3) Amounts have been disclosed according to the residual contractual maturity of the underlying security.

(4) These amounts mainly include liabilities related to the securitization of mortgage loans.

(5) The *Other liabilities* item is presented in greater detail than it is on the Consolidated Balance Sheet.

(6) These amounts are unconditionally revocable at the Bank's discretion at any time.

(7) In the event of payment on one of the backstop liquidity facilities, the Bank will receive as collateral government bonds in an amount up to \$4.5 billion.

(8) These amounts include \$39.4 billion that is unconditionally revocable at the Bank's discretion at any time.

(9) These amounts include leases for which the underlying asset is of low value and leases other than for real estate of less than one year.

(10) These amounts include \$0.3 billion in contractual commitments related to the head office building under construction.

Note 30 – Segment Disclosures

The Bank carries out its activities in four business segments, which are defined below. For presentation purposes, other activities are grouped in the *Other* heading. Each reportable segment is distinguished by services offered, type of clientele, and marketing strategy.

Personal and Commercial

The Personal and Commercial segment encompasses the banking, financing, and investing services offered to individuals, advisors and businesses as well as insurance operations.

Wealth Management

The Wealth Management segment comprises investment solutions, trust services, banking services, lending services and other wealth management solutions offered through internal and third-party distribution networks.

Financial Markets

The Financial Markets segment encompasses corporate banking and investment banking and financial solutions for large and mid-size corporations, public sector organizations, and institutional investors.

U.S. Specialty Finance and International (USSF&I)

The USSF&I segment encompasses the specialty finance expertise provided by the Credigy subsidiary; the activities of the ABA Bank subsidiary, which offers financial products and services to individuals and businesses in Cambodia; and the activities of targeted investments in certain emerging markets.

Other

This heading encompasses treasury activities; liquidity management; Bank funding; asset/liability management activities; the activities of the Flinks subsidiary, which offers fintech services; certain specified items; and the unallocated portion of corporate units.

The segment disclosures have been prepared in accordance with the accounting policies described in Note 1 to these consolidated financial statements, except for the net interest income, non-interest income, and income taxes (recovery) of the operating segments, which are presented on a taxable equivalent basis. Taxable equivalent basis is a calculation method that consists in grossing up certain tax-exempt income by the amount of income tax that would have otherwise been payable. The effect of these adjustments is reversed under the *Other* heading. Operations support charges are allocated to each operating segment presented in the business segment results. The Bank assesses performance based on the net income attributable to the Bank's shareholders and holders of other equity instruments. Intersegment revenues are recognized at the exchange amount. Segment assets correspond to average assets used in segment operations.

Results by Business Segment

Year ended October 31⁽¹⁾

	Personal and Commercial		Wealth Management		Financial Markets		USSF&I		Other		Total	
	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020	2021	2020
Net interest income ⁽²⁾	2,583	2,445	448	442	1,226	946	907	807	(381)	(385)	4,783	4,255
Non-interest income ⁽²⁾⁽³⁾	1,103	1,012	1,721	1,417	920	1,108	94	13	306	122	4,144	3,672
Total revenues	3,686	3,457	2,169	1,859	2,146	2,054	1,001	820	(75)	(263)	8,927	7,927
Non-interest expenses ⁽⁴⁾	1,958	1,892	1,277	1,125	880	812	315	319	423	397	4,853	4,545
Income before provisions for credit losses and income taxes	1,728	1,565	892	734	1,266	1,242	686	501	(498)	(660)	4,074	3,382
Provisions for credit losses	6	517	1	7	10	239	(15)	80	–	3	2	846
Income before income taxes (recovery)	1,722	1,048	891	727	1,256	1,003	701	421	(498)	(663)	4,072	2,536
Income taxes (recovery) ⁽²⁾	456	278	236	192	333	265	146	69	(276)	(351)	895	453
Net income	1,266	770	655	535	923	738	555	352	(222)	(312)	3,177	2,083
Non-controlling interests	–	–	–	–	–	–	–	34	–	8	–	42
Net income attributable to the Bank's shareholders and holders of other equity instruments	1,266	770	655	535	923	738	555	318	(222)	(320)	3,177	2,041
Average assets	127,716	117,338	7,146	5,917	150,147	123,943	16,150	14,336	62,503	56,665	363,662	318,199

(1) For the year ended October 31, 2020, certain amounts have been reclassified.

(2) For the year ended October 31, 2021, *Net interest income* was grossed up by \$181 million (\$208 million in 2020), *Non-interest income* was grossed up by \$8 million (\$57 million in 2020), and an equivalent amount was recognized in *Income taxes (recovery)*. The effect of these adjustments is reversed under the *Other* heading.

(3) For the *Other* heading of segment results, for the year ended October 31, 2021, the *Non-interest income* item included a \$33 million gain following a remeasurement of the previously held equity interest in Flinks and a \$30 million loss related to the fair value measurement of the Bank's equity interest in AfrAsia. For the *Other* heading of segment results, for the year ended October 31, 2020, the *Non-interest income* item had included a foreign currency translation loss of \$24 million following a disposal, through the Credigy Ltd. subsidiary, of two subsidiaries in Brazil.

(4) For the year ended October 31, 2021, for the *Other* heading of segment results, the *Non-interest expenses* item included impairment losses on intangible assets of \$9 million related to technology developments. For the year ended October 31, 2020, for the *Other* heading of segment results, the *Non-interest expenses* item had included impairment losses on premises and equipment and on intangible assets of \$71 million, related to computer equipment and technology developments, a \$13 million charge related to Maple, and \$48 million in severance pay.

Results by Geographic Segment

Year ended October 31

	Canada		United States		Other		Total	
	2021	2020	2021	2020	2021	2020	2021	2020
Net interest income	3,592	3,239	623	642	568	374	4,783	4,255
Non-interest income ⁽¹⁾	3,992	3,574	106	5	46	93	4,144	3,672
Total revenues	7,584	6,813	729	647	614	467	8,927	7,927
Non-interest expenses ⁽²⁾	4,428	4,124	203	209	222	212	4,853	4,545
Income before provisions for credit losses and income taxes	3,156	2,689	526	438	392	255	4,074	3,382
Provisions for credit losses	17	766	(41)	59	26	21	2	846
Income before income taxes	3,139	1,923	567	379	366	234	4,072	2,536
Income taxes	687	343	133	68	75	42	895	453
Net income	2,452	1,580	434	311	291	192	3,177	2,083
Non-controlling interests	–	18	–	24	–	–	–	42
Net income attributable to the Bank's shareholders and holders of other equity instruments	2,452	1,562	434	287	291	192	3,177	2,041
Average assets	301,120	258,594	27,301	22,654	35,241	36,951	363,662	318,199

- (1) For the year ended October 31, 2021, the *Non-interest income* item recorded in Canada included a \$33 million gain following a remeasurement of the previously held equity interest in Flinks and a \$30 million loss related to the fair value measurement of the Bank's equity interest in AfrAsia. For the year ended October 31, 2020, for the United States results, the *Non-interest income* item had included a foreign currency translation loss of \$24 million following the disposal, through the Credigy Ltd. subsidiary, of two subsidiaries in Brazil.
- (2) For the year ended October 31, 2021, for the Canada results, the *Non-interest expenses* item included \$9 million in impairment losses on intangible assets related to technology developments. For the year ended October 31, 2020, for the Canada results, the *Non-interest expenses* item had included \$71 million in impairment losses on premises and equipment and on intangible assets related to computer equipment and technology developments, a \$13 million charge related to Maple, and \$48 million in severance pay.

Note 31 – Acquisitions

Acquisition of Flinks Technology Inc.

On September 8, 2021, the Bank finalized the acquisition of Flinks Technology Inc. (Flinks), a leading fintech company specialized in financial data aggregation and distribution, in which the Bank had already been holding a 30.2% equity interest. Flinks provides services to a wide North American fintech ecosystem and offers attractive data technology solutions. The acquisition strategically positions the Bank in a high-growth market to continue to enhance customer experiences and benefit from future technology-driven innovations. At the time of acquisition, the amount of which was \$73 million in cash for voting preferred shares, the Bank was holding an 82.9% equity interest in Flinks, thereby giving it control thereover. Immediately after the acquisition, the Bank made an additional \$30 million investment in voting preferred shares, giving the Bank an 85.9% equity interest in Flinks. The amount of the \$73 million purchase price, of the fair value of the previously held equity interest, and of the estimated value of the non-controlling interest established on the acquisition date, exceeded the fair value of the net assets acquired by \$101 million. This excess amount has been recorded on the Consolidated Balance Sheet as goodwill and mainly represents the expected future profits of Flinks given its favourable position in this growth market. The goodwill is not deductible for tax purposes. The previously held equity interest, accounted for as an associate, was remeasured at fair value, generating a \$33 million non-taxable remeasurement gain that was reported in the *Non-interest income – Other* item of the Consolidated Statement of Income.

For the year ended October 31, 2021, the acquisition-related costs included in the *Non-interest expenses* item of the Consolidated Statement of Income were negligible. With respect to the presentation of financial results according to business segment, the gain on remeasurement of the previously held equity interest as well as the financial results of Flinks are being reported in the *Other* heading of segment results. The financial results of Flinks have been consolidated into the Bank's financial statements since September 8, 2021. During the year ended October 31, 2021, Flinks contributed approximately \$1 million to the Bank's total revenues and a net loss of approximately \$3 million to the Bank's total net income. If the Bank had finalized the acquisition on November 1, 2020, the Bank would have reported total revenues of approximately \$8,936 million and net income of approximately \$3,170 million for the year ended October 31, 2021.

Note 31 – Acquisitions (cont.)

As at October 31, 2021, the purchase price allocation process had not been finalized as certain closing adjustments were ongoing. The estimated fair values of the assets acquired and liabilities assumed may be retrospectively adjusted to reflect new information obtained about facts and circumstances that existed as of the acquisition date during the measurement period expected to end in fiscal 2022. The table below summarizes the estimated fair values of the assets acquired and liabilities assumed as of the acquisition date.

Goodwill	101
Premises and equipment	1
Intangible assets	24
Other assets	2
	128
Other liabilities	11
	11
Purchase price	73
Previously held interest	41
Non-controlling interest	3
	117

Acquisition of the Entire Remaining Non-Controlling Interest in the Credigy Ltd. Subsidiary

On December 15, 2020, the Bank acquired the entire remaining non-controlling interest in the Credigy Ltd. subsidiary following a decision by the non-controlling shareholders to exercise their put options for an amount of \$300 million according to an agreement reached in 2013. Following this transaction, Credigy Ltd. became a wholly owned subsidiary of the Bank.

Note 32 – Event After the Consolidated Balance Sheet Date

Repurchase of Common Shares

On November 30, 2021, the Bank's Board of Directors approved a normal course issuer bid, beginning December 10, 2021, to repurchase for cancellation up to 7,000,000 common shares (representing approximately 2% of its outstanding common shares) over the 12-month period ending December 9, 2022. Any repurchase through the Toronto Stock Exchange will be done at market prices. The common shares may also be repurchased through other means authorized by the Toronto Stock Exchange and applicable regulations, including private agreements or share repurchase programs under issuer bid exemption orders issued by the securities regulators. A private purchase made under an exemption order issued by a securities regulator will be done at a discount to the prevailing market price. The amounts that are paid above the average book value of the common shares are charged to *Retained earnings*. This normal course issuer bid is subject to the approval of OSFI and the Toronto Stock Exchange (TSX).