Enhanced Disclosure Task Force (EDTF) Recommendations

Below is the index of EDTF recommendations to facilitate easy reference in the Bank's public disclosure documents available on www.scotiabank.com/investorrelations.

Reference Table for EDTF

			Q1 2023		2022 Annual Report	
Type of risk	Number	Disclosure	Quarterly Report	Supplementary Regulatory Capital Disclosures	MD&A	Financial Statements
General	1	The index of risks to which the business is exposed.			14	
	2	The Bank's risk to terminology, measures and key parameters.			74-78	
	3	Top and emerging risks, and the changes during the reporting period.			80-81, 85-91	
	4	Discussion on the regulatory development and plans to meet new regulatory ratios.	40, 44-48		54-57, 99-102, 114-116	
Risk governance, risk management and business model	5	The Bank's Risk Governance structure.			72-74	
	6	Description of risk culture and procedures applied to support the culture.			74-78	
	7	Description of key risks from the Bank's business model.			79	
	8	Stress testing use within the Bank's risk governance and capital management.			75-76	
Capital Adequacy and risk-weighted assets	9	Pillar 1 capital requirements, and the impact for global systemically important banks.	44-45	3	54-57	206
	10	a) Regulatory capital components.	44-45, 72	18-21	58	
		b) Reconciliation of the accounting balance sheet to the regulatory balance sheet.		15-16		
	11	Flow statement of the movements in regulatory capital since the previous reporting period, including changes in common equity tier 1, additional tier 1 and tier 2 capital.	44-45	70	59-60	
	12	Discussion of targeted level of capital, and the plans on how to establish this.			54-57	
	13	Analysis of risk-weighted assets by risk type, business, and market risk RWAs.		5, 34, 36-47, 55-57, 61, 73, 79	63-67, 79, 123	176, 229
	14	Analysis of the capital requirements for each Basel asset class.		13-14, 34-48, 54-57, 61, 66-69	63-67	176, 223-229
	15	Tabulate credit risk in the Banking Book.	75	13-14, 34-48, 66-69	63-67	224
	16	Flow statements reconciling the movements in risk-weighted assets for each risk-weighted asset type.		49, 60, 72	63-67	
	17	Discussion of Basel III Back-testing requirement including credit risk model performance and validation.		77	64-66	
Liquidity Funding	18	Analysis of the Bank's liquid assets.	35-38		97-102	
	19	Encumbered and unencumbered assets analyzed by balance sheet category.	35-38		99	
	20	Consolidated total assets, liabilities and off-balance sheet commitments analyzed by remaining contractual maturity at the balance sheet date.	42-43		103-105	
	21	Analysis of the Bank's sources of funding and a description of the Bank's funding strategy.	40-41		102-103	
Market Risk	22	Linkage of market risk measures for trading and non-trading portfolios and the balance sheet.	34-35		96	
	23	Discussion of significant trading and non-trading market risk factors.	76		92-97	228-229
	24	Discussion of changes in period on period VaR results as well as VaR assumptions, limitations, backtesting and validation.	33, 76		92-97	228-229
	25	Other risk management techniques e.g. stress tests, stressed VaR, tail risk and market liquidity horizon.			92-97	229
Credit Risk	26	Analysis of the aggregate credit risk exposures, including details of both personal and wholesale lending.		5, 34, 36-47, 55-57	85-91, 117-123	186-187, 225-227
	27	Discussion of the policies for identifying impaired loans, defining impairments and renegotiated loans, and explaining loan forbearance policies.				155-157, 187
	28	Reconciliations of the opening and closing balances of impaired loans and impairment allowances during the year.	62	31, 32	88, 117-118, 120, 121	187
	29	Analysis of counterparty credit risk that arises from derivative transactions.	46, 75	78	83-84	174-177
	30	Discussion of credit risk mitigation, including collateral held for all sources of credit risk.	75		83-84, 89	
Other risks	31	Quantified measures of the management of operational risk.			67, 106	
	32	Discussion of publicly known risk items.	46		71	

MANAGEMENT'S DISCUSSION & ANALYSIS

The Management's Discussion and Analysis (MD&A) is provided to enable readers to assess the Bank's financial condition and results of operations as at and for the period ended January 31, 2023. The MD&A should be read in conjunction with the Bank's unaudited Condensed Interim Consolidated Financial Statements included in this Report to Shareholders, and the Bank's 2022 Annual Report. This MD&A is dated February 28, 2023.

Additional information relating to the Bank, including the Bank's 2022 Annual Report, is available on the Bank's website at www.scotiabank.com. As well, the Bank's 2022 Annual Report and Annual Information Form are available on SEDAR at www.sedar.com and on the EDGAR section of the SEC's website at www.sec.gov.

Contents

Forward-looking Statements From time to time, our public communications include oral or written forward-looking statements. Statements of this type are included in this document, and may be included in other filings with Canadian securities regulators or the U.S. Securities and Exchange Commission ("SEC"), or in other communications. In addition, representatives of the Bank may include forward-looking statements orally to analysts, investors, the media and others. All such statements are made pursuant to the "safe harbor" provisions of the U.S. Private Securities Litigation Reform Act of 1995 and any applicable Canadian securities legislation. Forward-looking statements may include, but are not limited to, statements made in this document, the Management's Discussion and Analysis in the Bank's 2022 Annual Report under the headings "Outlook" and in other statements regarding the Bank's objectives, strategies to achieve those objectives, the regulatory environment in which the Bank operates, anticipated financial results, and the outlook for the Bank's businesses and for the Canadian, U.S. and global economies. Such statements are typically identified by words or phrases such as "believe," "expect," "foresee," "forecast," "anticipate," "intend," "estimate," "plan," "goal," "target," "project," "commit," "objective," and similar expressions of future or conditional verbs, such as "will," "may," "should," "would," "might," "can" and "could" and positive and negative variations thereof.

By their very nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties, which give rise to the possibility that our predictions, forecasts, projections, expectations or conclusions will not prove to be accurate, that our assumptions may not be correct and that our financial performance objectives, vision and strategic goals will not be achieved.

We caution readers not to place undue reliance on these statements as a number of risk factors, many of which are beyond our control and effects of which can be difficult to predict, could cause our actual results to differ materially from the expectations, targets, estimates or intentions expressed in such forward-looking statements.

The future outcomes that relate to forward-looking statements may be influenced by many factors, including but not limited to: general economic and market conditions in the countries in which we operate; changes in currency and interest rates; increased funding costs and market volatility due to market illiquidity and competition for funding; the failure of third parties to comply with their obligations to the Bank and its affiliates; changes in monetary, fiscal, or economic policy and tax legislation and interpretation; changes in laws and regulations or in supervisory expectations or requirements, including capital, interest rate and liquidity requirements and guidance, and the effect of such changes on funding costs; changes to our credit ratings; the possible effects on our business of war or terrorist actions and unforeseen consequences arising from such actions; operational and infrastructure risks; reputational risks; the accuracy and completeness of information the Bank receives on customers and counterparties; the timely development and introduction of new products and services, and the extent to which products or services previously sold by the Bank require the Bank to incur liabilities or absorb losses not contemplated at their origination; our ability to execute our strategic plans, including the successful completion of acquisitions and dispositions, including obtaining regulatory approvals; critical accounting estimates and the effect of changes to accounting standards, rules and interpretations on these estimates; global capital markets activity; the Bank's ability to attract, develop and retain key executives; the evolution of various types of fraud or other criminal behaviour to which the Bank is exposed; disruptions in or attacks (including cyber-attacks) on the Bank's information technology, internet, network access, or other voice or data communications systems or services; increased competition in the geographic and business areas in which we operate, including through internet and mobile banking and non-traditional competitors; exposure related to significant litigation and regulatory matters; climate change and other environmental and social risks, including sustainability that may arise, including from the Bank's business activities; the occurrence of natural and unnatural catastrophic events and claims resulting from such events; inflationary pressures; Canadian housing and household indebtedness; the emergence of widespread health emergencies or pandemics, including the magnitude and duration of the COVID-19 pandemic and its impact on the global economy, financial market conditions and the Bank's business, results of operations, financial condition and prospects; and the Bank's anticipation of and success in managing the risks implied by the foregoing. A substantial amount of the Bank's business involves making loans or otherwise committing resources to specific companies, industries or countries. Unforeseen events affecting such borrowers, industries or countries could have a material adverse effect on the Bank's financial results, businesses, financial condition or liquidity. These and other factors may cause the Bank's actual performance to differ materially from that contemplated by forward-looking statements. The Bank cautions that the preceding list is not exhaustive of all possible risk factors and other factors could also adversely affect the Bank's results, for more information, please see the "Risk Management" section of the Bank's 2022 Annual Report, as may be updated by quarterly reports.

Material economic assumptions underlying the forward-looking statements contained in this document are set out in the 2022 Annual Report under the headings "Outlook", as updated by quarterly reports. The "Outlook" and "2023 Priorities" sections are based on the Bank's views and the actual outcome is uncertain. Readers should consider the above-noted factors when reviewing these sections. When relying on forward-looking statements to make decisions with respect to the Bank and its securities, investors and others should carefully consider the preceding factors, other uncertainties and potential events. Any forward-looking statements contained in this document represent the views of management only as of the date hereof and are presented for the purpose of assisting the Bank's shareholders and analysts in understanding the Bank's financial position, objectives and priorities, and anticipated financial performance as at and for the periods ended on the dates presented, and may not be appropriate for other purposes. Except as required by law, the Bank does not undertake to update any forward-looking statements, whether written or oral, that may be made from time to time by or on its behalf.

Additional information relating to the Bank can be located on the SEDAR website at www.sedar.com and on the EDGAR section of the SEC's website at www.sec.gov.

Non-GAAP Measures

The Bank uses a number of financial measures and ratios to assess its performance, as well as the performance of its operating segments. Some of these financial measures and ratios are presented on a non-GAAP basis and are not calculated in accordance with Generally Accepted Accounting Principles (GAAP), which are based on International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), are not defined by GAAP and do not have standardized meanings and therefore might not be comparable to similar financial measures and ratios disclosed by other issuers. The Bank believes that non-GAAP measures and ratios are useful as they provide readers with a better understanding of how management assesses performance. These non-GAAP measures and ratios are used throughout this report and defined below.

Adjusted results and diluted earnings per share

The following tables present a reconciliation of GAAP reported financial results to non-GAAP adjusted financial results. Management considers both reported and adjusted results and measures useful in assessing underlying ongoing business performance. Adjusted results and measures remove certain specified items from revenue, non-interest expenses, income taxes and non-controlling interest. Presenting results on both a reported basis and adjusted basis allows readers to assess the impact of certain items on results for the periods presented, and to better assess results and trends excluding those items that may not be reflective of ongoing business performance. Net income and diluted earnings per share have been adjusted for the following:

Adjustments impacting current and prior periods:

1. **Amortization of acquisition-related intangible assets:**

   These costs relate to the amortization of intangibles recognized upon the acquisition of businesses, excluding software, and are recorded in the Canadian Banking, International Banking and Global Wealth Management operating segments.

2. **Canada Recovery Dividend:**

   This quarter the Bank recognized an additional income tax expense of $579 million reflecting the present value of the amount payable for the Canada Recovery Dividend (CRD). The CRD is a Canadian federal tax measure which requires the Bank to pay a one-time tax of 15% on taxable income in excess of $1 billion, based on the average taxable income for the 2020 and 2021 taxation years. The CRD is payable in equal amounts over five years, however, the present value of these payments must be recognized as a liability in the current quarter. The charge was recorded in the Other operating segment.

Adjustments impacting Q4, 2022 only:

1. **Restructuring provision:**

   The Bank recorded a restructuring charge of $66 million ($85 million pre-tax) related to the realignment of the Global Banking and Markets businesses in Asia Pacific and reductions in technology employees, driven by ongoing technology modernization and digital transformation. This charge was recorded in the Other operating segment.

2. **Support costs for the Scene+ loyalty program:**

   The Bank recorded costs of $98 million ($133 million pre-tax) to support the expansion of the Scene+ loyalty program to include Empire Company Limited as a partner. These committed costs relate to operational support, transition marketing and technology initiatives and were recognized as an expense in the Other operating segment.

3. **Net loss on divestitures and wind-down of operations:**

   In Q4 2022, the Bank sold its investments in associates in Venezuela and Thailand. Additionally, the Bank wound down its operations in India and Malaysia in relation to its realignment of the business in the Asia Pacific region. Collectively, the sale and wind-down of these entities resulted in a net loss of $340 million ($361 million pre-tax), of which $294 million ($315 million pre-tax) related to the reclassification of cumulative foreign currency translation losses net of hedges, from accumulated other comprehensive income to non-interest income in the Consolidated Statement of Income. This net loss was recorded in the Other operating segment. For further details on these transactions, please refer to Note 36 of the consolidated financial statements, in the 2022 Annual Report to Shareholders.

T1 Reconciliation of reported and adjusted results and diluted earnings per share

	For the three months ended		
($ millions)	**January 31 2023**	October 31 2022	January 31 2022
Reported Results			
Net interest income	**$4,569**	$4,622	$4,344
Non-interest income	**3,411**	3,004	3,705
Total revenue	**7,980**	7,626	8,049
Provision for credit losses	**638**	529	222
Non-interest expenses	**4,464**	4,529	4,223
Income before taxes	**2,878**	2,568	3,604
Income tax expense	**1,106**	475	864
Net income	**$1,772**	$2,093	$2,740
Net income attributable to non-controlling interests in subsidiaries (NCI)	**40**	38	88
Net income attributable to equity holders	**1,732**	2,055	2,652
Net income attributable to preferred shareholders and other equity instrument holders	**101**	106	44
Net income attributable to common shareholders	**$1,631**	$1,949	$2,608
Diluted earnings per share *(in dollars)*	**$ 1.36**	$ 1.63	$ 2.14
Weighted average number of diluted common shares outstanding *(millions)*	**1,199**	1,199	1,230
Adjustments			
Adjusting items impacting non-interest income and total revenue (Pre-tax)			
Net loss on divestitures and wind-down of operations	**$ –**	$ 361	$ –
Adjusting items impacting non-interest expenses (Pre-tax)			
Amortization of acquisition-related intangible assets	**21**	24	25
Restructuring provision	**–**	85	–
Support costs for the Scene+ loyalty program	**–**	133	–
Total non-interest expense adjusting items (Pre-tax)	**21**	242	25
Total impact of adjusting items on net income before taxes	**21**	603	25
Impact of adjusting items on income tax expense			
Canada recovery dividend	**579**	–	–
Net loss on divestitures and wind-down of operations	**–**	(21)	–
Amortization of acquisition-related intangible assets	**(6)**	(6)	(7)
Restructuring provision	**–**	(19)	–
Support costs for the Scene+ loyalty program	**–**	(35)	–
Total impact of adjusting items on income tax expense	**573**	(81)	(7)
Total impact of adjusting items on net income	**$ 594**	$ 522	$ 18
Impact of adjusting items on NCI relating to restructuring and other provisions	**–**	(1)	–
Total impact of adjusting items on net income attributable to equity holders and common shareholders	**$ 594**	$ 521	$ 18
Adjusted Results			
Net interest income	**$4,569**	$4,622	$4,344
Non-interest income	**3,411**	3,365	3,705
Total revenue	**7,980**	7,987	8,049
Provision for credit losses	**638**	529	222
Non-interest expenses	**4,443**	4,287	4,198
Income before taxes	**2,899**	3,171	3,629
Income tax expense	**533**	556	871
Net income	**$2,366**	$2,615	$2,758
Net income attributable to NCI	**40**	39	88
Net income attributable to equity holders	**2,326**	2,576	2,670
Net income attributable to preferred shareholders and other equity instrument holders	**101**	106	44
Net income attributable to common shareholders	**$2,225**	$2,470	$2,626
Diluted earnings per share *(in dollars)*	**$ 1.85**	$ 2.06	$ 2.15
Impact of adjustments on diluted earnings per share *(in dollars)*	**$ 0.49**	$ 0.43	$ 0.01
Weighted average number of diluted common shares outstanding *(millions)*	**1,210**	1,199	1,230

T1A Reconciliation of reported and adjusted results by business line

	For the three months ended January 31, 2023(1)					
($ millions)	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total
Reported net income (loss)	$1,087	$692	$387	$519	$ (913)	$1,772
Net income attributable to non-controlling interests in subsidiaries (NCI)	–	38	2	–	–	40
Reported net income attributable to equity holders	1,087	654	385	519	(913)	1,732
Reported net income attributable to preferred shareholders and other equity instrument holders	1	1	–	1	98	101
Reported net income attributable to common shareholders	$1,086	$653	$385	$518	$(1,011)	$1,631
Adjustments						
Adjusting items impacting non-interest expenses (Pre-tax)						
Amortization of acquisition-related intangible assets	2	10	9	–	–	21
Total non-interest expenses adjustments (Pre-tax)	2	10	9	–	–	21
Total impact of adjusting items on net income before taxes	2	10	9	–	–	21
Impact of adjusting items on income tax expense						
Canada recovery dividend	–	–	–	–	579	579
Impact of other adjusting items on income tax expense	(1)	(3)	(2)	–	–	(6)
Total impact of adjusting items on income tax expense	(1)	(3)	(2)	–	579	573
Total impact of adjusting items on net income	1	7	7	–	579	594
Total Impact of adjusting items on net income attributable to equity holders and common shareholders	1	7	7	–	579	594
Adjusted net income (loss)	$1,088	$699	$394	$519	$ (334)	$2,366
Adjusted net income attributable to equity holders	$1,088	$661	$392	$519	$ (334)	$2,326
Adjusted net income attributable to common shareholders	$1,087	$660	$392	$518	$ (432)	$2,225

(1) Refer to Business Line Overview on page 17.

	For the three months ended October 31, 2022(1)					
($ millions)	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total
Reported net income (loss)	$1,170	$679	$363	$484	$ (603)	$2,093
Net income attributable to non-controlling interests in subsidiaries (NCI)	–	36	2	–	–	38
Reported net income attributable to equity holders	1,170	643	361	484	(603)	2,055
Reported net income attributable to preferred shareholders and other equity instrument holders	1	1	–	–	104	106
Reported net income attributable to common shareholders	$1,169	$642	$361	$484	$ (707)	$1,949
Adjustments						
Adjusting items impacting non-interest income and total revenue (Pre-tax)						
Net loss on divestitures and wind-down of operations	–	–	–	–	361	361
Adjusting items impacting non-interest expenses (Pre-tax)						
Amortization of acquisition-related intangible assets	6	9	9	–	–	24
Restructuring provision	–	–	–	–	85	85
Support costs for the Scene+ loyalty program	–	–	–	–	133	133
Total non-interest expenses adjustments (Pre-tax)	6	9	9	–	218	242
Total impact of adjusting items on net income before taxes	6	9	9	–	579	603
Total impact of adjusting items on income tax expense	(2)	(2)	(2)	–	(75)	(81)
Total impact of adjusting items on net income	4	7	7	–	504	522
Impact of adjusting items on NCI related to restructuring and other provisions	–	–	–	–	(1)	(1)
Total Impact of adjusting items on net income attributable to equity holders and common shareholders	4	7	7	–	503	521
Adjusted net income (loss)	$1,174	$686	$370	$484	$ (99)	$2,615
Adjusted net income attributable to equity holders	$1,174	$650	$368	$484	$ (100)	$2,576
Adjusted net income attributable to common shareholders	$1,173	$649	$368	$484	$ (204)	$2,470

(1) Refer to Business Line Overview on page 17.

($ millions)	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total
	For the three months ended January 31, 2022[1]					
Reported net income (loss)	$1,201	$630	$415	$561	$ (67)	$2,740
Net income attributable to non-controlling interests in subsidiaries (NCI)	–	85	3	–	–	88
Reported net income attributable to equity holders	1,201	545	412	561	(67)	2,652
Reported net income attributable to preferred shareholders and other equity instrument holders	3	3	2	2	34	44
Reported net income attributable to common shareholders	$1,198	$542	$410	$559	$ (101)	$2,608
Adjustments						
Adjusting items impacting non-interest expenses (Pre-tax)						
Amortization of acquisition-related intangible assets	6	10	9	–	–	25
Total non-interest expenses adjustments (Pre-tax)	6	10	9	–	–	25
Total impact of adjusting items on net income before taxes	6	10	9	–	–	25
Total impact of adjusting items on income tax expense	(2)	(3)	(2)	–	–	(7)
Total impact of adjusting items on net income	4	7	7	–	–	18
Total Impact of adjusting items on net income attributable to equity holders and common shareholders	4	7	7	–	–	18
Adjusted net income (loss)	$1,205	$637	$422	$561	$ (67)	$2,758
Adjusted net income attributable to equity holders	$1,205	$552	$419	$561	$ (67)	$2,670
Adjusted net income attributable to common shareholders	$1,202	$549	$417	$559	$ (101)	$2,626

(1) Refer to Business Line Overview on page 17.

Constant Dollar

International Banking business segment results are analyzed on a constant dollar basis which is a non-GAAP measure. Under the constant dollar basis, prior period amounts are recalculated using current period average foreign currency rates. The following table presents the reconciliation between reported, adjusted and constant dollar results for International Banking for prior periods. The Bank believes that constant dollar is useful for readers to understand business performance without the impact of foreign currency translation and is used by management to assess the performance of the business segment. The tables below are computed on a basis that is different than the table "Impact of foreign currency translation" in Overview of Performance on page 14.

T2 Reconciliation of International Banking's reported and adjusted results and constant dollar results

Reported Results	For the three months ended					
($ millions)	October 31, 2022			January 31, 2022		
(Taxable equivalent basis)	Reported Results	Foreign exchange	Constant dollar	Reported Results	Foreign exchange	Constant dollar
Net interest income	$1,806	$(60)	$1,866	$1,648	$(108)	$1,756
Non-interest income	698	2	696	749	14	735
Total revenue	2,504	(58)	2,562	2,397	(94)	2,491
Provision for credit losses	355	(11)	366	274	(17)	291
Non-interest expenses	1,364	(34)	1,398	1,285	(65)	1,350
Income before taxes	785	(13)	798	838	(12)	850
Income tax expense	106	–	106	208	–	208
Net income	$ 679	$(13)	$ 692	$ 630	$ (12)	$ 642
Net income attributable to non-controlling interest in subsidiaries (NCI)	$ 36	$ (1)	$ 37	$ 85	$ (2)	$ 87
Net income attributable to equity holders of the Bank	$ 643	$(12)	$ 655	$ 545	$ (10)	$ 555
Other measures						
Average assets *($ billions)*	$ 217	$ (8)	$ 225	$ 196	$ (12)	$ 208
Average liabilities *($ billions)*	$ 160	$ (6)	$ 166	$ 144	$ (8)	$ 152

Adjusted Results	For the three months ended					
($ millions)	October 31, 2022			January 31, 2022		
(Taxable equivalent basis)	Adjusted Results	Foreign exchange	Constant dollar adjusted	Adjusted Results	Foreign exchange	Constant dollar adjusted
Net interest income	$1,806	$(60)	$1,866	$1,648	$(108)	$1,756
Non-interest income	698	2	696	749	14	735
Total revenue	2,504	(58)	2,562	2,397	(94)	2,491
Provision for credit losses	355	(11)	366	274	(17)	291
Non-interest expenses	1,355	(33)	1,388	1,275	(65)	1,340
Income before taxes	794	(14)	808	848	(12)	860
Income tax expense	108	(1)	109	211	1	210
Net income	$ 686	$(13)	$ 699	$ 637	$ (13)	$ 650
Net income attributable to NCI	$ 36	$ (1)	$ 37	$ 85	$ (3)	$ 88
Net income attributable to equity holders of the Bank	$ 650	$(12)	$ 662	$ 552	$ (10)	$ 562

Reconciliation of average total assets, core earning assets and core net interest income

Earning assets

Earning assets are defined as income generating assets which include deposits with financial institutions, trading assets, investment securities, investments in associates, securities borrowed or purchased under resale agreements, loans net of allowances, and customers' liability under acceptances.

Non-earning assets

Non-earning assets are defined as cash, precious metals, derivative financial instruments, property and equipment, goodwill and other intangible assets, deferred tax assets and other assets.

Core earning assets

Core earning assets are defined as interest-bearing deposits with financial institutions, investment securities and loans net of allowances. This is a non-GAAP measure. The Bank believes that this measure is useful for readers as it presents the main interest-generating assets and eliminates the impact of trading businesses.

Core net interest income

Core net interest income is defined as net interest income earned from core earning assets. This is a non-GAAP measure.

Net interest margin

Net interest margin is calculated as core net interest income (annualized) for the business line divided by average core earning assets. Net interest margin is a non-GAAP ratio.

T3 Reconciliation of average total assets, average earning assets, average core earning assets and net interest margin by business line

Consolidated Bank

	For the three months ended		
($ millions)	**January 31 2023**	October 31 2022	January 31 2022
Average total assets – Reported[1]	**$1,380,008**	$1,332,897	$1,238,616
Less: Non-earning assets	**118,465**	126,213	94,165
Average total earning assets[1]	**$1,261,543**	$1,206,684	$1,144,451
Less:			
Trading assets	**119,974**	117,807	162,885
Securities purchased under resale agreements and securities borrowed	**174,942**	157,438	131,102
Other deductions	**70,779**	69,343	58,030
Average core earning assets[1]	**$ 895,848**	$ 862,096	$ 792,434
Net Interest Income – Reported	**$ 4,569**	$ 4,622	$ 4,344
Less: Non-core net interest income	**(205)**	(122)	23
Core net interest income	**$ 4,774**	$ 4,744	$ 4,321
Net interest margin	**2.11%**	2.18%	2.16%

(1) Average balances represent the average of daily balances for the period.

Canadian Banking

	For the three months ended		
($ millions)	**January 31 2023**	October 31 2022	January 31 2022
Average total assets – Reported[1]	**$ 450,040**	$ 445,670	$ 411,748
Less: Non-earning assets	**4,035**	4,112	4,129
Average total earning assets[1]	**$ 446,005**	$ 441,558	$ 407,619
Less:			
Other deductions	**27,284**	26,191	20,580
Average core earning assets[1]	**$418,721**	$415,367	$387,039
Net Interest Income – Reported	**$ 2,386**	$ 2,363	$ 2,133
Less: Non-core net interest income	**–**	–	–
Core net interest income	**$ 2,386**	$ 2,363	$ 2,133
Net interest margin	**2.26%**	2.26%	2.19%

(1) Average balances represent the average of daily balances for the period.

International Banking

	For the three months ended		
($ millions)	**January 31 2023**	October 31 2022	January 31 2022
Average total assets – Reported[1]	**$ 228,374**	$ 217,061	$ 196,100
Less: Non-earning assets	**19,103**	19,358	16,039
Average total earning assets[1]	**$ 209,271**	$ 197,703	$ 180,061
Less:			
Trading assets	**5,132**	5,369	5,287
Securities purchased under resale agreements and securities borrowed	**3,033**	2,433	200
Other deductions	**7,565**	7,087	6,715[2]
Average core earning assets[1]	**$193,541**	$182,814	$167,859
Net Interest Income – Reported	**$ 1,899**	$ 1,806	$ 1,648
Less: Non-core net interest income	**(54)**	(73)	12
Core net interest income	**$ 1,953**	$ 1,879	$ 1,636
Net interest margin	**4.00%**	4.08%	3.87%

(1) Average balances represent the average of daily balances for the period.
(2) Prior period has been restated to reflect the deduction of non-interest-bearing deposits with financial institutions, to align with the Bank's definition.

Return on equity

Return on equity is a profitability measure that presents the net income attributable to common shareholders (annualized) as a percentage of average common shareholders' equity.

The Bank attributes capital to its business lines on a basis that approximates 10.5% of Basel III common equity capital requirements which includes credit, market and operational risks and leverage inherent within each business segment.

Return on equity for the business segments is calculated as a ratio of net income attributable to common shareholders (annualized) of the business segment and the capital attributed.

Adjusted return on equity is a non-GAAP ratio which represents adjusted net income attributable to common shareholders (annualized) as a percentage of average common shareholders' equity.

Return on equity by operating segment

T4 Return on equity by operating segment

	For the three months ended January 31, 2023					
($ millions)	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total
Reported						
Net income attributable to common shareholders	$ 1,086	$ 653	$ 385	$ 518	$(1,011)	$ 1,631
Total average common equity(1)	18,753	19,302	9,835	15,535	2,206	65,631
Return on equity	23.0%	13.4%	15.5%	13.2%	nm(2)	9.9%
Adjusted(3)						
Net income attributable to common shareholders	$ 1,087	$ 660	$ 392	$ 518	$ (432)	$ 2,225
Return on equity	23.0%	13.6%	15.8%	13.2%	nm(2)	13.4%

(1) Average amounts calculated using methods intended to approximate the daily average balances for the period.
(2) Not meaningful.
(3) Refer to Tables on page 5.

	For the three months ended October 31, 2022						For the three months ended January 31, 2022					
($ millions)	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total	Canadian Banking	International Banking	Global Wealth Management	Global Banking and Markets	Other	Total
Reported												
Net income attributable to common shareholders	$ 1,169	$ 642	$ 361	$ 484	$ (707)	$ 1,949	$ 1,198	$ 542	$ 410	$ 559	$ (101)	$ 2,608
Total average common equity(1)	18,757	19,501	9,701	14,260	2,877	65,096	17,373	17,569	9,443	12,717	8,359	65,461
Return on equity	24.7%	13.1%	14.8%	13.4%	nm(2)	11.9%	27.4%	12.2%	17.2%	17.4%	nm(2)	15.8%
Adjusted(3)												
Net income attributable to common shareholders	$ 1,173	$ 649	$ 368	$ 484	$ (204)	$ 2,470	$ 1,202	$ 549	$ 417	$ 559	$ (101)	$ 2,626
Return on equity	24.8%	13.2%	15.0%	13.4%	nm(2)	15.0%	27.5%	12.4%	17.5%	17.4%	nm(2)	15.9%

(1) Average amounts calculated using methods intended to approximate the daily average balances for the period.
(2) Not meaningful.
(3) Refer to Tables on page 5.

Return on tangible common equity

Return on tangible common equity is a profitability measure that is calculated by dividing the net income attributable to common shareholders (annualized), adjusted for the amortization of intangibles (excluding software), by average tangible common equity. Tangible common equity is defined as common shareholders' equity adjusted for goodwill and intangible assets (excluding software), net of deferred taxes. This is a non-GAAP ratio.

Adjusted return on tangible common equity represents adjusted net income attributable to common shareholders as a percentage of average tangible common equity. This is a non-GAAP ratio.

T5 Return on tangible common equity

	For the three months ended		
(Unaudited)	**January 31 2023**	October 31 2022	January 31 2022
Reported			
Average common equity – Reported[1]	**$65,631**	$65,096	$65,461
Average goodwill[1][2]	**(9,334)**	(9,140)	(9,234)
Average acquisition-related intangibles (net of deferred tax)[1]	**(3,760)**	(3,773)	(3,833)
Average tangible common equity[1]	**$52,537**	$52,183	$52,394
Net income attributable to common shareholders – reported	**$ 1,631**	$ 1,949	$ 2,608
Amortization of acquisition-related intangible assets (after tax)[3]	**15**	18	18
Net income attributable to common shareholders adjusted for amortization of acquisition-related intangible assets (after tax)	**$ 1,646**	$ 1,967	$ 2,626
Return on tangible common equity[4]	**12.4%**	15.0%	19.9%
Adjusted[3]			
Adjusted net income attributable to common shareholders	**$ 2,225**	$ 2,470	$ 2,626
Return on tangible common equity – adjusted[4][5]	**16.8%**	18.8%	19.9%

(1) Average amounts calculated using methods intended to approximate the daily average balances for the period.
(2) Includes imputed goodwill from investments in associates.
(3) Refer to Table on page 5.
(4) Calculated on full dollar amounts.
(5) Prior period amounts have been restated to align with current period calculation.

Adjusted productivity ratio

Adjusted productivity ratio represents adjusted non-interest expenses as a percentage of adjusted total revenue. This is a non-GAAP ratio.

Management uses the productivity ratio as a measure of the Bank's efficiency. A lower ratio indicates improved productivity.

Adjusted operating leverage

This financial metric measures the rate of growth in adjusted total revenue less the rate of growth in adjusted non-interest expenses. This is a non-GAAP ratio.

Management uses operating leverage as a way to assess the degree to which the bank can increase operating income by increasing revenue.

Trading-related revenue (Taxable equivalent basis)

Trading-related revenue consists of net interest income and non-interest income. Included are unrealized gains and losses on security positions held, realized gains and losses from the purchase and sale of securities, fees and commissions from securities borrowing and lending activities, and gains and losses on trading derivatives. Underwriting and other advisory fees, which are shown separately in the Consolidated Statement of Income, are excluded. Trading-related revenue includes certain net interest income and non-interest income items on a taxable equivalent basis (TEB). This methodology grosses up tax-exempt income earned on certain securities to an equivalent before tax basis. This is a non-GAAP measure.

Management believes that this basis for measurement of trading-related revenue provides a uniform comparability of net interest income and non-interest income arising from both taxable and non-taxable sources and facilitates a consistent basis of measurement. While other banks also use TEB, their methodology may not be comparable to the Bank's methodology.

Adjusted effective tax rate

The adjusted effective tax rate is calculated by dividing adjusted income tax expense by adjusted income before taxes. This is a non-GAAP ratio.

Financial Highlights

T6 Financial highlights

	As at and for the three months ended		
(Unaudited)	**January 31 2023**	October 31 2022	January 31 2022
Operating results *($ millions)*			
Net interest income	**4,569**	4,622	4,344
Non-interest income	**3,411**	3,004	3,705
Total revenue	**7,980**	7,626	8,049
Provision for credit losses	**638**	529	222
Non-interest expenses	**4,464**	4,529	4,223
Income tax expense	**1,106**	475	864
Net income	**1,772**	2,093	2,740
Net income attributable to common shareholders	**1,631**	1,949	2,608
Operating performance			
Basic earnings per share *($)*	**1.37**	1.64	2.15
Diluted earnings per share *($)*	**1.36**	1.63	2.14
Return on equity *(%)*(1)	**9.9**	11.9	15.8
Return on tangible common equity *(%)*(2)	**12.4**	15.0	19.9
Productivity ratio *(%)*(1)	**55.9**	59.4	52.5
Net interest margin *(%)*(2)	**2.11**	2.18	2.16
Financial position information *($ millions)*			
Cash and deposits with financial institutions	**81,386**	65,895	99,053
Trading assets	**116,346**	113,154	152,947
Loans	**755,157**	744,987	667,338
Total assets	**1,374,438**	1,349,418	1,245,474
Deposits	**949,887**	916,181	851,045
Common equity	**66,112**	65,150	66,172
Preferred shares and other equity instruments	**8,075**	8,075	5,552
Assets under administration(1)	**664,683**	641,636	651,200
Assets under management(1)	**322,423**	311,099	345,339
Capital and liquidity measures			
Common Equity Tier 1 (CET1) capital ratio *(%)*(3)	**11.5**	11.5	12.0
Tier 1 capital ratio *(%)*(3)	**13.2**	13.2	13.4
Total capital ratio *(%)*(3)	**15.2**	15.3	15.1
Total loss absorbing capacity (TLAC) ratio *(%)*(4)	**27.9**	27.4	28.3
Leverage ratio *(%)*(5)	**4.2**	4.2	4.4
TLAC Leverage ratio *(%)*(4)	**8.9**	8.8	9.4
Risk-weighted assets *($ millions)*(3)	**471,528**	462,448	433,682
Liquidity coverage ratio (LCR) *(%)*(6)	**122**	119	123
Net stable funding ratio (NSFR) *(%)*(7)	**109**	111	108
Credit quality			
Net impaired loans *($ millions)*	**3,450**	3,151	2,812
Allowance for credit losses *($ millions)*(8)	**5,668**	5,499	5,583
Gross impaired loans as a % of loans and acceptances(1)	**0.65**	0.62	0.64
Net impaired loans as a % of loans and acceptances(1)	**0.44**	0.41	0.41
Provision for credit losses as a % of average net loans and acceptances (annualized)(1)(9)	**0.33**	0.28	0.13
Provision for credit losses on impaired loans as a % of average net loans and acceptances (annualized)(1)(9)	**0.29**	0.26	0.24
Net write-offs as a % of average net loans and acceptances (annualized)(1)	**0.29**	0.24	0.27
Adjusted results(2)			
Adjusted net income *($ millions)*	**2,366**	2,615	2,758
Adjusted diluted earnings per share *($)*	**1.85**	2.06	2.15
Adjusted return on equity *(%)*	**13.4**	15.0	15.9
Adjusted return on tangible common equity *(%)*(10)	**16.8**	18.8	19.9
Adjusted productivity ratio *(%)*	**55.7**	53.7	52.2
Common share information			
Closing share price *($)* (TSX)	**72.03**	65.85	91.56
Shares outstanding *(millions)*			
Average – Basic	**1,192**	1,192	1,211
Average – Diluted	**1,199**	1,199	1,230
End of period	**1,192**	1,191	1,204
Dividends paid per share *($)*	**1.03**	1.03	1.00
Dividend yield *(%)*(1)	**6.1**	5.7	4.6
Market capitalization *($ millions)* (TSX)	**85,842**	78,452	110,274
Book value per common share *($)*(1)	**55.47**	54.68	54.94
Market value to book value multiple(1)	**1.3**	1.2	1.7
Price to earnings multiple (trailing 4 quarters)(1)	**9.9**	8.2	11.4
Other information			
Employees (full-time equivalent)	**91,264**	90,979	89,782
Branches and offices	**2,356**	2,384	2,424

(1) Refer to Glossary on page 50 for the description of the measure.
(2) Refer to page 4 for a discussion of Non-GAAP measures.
(3) This measure has been disclosed in this document in accordance with OSFI Guideline – Capital Adequacy Requirements (November 2018).
(4) This measure has been disclosed in this document in accordance with OSFI Guideline – Total Loss Absorbing Capacity (September 2018).
(5) This measure has been disclosed in this document in accordance with OSFI Guideline – Leverage Requirements (November 2018).
(6) This measure has been disclosed in this document in accordance with OSFI Guideline – Public Disclosure Requirements for Domestic Systemically Important Banks on Liquidity Coverage Ratio (April 2015).
(7) This measure has been disclosed in this document in accordance with OSFI Guideline – Net Stable Funding Ratio Disclosure Requirements (January 2021).
(8) Includes allowance for credit losses on all financial assets – loans, acceptances, off-balance sheet exposures, debt securities, and deposits with financial institutions.
(9) Includes provision for credit losses on certain financial assets – loans, acceptances and off-balance sheet exposures.
(10) Prior period amounts have been restated to align with current period calculation.

Overview of Performance

Financial performance summary

The Bank's reported net income this quarter was $1,772 million, compared to $2,740 million in the same period last year, and $2,093 million last quarter. Diluted earnings per share were $1.36 compared to $2.14 in the same period last year and $1.63 last quarter. Return on equity was 9.9%, compared to 15.8% in the same period last year and 11.9% last quarter.

The current quarter has adjusting items of $594 million after-tax ($21 million pre-tax), which includes income tax expense of $579 million reflecting the present value of the amount payable for the Canada Recovery Dividend (CRD). The net impact of the adjustments on diluted earnings per share was $0.49 and on Basel III Common Equity Tier 1 (CET1) ratio was approximately 12 basis points. Adjustments in Q4, 2022 were $522 million after-tax ($603 million pre-tax), or $0.43 impact on diluted earnings per share. Adjustments in Q1, 2022 were $18 million after-tax ($25 million pre-tax). Refer to Non-GAAP Measures starting on page 4 for details of adjustments.

Adjusted net income was $2,366 million compared to $2,758 million last year, a decrease of 14%. Adjusted diluted earnings per share were $1.85 compared to $2.15 last year. Adjusted return on equity was 13.4% compared to 15.9% a year ago. The decrease in net income was due mainly to higher provision for credit losses and non-interest expenses, partly offset by lower provision for income taxes.

Adjusted net income was $2,366 million this quarter compared to $2,615 million last quarter. Adjusted diluted earnings per share were $1.85, compared to $2.06 last quarter, and adjusted return on equity was 13.4% compared to 15.0% last quarter. The decrease in net income was due mainly to higher provision for credit losses and non-interest expenses, partly offset by lower provision for income taxes.

Economic summary and outlook

Though there remains much uncertainty about the future path, the global economy is proving to be more resilient to higher commodity prices, inflation and interest rates than earlier considered. Central bankers have been trying to engineer a slowing in economic activity through higher interest rates as they try to return inflation to target. The resulting hikes have been substantial and should have already led to a notable slowdown in economic activity, yet firms and households across many countries have not curtailed activity as much as had been expected. This is generally leading to an upward revision in forecasts for global economic activity in 2023. Moreover, there are increasing signs that inflation, though still well above acceptable levels, is on a downward path in many large economies owing to the decline in a broad basket of input prices. A meaningful slowdown is still required and expected as we forecast a recession in major economies in mid-2023.

In Canada, the Bank of Canada is likely at the end of the tightening phase. As is the case elsewhere, the economy is more robust than previously anticipated. This is most clearly seen in the labour market, where firms have been adding workers at a strong pace late last year and so far in 2023. While there are signs of a slowdown in consumer spending, business confidence is starting to improve from low levels. A mild recession is expected in the middle quarters of this year that should generate a modest increase in unemployment. Inflation looks increasingly to be on a very gradual path to 2% in 2024, allowing the Bank of Canada to leave its policy rate at current levels before beginning a process of gradual cuts later this year.

A similar dynamic is at play in the United States. Inflation appears to be on a gradual downward path though it remains very high. The labour market is characterized by strong job growth and high vacancies, and indicators of economic activity for late 2022 and early 2023 point to stronger than expected growth. A recession continues to be expected despite these developments, given the sharp rise in interest rates over the last year. The Federal Reserve is expected to raise interest rates by another 50 basis points and leave rates at 5.25% through the remainder of this year before beginning a series of gradual cuts in early 2024.

Economic data has also generally been more resilient in the Pacific Alliance Countries, though inflation is not slowing as much as in advanced economies. This has prompted more tightening than expected in these countries, with expectations of modest additional increases to come. This will lead to lower growth. The political situation in Peru remains a concern and will temper growth prospects though the economic impacts have so far been relatively modest. The upward revisions to global growth, China's reopening and the realization that current copper production and supply is insufficient to ensure the green transition have led to a large increase in copper prices, which should have a positive impact in the region.

Impact of foreign currency translation

The table below reflects the estimated impact of foreign currency translation on key income statement items and is computed on a basis that is different than the "*Constant dollar*" table in Non-GAAP Measures on page 7.

T7 Impact of foreign currency translation

	Average exchange rate			% Change	
For the three months ended	**January 31, 2023**	October 31, 2022	January 31, 2022	January 31, 2023 vs. October 31, 2022	January 31, 2023 vs. January 31, 2022
U.S dollar/Canadian dollar	**0.742**	0.752	0.789	(1.3)%	(6.0)%
Mexican Peso/Canadian dollar	**14.342**	15.072	16.383	(4.8)%	(12.5)%
Peruvian Sol/Canadian dollar	**2.853**	2.942	3.143	(3.0)%	(9.2)%
Colombian Peso/Canadian dollar	**3,567.606**	3,381.348	3,128.422	5.5%	14.0%
Chilean Peso/Canadian dollar	**646.312**	696.481	653.988	(7.2)%	(1.2)%

Impact on net income[(1)] (*$ millions except EPS*)	January 31, 2023 vs. October 31, 2022	January 31, 2023 vs. January 31, 2022
Net interest income	$ 66	$ 132
Non-interest income[(2)]	(123)	(83)
Non-interest expenses	(46)	(97)
Other items (net of tax)	33	7
Net income	$ (70)	$ (41)
Earnings per share (diluted)	$(0.06)	$(0.03)
Impact by business line (*$ millions*)		
Canadian Banking	$ –	$ 2
International Banking[(2)]	(41)	(25)
Global Wealth Management	4	7
Global Banking and Markets	5	24
Other[(2)]	(38)	(49)
Net income	$ (70)	$ (41)

(1) Includes the impact of all currencies.
(2) Includes the impact of foreign currency hedges.

Group Financial Performance

Net income

Q1 2023 vs Q1 2022

Net income was $1,772 million compared to $2,740 million, a decrease of 35%. The decrease was due mainly to higher provision for credit losses, non-interest expenses and provision for income taxes due to the Canada Recovery Dividend (CRD). Adjusted net income was $2,366 million compared to $2,758 million, a decrease of 14% due mainly to higher provision for credit losses and non-interest expenses, partly offset by lower provision for income taxes.

Q1 2023 vs Q4 2022

Net income was $1,772 million compared to $2,093 million, a decrease of 15%. The decrease was due mainly to higher provision for credit losses and income taxes, partly offset by higher non-interest income. Adjusted net income was $2,366 million compared to $2,615 million, a decrease of 10%, due mainly to higher provision for credit losses and higher non-interest expenses.

Total revenue

Q1 2023 vs Q1 2022

Revenues were $7,980 million compared to $8,049 million, a decrease of 1% due mainly to lower non-interest income, partly offset by higher net interest income.

Q1 2023 vs Q4 2022

Revenues were $7,980 million compared to $7,626 million, an increase of 5% due mainly to higher non-interest income. Adjusted revenues were $7,980 million compared to $7,987 million, in line with the prior quarter as the decline in net interest income was largely offset by an increase in non-interest income.

Net interest income

Q1 2023 vs Q1 2022

Net interest income was $4,569 million, an increase of $225 million or 5%. The increase reflects strong asset growth across all business lines and the positive impact of foreign currency translation, partly offset by a lower net interest margin.

The net interest margin was down five basis points to 2.11%, driven primarily by a lower contribution from asset/liability management activities related to higher funding costs and increased levels of high quality, lower-margin liquid assets. This was partly offset by higher Canadian Banking and International Banking margins which benefited from central bank rate increases.

Q1 2023 vs Q4 2022

Net interest income decreased $53 million or 1%. Loan growth across all business lines was more than offset by a lower net interest margin.

The net interest margin was down seven basis points driven by a lower contribution from asset/liability management activities and increased levels of high quality, lower-margin liquid assets, as well as lower margins in International Banking and Global Banking and Markets.

Non-interest income

Q1 2023 vs Q1 2022

Non-interest income was $3,411 million, down $294 million or 8%. The decrease was due mainly to lower wealth management revenues, underwriting and advisory fees and income from associated corporations, the negative impact of foreign currency translation and unrealized losses on non-trading derivatives. Partly offsetting were higher banking revenues and investment gains.

Q1 2023 vs Q4 2022

Non-interest income was up $407 million or 14%. Adjusted non-interest income was up $46 million or 1%, due primarily to higher trading, banking and wealth management revenues, partly offset by lower underwriting and advisory fees, income from associated corporations and investment gains, and the negative impact of foreign currency translation.

Provision for credit losses

Q1 2023 vs Q1 2022

The provision for credit losses was $638 million, compared to $222 million, an increase of $416 million. The provision for credit losses ratio increased 20 basis points to 33 basis points.

The provision for credit losses on performing loans was $76 million, compared to a net reversal of $183 million. The provision this period was driven by portfolio growth in International Banking and the less favorable macroeconomic forecast primarily related to corporate and commercial portfolios. Provision reversals last year were due mainly to favourable portfolio credit quality and macroeconomic outlook.

The provision for credit losses on impaired loans was $562 million, compared to $405 million, an increase of $157 million or 39%, due primarily to higher retail provisions driven by higher formations in the International Banking and Canadian portfolios. The provision for credit losses ratio on impaired loans was 29 basis points, an increase of five basis points.

Q1 2023 vs Q4 2022

The provision for credit losses was $638 million, compared to $529 million, an increase of $109 million or 21%. The provision for credit losses ratio increased five basis points to 33 basis points.

The provision for credit losses on performing loans was $76 million, compared to $35 million last quarter, an increase of $41 million related primarily to portfolio growth in International Banking and higher corporate and commercial provisions due to the less favourable macroeconomic outlook.

The provision for credit losses on impaired loans was $562 million, compared to $494 million, an increase of $68 million or 14% due primarily to higher retail provisions driven by higher formations in International Banking and Canadian portfolios. The provision for credit losses ratio on impaired loans was 29 basis points, an increase of three basis points.

Non-interest expenses

Q1 2023 vs Q1 2022

Non-interest expenses were $4,464 million, up $241 million or 6%. Adjusted non-interest expenses were $4,443 million, up $245 million or 6%, driven by higher personnel costs from increased staffing levels and inflationary adjustments, higher advertising and technology-related costs and the unfavourable impact of foreign currency translation. Partly offsetting were lower performance and share-based compensation, and professional fees.

The productivity ratio was 55.9% compared to 52.5%. The adjusted productivity ratio was 55.7% compared to 52.2%. Operating leverage was negative 6.6% on a reported basis and negative 6.7% on an adjusted basis.

Q1 2023 vs Q4 2022

Non-interest expenses were down $65 million or 1%. Adjusted non-interest expenses were up $156 million or 4%. The increase was driven by higher personnel costs from inflationary adjustments, higher share-based compensation and business and capital taxes, and the unfavourable impact of foreign currency translation, partly offset by lower professional fees.

The productivity ratio was 55.9% compared to 59.4%. The adjusted productivity ratio was 55.7% compared to 53.7%.

Taxes

Q1 2023 vs Q1 2022

The effective tax rate was 38.4% compared to 24.0% due primarily to the recognition of additional income tax expense of $579 million, reflecting the CRD. On an adjusted basis, the effective rate was 18.4% compared to 24.0%. Higher income from lower tax rate jurisdictions and higher tax-exempt income, more than offset the impact of the higher Canadian statutory tax rate (refer to Regulatory Developments on page 47).

Q1 2023 vs Q4 2022

The effective tax rate was 38.4% compared to 18.5% due primarily to the impact of the CRD. On an adjusted basis, the effective tax rate was 18.4% compared to 17.6% due primarily to lower inflationary adjustments in Mexico and Chile, and the higher Canadian statutory tax rate.

Business Segment Review

Business segment results are presented on a taxable equivalent basis, adjusted for the following:

- The Bank analyzes revenues on a taxable equivalent basis (TEB) for business lines. This methodology grosses up tax-exempt income earned on certain securities reported in either net interest income or non-interest income to an equivalent before tax basis. A corresponding increase is made to the provision for income taxes; hence, there is no impact on net income. Management believes that this basis for measurement provides a uniform comparability of net interest income and non-interest income arising from both taxable and non-taxable sources and facilitates a consistent basis of measurement. While other banks may also use TEB, their methodology may not be comparable to the Bank's methodology. A segment's revenue and provision for income taxes are grossed up by the taxable equivalent amount. The elimination of the TEB gross-up is recorded in the Other segment.
- For business line performance assessment and reporting, net income from associated corporations, which is an after tax number, is adjusted to normalize for income taxes. The tax normalization adjustment grosses up the amount of net income from associated corporations and normalizes the effective tax rate in the business lines to better present the contribution of the associated corporations to the business line results.

Canadian Banking

T8 Canadian Banking financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Reported Results			
Net interest income	**$2,386**	$2,363	$2,133
Non-interest income[(1)]	**778**	771	741
Total revenue	**3,164**	3,134	2,874
Provision for credit losses	**218**	163	(35)
Non-interest expenses	**1,449**	1,397	1,282
Income tax expense	**410**	404	426
Net income	**$1,087**	$1,170	$1,201
Net income attributable to non-controlling interest in subsidiaries	**$ –**	$ –	$ –
Net income attributable to equity holders of the Bank	**$1,087**	$1,170	$1,201
Other financial data and measures			
Return on equity[(2)]	**23.0%**	24.7%	27.4%
Net interest margin[(2)]	**2.26%**	2.26%	2.19%
Provision for credit losses – performing (Stage 1 and 2)	**$ 31**	$ 10	$ (160)
Provision for credit losses – impaired (Stage 3)	**$ 187**	$ 153	$ 125
Provision for credit losses as a percentage of average net loans and acceptances (annualized)[(3)]	**0.19%**	0.15%	(0.03)%
Provision for credit losses on impaired loans as a percentage of average net loans and acceptances (annualized)[(3)]	**0.17%**	0.14%	0.12%
Net write-offs as a percentage of average net loans and acceptances (annualized)[(3)]	**0.16%**	0.14%	0.14%
Average assets *($ billions)*	**$ 450**	$ 446	$ 412
Average liabilities *($ billions)*	**$ 357**	$ 347	$ 320

(1) Includes income (on a taxable equivalent basis) from investments in associated corporations of $15 (October 31, 2022 – $23; January 31, 2022 – $8).
(2) Refer to Non-GAAP Measures on page 4 for the description of the measure.
(3) Refer to Glossary on page 50 for the description of the measure.

T8A Adjusted Canadian Banking financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Adjusted Results[(1)]			
Net interest income	**$2,386**	$2,363	$2,133
Non-interest income	**778**	771	741
Total revenue	**3,164**	3,134	2,874
Provision for credit losses	**218**	163	(35)
Non-interest expenses[(2)]	**1,447**	1,391	1,276
Income tax expense	**411**	406	428
Net income	**$1,088**	$1,174	$1,205
Net income attributable to non-controlling interest in subsidiaries	**$ –**	$ –	$ –
Net income attributable to equity holders of the Bank	**$1,088**	$1,174	$1,205

(1) Refer to Non-GAAP Measures on page 4 for adjusted results.
(2) Includes adjustment for amortization of acquisition-related intangible assets, excluding software of $2 (October 31, 2022 – $6; January 31, 2022 – $6).

Net income

Q1 2023 vs Q1 2022

Net income attributable to equity holders was $1,087 million, compared to $1,201 million. Adjusted net income attributable to equity holders was $1,088 million, down $117 million or 10%. The decline was due primarily to higher provision for credit losses and non-interest expenses, partly offset by higher revenue.

Q1 2023 vs Q4 2022

Net income attributable to equity holders declined $83 million or 7%. Adjusted net income attributable to equity holders declined $86 million or 7%. The decline was due primarily to higher provision for credit losses and non-interest expenses, partly offset by higher revenue.

Average assets

Q1 2023 vs Q1 2022

Average assets were $450 billion, an increase of $38 billion or 9%. The growth included $18 billion or 7% in residential mortgages, $15 billion or 22% in business loans and acceptances, $4 billion or 5% in personal loans, and $1 billion or 12% in credit cards.

Q1 2023 vs Q4 2022

Average assets increased $4 billion or 1%. The growth included $3 billion or 3% in business loans and acceptances, and $1 billion or 1% in personal loans.

Average liabilities

Q1 2023 vs Q1 2022

Average liabilities were $357 billion, an increase of $37 billion or 11%. The growth included $24 billion or 13% in personal deposits, primarily in term products, and $5 billion or 4% in non-personal deposits.

Q1 2023 vs Q4 2022

Average liabilities increased $10 billion or 3%. The increase was driven largely by growth in personal deposits, primarily in term products.

Total revenue

Q1 2023 vs Q1 2022

Revenues were $3,164 million, up $290 million or 10%, due to higher net interest income and non-interest income.

Q1 2023 vs Q4 2022

Revenues increased $30 million or 1%, due to higher net interest income and non-interest income.

Net interest income

Q1 2023 vs Q1 2022

Net interest income of $2,386 million increased $253 million or 12%, due primarily to strong loan and deposit growth, as well as margin expansion. The net interest margin increased seven basis points to 2.26%, due mainly to higher deposit margins and the impact of the Bank of Canada rate increases, partly offset by lower loan margins.

Q1 2023 vs Q4 2022

Net interest income increased $23 million or 1%, due primarily to solid loan and deposit growth. The net interest margin was in line with the prior quarter as higher loan margins were offset by lower deposit margins.

Non-interest income

Q1 2023 vs Q1 2022

Non-interest income of $778 million increased $37 million or 5%. The increase was due primarily to elevated private equity gains and higher banking revenue, partly offset by lower mutual fund distribution fees.

Q1 2023 vs Q4 2022

Non-interest income increased $7 million or 1%. The increase was due primarily to elevated private equity gains partly offset by lower income from associated corporations and lower insurance income.

Provision for credit losses

Q1 2023 vs Q1 2022

The provision for credit losses was $218 million, compared to a net reversal of $35 million. The provision for credit losses ratio increased 22 basis points to 19 basis points.

Provision for credit losses on performing loans was $31 million, compared to a net reversal of $160 million. The provision this period was driven primarily by commercial provisions due to less favourable macroeconomic outlook, and retail provisions driven primarily by residential mortgages and auto loans. Provision reversals last year were due mainly to favourable portfolio credit quality and macroeconomic outlook.

Provision for credit losses on impaired loans was $187 million, compared to $125 million, an increase of $62 million or 50% due primarily to higher retail provisions driven by higher formations on unsecured loans. The provision for credit losses ratio on impaired loans was 17 basis points, an increase of five basis points.

Q1 2023 vs Q4 2022

The provision for credit losses was $218 million, compared to $163 million, an increase of $55 million or 34%. The provision for credit losses ratio increased four basis points to 19 basis points.

Provision for credit losses on performing loans was $31 million, compared to $10 million. The increase was driven primarily by commercial provisions due to less favourable macroeconomic outlook, and retail provisions driven primarily by residential mortgages and auto loans.

Provision for credit losses on impaired loans was $187 million, compared to $153 million, an increase of $34 million or 22% due primarily to higher retail provisions driven by higher formations on unsecured loans. The provision for credit losses ratio on impaired loans was 17 basis points, an increase of three basis points.

Non-interest expenses

Q1 2023 vs Q1 2022

Non-interest expenses were $1,449 million compared to $1,282 million, up 13%. Adjusted non-interest expenses were $1,447 million, up $171 million or 13%, due primarily to higher personnel costs from increased staffing levels and inflationary adjustments, higher technology, advertising, and business development costs to support business growth.

Q1 2023 vs Q4 2022

Non-interest expenses were up $52 million or 4%. Adjusted non-interest expenses were up $56 million or 4%, due primarily to higher personnel costs from increased staffing levels and inflationary adjustments, and higher technology costs to support business growth.

Taxes

The effective tax rate was 27.4% compared to 26.2% in the prior year and 25.7% in the prior quarter. The increase this quarter was driven mainly by the higher Canadian statutory tax rate.

International Banking

T9 International Banking financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Reported Results			
Net interest income	**$1,899**	$1,806	$1,648
Non-interest income[(1)]	**802**	698	749
Total revenue	**2,701**	2,504	2,397
Provision for credit losses	**404**	355	274
Non-interest expenses	**1,436**	1,364	1,285
Income tax expense	**169**	106	208
Net income	**$ 692**	$ 679	$ 630
Net income attributable to non-controlling interest in subsidiaries	**$ 38**	$ 36	$ 85
Net income attributable to equity holders of the Bank	**$ 654**	$ 643	$ 545
Other financial data and measures			
Return on equity[(2)]	**13.4%**	13.1%	12.2%
Net interest margin[(2)]	**4.00%**	4.08%	3.87%
Provision for credit losses – performing (Stage 1 and 2)	**$ 29**	$ 35	$ (12)
Provision for credit losses – impaired (Stage 3)	**$ 375**	$ 320	$ 286
Provision for credit losses as a percentage of average net loans and acceptances (annualized)[(3)]	**0.96%**	0.89%	0.77%
Provision for credit losses on impaired loans as a percentage of average net loans and acceptances (annualized)[(3)]	**0.89%**	0.81%	0.81%
Net write-offs as a percentage of average net loans and acceptances (annualized)[(3)]	**0.88%**	0.76%	0.88%
Average assets *($ billions)*	**$ 228**	$ 217	$ 196
Average liabilities *($ billions)*	**$ 169**	$ 160	$ 144

(1) Includes income (on a taxable equivalent basis) from investments in associated corporations of $63 (October 31, 2022 – $51; January 31, 2022 – $68).
(2) Refer to Non-GAAP Measures on page 4 for the description of the measure.
(3) Refer to Glossary on page 50 for the description of the measure.

T9A Adjusted International Banking financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Adjusted Results[(1)]			
Net interest income	**$1,899**	$1,806	$1,648
Non-interest income	**802**	698	749
Total revenue	**2,701**	2,504	2,397
Provision for credit losses	**404**	355	274
Non-interest expenses[(2)]	**1,426**	1,355	1,275
Income tax expense	**172**	108	211
Net income	**$ 699**	$ 686	$ 637
Net income attributable to non-controlling interest in subsidiaries	**$ 38**	$ 36	$ 85
Net income attributable to equity holders of the Bank	**$ 661**	$ 650	$ 552

(1) Refer to Non-GAAP Measures on page 4 for adjusted results.
(2) Includes adjustment for amortization of acquisition-related intangible assets, excluding software of $10 (October 31, 2022 – $9; January 31, 2022 – $10).

Net income

Q1 2023 vs Q1 2022

Net income attributable to equity holders was $654 million, an increase from $545 million. Adjusted net income attributable to equity holders was $661 million, an increase from $552 million. The increase was driven by higher net interest income and non-interest income and lower provision for income taxes, partly offset by higher non-interest expenses and provision for credit losses.

Q1 2023 vs Q4 2022

Net income attributable to equity holders increased by $11 million or 2% from $643 million. Adjusted net income attributable to equity holders increased by $11 million or 2%, from $650 million. This increase was driven by higher non-interest income and net interest income, partly offset by higher non-interest expenses, provision for income taxes, and provision for credit losses.

Financial Performance on a Constant Dollar Basis

The discussion below on the results of operations is on a constant dollar basis. Under the constant dollar basis, prior period amounts are recalculated using current period average foreign currency rates, which is a non-GAAP financial measure (refer to Non-GAAP Measures on page 7). The Bank believes that constant dollar is useful for readers in assessing ongoing business performance without the impact of foreign currency translation and is used by management to assess the performance of the business segment. Ratios are on a reported basis.

T10 International Banking financial performance on reported and constant dollar basis

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Constant dollars – Reported[(1)]			
Net interest income	**$1,899**	$1,866	$1,756
Non-interest income[(2)]	**802**	696	735
Total revenue	**2,701**	2,562	2,491
Provision for credit losses	**404**	366	291
Non-interest expenses	**1,436**	1,398	1,350
Income tax expense	**169**	106	208
Net income	**$ 692**	$ 692	$ 642
Net income attributable to non-controlling interest in subsidiaries	**$ 38**	$ 37	$ 87
Net income attributable to equity holders of the Bank	**$ 654**	$ 655	$ 555
Other financial data and measures			
Average assets *($ billions)*	**$ 228**	$ 225	$ 208
Average liabilities *($ billions)*	**$ 169**	$ 166	$ 152

(1) Refer to Non-GAAP Measures on page 4.
(2) Includes income (on a taxable equivalent basis) from investments in associated corporations of $63 (October 31, 2022 – $53; January 31, 2022 – $69).

T10A International Banking financial performance on adjusted and constant dollar basis

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Constant dollars – Adjusted[(1)]			
Net interest income	**$1,899**	$1,866	$1,756
Non-interest income	**802**	696	735
Total revenue	**2,701**	2,562	2,491
Provision for credit losses	**404**	366	291
Non-interest expenses	**1,426**	1,388	1,340
Income tax expense	**172**	109	210
Net income	**$ 699**	$ 699	$ 650
Net income attributable to non-controlling interest in subsidiaries	**$ 38**	$ 37	$ 88
Net income attributable to equity holders of the Bank	**$ 661**	$ 662	$ 562
Other financial data and measures			
Average assets *($ billions)*	**$ 228**	$ 225	$ 208
Average liabilities *($ billions)*	**$ 169**	$ 166	$ 152

(1) Refer to Non-GAAP Measures on page 4.

Net income

Q1 2023 vs Q1 2022

Net income attributable to equity holders was $654 million, an increase from $555 million. Adjusted net income attributable to equity holders was $661 million, an increase of $99 million or 18%. This increase was driven by higher net interest income and non-interest income, and lower provision for income taxes, partly offset by higher provision for credit losses and non-interest expenses.

Q1 2023 vs Q4 2022

Net income attributable to equity holders decreased by $1 million to $654 million as higher non-interest income and net interest income were offset by higher provision for income taxes, non-interest expenses and provision for credit losses.

Average assets

Q1 2023 vs Q1 2022

Average assets were $228 billion, an increase of $20 billion. Total loan growth of 13% was driven mainly by Chile, Mexico and Brazil. Residential mortgages increased by 14%, business loans increased by 13%, and personal loans and credit cards increased by 9%.

Q1 2023 vs Q4 2022

Average assets increased by $3 billion. Loan growth was 3%, driven mainly by Mexico and Chile. Business loans and residential mortgages increased by 3% and personal loans and credit cards increased by 2%.

Average liabilities

Q1 2023 vs Q1 2022

Average liabilities of $169 billion were up $17 billion. Total deposits increased by 11% driven mainly by Mexico and Chile. Non-personal deposits increased by 15% and personal deposits increased by 4%. Term deposits increased by 31% while non-term deposits decreased by 4%.

Q1 2023 vs Q4 2022

Average liabilities were up $3 billion. Total deposits increased by 3% driven mainly by Mexico. Non-personal deposits increased by 3% and personal deposits increased by 2%. Term deposits increased by 6% while non-term deposits decreased by 1%.

Total revenue

Q1 2023 vs Q1 2022

Revenues were $2,701 million, an increase of $210 million or 8%, driven by higher net interest income and non-interest income.

Q1 2023 vs Q4 2022

Revenues increased by $139 million, or 5%, driven by higher non-interest income and net interest income.

Net interest income

Q1 2023 vs Q1 2022

Net interest income of $1,899 million was up 8%, driven by growth in business loans, residential mortgages, personal loans and credit cards, as well as margin expansion. Net interest margin increased by 13 basis points to 4.00%, due to changes in asset mix, and higher spreads from loans in Brazil and Caribbean, partly offset by lower inflationary adjustments mainly in Chile.

Q1 2023 vs Q4 2022

Net interest income increased by $33 million, or 2%, driven by growth in business loans, residential mortgages, personal loans and credit cards. Net interest margin decreased by 8 basis points to 4.00%, due to lower inflationary adjustments mainly in Chile.

Non-interest income

Q1 2023 vs Q1 2022

Non-interest income was $802 million, compared to $735 million, an increase of $67 million driven mainly by higher net fees and commissions, capital market revenues and investment gains.

Q1 2023 vs Q4 2022

Non-interest income increased by $106 million or 15%, driven by higher net fees and commissions, capital market revenues and investment gains.

Provision for credit losses

Q1 2023 vs Q1 2022

The provision for credit losses was $404 million, compared to $291 million, an increase of $113 million or 39%. The provision for credit losses ratio increased 19 basis points to 96 basis points.

Provision for credit losses on performing loans was $29 million, compared to a reversal of $10 million. The provision this period related to higher retail and commercial provisions primarily in Colombia and Chile, due mainly to portfolio growth and a less favourable macroeconomic outlook.

Provision for credit losses on impaired loans was $375 million, compared to $301 million, an increase of $74 million or 25%. This was due to higher retail provisions driven by higher formations, primarily in Chile. The provision for credit losses ratio on impaired loans was 89 basis points, an increase of eight basis points.

Q1 2023 vs Q4 2022

The provision for credit losses was $404 million, compared to $366 million, an increase of $38 million or 10%. The provision for credit losses ratio increased by seven basis points to 96 basis points.

Provision for credit losses on performing loans was $29 million, compared to $37 million, a decrease of $8 million primarily in the retail portfolio.

Provision for credit losses on impaired loans was $375 million compared to $329 million, an increase of $46 million or 14% due partly to higher retail provisions driven by higher formations, primarily in Chile. The provision for credit losses ratio on impaired loans increased by eight basis points to 89 basis points.

Non-interest expenses

Q1 2023 vs Q1 2022

Non-interest expenses were $1,436 million, up 6%. Adjusted non-interest expenses were $1,426 million, up 6%, driven by higher business taxes and inflationary impacts.

Q1 2023 vs Q4 2022

Non-interest expenses were $1,436 million compared to $1,398 million, an increase of 3%. Adjusted non-interest expenses increased by $38 million or 3% from $1,388 million last quarter, driven by higher salaries and employee benefits due primarily to performance-based compensation, and seasonally higher business taxes in the Caribbean.

Taxes

Q1 2023 vs Q1 2022

The effective tax rate was 19.6%, compared to 24.8%. On an adjusted basis, the effective tax rate was 19.7% compared to 24.9%, due primarily to higher inflationary adjustments in Chile and Mexico, and changes in earnings mix across jurisdictions.

Q1 2023 vs Q4 2022

The effective tax rate was 19.6%, compared to 13.5%. On an adjusted basis, the effective tax rate was 19.7% compared to 13.6% due primarily to lower inflationary adjustments in Mexico and Chile.

Global Wealth Management

T11 Global Wealth Management financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Reported Results			
Net interest income	**$ 213**	$ 206	$ 174
Non-interest income	**1,110**	1,083	1,248
Total revenue	**1,323**	1,289	1,422
Provision for credit losses	**1**	1	(1)
Non-interest expenses	**802**	798	862
Income tax expense	**133**	127	146
Net income	**$ 387**	$ 363	$ 415
Net income attributable to non-controlling interest in subsidiaries	**$ 2**	$ 2	$ 3
Net income attributable to equity holders of the Bank	**$ 385**	$ 361	$ 412
Other financial data and measures			
Return on equity[1]	**15.5%**	14.8%	17.2%
Assets under administration *($ billions)*[2]	**$ 607**	$ 580	$ 601
Assets under management *($ billions)*[2]	**$ 322**	$ 311	$ 345
Average assets *($ billions)*	**$ 34**	$ 34	$ 31
Average liabilities *($ billions)*	**$ 42**	$ 44	$ 47

(1) Refer to Non-GAAP Measures on page 4 for the description of the measure.
(2) Refer to Glossary on page 50 for the description of the measure.

T11A Adjusted Global Wealth Management financial performance

(Unaudited) ($ millions) *(Taxable equivalent basis)*	For the three months ended **January 31 2023**	October 31 2022	January 31 2022
Adjusted Results[(1)]			
Net interest income	**$ 213**	$ 206	$ 174
Non-interest income	**1,110**	1,083	1,248
Total revenue	**1,323**	1,289	1,422
Provision for credit losses	**1**	1	(1)
Non-interest expenses[(2)]	**793**	789	853
Income tax expense	**135**	129	148
Net income	**$ 394**	$ 370	$ 422
Net income attributable to non-controlling interest in subsidiaries	**$ 2**	$ 2	$ 3
Net income attributable to equity holders of the Bank	**$ 392**	$ 368	$ 419

(1) Refer to Non-GAAP Measures on page 4 for adjusted results.
(2) Includes adjustment for Amortization of acquisition-related intangible assets, excluding software of $9 (October 31, 2022 – $9; January 31, 2022 – $9).

Net income

Q1 2023 vs Q1 2022

Net income attributable to equity holders was $385 million, a decrease of $27 million or 7%, due primarily to lower fee income and the impact of elevated seasonal performance fees in the prior year, partly offset by higher net interest income and lower non-interest expenses.

Q1 2023 vs Q4 2022

Net income attributable to equity holders increased $24 million or 6%. The increase was due primarily to higher fee revenue and net interest income, partly offset by volume-driven expense growth.

Assets under management (AUM) and assets under administration (AUA)

Q1 2023 vs Q1 2022

Assets under management of $322 billion decreased $23 billion or 7% driven by market depreciation and net redemptions. Assets under administration of $607 billion increased $6 billion or 1% due primarily to higher net sales partly offset by market depreciation.

Q1 2023 vs Q4 2022

Assets under management increased $11 billion or 4% due primarily to market appreciation. Assets under administration increased $27 billion or 5% due primarily to market appreciation and higher net sales.

Total revenue

Q1 2023 vs Q1 2022

Revenues were $1,323 million, down $99 million or 7% due primarily to lower fee income driven by lower AUM and client trading volumes, and the impact of elevated seasonal performance fees in the prior year, partly offset by higher net interest income driven by strong loan growth and improved margins.

Q1 2023 vs Q4 2022

Revenues were up $34 million or 3% due primarily to higher fee revenue driven by AUM growth from market appreciation, and higher net interest income from loan growth and improved margins.

Provision for credit losses

Q1 2023 vs Q1 2022

The provision for credit losses was $1 million, an increase of $2 million. The provision for credit losses ratio increased two basis points to one basis point.

Q1 2023 vs Q4 2022

The provision for credit losses was $1 million, unchanged from last quarter. The provision for credit losses ratio decreased from two basis points to one basis point.

Non-interest expenses

Q1 2023 vs Q1 2022

Non-interest expenses of $802 million were down $60 million or 7%, driven largely by lower volume-related expenses and the impact of elevated seasonal performance fees in the prior year.

Q1 2023 vs Q4 2022

Non-interest expenses were up $4 million or 1%, driven largely by higher volume-related expenses.

Taxes

The effective tax rate was 25.6% compared to 26.1% in the prior year and 25.8% in the prior quarter.

Global Banking and Markets

T12 Global Banking and Markets financial performance

	For the three months ended		
(Unaudited) ($ millions) *(Taxable equivalent basis)*	**January 31 2023**	October 31 2022	January 31 2022
Reported Results			
Net interest income	**$ 454**	$ 492	$ 373
Non-interest income	**1,049**	862	1,031
Total revenue	**1,503**	1,354	1,404
Provision for credit losses	**15**	11	(16)
Non-interest expenses	**773**	696	670
Income tax expense	**196**	163	189
Net income	**$ 519**	$ 484	$ 561
Net income attributable to non-controlling interest in subsidiaries	**$ –**	$ –	$ –
Net income attributable to equity holders of the Bank	**$ 519**	$ 484	$ 561
Other financial data and measures			
Return on equity[1]	**13.2%**	13.4%	17.4%
Provision for credit losses – performing (Stage 1 and 2)	**$ 13**	$ (11)	$ (8)
Provision for credit losses – impaired (Stage 3)	**$ 2**	$ 22	$ (8)
Provision for credit losses as a percentage of average net loans and acceptances (annualized)[2]	**0.04%**	0.03%	(0.06)%
Provision for credit losses on impaired loans as a percentage of average net loans and acceptances (annualized)[2]	**–%**	0.06%	(0.03)%
Net write-offs as a percentage of average net loans and acceptances[2]	**0.02%**	0.01%	0.01%
Average assets *($ billions)*	**$ 481**	$ 461	$ 444
Average liabilities *($ billions)*	**$ 455**	$ 430	$ 407

(1) Refer to Non-GAAP Measures on page 4 for the description of the measure.
(2) Refer to Glossary on page 50 for the description of the measure.

Net income

Q1 2023 vs Q1 2022

Net income attributable to equity holders was $519 million, a decrease of $42 million or 7%, due mainly to higher non-interest expenses and provision for credit losses, partly offset by higher net interest income, non-interest income, and the positive impact of foreign currency translation.

Q1 2023 vs Q4 2022

Net income attributable to equity holders increased by $35 million or 7%. This was due to higher non-interest income, partly offset by higher non-interest expense, lower net interest income and higher provision for credit losses.

Average assets

Q1 2023 vs Q1 2022

Average assets were $481 billion, an increase of $37 billion or 8% due mainly to increases in business loans, securities purchased under resale agreements, and the impact of foreign currency translation, partly offset by lower trading securities. Business loans increased 33%, primarily in Canada and the U.S.

Q1 2023 vs Q4 2022

Average assets increased $20 billion or 4% due mainly to increases in securities purchased under resale agreements, business loans, and the impact of foreign currency translation.

Average liabilities

Q1 2023 vs Q1 2022

Average liabilities were $455 billion, an increase of $48 billion or 12% due mainly to increases in deposits, securities sold under repurchase agreements, derivative-related liabilities, and the impact of foreign currency translation.

Q1 2023 vs Q4 2022

Average liabilities increased $25 billion or 6% due mainly to increases in securities sold under repurchase agreements and the impact of foreign currency translation.

Total revenue

Q1 2023 vs Q1 2022

Revenues were $1,503 million, an increase of $99 million or 7% due to higher net interest income, non-interest income and the positive impact of foreign currency translation.

Q1 2023 vs Q4 2022

Revenues increased by $149 million or 11% due to higher non-interest income, partly offset by lower net-interest income.

Net interest income

Q1 2023 vs Q1 2022

Net interest income was $454 million, an increase of $81 million or 22% due to growth in business loans and deposits, increased deposit margins, higher loan fees and the positive impact of foreign currency translation, partly offset by higher trading-related funding costs. Business loans increased 33% primarily in Canada and US.

Q1 2023 vs Q4 2022

Net interest income decreased by $38 million or 8% due to lower deposit margins, partly offset by growth in business loans and deposits, loan fees and the positive impact of foreign currency translation.

Non-interest income

Q1 2023 vs Q1 2022

Non-interest income was $1,049 million, an increase of $18 million or 2% due to higher trading revenues, banking fees and the positive impact of foreign currency translation, partly offset by lower underwriting and advisory fees.

Q1 2023 vs Q4 2022

Non-interest income increased by $187 million or 22%, due mainly to higher trading revenues in the fixed income and equities businesses, partly offset by lower underwriting and advisory fees.

Provision for credit losses

Q1 2023 vs Q1 2022

The provision for credit losses was $15 million, compared to a net reversal of $16 million. The provision for credit losses ratio was four basis points, an increase of ten basis points.

Provision for credit losses on performing loans was $13 million, compared to a net reversal of $8 million. The increase in provision was due primarily to the less favourable macroeconomic outlook.

Provision for credit losses on impaired loans was $2 million, compared to a net reversal of $8 million as prior period included a recovery on one account. The provision for credit losses ratio on impaired loans was nil.

Q1 2023 vs Q4 2022

The provision for credit losses was $15 million, compared to $11 million, an increase of $4 million. The provision for credit losses ratio was four basis points, an increase of one basis point.

Provision for credit losses on performing loans was $13 million, compared to a net reversal of $11 million last quarter due primarily to a less favourable macroeconomic outlook.

Provision for credit losses on impaired loans was $2 million, a decrease of $20 million due primarily to lower provisions driven by lower formations in the period. The provision for credit losses ratio on impaired loans decreased six basis points to nil.

Non-interest expenses

Q1 2023 vs Q1 2022

Non-interest expenses of $773 million, were up $103 million or 15%, due mainly to higher personnel and technology costs to support business growth, and the negative impact of foreign currency translation.

Q1 2023 vs Q4 2022

Non-interest expenses increased $77 million or 11% due mainly to increases in personnel and technology costs to support business growth, seasonally higher shared-based compensation, and the negative impact of foreign currency translation.

Taxes

The effective tax rate was 27.5% compared to 25.2% in the prior year and prior quarter. The increase was driven mainly by an increase in the Canadian statutory tax rate, higher non-deductible expenses and change in earnings mix across jurisdictions.

Other[1]

T13 Other financial performance

(Unaudited) ($ millions) (Taxable equivalent basis)	For the three months ended January 31 2023	October 31 2022	January 31 2022
Reported Results			
Net interest income[2]	**$(383)**	$(245)	$ 16
Non-interest income[2][3]	**(328)**	(410)	(64)
Total revenue	**(711)**	(655)	(48)
Provision for credit losses	**–**	(1)	–
Non-interest expenses	**4**	274	124
Income tax expense[2]	**198**	(325)	(105)
Net income	**$(913)**	$(603)	$ (67)
Net income attributable to non-controlling interest in subsidiaries	**$ –**	$ –	$ –
Net income attributable to equity holders	**$(913)**	$(603)	$ (67)
Other measures			
Average assets *($ billions)*	**$ 187**	$ 175	$ 156
Average liabilities *($ billions)*	**$ 282**	$ 278	$ 245

(1) Includes all other smaller operating segments and corporate adjustments, such as the elimination of the tax-exempt income gross-up reported in net interest income, non-interest income and provision for income taxes and differences in the actual amount of costs incurred and charged to the operating segments.
(2) Includes the elimination of the tax-exempt income gross-up reported in net interest income, non-interest income and provision for income taxes of $120 (October 31, 2022–$99; January 31, 2022–$92) to arrive at the amounts reported in the Consolidated Statement of Income.
(3) Income (on a taxable equivalent basis) from investments in associated corporations and the provision for income taxes in each period include the tax normalization adjustments related to the gross-up of income from associated companies of $(65) (October 31, 2022 – $(30); January 31, 2022 – $14).

T13A Adjusted Other financial performance

(Unaudited) ($ millions) (Taxable equivalent basis)	For the three months ended January 31 2023	October 31 2022	January 31 2022
Adjusted Results[1]			
Net interest income	**$(383)**	$(245)	$ 16
Non-interest income[2]	**(328)**	(49)	(64)
Total revenue	**(711)**	(294)	(48)
Provision for credit losses	**–**	(1)	–
Non-interest expenses[3]	**4**	56	124
Income tax expense[4]	**(381)**	(250)	(105)
Net income	**$(334)**	$ (99)	$ (67)
Net income attributable to non-controlling interest in subsidiaries	**$ –**	$ 1	$ –
Net income attributable to equity holders	**$(334)**	$(100)	$ (67)

(1) Refer to Non-GAAP Measures on page 4 for adjusted results.
(2) Includes adjustment for net loss on divestitures and wind-down of operations of $361 in Q4, 2022.
(3) Includes adjustments for support costs for Scene+ loyalty program of $133 and restructuring and other provisions of $85 in Q4, 2022.
(4) Includes adjustment for the Canada Recovery Dividend of $579 in Q1, 2023.

The Other segment includes Group Treasury, smaller operating segments and corporate items which are not allocated to a business line. Group Treasury is primarily responsible for Balance Sheet, Liquidity and Interest Rate Risk management, which includes the Bank's wholesale funding activities.

Net interest income, non-interest income, and the provision for income taxes in each period include the elimination of tax-exempt income gross-up. This amount is included in the operating segments, which are reported on a taxable equivalent basis.

Net income from associated corporations and the provision for income taxes in each period include the tax normalization adjustments related to the gross-up of income from associated companies. This adjustment normalizes the effective tax rate in the divisions to better present the contribution of the associated companies to the divisional results.

Q1 2023 vs Q1 2022

Net income attributable to equity holders was a net loss of $913 million, which included $579 million of income tax expense related to the Canada Recovery Dividend. Adjusted net income attributable to equity holders was a net loss of $334 million compared to a net loss of $67 million in the prior year. The decrease of $267 million was due mainly to lower revenues of $663 million, partly offset by lower expenses and income taxes. Approximately three quarters of the lower revenue relates to treasury activities due mainly to higher term funding costs and lower income from hedges reflecting the Bank's interest rate position to benefit from declining rates, which were partly offset by higher income from liquid assets. Also contributing to the lower revenue was lower income from associated corporations, and lower investment gains.

Q1 2023 vs Q4 2022

Net income attributable to equity holders decreased $310 million from the prior quarter. On an adjusted basis, net income attributable to equity holders decreased $234 million, due mainly to lower revenues of $417 million, partly offset by lower expenses and income taxes. Approximately half of the lower revenue relates to treasury activities due mainly to higher term funding costs, and lower income from hedges reflecting the Bank's interest rate position to benefit from declining rates, which were partly offset by higher income from liquid assets. Also contributing to the revenue decrease was lower investment gains, and lower income from associated corporations.

Geographic Highlights

T14 Geographic highlights

	For the three months ended January 31, 2023								
(Unaudited) ($millions)	Canada	U.S.	Mexico	Peru	Chile	Colombia	Caribbean and Central America	Other	Total
Reported results									
Net interest income	$ 2,232	$296	$514	$ 331	$379	$134	$428	$255	$4,569
Non-interest income	2,005	310	205	134	207	96	201	253	3,411
Total revenue	4,237	606	719	465	586	230	629	508	7,980
Provision for credit losses	228	3	56	98	122	74	36	21	638
Non-interest expenses	2,469	313	351	178	240	156	361	396	4,464
Income tax expense	811	82	67	45	33	3	49	16	1,106
Net income	729	208	245	144	191	(3)	183	75	1,772
Net income attributable to non-controlling interests in subsidiaries	–	–	5	1	11	(4)	27	–	40
Net income attributable to equity holders of the Bank	$ 729	$208	$240	$ 143	$180	$ 1	$156	$ 75	$1,732
Adjusted results[1]									
Adjustments	586	–	–	1	5	–	1	1	594
Adjusted net income (loss) attributable to equity holders of the Bank	$ 1,315	$208	$240	$144	$185	$ 1	$157	$ 76	$2,326
Average Assets *($billions)*	$ 834	$212	$ 54	$ 28	$ 59	$ 13	$ 34	$146	$1,380

	For the three months ended October 31, 2022								
(Unaudited) ($millions)	Canada	U.S.	Mexico	Peru	Chile	Colombia	Caribbean and Central America	Other	Total
Reported results									
Net interest income	$ 2,390	$301	$474	$293	$374	$143	$415	$232	$4,622
Non-interest income	1,690	336	188	114	152	92	158	274	3,004
Total revenue	4,080	637	662	407	526	235	573	506	7,626
Provision for credit losses	188	(14)	61	86	95	57	43	13	529
Non-interest expenses	2,616	272	333	170	213	176	349	400	4,529
Income tax expense	242	95	45	40	–	(6)	35	24	475
Net income	1,034	284	223	111	218	8	146	69	2,093
Net income attributable to non-controlling interests in subsidiaries	2	–	5	–	4	2	25	–	38
Net income attributable to equity holders of the Bank	$ 1,032	$284	$218	$ 111	$214	$ 6	$121	$ 69	$2,055
Adjusted results[1]									
Adjustments	482	–	1	2	6	1	1	28	521
Adjusted net income (loss) attributable to equity holders of the Bank	$ 1,514	$284	$219	$ 113	$220	$ 7	$122	$ 97	$2,576
Average Assets *($billions)*	$ 816	$200	$ 49	$ 27	$ 54	$ 13	$ 33	$141	$1,333

	For the three months ended January 31, 2022								
(Unaudited) ($millions)	Canada	U.S.	Mexico	Peru	Chile	Colombia	Caribbean and Central America	Other	Total
Reported results									
Net interest income	$2,386	$201	$421	$279	$405	$162	$325	$165	$4,344
Non-interest income	2,312	278	173	119	139	103	183	398	3,705
Total revenue	4,698	479	594	398	544	265	508	563	8,049
Provision for credit losses	(37)	(6)	60	75	39	46	40	5	222
Non-interest expenses	2,462	255	289	149	224	175	334	335	4,223
Income tax expense	540	59	60	48	52	18	34	53	864
Net income	1,733	171	185	126	229	26	100	170	2,740
Net income attributable to non-controlling interests in subsidiaries	–	–	4	2	50	11	21	–	88
Net income attributable to equity holders of the Bank	$ 1,733	$171	$181	$ 124	$179	$ 15	$ 79	$170	$2,652
Adjusted results[1]									
Adjustments	10	–	–	1	5	–	1	1	18
Adjusted net income (loss) attributable to equity holders of the Bank	$ 1,743	$171	$181	$ 125	$184	$ 15	$ 80	$171	$2,670
Average Assets *($billions)*	$ 721	$213	$ 43	$ 25	$ 52	$ 13	$ 30	$142	$1,239

(1) Refer to Non-GAAP Measures on page 4 for adjusted results.

Quarterly Financial Highlights

T15 Quarterly financial highlights

(Unaudited) ($ millions)	For the three months ended January 31 2023	October 31 2022	July 31 2022	April 30 2022	January 31 2022	October 31 2021	July 31 2021	April 30 2021
Reported results								
Net interest income	**$4,569**	$4,622	$4,676	$ 4,473	$4,344	$4,217	$4,217	$4,176
Non-interest income	**3,411**	3,004	3,123	3,469	3,705	3,470	3,540	3,560
Total revenue	**$7,980**	$7,626	$7,799	$7,942	$8,049	$7,687	$7,757	$7,736
Provision for credit losses	**638**	529	412	219	222	168	380	496
Non-interest expenses	**4,464**	4,529	4,191	4,159	4,223	4,271	4,097	4,042
Income tax expense	**1,106**	475	602	817	864	689	738	742
Net income	**$ 1,772**	$2,093	$2,594	$ 2,747	$2,740	$2,559	$2,542	$2,456
Basic earnings per share *($)*	**1.37**	1.64	2.10	2.16	2.15	1.98	2.00	1.89
Diluted earnings per share *($)*	**1.36**	1.63	2.09	2.16	2.14	1.97	1.99	1.88
Net interest margin *(%)*(1)	**2.11**	2.18	2.22	2.23	2.16	2.17	2.23	2.26
Effective tax rate *(%)*(2)	**38.4**	18.5	18.8	22.9	24.0	21.2	22.5	23.2
Adjusted results(1)								
Adjusting items impacting non-interest income and total revenue (Pre-tax)								
Net loss on divestitures and wind-down of operations	**$ –**	$ 361	$ –	$ –	$ –	$ –	$ –	$ –
Adjusting items impacting non-interest expenses (Pre-tax)								
Amortization of acquisition-related intangible assets	**21**	24	24	24	25	25	24	26
Restructuring and other provisions	**–**	85	–	–	–	188(3)	–	–
Support costs for the Scene+ loyalty program	**–**	133	–	–	–	–	–	–
Total non-interest expenses adjustments (Pre-tax)	**21**	242	24	24	25	213	24	26
Total impact of adjusting items on net income before taxes	**21**	603	24	24	25	213	24	26
Impact of adjusting items on income tax expense:								
Canada recovery dividend	**579**	–	–	–	–	–	–	–
Impact of other adjusting items on income tax expense	**(6)**	(81)	(7)	(6)	(7)	(56)	(6)	(7)
Total impact of adjusting items on net income	**594**	522	17	18	18	157	18	19
Adjusted net income	**$ 2,366**	$2,615	$2,611	$ 2,765	$2,758	$2,716	$2,560	$2,475
Adjusted diluted earnings per share *($)*	**1.85**	2.06	2.10	2.18	2.15	2.10	2.01	1.90

(1) Refer to page 4 for a discussion of Non-GAAP Measures.
(2) Refer to Glossary on page 50 for the description of the measure.
(3) The Bank recorded restructuring and other provisions of $139 ($188 pre-tax) in the Other operating segment in Q4, 2021. The restructuring charge of $93 ($126 pre-tax) was substantially related to International Banking. The settlement and litigation provisions of $46 ($62 pre-tax) was in connection with the Bank's former metals business.

Trending analysis

Earnings over the period were driven by generally higher net interest income from steady loan and deposit growth and prudent expense management, partly offset by a rising trend in provision for credit losses.

Total revenue

Canadian Banking net interest income over the period has increased driven by strong loan and deposit growth. Recent quarters have benefitted from Bank of Canada rate increases. International Banking net interest income has trended upward driven by growth in residential mortgages and commercial loans. Global Wealth Management non-interest income growth over the period has been impacted by adverse market conditions resulting in lower fee-based assets and revenues. Global Banking and Markets revenues are affected by market conditions that impact client activity in the capital markets and corporate and investment banking businesses. Revenues in the Other segment were impacted by higher term funding costs and other treasury activities.

Provision for credit losses

Provision for credit losses trended upward during the period driven by lower reversals of provisions for credit losses on performing loans, a less favourable macroeconomic forecast, portfolio growth and higher impaired loan provisions due to credit migration.

Non-interest expenses

Non-interest expenses reflect the Bank's ongoing focus on expense management and efficiency initiatives, while continuing to invest in personnel and technology to support business growth. Seasonality, adjusting items and the impact of foreign currency translation have also contributed to fluctuations over the period.

Provision for income taxes

The effective tax rate was 38.4% this quarter due mainly to the impact of the Canada Recovery Dividend. The effective tax rate average was 23.7% over the period and was impacted by divestitures, varying levels of provision for credit losses and net income earned in foreign jurisdictions, as well as the variability of tax-exempt dividend income and inflationary benefits.

Financial Position

T16 Condensed statement of financial position

	As at				
(Unaudited) ($ billions)	**January 31 2023**	October 31 2022	Change	Volume Change	FX Change
Assets					
Cash, deposits with financial institutions and precious metals	**$ 82.1**	$ 66.4	23.6%	24.4%	(0.8)%
Trading assets	**116.3**	113.2	2.8	2.8	–
Securities purchased under resale agreements and securities borrowed	**178.7**	175.3	1.9	2.1	(0.2)
Investment securities	**111.0**	110.0	0.9	0.9	–
Loans	**755.2**	745.0	1.4	0.8	0.6
Other	**131.1**	139.5	(6.0)	(6.1)	0.1
Total assets	**$1,374.4**	$1,349.4	1.9%	1.6%	0.3%
Liabilities					
Deposits	**$ 949.9**	$ 916.2	3.7%	3.6%	0.1%
Obligations related to securities sold under repurchase agreements and securities lent	**132.2**	139.0	(4.9)	(5.0)	0.1
Other liabilities	**207.9**	211.0	(1.5)	(2.6)	1.1
Subordinated debentures	**8.7**	8.5	2.9	3.7	(0.8)
Total liabilities	**$1,298.7**	$1,274.7	1.9%	1.7%	0.2%
Equity					
Common equity[(1)]	**$ 66.1**	$ 65.1	1.5%	0.9%	0.6%
Preferred shares and other equity instruments	**8.1**	8.1	–	–	–
Non-controlling interests in subsidiaries	**1.5**	1.5	2.6	1.0	1.6
Total equity	**$ 75.7**	$ 74.7	1.3	0.8	0.5
Total liabilities and equity	**$1,374.4**	$1,349.4	1.9%	1.6%	0.3%

(1) Includes net impact of foreign currency translation, primarily change in spot rates on the translation of assets and liabilities from functional currency to Canadian dollar equivalent.

The Bank's total assets were $1,374 billion as at January 31, 2023, up $25 billion or 2% from October 31, 2022. Cash and deposits with financial institutions increased $15 billion due primarily to higher balances with central banks. Trading securities increased $3 billion due mainly to higher client activity. Loans increased $10 billion. Residential mortgages increased $4 billion, mainly in Chile and Mexico. Personal loans and credit cards increased $3 billion reflecting increased consumer spending. Business and government loans increased $4 billion, mainly in Chile, Mexico, and Colombia. Securities purchased under resale agreements and securities borrowed increased $3 billion due to higher client demand. Derivative instrument assets decreased by $11 billion due to changes in foreign exchange rates, interest rates and lower activity.

Total liabilities were $1,299 billion as at January 31, 2023, up $24 billion or 2% from October 31, 2022. Total deposits increased $34 billion. Personal deposits of $275 billion increased $9 billion due primarily to growth in the term deposits portfolio in Canada. Business and government deposits grew by $24 billion mainly in Canada. Deposits by financial institutions increased $1 billion. Obligations related to securities sold short increased by $3 billion due mainly to higher client activity. Obligations related to securities sold under repurchase agreements and securities lent decreased by $7 billion. Derivative instrument liabilities decreased $13 billion due to changes in interest rates, foreign exchange rates and lower hedging activity and client demand.

Total shareholders' equity was $76 billion, an increase of $1 billion from October 31, 2022. Equity was higher due to current year earnings of $1,772 million and other comprehensive income of $549 million. Partly offsetting these items were dividends paid of $1,329 million.

Risk Management

The Bank's risk management policies and practices have not substantially changed from those outlined in the Bank's 2022 Annual Report. For a complete discussion of the risk management policies and practices and additional information on risk factors, refer to the "Risk Management" section in the 2022 Annual Report.

Significant developments that took place during this quarter are as follows:

Credit risk

Allowance for credit losses

IFRS 9 *Financial Instruments*, requires the consideration of past events, current conditions and reasonable and supportable forward-looking information over the life of the exposure to measure expected credit losses. Furthermore, to assess significant increases in credit risk, IFRS 9 requires that entities assess changes in the risk of a default occurring over the expected life of a financial instrument when determining staging. Consistent with the requirements of IFRS 9, the Bank considers both quantitative and qualitative information in the assessment of a significant increase in risk.

The Bank's models are calibrated to consider past performance and macroeconomic forward-looking variables as inputs, as further described below. Expert credit judgement may be made in circumstances where, in the Bank's view, the inputs, assumptions, and/or modelling techniques do not capture all relevant risk factors, including the emergence of economic or political events of the market up to the date of the financial statements. Expert credit judgement continues to be applied in the assessment of underlying credit deterioration and migration of balances to progressive stages.

The Bank has no direct credit exposure to Russia or Ukraine but does have credit exposure to businesses that are impacted either directly or indirectly by higher energy costs or commodity prices, or potential disruption within their supply chains. The Bank monitors both the internal and external indicators for signs of contagion risk and any second or third order risks that may arise from the war in Ukraine above and beyond those captured in the macroeconomic outlook. Such impacts are not significant and are appropriately mitigated.

The Bank has generated a forward-looking base case scenario and three alternate forward-looking scenarios (one optimistic and two pessimistic) as key inputs into the expected credit loss provisioning models. The base case is less favourable this quarter as stronger observed inflation pressures – and the U.S Federal Reserve's stronger tone – will bring monetary policy rates to higher than previously forecasted levels. The optimistic scenario features somewhat stronger economic activity relative to the base case.

The two pessimistic scenarios were updated this quarter to reflect the potential risk of stagflation and recession and are built around alternative assumptions on the source, duration and impact of stagflation shocks. These pessimistic scenarios are less severe than last quarter as they reflect less uncertainty in regard to the impact of the Russia/Ukraine war, and a portion of the previously assumed risk of strong inflation has materialized and is now captured in the base case.

The updated pessimistic scenarios both feature a protracted period of elevated financial market uncertainty and a further disruption to supply chains, with these being more severe in the very pessimistic scenario. The pessimistic scenario also adds high commodity prices as a source for stagflation shock, while these are simply reacting (negatively) to the weaker global economy in the very pessimistic scenario. Consequently, these scenarios feature much higher inflation compared to the base case scenario. Central banks respond by increasing rates more aggressively in the pessimistic scenarios, pushing rates across the yield curve higher compared to the base case scenario and resulting in a rapid deceleration of growth. In the pessimistic scenario, stagflation is short-lived, while in the very pessimistic scenario, the stagflation shock is stronger and persists for a longer period of time.

The table below shows a comparison of projections for the next 12 months, as at January 31, 2023, and October 31, 2022, of select macroeconomic variables used to calculate the modelled estimate for the allowance for credit losses (see page 64 for all key variables). Further changes in these variables up to the date of the financial statements is incorporated through expert credit judgment:

T17 Select macroeconomic variable projections

	Base Case Scenario		Alternative Scenario - Optimistic		Alternative Scenario - Pessimistic		Alternative Scenario - Very Pessimistic	
Next 12 months	**As at January 31 2023**	As at October 31 2022	**As at January 31 2023**	As at October 31 2022	**As at January 31 2023**	As at October 31 2022	**As at January 31 2023**	As at October 31 2022
Canada								
Real GDP growth, y/y % change	**0.8**	1.2	**1.7**	2.4	**-2.2**	-4.8	**-3.2**	-5.9
Consumer price index, y/y %	**4.1**	4.9	**4.3**	5.2	**6.3**	9.3	**7.0**	12.5
Bank of Canada overnight rate target, average %	**4.2**	3.8	**4.5**	4.2	**4.8**	5.1	**5.1**	5.1
Unemployment rate, average %	**5.8**	5.7	**5.4**	5.1	**7.8**	9.7	**8.6**	10.2
US								
Real GDP growth, y/y % change	**0.6**	0.6	**1.3**	1.3	**-2.3**	-5.1	**-3.2**	-6.5
Consumer price index, y/y %	**5.0**	5.4	**5.2**	5.8	**7.3**	10.0	**8.1**	13.2
Target federal funds rate, average %	**4.9**	3.5	**5.2**	4.7	**5.6**	4.8	**5.8**	4.8
Unemployment rate, average %	**4.2**	4.3	**4.0**	4.2	**6.0**	7.9	**6.7**	8.3
Global								
WTI oil price, average USD/bbl	**94**	89	**99**	95	**108**	116	**80**	125

The table below shows a quarterly breakdown of the projections for the above macroeconomic variables, as at January 31, 2023 and October 31, 2022, under the base case scenario:

	Base Case Scenario									
	Calendar Quarters					Calendar Quarters				
Next 12 months	**Q1 2023**	**Q2 2023**	**Q3 2023**	**Q4 2023**	**Average January 31 2023**	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Average October 31 2022
Canada										
Real GDP growth, y/y % change	**1.7**	**0.9**	**0.2**	**0.3**	**0.8**	1.9	1.2	0.6	1.0	1.2
Consumer price index, y/y %	**5.9**	**4.2**	**3.6**	**2.9**	**4.1**	6.9	5.1	4.0	3.6	4.9
Bank of Canada overnight rate target, %	**4.3**	**4.3**	**4.3**	**4.0**	**4.2**	3.8	3.8	3.8	3.8	3.8
Unemployment rate, average %	**5.4**	**5.7**	**6.0**	**6.1**	**5.8**	5.4	5.6	5.8	5.9	5.7
U.S.										
Real GDP growth, y/y % change	**0.8**	**0.8**	**0.4**	**0.4**	**0.6**	0.1	0.6	1.0	0.8	0.6
Consumer price index, y/y %	**6.5**	**5.3**	**4.5**	**3.8**	**5.0**	7.2	5.8	4.6	4.0	5.4
Target federal funds rate, upper limit, %	**5.0**	**5.0**	**5.0**	**4.8**	**4.9**	3.5	3.5	3.5	3.5	3.5
Unemployment rate, average %	**3.9**	**4.1**	**4.3**	**4.5**	**4.2**	3.8	4.1	4.4	4.8	4.3
Global										
WTI oil price, average USD/bbl	**93**	**97**	**96**	**90**	**94**	90	89	89	88	89

The total allowance for credit losses as at January 31, 2023 was $5,668 million compared to $5,499 million last quarter. The allowance for credit losses ratio was 72 basis points, an increase of one basis point. The allowance for credit losses on loans was $5,513 million, up $165 million from the prior quarter. The increase was due primarily to the impact of foreign currency translation, as well as the impact of a less favourable macroeconomic outlook on the corporate and commercial portfolios, higher provisions in retail banking, mainly in Chile, and residential mortgage and auto loan portfolios in Canada.

The allowance against performing loans was higher at $3,859 million compared to $3,713 million as at October 31, 2022. The allowance for performing loans ratio was 51 basis points, an increase of one basis point. The increase was due primarily to the impact of a less favourable macroeconomic outlook on the corporate and commercial portfolios and higher provisions in the residential mortgage and auto loan portfolios in Canada.

The allowance on impaired loans increased to $1,654 million from $1,635 million last quarter. The allowance for impaired loans ratio was 21 basis points, unchanged from the prior quarter.

Impaired loans

Gross impaired loans increased to $5,104 million as at January 31, 2023, from $4,786 million last quarter. The increase was due primarily to the impact of foreign currency translation and new formations in retail and Canadian commercial portfolios. The gross impaired loan ratio was 65 basis points as at January 31, 2023, an increase of three basis points from last quarter.

Net impaired loans in Canadian Banking were $667 million as at January 31, 2023, an increase of $165 million from last quarter, due primarily to higher retail and commercial formations. International Banking's net impaired loans were $2,650 million as at January 31, 2023, an increase of $140 million from last quarter, due primarily to the impact of foreign currency translation and net formations in retail portfolio. In Global Banking and Markets, net impaired loans were $120 million as at January 31, 2023, a decrease of $8 million from last quarter, due primarily to lower formations. In Global Wealth Management, net impaired loans were $13 million as at January 31, 2023, an increase of $2 million from last quarter. Net impaired loans as a percentage of loans and acceptances were 0.44% as at January 31, 2023, an increase of three basis point from 0.41% last quarter.

Overview of loan portfolio

The Bank has a well-diversified portfolio by product, business, and geography. Details of certain portfolios of current focus are highlighted below.

Real estate secured lending

A large portion of the Bank's lending portfolio is comprised of residential mortgages and consumer loans, which are well diversified by borrower. As at January 31, 2023, these loans amounted to $470 billion or 60% of the Bank's total loans and acceptances outstanding (October 31, 2022 – $463 billion or 60%). Of these, $376 billion or 80% are real estate secured loans (October 31, 2022 – $371 billion or 80%). The tables below provide more details by portfolios.

Insured and uninsured mortgages and home equity lines of credit[(1)]

The following table presents amounts of insured and uninsured residential mortgages and home equity lines of credit (HELOCs), by geographic areas.

T18 Insured and uninsured residential mortgages and HELOCs, by geographic areas

	As at January 31, 2023											
	Residential mortgages						Home equity lines of credit					
	Insured[(2)]		Uninsured		Total		Insured[(2)]		Uninsured		Total	
($ millions)	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
Canada:[(3)]												
Atlantic provinces	**$ 5,140**	**1.7%**	**$ 6,560**	**2.2%**	**$ 11,700**	**3.9%**	**$–**	**–%**	**$ 1,043**	**4.7%**	**$ 1,043**	**4.7%**
Quebec	**8,206**	**2.6**	**12,113**	**4.0**	**20,319**	**6.6**	**–**	**–**	**1,091**	**4.9**	**1,091**	**4.9**
Ontario	**33,881**	**11.2**	**133,259**	**44.1**	**167,140**	**55.3**	**–**	**–**	**12,866**	**58.3**	**12,866**	**58.3**
Manitoba & Saskatchewan	**5,603**	**1.9**	**4,706**	**1.5**	**10,309**	**3.4**	**–**	**–**	**634**	**2.9**	**634**	**2.9**
Alberta	**17,103**	**5.7**	**15,487**	**5.1**	**32,590**	**10.8**	**–**	**–**	**2,343**	**10.6**	**2,343**	**10.6**
British Columbia & Territories	**11,689**	**3.9**	**48,560**	**16.1**	**60,249**	**20.0**	**–**	**–**	**4,110**	**18.6**	**4,110**	**18.6**
Canada[(4)(5)]	**$81,622**	**27.0%**	**$220,685**	**73.0%**	**$302,307**	**100%**	**$–**	**–%**	**$22,087**	**100%**	**$22,087**	**100%**
International	**–**	**–**	**51,220**	**100**	**51,220**	**100**	**–**	**–**	**–**	**–**	**–**	**–**
Total	**$81,622**	**23.1%**	**$271,905**	**76.9%**	**$353,527**	**100%**	**$–**	**–%**	**$22,087**	**100%**	**$22,087**	**100%**
	As at October 31, 2022											
Canada[(4)(5)]	$83,514	27.6%	$218,972	72.4%	$302,486	100%	$–	–%	$22,178	100%	$22,178	100%
International	–	–	46,793	100	46,793	100	–	–	–	–	–	–
Total	$83,514	23.9%	$265,765	76.1%	$349,279	100%	$–	–%	$22,178	100%	$22,178	100%

(1) The measures in this section have been disclosed in this document in accordance with OSFI Guideline – B20 – Residential Mortgage Underwriting Practices and Procedures (January 2018).
(2) Default insurance is contractual coverage for the life of eligible facilities whereby the Bank's exposure to real estate secured lending is protected against potential shortfalls caused by borrower default. This insurance is provided by either government-backed entities or private mortgage insurers.
(3) The province represents the location of the property in Canada.
(4) Includes multi-residential dwellings (4+ units) of $3,737 (October 31, 2022 – $3,782) of which $2,512 are insured (October 31, 2022 – $2,524).
(5) Variable rate mortgages account for 37% (October 31, 2022 – 37%) of the Bank's total Canadian residential mortgage portfolio.

Amortization period ranges for residential mortgages(1)

The following table presents the distribution of residential mortgages by remaining amortization periods, and by geographic areas.

T19 Distribution of residential mortgages by amortization periods, and by geographic areas

	As at January 31, 2023					
	Residential mortgages by amortization period					
	Less than 20 years	20-24 years	25-29 years	30-34 years	35 years and greater	Total residential mortgages
Canada	**30.7%**	**39.4%**	**28.4%**	**1.3%**	**0.2%**	**100%**
International	**61.2%**	**17.1%**	**18.3%**	**3.4%**	**0.0%**	**100%**
	As at October 31, 2022					
Canada	29.2%	40.5%	28.5%	1.6%	0.2%	100%
International	62.8%	16.9%	17.5%	2.8%	0.0%	100%

(1) The measures in this section have been disclosed in this document in accordance with OSFI Guideline – B20 – Residential Mortgage Underwriting Practices and Procedures (January 2018).

Loan to value ratios(1)

The Canadian residential mortgage portfolio is 73% uninsured (October 31, 2022 – 72%). The average loan-to-value (LTV) ratio of the uninsured portfolio is 52% (October 31, 2022 – 49%).

The following table presents the weighted average LTV ratio for total newly-originated uninsured residential mortgages and home equity lines of credit, which include mortgages for purchases, refinances with a request for additional funds and transfers from other financial institutions, by geographic areas in the current quarter.

T20 Loan to value ratios

	Uninsured LTV ratios	
	For the three months ended January 31, 2023	
	Residential mortgages	Home equity lines of credit(2)
	LTV%	LTV%
Canada(3)		
Atlantic provinces	60.3%	63.5%
Quebec	62.4	67.5
Ontario	62.6	63.6
Manitoba & Saskatchewan	65.7	62.3
Alberta	65.3	67.8
British Columbia & Territories	61.5	63.3
Canada(3)	**62.5%**	**64.0%**
International	**73.2%**	**n/a**
	For the three months ended October 31, 2022	
Canada(3)	62.8%	63.1%
International	72.4%	n/a

(1) The measures in this section have been disclosed in this document in accordance with OSFI Guideline – B20 – Residential Mortgage Underwriting Practices and Procedures (January 2018).
(2) Includes all home equity lines of credit (HELOC). For Scotia Total Equity Plan HELOCs, LTV is calculated based on the sum of residential mortgages and the authorized limit for related HELOCs, divided by the value of the related residential property, and presented on a weighted average basis for newly originated mortgages and HELOCs.
(3) The province represents the location of the property in Canada.

Potential impact on residential mortgages and real estate home equity lines of credit in the event of an economic downturn

As part of its stress testing program, the Bank analyzes the impact of various combinations of home price declines and unemployment increases on the Bank's residential mortgage portfolios. Those results continue to show that credit losses and impacts on capital ratios are within a level the Bank considers manageable. In addition, the Bank has undertaken extensive all-Bank scenario analyses to assess the impact to the enterprise of different scenarios and is confident that it has the financial resources to withstand even a very negative outlook.

Regional non-retail exposures

The Bank's exposures outside Canada and the U.S. are diversified by region and product and are sized appropriately relative to the credit worthiness of the counterparties (65% of the exposures are to investment grade counterparties based on a combination of internal and external ratings). The Bank's exposures are carried at amortized cost or fair value using observable inputs, with negligible amounts valued using models with unobservable inputs (Level 3). There were no significant events in the quarter that have materially impacted the Bank's exposures.

The Bank has no direct exposure to Russia or Ukraine. While some customers may be negatively impacted by the conflict in the region and by trade restrictions as a result of sanctions, the impact to the Bank, to date, is immaterial and appropriately mitigated.

The Bank's exposures to sovereigns was $69.5 billion as at January 31, 2023 (October 31, 2022 – $60.5 billion), $13.2 billion to banks (October 31, 2022 – $16.3 billion) and $131.5 billion to corporates (October 31, 2022 – $128.2 billion).

In addition to exposures detailed in the table below, the Bank had indirect exposures consisting of securities exposures to non-European entities whose parent company is domiciled in Europe of $0.4 billion as at January 31, 2023 (October 31, 2022 – $0.4 billion).

T21 Bank's regional credit exposures distribution

	As at							
	January 31, 2023							October 31, 2022
($ millions)	Loans and loan equivalents(1)	Deposits with financial institutions	Securities(2)	SFT and derivatives(3)	Funded total	Undrawn commitments(4)	**Total**	Total
Latin America(5)	$ 94,098	$10,556	$28,948	$2,809	$136,411	$10,174	**$146,585**	$130,858
Caribbean and Central America	12,500	3,566	3,971	25	20,062	3,491	**23,553**	24,186
Europe, excluding U.K.	7,941	1,592	3,277	1,906	14,716	9,030	**23,746**	24,298
U.K.	8,337	3,040	981	1,964	14,322	6,776	**21,098**	24,370
Asia	12,457	911	12,791	1,334	27,493	9,600	**37,093**	37,210
Other(6)	480	3	279	182	944	284	**1,228**	1,499
Total	$135,813	$19,668	$50,247	$8,220	$213,948	$39,355	**$253,303**	$242,421

(1) Individual allowances for credit losses are $505. Letters of credit and guarantees are included as funded exposure as they have been issued. Included in loans and loans equivalent are letters of credit and guarantees which total $16,151 as at January 31, 2023 (October 31, 2022 – $15,462).
(2) Exposures for securities are calculated taking into account derivative positions where the security is the underlying reference asset and short trading positions, with net short positions in brackets.
(3) SFT comprise of securities purchased under resale agreements, obligations related to securities sold under repurchase agreements and securities lending and borrowing transactions. Gross and net funded exposures represent all net positive positions after taking into account collateral. Collateral held against derivatives was $3,893 and collateral held against SFT was $121,230.
(4) Undrawn commitments represent an estimate of the contractual amount that may be drawn upon by the obligor and include commitments to issue letters of credit on behalf of other banks in a syndicated bank lending arrangement.
(5) Includes countries in the Pacific Alliance plus Brazil, Uruguay, Venezuela, Ecuador and Argentina.
(6) Includes Middle East and Africa.

Market risk

Value at Risk (VaR) is a key measure of market risk in the Bank's trading activities. VaR includes both general market risk and debt specific risk components. The Bank also calculates a Stressed VaR measure.

T22 Market Risk Measures

	Average for the three months ended	
Risk factor *($ millions)*	**January 31 2023**	October 31 2022
Credit spread plus interest rate	**$ 13.8**	$ 12.6
Credit spread	**7.5**	6.6
Interest rate	**13.1**	11.3
Equities	**3.5**	3.6
Foreign exchange	**2.1**	1.9
Commodities	**4.6**	3.6
Debt specific	**3.8**	2.8
Diversification effect	**(12.7)**	(10.3)
Total VaR	**$ 15.1**	$ 14.2
Total Stressed VaR	**$ 45.1**	$ 28.7

In the first quarter of 2023, the average one-day Total VaR increased to $15.1 million, due primarily to increased interest rate risk.

In Q1 2023, the 2019/2020 COVID period was used to generate the Stressed VaR; resulting in an increase to Stressed VaR to $45.1 million. Last quarter, the Stressed VaR was calculated using the 2008/2009 credit crisis period.

There were no trading loss days this quarter. The quality and accuracy of the VaR models is validated by backtesting, which compares daily actual and theoretical profit and loss with the daily output of the VaR model.

Interest rate risk

Interest rate risk is the risk of loss due to the following: changes in the level, slope and curvature of the yield curve; the volatility of interest rates and changes in customer preferences (e.g. mortgage prepayment rates).

Non-trading interest rate sensitivity

The following table shows the pro-forma pre-tax impact on the Bank's net interest income over the next twelve months and economic value of equity of an immediate and sustained 100 basis points increase and decrease in interest rate across major currencies as defined by the Bank. Corresponding with the current interest rate environment, starting in Q3 2022, the net interest income and economic value for a down shock scenario are measured using 100 basis points decline. These calculations are based on models that consider a number of inputs and are on a constant balance sheet and make no assumptions for management actions to mitigate the risk.

T23 Structural interest sensitivity

	As at										
	January 31, 2023						October 31, 2022		January 31, 2022		
	Net interest income			**Economic value of equity**							
($ millions)	**Canadian dollar**	**Other currencies**	**Total**	**Canadian dollar**	**Other currencies**	**Total**	Net interest income	Economic value of equity		Net interest income	Economic value of equity
+100 bps	**$(80)**	**$(224)**	**$(304)**	**$(621)**	**$(1,068)**	**$(1,689)**	$(340)	$(2,021)	+100 bps	$245	$(1,041)
-100 bps	**40**	**193**	**233**	**319**	**887**	**1,206**	326	1,659	-25 bps	(75)	177

During the first quarter of 2023, both interest rate sensitivities remained within the Bank's approved consolidated limits.

The Bank's Asset/Liability Committee provides strategic direction for the management of structural interest rate risk within the risk appetite framework authorized by the Board of Directors. The asset/liability management strategy is executed by Group Treasury with the objective of protecting and enhancing net interest income within established risk tolerances.

The Bank supplements the immediate rate change impact analysis described above with more sophisticated analyses and tools for actual risk management purposes.

Market risk linkage to Consolidated Statement of Financial Position

Trading assets and liabilities are marked to market daily and included in trading risk measures such as VaR. Derivatives captured under trading risk measures are related to the activities of Global Banking and Markets, while derivatives captured under non-trading risk measures comprise those used in asset/liability management and designated in a hedge relationship. A comparison of Consolidated Statement of Financial Position items which are covered under the trading and non-trading risk measures is provided in the table below.

T24 Market risk linkage to Consolidated Statement of Financial Position of the Bank

As at January 31, 2023	**Market risk measure**				
($ millions)	**Consolidated Statement of Financial Position**	**Trading risk**	**Non-trading risk**	**Not subject to market risk**	**Primary risk sensitivity of non-trading risk**
Precious metals	**$ 725**	**$ 725**	**$ –**	**$ –**	**n/a**
Trading assets	**116,346**	**116,171**	**175**	**–**	**Interest rate, FX**
Derivative financial instruments	**44,820**	**33,582**	**11,238**	**–**	**Interest rate, FX, equity**
Investment securities	**111,004**	**–**	**111,004**	**–**	**Interest rate, FX, equity**
Loans	**755,157**	**–**	**755,157**	**–**	**Interest rate, FX**
Assets not subject to market risk(1)	**346,386**	**–**	**–**	**346,386**	**n/a**
Total assets	**$1,374,438**	**$150,478**	**$877,574**	**$346,386**	
Deposits	**$ 949,887**	**$ –**	**$903,924**	**$ 45,963**	**Interest rate, FX, equity**
Financial instruments designated at fair value through profit or loss	**26,583**	**–**	**26,583**	**–**	**Interest rate, equity**
Obligations related to securities sold short	**43,439**	**43,439**	**–**	**–**	**n/a**
Derivative financial instruments	**52,746**	**31,971**	**20,775**	**–**	**Interest rate, FX, equity**
Trading liabilities(2)	**426**	**426**	**–**	**–**	**n/a**
Pension and other benefit liabilities	**1,632**	**–**	**1,632**	**–**	**Interest rate, credit spread, equity**
Liabilities not subject to market risk(3)	**223,974**	**–**	**–**	**223,974**	**n/a**
Total liabilities	**$1,298,687**	**$ 75,836**	**$952,914**	**$269,937**	

(1) Includes goodwill, intangibles, other assets and securities purchased under resale agreements and securities borrowed.
(2) Gold and silver certificates and bullion included in other liabilities.
(3) Includes obligations related to securities sold under repurchase agreements and securities lent and other liabilities.

As at October 31, 2022

($ millions)	Consolidated Statement of Financial Position	Trading risk	Non-trading risk	Not subject to market risk	Primary risk sensitivity of non-trading risk
		Market risk measure			
Precious metals	$ 543	$ 543	$ –	$ –	n/a
Trading assets	113,154	113,117	37	–	Interest rate, FX
Derivative financial instruments	55,699	43,436	12,263	–	Interest rate, FX, equity
Investment securities	110,008	–	110,008	–	Interest rate, FX, equity
Loans	744,987	–	744,987	–	Interest rate, FX
Assets not subject to market risk[(1)]	325,027	–	–	325,027	n/a
Total assets	$1,349,418	$157,096	$867,295	$325,027	
Deposits	$ 916,181	$ –	$869,219	$ 46,962	Interest rate, FX, equity
Financial instruments designated at fair value through profit or loss	22,421	–	22,421	–	Interest rate, equity
Obligations related to securities sold short	40,449	40,449	–	–	n/a
Derivative financial instruments	65,900	40,685	25,215	–	Interest rate, FX, equity
Trading liabilities[(2)]	372	372	–	–	n/a
Pension and other benefit liabilities	1,557	–	1,557	–	Interest rate, credit spread, equity
Liabilities not subject to market risk[(3)]	227,789	–	–	227,789	n/a
Total liabilities	$1,274,669	$ 81,506	$918,412	$274,751	

(1) Includes goodwill, intangibles, other assets and securities purchased under resale agreements and securities borrowed.
(2) Gold and silver certificates and bullion included in other liabilities.
(3) Includes obligations related to securities sold under repurchase agreements and securities lent and other liabilities.

Liquidity risk

Effective liquidity risk management is essential to maintain the confidence of depositors and counterparties, manage the Bank's cost of funds and to support core business activities, even under adverse circumstances.

Liquidity risk is managed within a framework of policies and limits that are approved by the Board of Directors, as outlined in Note 18 to the Condensed Interim Consolidated Financial Statements and in Note 35 to the Consolidated Financial Statements in the Bank's 2022 Annual Report.

Liquid assets are a key component of this framework. The determination of the appropriate levels for liquid asset portfolios is based on the amount of liquidity the Bank might need to fund expected cash flows in the normal course of business, as well as what might be required in periods of stress to meet cash outflows. Stress events include periods when there are disruptions in the capital markets or events which may impair the Bank's access to funding markets or liquidity. The Bank uses stress testing to assess the impact of stress events and to assess the amount of liquid assets that would be required in various stress scenarios.

Liquid assets

Liquid assets are a key component of liquidity management and the Bank holds these types of assets in sufficient quantity to meet potential needs.

Liquid assets can be used to generate cash either through sale, repurchase transactions or other transactions where these assets can be used as collateral to generate cash, or by allowing the asset to mature. Liquid assets include unrestricted deposits with central banks, deposits with financial institutions, call and other short-term loans, marketable securities, precious metals and securities received as collateral from securities financing and derivative transactions.

Marketable securities are securities traded in active markets, which can be converted to cash within a timeframe that is in accordance with the Bank's liquidity management framework. Assets are assessed considering a number of factors, including the expected time it would take to convert them to cash.

Marketable securities included in liquid assets are comprised of securities specifically held as a liquidity buffer or for asset/liability management purposes, trading securities primarily held by Global Banking and Markets, and collateral received from securities financing and derivative transactions.

The Bank maintains large holdings of unencumbered liquid assets to support its operations. These assets generally can be sold or pledged to meet the Bank's obligations. As at January 31, 2023, unencumbered liquid assets were $287 billion (October 31, 2022 – $260 billion). Securities including National Housing Act (NHA) mortgage-backed securities, comprised 73% of liquid assets (October 31, 2022 – 77%). Other unencumbered liquid assets, comprising cash and deposits with central banks, deposits with financial institutions and precious metals were 27% (October 31, 2022 – 23%). The increase in total unencumbered liquid assets was mainly attributable to an increase in cash and deposits with central banks, foreign and Canadian government securities and NHA mortgage-backed securities, partly offset by a decrease in other liquid securities and deposits with financial institutions.

The carrying values outlined in the liquid asset table are consistent with the carrying values in the Bank's Consolidated Statement of Financial Position as at January 31, 2023. The liquidity value of the portfolio will vary under different stress events as different assumptions are used for the stress scenarios.

The Bank's liquid asset pool is summarized in the following table:

T25 Liquid asset pool

	As at January 31, 2023						
				Encumbered liquid assets		Unencumbered liquid assets	
($ millions)	**Bank-owned liquid assets**	**Securities received as collateral from securities financing and derivative transactions**	**Total liquid assets**	**Pledged as collateral**	**Other[1]**	**Available as collateral**	**Other**
Cash and deposits with central banks	**$ 74,150**	**$ –**	**$ 74,150**	**$ –**	**$5,289**	**$ 68,861**	**$–**
Deposits with financial institutions	**7,236**	**–**	**7,236**	**–**	**94**	**7,142**	**–**
Precious metals	**725**	**–**	**725**	**–**	**–**	**725**	**–**
Securities:							
Canadian government obligations	**51,288**	**31,106**	**82,394**	**37,424**	**–**	**44,970**	**–**
Foreign government obligations	**100,163**	**114,406**	**214,569**	**100,495**	**–**	**114,074**	**–**
Other securities	**63,279**	**96,951**	**160,230**	**131,771**	**–**	**28,459**	**–**
Loans:							
NHA mortgage-backed securities	**31,258**	**–**	**31,258**	**8,049**	**–**	**23,209**	**–**
Total	**$328,099**	**$242,463**	**$570,562**	**$277,739**	**$5,383**	**$287,440**	**$–**

	As at October 31, 2022						
				Encumbered liquid assets		Unencumbered liquid assets	
($ millions)	Bank-owned liquid assets	Securities received as collateral from securities financing and derivative transactions	Total liquid assets	Pledged as collateral	Other[1]	Available as collateral	Other
Cash and deposits with central banks	$ 56,720	$ –	$ 56,720	$ –	$5,254	$ 51,466	$–
Deposits with financial institutions	9,175	–	9,175	–	400	8,775	–
Precious metals	543	–	543	–	–	543	–
Securities:							
Canadian government obligations	51,114	29,484	80,598	40,290	–	40,308	–
Foreign government obligations	98,673	108,134	206,807	104,052	–	102,755	–
Other securities	60,783	90,675	151,458	115,995	–	35,463	–
Loans:							
NHA mortgage-backed securities	29,409	–	29,409	8,571	–	20,838	–
Total	$306,417	$228,293	$534,710	$268,908	$5,654	$260,148	$–

(1) Assets which are restricted from being used to secure funding for legal or other reasons.

A summary of total unencumbered liquid assets held by the parent bank and its branches, and domestic and foreign subsidiaries, is presented below:

T26 Total unencumbered liquid assets held by the parent bank and its branches, and domestic and foreign subsidiaries

	As at	
($ millions)	**January 31 2023**	October 31 2022
The Bank of Nova Scotia (Parent)	**$216,625**	$184,848
Bank domestic subsidiaries	**28,636**	26,912
Bank foreign subsidiaries	**42,179**	48,388
Total	**$287,440**	$260,148

The Bank's liquidity pool is held across major currencies, mostly comprised of Canadian and U.S. dollar holdings. As shown above, the vast majority (85%) of liquid assets are held by the Bank's corporate office, branches of the Bank, and Canadian subsidiaries of the Bank. To the extent a liquidity reserve held in a foreign subsidiary of the Bank is required for regulatory purposes, it is assumed to be unavailable to the rest of the Group. Other liquid assets held by a foreign subsidiary are assumed to be available only in limited circumstances. The Bank monitors and ensures compliance in relation to minimum levels of liquidity required and assets held within each entity, and/or jurisdiction.

Encumbered assets

In the course of the Bank's day-to-day activities, securities and other assets are pledged to secure an obligation, participate in clearing or settlement systems, or operate in a foreign jurisdiction. Securities are also pledged under repurchase agreements. A summary of encumbered and unencumbered assets is presented below:

T27 Asset Encumbrance

	As at January 31, 2023						
				Encumbered assets		Unencumbered assets	
($ millions)	Bank-owned assets	Securities received as collateral from securities financing and derivative transactions	Total assets	Pledged as collateral	Other(1)	Available as collateral(2)	Other(3)
Cash and deposits with central banks	$ 74,150	$ –	$ 74,150	$ –	$ 5,289	$ 68,861	$ –
Deposits with financial institutions	7,236	–	7,236	–	94	7,142	–
Precious metals	725	–	725	–	–	725	–
Liquid securities:							
Canadian government obligations	51,288	31,106	82,394	37,424	–	44,970	–
Foreign government obligations	100,163	114,406	214,569	100,495	–	114,074	–
Other liquid securities	63,279	96,951	160,230	131,771	–	28,459	–
Other securities	3,009	9,116	12,125	4,627	–	–	7,498
Loans classified as liquid assets:							
NHA mortgage-backed securities	31,258	–	31,258	8,049	–	23,209	–
Other loans	731,541	–	731,541	3,723	79,569	11,107	637,142
Other financial assets(4)	250,035	(162,536)	87,499	14,426	–	–	73,073
Non-financial assets	61,754	–	61,754	–	–	–	61,754
Total	$1,374,438	$ 89,043	$1,463,481	$300,515	$84,952	$298,547	$779,467

	As at October 31, 2022						
				Encumbered assets		Unencumbered assets	
($ millions)	Bank-owned assets	Securities received as collateral from securities financing and derivative transactions	Total assets	Pledged as collateral	Other(1)	Available as collateral(2)	Other(3)
Cash and deposits with central banks	$ 56,720	$ –	$ 56,720	$ –	$ 5,254	$ 51,466	$ –
Deposits with financial institutions	9,175	–	9,175	–	400	8,775	–
Precious metals	543	–	543	–	–	543	–
Liquid securities:							
Canadian government obligations	51,114	29,484	80,598	40,290	–	40,308	–
Foreign government obligations	98,673	108,134	206,807	104,052	–	102,755	–
Other liquid securities	60,783	90,675	151,458	115,995	–	35,463	–
Other securities	2,985	11,376	14,361	3,611	–	–	10,750
Loans classified as liquid assets:							
NHA mortgage-backed securities	29,409	–	29,409	8,571	–	20,838	–
Other loans	723,389	–	723,389	3,658	77,122	11,657	630,952
Other financial assets(4)	254,935	(160,410)	94,525	18,450	–	–	76,075
Non-financial assets	61,692	–	61,692	–	–	–	61,692
Total	$1,349,418	$ 79,259	$1,428,677	$294,627	$82,776	$271,805	$779,469

(1) Assets which are restricted from being used to secure funding for legal or other reasons.
(2) Assets that are readily available in the normal course of business to secure funding or meet collateral needs including central bank borrowing immediately available.
(3) Other unencumbered assets are not subject to any restrictions on their use to secure funding or as collateral but the Bank would not consider them to be readily available. These include loans, a portion of which may be used to access central bank facilities outside of the normal course or to raise secured funding through the Bank's secured funding programs.
(4) Securities received as collateral against other financial assets are included within liquid securities and other securities.

As at January 31, 2023, total encumbered assets of the Bank were $385 billion (October 31, 2022 – $377 billion). Of the remaining $1,078 billion (October 31, 2022 – $1,051 billion) of unencumbered assets, $299 billion (October 31, 2022 – $272 billion) are considered readily available in the normal course of business to secure funding or meet collateral needs as detailed above.

In some over-the-counter derivative contracts, the Bank would be required to post additional collateral or receive less collateral in the event its credit rating was downgraded. The Bank maintains access to sufficient collateral to meet these obligations in the event of a downgrade of its ratings by one or more of the rating agencies. As at January 31, 2023, the potential adverse impact on derivatives collateral that would result from a one-notch or two-notch downgrade of the Bank's rating below its lowest current rating was $38 million or $346 million, respectively.

Encumbered liquid assets are not considered to be available for liquidity management purposes. Liquid assets which are used to hedge derivative positions in trading books or for hedging purposes are considered to be available for liquidity management provided they meet the criteria discussed in liquid assets above.

Liquidity coverage ratio

The Liquidity Coverage Ratio (LCR) measure is based on a 30-day liquidity stress scenario, with assumptions defined in the Liquidity Adequacy Requirements (LAR) Guideline issued by the Office of the Superintendent of Financial Institutions (OSFI). The LCR is calculated as the ratio of high quality liquid assets (HQLA) to net cash outflows. The Bank is subject to a regulatory minimum LCR of 100%.

HQLA are defined in the LAR Guideline and are grouped into three main categories with varying haircuts applied to arrive at the amount included in the total weighted value in the table that follows.

The total weighted values for net cash outflows for the next 30 days are derived by applying the assumptions specified in the LAR Guideline to specific items, including loans, deposits, maturing debt, derivative transactions and commitments to extend credit.

The following table presents the Bank's LCR for the quarter ended January 31, 2023, based on the average daily positions in the quarter:

T28 Bank's average LCR(1)

For the quarter ended January 31, 2023 *($ millions)*(2)	Total unweighted value (Average)(3)	Total weighted value (Average)(4)
High-quality liquid assets		
Total high-quality liquid assets (HQLA)	*	**$230,287**
Cash outflows		
Retail deposits and deposits from small business customers, of which:	$233,556	$ 20,853
Stable deposits	89,993	2,904
Less stable deposits	143,563	17,949
Unsecured wholesale funding, of which:	311,286	142,111
Operational deposits (all counterparties) and deposits in networks of cooperative banks	103,592	24,915
Non-operational deposits (all counterparties)	178,100	87,602
Unsecured debt	29,594	29,594
Secured wholesale funding	*	48,594
Additional requirements, of which:	279,914	54,237
Outflows related to derivative exposures and other collateral requirements	46,724	22,737
Outflows related to loss of funding on debt products	6,022	6,022
Credit and liquidity facilities	227,168	25,478
Other contractual funding obligations	5,505	5,424
Other contingent funding obligations(5)	566,334	7,018
Total cash outflows	*	**$278,237**
Cash inflows		
Secured lending (e.g. reverse repos)	$225,582	$ 47,007
Inflows from fully performing exposures	34,328	21,567
Other cash inflows	21,493	21,493
Total cash inflows	**$281,403**	**$ 90,067**
		Total adjusted value (6)
Total HQLA	*	**$230,287**
Total net cash outflows	*	**$188,170**
Liquidity coverage ratio (%)	*	**122%**

For the quarter ended October 31, 2022 *($ millions)*		Total adjusted value(6)
Total HQLA	*	$213,156
Total net cash outflows	*	$179,274
Liquidity coverage ratio (%)	*	119%

* Disclosure is not required under regulatory guideline.
(1) This measure has been disclosed in this document in accordance with OSFI Guideline – Public Disclosure Requirements for Domestic Systemically Important Banks on Liquidity Coverage Ratio (April 2015).
(2) Based on the average of daily positions of the 62 business days in the quarter.
(3) Unweighted values represent outstanding balances maturing or callable within the next 30 days.
(4) Weighted values represent balances calculated after the application of HQLA haircuts or inflow and outflow rates, as prescribed by the OSFI LAR Guideline.
(5) Total unweighted value includes uncommitted credit and liquidity facilities, guarantees and letters of credit, outstanding debt securities with remaining maturity greater than 30 days, and other contractual cash outflows.
(6) Total adjusted value represents balances calculated after the application of both haircuts and inflow and outflow rates and any applicable caps.

HQLA is substantially comprised of Level 1 assets (as defined in the LAR Guideline), such as cash, deposits with central banks available to the Bank in times of stress, and highly rated securities issued or guaranteed by governments, central banks and supranational entities.

The increase in the Bank's average LCR for the quarter ended January 31, 2023 versus the average of the previous quarter was attributable to growth in deposits and wholesale funding, partly offset by growth in loans and securities. The Bank monitors its significant currency exposures, Canadian and U.S. dollars, in accordance with its liquidity risk management framework and risk appetite.

Net stable funding ratio

The Net Stable Funding Ratio (NSFR) requires institutions to maintain a stable funding profile in relation to the composition of their assets and off-balance sheet exposures. It is calculated as the ratio of available stable funding (ASF) to required stable funding (RSF), with assumptions defined in the OSFI LAR Guideline. The Bank is subject to a regulatory minimum NSFR of 100%.

ASF is defined as the portion of capital and liabilities expected to be reliable over the time horizons considered by the NSFR. RSF is a function of the liquidity characteristics and residual maturities of the various assets held by the Bank as well as those of its off-balance sheet exposures.

The total weighted values for ASF and RSF included in the table that follows are derived by applying the assumptions specified in the LAR Guideline to balance sheet items, including capital instruments, wholesale funding, deposits, loans and mortgages, securities, derivatives and commitments to extend credit.

The following table presents the Bank's NSFR as at January 31, 2023:

T29 Bank's NSFR[(1)]

As at January 31, 2023 *($ millions)*	Unweighted Value by Residual Maturity				Weighted value[(3)]
	No maturity[(2)]	< 6 months	6-12 months	≥ 1 year	
Available Stable Funding (ASF) Item					
Capital:	$ 85,450	$ –	$ –	$ –	$ 85,450
Regulatory capital	85,450	–	–	–	85,450
Other capital instruments	–	–	–	–	–
Retail deposits and deposits from small business customers:	198,408	64,050	28,878	42,439	306,348
Stable deposits	83,785	17,911	9,393	10,268	115,803
Less stable deposits	114,623	46,139	19,485	32,171	190,545
Wholesale funding:	192,312	334,206	61,991	127,181	314,307
Operational deposits	105,120	5,716	50	8	55,451
Other wholesale funding	87,192	328,490	61,941	127,173	258,856
Liabilities with matching interdependent assets[(4)]	–	1,854	3,510	17,738	–
Other liabilities:	64,062		95,738		24,015
NSFR derivative liabilities			9,392		
All other liabilities and equity not included in the above categories	64,062	60,661	3,340	22,345	24,015
Total ASF					**$730,120**
Required Stable Funding (RSF) Item					
Total NSFR high-quality liquid assets (HQLA)					$ 14,140
Deposits held at other financial institutions for operational purposes	$ 570	$ –	$ –	$ 256	$ 541
Performing loans and securities:	101,620	206,240	52,899	534,917	576,792
Performing loans to financial institutions secured by Level 1 HQLA	66	56,619	386	–	3,303
Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	3,001	64,621	12,151	12,944	29,435
Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:	55,506	70,965	27,536	237,040	292,624
With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk	–	514	900	2,129	2,090
Performing residential mortgages, of which:	21,726	12,921	12,182	278,393	226,869
With a risk weight of less than or equal to 35% under the Basel II standardised approach for credit risk	21,726	12,694	12,002	264,562	214,909
Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	21,321	1,114	644	6,540	24,561
Assets with matching interdependent liabilities[(4)]	–	1,854	3,510	17,738	–
Other assets:	2,693		151,995		58,506
Physical traded commodities, including gold	2,693				2,289
Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs			10,189		8,661
NSFR derivative assets			6,154		–
NSFR derivative liabilities before deduction of variation margin posted			27,389		1,369
All other assets not included in the above categories	–	62,278	–	45,985	46,187
Off-balance sheet items			481,268		18,660
Total RSF					**$668,639**
Net Stable Funding Ratio (%)					**109%**

As at October 31, 2022 *($ millions)*	Weighted value[(3)]
Total ASF	$720,082
Total RSF	649,927
Net stable funding ratio (%)	111%

(1) This measure has been disclosed in this document in accordance with OSFI Guideline – Net Stable Funding Ratio Disclosure Requirements (January 2021).
(2) Items in the "no maturity" time bucket do not have a stated maturity. These may include, but are not limited to, items such as capital with perpetual maturity, non-maturity deposits, short positions, open maturity positions, non-HQLA equities, and physical traded commodities.
(3) Weighted values represent balances calculated after the application of ASF and RSF rates, as prescribed by the OSFI LAR Guideline.
(4) Interdependent assets and liabilities are primarily comprised of transactions related to the Canada Mortgage Bond program.

Available stable funding is primarily provided by the Bank's large pool of retail, small business and corporate customer deposits; secured and unsecured wholesale funding and capital. Required stable funding primarily originates from the Bank's loan and mortgage portfolio, securities holdings, off-balance sheet items and other assets.

The decline in the Bank's NSFR as at January 31, 2023 versus the previous quarter was attributable to higher RSF for loans and securities, partly offset by higher ASF from deposits.

Regulatory liquidity developments

OSFI's changes to the LAR Guideline will be effective April 2023 and primarily comprise of enhancements to the Net Cumulative Cash Flow supervisory tool. Modifications are focused on the introduction of cash outflow factors for undrawn loan commitments and changes to cash inflow and outflow factors for certain loan and deposit products.

Funding

The Bank ensures that its funding sources are well diversified. Funding concentrations are regularly monitored and analyzed by type. The sources of funding are capital, deposits from retail and commercial clients sourced through the Canadian and international branch network, deposits from financial institutions as well as wholesale debt issuances.

Capital and personal deposits are key components of the Bank's core funding and these amounted to $360 billion as at January 31, 2023 (October 31, 2022 – $350 billion). The increase since October 31, 2022 is due primarily to growth in personal deposits and common equity. A portion of commercial deposits, particularly those of an operating or relationship nature, are also considered part of the Bank's core funding. Furthermore, core funding is augmented by longer-term wholesale debt issuances (original maturity of 1 year or more) of $217 billion (October 31, 2022 – $204 billion). Longer-term wholesale debt issuances include senior notes, mortgage securitizations, asset-backed securities and covered bonds.

The Bank operates in many different currencies and countries. From a funding perspective, the most significant currencies are Canadian and U.S. dollars. With respect to the Bank's operations outside Canada, there are different funding strategies depending on the nature of the activities in each country. For those countries where the Bank operates a branch banking subsidiary, the strategy is for the subsidiary to be substantially self-funding in its local market. For other subsidiaries or branches outside Canada where local deposit gathering capability is not sufficient, funding is provided through the wholesale funding activities of the Bank.

From an overall funding perspective, the Bank's objective is to achieve an appropriate balance between the cost and the stability of funding. Diversification of funding sources is a key element of the funding strategy.

The Bank's wholesale debt diversification strategy is primarily executed via the Bank's main wholesale funding centres, located in Toronto, New York, London and Singapore. The majority of these funds are sourced in Canadian and U.S. dollars. Where required, these funds are swapped to fund assets in different currencies. The funding strategy deployed by wholesale funding centres and the management of associated risks, such as geographic and currency risk, are managed centrally within the framework of policies and limits that are approved by the Board of Directors.

In the normal course, the Bank uses a mix of unsecured and secured wholesale funding instruments across a variety of markets. The choice of instruments and markets is based on a number of factors, including relative cost, market capacity and diversification of funding. Market conditions can change over time, impacting cost and capacity in particular markets or instruments. Changing market conditions can include periods of stress where the availability of funding in particular markets or instruments is constrained. In these circumstances, the Bank would increase its focus on sources of funding in functioning markets and secured funding instruments. Should a period of extreme stress exist such that all wholesale funding sources are constrained, the Bank maintains a pool of liquid assets to mitigate its liquidity risk. This pool includes cash, deposits with central banks and securities.

In Canada, the Bank raises short and longer-term wholesale debt through the issuance of senior unsecured notes. Additional longer-term wholesale debt may be generated through the Bank's Canadian Debt and Equity Shelf, the securitization of Canadian insured residential mortgages through CMHC programs (such as Canada Mortgage Bonds), uninsured residential mortgages through the Bank's Covered Bond Program, retail credit card receivables through the Trillium Credit Card Trust II program, retail indirect auto loan receivables through the Securitized Term Auto Receivables Trust program and unsecured personal lines of credit receivables through the Halifax Receivables Trust program. CMHC securitization programs, while included in the Bank's view of wholesale debt issuance, do not entail the run-off risk that can be experienced in funding raised from capital markets.

Outside of Canada, short-term wholesale debt may be raised through the issuance of negotiable certificates of deposit in the United States, Hong Kong, the United Kingdom and Australia and the issuance of commercial paper in the United States. The Bank operates longer-term wholesale debt issuance registered programs in the United States, such as its SEC Registered Debt and Equity Shelf, and non-registered programs, such as the securitization of retail indirect auto loan receivables through the Securitized Term Auto Receivables Trust program and retail credit card receivables through the Trillium Credit Card Trust II program. The Bank may issue its Covered Bond Program (listed with the U.K. Listing Authority and the Swiss Stock Exchange), in Europe, the United Kingdom, the United States, Australia and Switzerland. The Bank also raises longer-term funding across a variety of currencies through its Australian Medium Term Note Programme, European Medium Term Note Programme (listed with the U.K. Listing Authority and the Swiss Stock Exchange) and Singapore Medium Term Note Programme (listed with the Singapore Exchange and the Taiwan Exchange).

The Department of Finance's bail-in regulations under the Canada Deposit Insurance Corporation (CDIC) Act and the Bank Act, became effective September 23, 2018. Senior unsecured debt issued by the Bank on or after September 23, 2018, that has an original term greater than 400 days and is marketable, subject to certain exceptions, is subject to the Canadian Bank Recapitalization (Bail-in) regime. Under the Bail-in regime, in circumstances when the Superintendent of Financial Institutions has determined that a bank may no longer be viable, the Governor in Council may, upon a recommendation of the Minister of Finance that they are of the opinion that it is in the public interest to do so, grant an order directing the CDIC to convert all or a portion of certain shares and liabilities of that bank into common shares. As at January 31, 2023, issued and outstanding liabilities of $74 billion (October 31, 2022 – $73 billion) were subject to conversion under the bail-in regime.

The table below provides the remaining contractual maturities of funding raised through wholesale funding sources. In the Consolidated Statement of Financial Position, these liabilities are primarily included in Business and Government Deposits.

Wholesale funding sources

T30 Wholesale funding[(1)]

	As at January 31, 2023									
($ millions)	**Less than 1 month**	**1-3 months**	**3-6 months**	**6-9 months**	**9-12 months**	**Sub-Total ≤ 1 Year**	**1-2 years**	**2-5 years**	**>5 years**	**Total**
Deposit by banks[(2)]	**$ 2,486**	**$ 875**	**$ 974**	**$ 386**	**$ 64**	**$ 4,785**	**$ 263**	**$ –**	**$ –**	**$ 5,048**
Bearer notes, commercial paper and certificate of deposits	**10,404**	**23,809**	**30,799**	**18,411**	**12,564**	**95,987**	**1,840**	**348**	**51**	**98,226**
Asset-backed commercial paper[(3)]	**1,861**	**4,254**	**4,648**	**–**	**–**	**10,763**	**–**	**–**	**–**	**10,763**
Senior notes[(4)(5)]	**4,903**	**3,671**	**2,110**	**5,388**	**3,231**	**19,303**	**3,254**	**6,445**	**12,440**	**41,442**
Bail-inable notes[(5)]	**1,323**	**67**	**5,634**	**5,282**	**596**	**12,902**	**18,898**	**28,577**	**13,157**	**73,534**
Asset-backed securities	**–**	**–**	**–**	**579**	**2**	**581**	**1**	**633**	**119**	**1,334**
Covered bonds	**–**	**4,090**	**–**	**2,531**	**1,808**	**8,429**	**4,339**	**31,462**	**5,442**	**49,672**
Mortgage securitization[(6)]	**–**	**806**	**1,048**	**2,560**	**953**	**5,367**	**3,765**	**8,892**	**4,685**	**22,709**
Subordinated debt[(7)]	**–**	**–**	**–**	**–**	**–**	**–**	**47**	**2,558**	**8,325**	**10,930**
Total wholesale funding sources	**$20,977**	**$37,572**	**$45,213**	**$35,137**	**$19,218**	**$158,117**	**$32,407**	**$78,915**	**$44,219**	**$313,658**
Of Which:										
Unsecured funding	**$19,116**	**$28,422**	**$39,517**	**$29,467**	**$16,455**	**$132,977**	**$24,302**	**$37,929**	**$33,973**	**$229,181**
Secured funding	**1,861**	**9,150**	**5,696**	**5,670**	**2,763**	**25,140**	**8,105**	**40,986**	**10,246**	**84,477**

	As at October 31, 2022									
($ millions)	Less than 1 month	1-3 months	3-6 months	6-9 months	9-12 months	Sub-Total ≤ 1 Year	1-2 years	2-5 years	>5 years	Total
Deposit by banks[(2)]	$ 2,182	$ 799	$ 319	$ 600	$ 298	$ 4,198	$ 128	$ 12	$ –	$ 4,338
Bearer notes, commercial paper and certificate of deposits	8,739	18,053	29,042	17,568	9,958	83,360	824	416	50	84,650
Asset-backed commercial paper[(3)]	1,767	5,418	2,337	68	–	9,590	–	–	–	9,590
Senior notes[(4)(5)]	1,998	1,605	8,335	1,925	5,161	19,024	2,720	6,048	11,003	38,795
Bail-inable notes[(5)]	1,311	682	1,420	5,500	5,408	14,321	13,678	29,887	14,630	72,516
Asset-backed securities	–	1	–	1	592	594	3	648	103	1,348
Covered bonds	–	859	3,919	–	2,356	7,134	4,375	26,973	7,423	45,905
Mortgage securitization[(6)]	–	1,721	806	1,048	2,562	6,137	4,069	8,854	4,778	23,838
Subordinated debt[(7)]	–	–	–	–	–	–	3	2,108	8,566	10,677
Total wholesale funding sources	$15,997	$29,138	$46,178	$26,710	$26,335	$144,358	$25,800	$74,946	$46,553	$291,657
Of Which:										
Unsecured funding	$14,231	$21,138	$39,117	$25,592	$20,825	$120,903	$17,353	$38,471	$34,248	$210,975
Secured funding	1,766	8,000	7,061	1,118	5,510	23,455	8,447	36,475	12,305	80,682

(1) Wholesale funding sources exclude obligations related to securities sold under repurchase agreements and bankers' acceptances, which are disclosed in the contractual maturities table below. Amounts are based on remaining term to maturity.
(2) Only includes commercial bank deposits.
(3) Wholesale funding sources also exclude asset-backed commercial paper (ABCP) issued by certain ABCP conduits that are not consolidated for financial reporting purposes.
(4) Not subject to bail-in.
(5) Includes structured notes issued to institutional investors.
(6) Represents residential mortgages funded through Canadian Federal Government agency sponsored programs. Funding accessed through such programs does not impact the funding capacity of the Bank in its own name.
(7) Although subordinated debentures are a component of regulatory capital, they are included in this table in accordance with EDTF recommended disclosures.

Wholesale funding generally bears a higher risk of run-off in a stressed environment than other sources of funding. The Bank mitigates this risk through funding diversification, ongoing engagement with investors and by maintaining a large holding of unencumbered liquid assets. Unencumbered liquid assets of $287 billion as at January 31, 2023 (October 31, 2022 – $260 billion) were well in excess of wholesale funding sources which mature in the next twelve months.

Contractual maturities

The table below provides the maturity of assets and liabilities as well as the off-balance sheet commitments as at January 31, 2023, based on the contractual maturity date. From a liquidity risk perspective the Bank considers factors other than contractual maturity in the assessment of liquid assets or in determining expected future cash flows. In particular, for securities with a fixed maturity date, the ability and time horizon to raise cash from these securities is more relevant to liquidity management than contractual maturity. For other assets and deposits the Bank uses assumptions about rollover rates to assess liquidity risk for normal course and stress scenarios. Similarly, the Bank uses assumptions to assess the potential drawdown of credit commitments in various scenarios.

T31 Contractual maturities

	As at January 31, 2023									
($ millions)	**Less than one month**	**One to three months**	**Three to six months**	**Six to nine months**	**Nine to twelve months**	**One to two years**	**Two to five years**	**Over five years**	**No specific maturity**	**Total**
Assets										
Cash and deposits with financial institutions and precious metals	$ 76,182	$ 236	$ 326	$ 126	$ 94	$ 211	$ 395	$ 297	$ 4,244	$ 82,111
Trading assets	2,408	5,533	6,229	2,306	2,358	7,465	16,748	20,836	52,463	116,346
Securities purchased under resale agreements and securities borrowed	138,033	25,347	14,776	440	94	–	–	–	–	178,690
Derivative financial instruments	2,766	3,944	3,002	2,669	2,765	5,706	11,408	12,560	–	44,820
Investment securities – FVOCI	3,719	7,262	5,044	11,062	2,236	9,367	29,493	14,317	2,610	85,110
Investment securities – amortized cost	88	298	1,840	829	983	1,753	5,173	13,231	–	24,195
Investment securities – FVTPL	–	–	–	–	–	–	–	–	1,699	1,699
Loans	60,343	35,092	43,233	31,617	32,861	106,110	334,913	54,025	56,963	755,157
Residential mortgages	2,427	5,322	14,179	10,777	10,071	47,594	221,220	41,028	909[1]	353,527
Personal loans	3,940	2,474	3,735	3,488	2,997	13,088	24,628	6,902	39,789	101,041
Credit cards	–	–	–	–	–	–	–	–	15,494	15,494
Business and government	53,976	27,296	25,319	17,352	19,793	45,428	89,065	6,095	6,284[2]	290,608
Allowance for credit losses	–	–	–	–	–	–	–	–	(5,513)	(5,513)
Customers' liabilities under acceptances	17,676	4,016	141	23	16	–	–	–	–	21,872
Other assets	–	–	–	–	–	–	–	–	64,438	64,438
Total assets	$301,215	$81,728	$74,591	$49,072	$41,407	$130,612	$398,130	$115,266	$182,417	$1,374,438
Liabilities and equity										
Deposits	$108,983	$74,099	$71,349	$54,652	$52,515	$ 54,050	$ 89,442	$ 23,089	$421,708	$ 949,887
Personal	15,500	14,843	15,092	12,765	16,015	17,663	14,794	333	167,874	274,879
Non-personal	93,483	59,256	56,257	41,887	36,500	36,387	74,648	22,756	253,834	675,008
Financial instruments designated at fair value through profit or loss	352	418	920	1,238	1,032	6,256	3,054	13,313	–	26,583
Acceptances	17,716	4,016	141	23	16	–	–	–	–	21,912
Obligations related to securities sold short	660	855	2,236	1,835	1,774	3,951	6,082	9,342	16,704	43,439
Derivative financial instruments	3,556	3,691	2,919	2,597	2,765	6,374	13,225	17,619	–	52,746
Obligations related to securities sold under repurchase agreements and securities lent	121,729	7,120	3,177	–	180	–	–	–	–	132,206
Subordinated debentures	–	–	–	–	–	–	1,867	6,846	–	8,713
Other liabilities	5,033	2,601	1,328	1,366	977	8,293	5,213	6,617	31,773	63,201
Total equity	–	–	–	–	–	–	–	–	75,751	75,751
Total liabilities and equity	$258,029	$92,800	$82,070	$61,711	$59,259	$ 78,924	$118,883	$ 76,826	$545,936	$1,374,438
Off-balance sheet commitments										
Credit commitments[3]	$ 6,023	$13,126	$22,256	$16,369	$23,232	$ 37,327	$142,238	$ 6,962	$ 7,023	$ 274,556
Financial guarantees[4]	–	–	–	–	–	–	–	–	47,231	47,231
Outsourcing obligations[5]	18	35	54	54	54	189	45	38	–	487

(1) Includes primarily impaired mortgages.
(2) Includes primarily overdrafts and impaired loans.
(3) Includes the undrawn component of committed credit and liquidity facilities.
(4) Includes outstanding balances of guarantees, standby letters of credit and commercial letters of credit which may expire undrawn.
(5) The Bank relies on outsourcing arrangements for certain support and/or business functions, including, but not limited to, computer operations and cheque and bill payment processing.

($ millions)	As at October 31, 2022 Less than one month	One to three months	Three to six months	Six to nine months	Nine to twelve months	One to two years	Two to five years	Over five years	No specific maturity	Total
Assets										
Cash and deposits with financial institutions and precious metals	$ 57,217	$ 481	$ 171	$ 94	$ 89	$ 298	$ 464	$ 390	$ 7,234	$ 66,438
Trading assets	2,228	5,501	6,338	4,073	2,519	8,652	15,791	19,323	48,729	113,154
Securities purchased under resale agreements and securities borrowed	132,383	28,000	13,781	997	152	–	–	–	–	175,313
Derivative financial instruments	5,227	5,797	4,166	2,749	2,653	7,386	14,538	13,183	–	55,699
Investment securities – FVOCI	3,886	6,929	4,983	3,574	10,347	8,466	29,274	13,809	3,442	84,710
Investment securities – amortized cost	19	746	314	1,945	854	2,113	4,957	12,662	–	23,610
Investment securities – FVTPL	–	–	–	–	–	–	54	8	1,626	1,688
Loans	61,748	39,627	33,765	37,342	32,941	95,758	339,211	49,828	54,767	744,987
Residential mortgages	2,523	5,132	8,614	14,293	10,995	42,088	227,488	37,498	648(1)	349,279
Personal loans	3,909	2,023	3,287	3,415	3,138	13,008	24,271	6,610	39,770	99,431
Credit cards	–	–	–	–	–	–	–	–	14,518	14,518
Business and government	55,316	32,472	21,864	19,634	18,808	40,662	87,452	5,720	5,179(2)	287,107
Allowance for credit losses	–	–	–	–	–	–	–	–	(5,348)	(5,348)
Customers' liabilities under acceptances	15,418	3,812	191	55	18	–	–	–	–	19,494
Other assets	–	–	–	–	–	–	–	–	64,325	64,325
Total assets	$278,126	$90,893	$63,709	$50,829	$49,573	$122,673	$404,289	$109,203	$180,123	$1,349,418
Liabilities and equity										
Deposits	$ 97,418	$63,589	$67,249	$48,001	$53,602	$ 43,075	$ 83,647	$ 28,645	$430,955	$ 916,181
Personal	12,910	12,478	14,358	12,931	12,872	13,870	13,361	639	172,473	265,892
Non-personal	84,508	51,111	52,891	35,070	40,730	29,205	70,286	28,006	258,482	650,289
Financial instruments designated at fair value through profit or loss	337	658	727	900	1,189	5,989	2,190	10,431	–	22,421
Acceptances	15,449	3,812	191	55	18	–	–	–	–	19,525
Obligations related to securities sold short	539	1,507	890	1,817	2,404	3,959	5,437	7,426	16,470	40,449
Derivative financial instruments	3,386	4,968	4,876	3,032	3,181	8,721	17,231	20,505	–	65,900
Obligations related to securities sold under repurchase agreements and securities lent	128,128	8,596	2,153	72	–	76	–	–	–	139,025
Subordinated debentures	–	–	–	–	–	–	1,943	6,526	–	8,469
Other liabilities	3,914	1,342	2,331	1,713	695	7,526	5,404	7,150	32,624	62,699
Total equity	–	–	–	–	–	–	–	–	74,749	74,749
Total liabilities and equity	$249,171	$84,472	$78,417	$55,590	$61,089	$ 69,346	$115,852	$ 80,683	$554,798	$1,349,418
Off-balance sheet commitments										
Credit commitments(3)	$ 8,531	$ 9,272	$19,662	$23,795	$20,971	$ 35,498	$126,074	$ 23,164	$ –	$ 266,967
Financial guarantees(4)	–	–	–	–	–	–	–	–	41,977	41,977
Outsourcing obligations(5)	18	36	53	53	53	208	61	35	–	517

(1) Includes primarily impaired mortgages.
(2) Includes primarily overdrafts and impaired loans.
(3) Includes the undrawn component of committed credit and liquidity facilities.
(4) Includes outstanding balances of guarantees, standby letters of credit and commercial letters of credit which may expire undrawn.
(5) The Bank relies on outsourcing arrangements for certain support and/or business functions, including, but not limited to, computer operations and cheque and bill payment processing.

Credit ratings

Credit ratings are one of the factors that impact the Bank's access to capital markets and the terms on which it can conduct derivatives, hedging transactions and borrow funds. The credit ratings and outlook that the rating agencies assign to the Bank are based on their own views and methodologies.

The Bank continues to have strong credit ratings and its deposits and legacy senior debt are rated AA by DBRS Morningstar, Aa2 by Moody's, A+ by Standard and Poor's (S&P), and AA by Fitch. The Bank's bail-inable senior debt is rated AA (low) by DBRS Morningstar, A2 by Moody's, AA- by Fitch and A- by S&P. As of January 31, 2023 all rating agencies have a Stable outlook on the Bank. There were no changes made to the Bank's credit ratings or outlooks during the quarter.

Capital Management

We continue to manage our capital in accordance with the capital management framework as described on pages 54 to 67 of the Bank's 2022 Annual Report. In addition, in December 2022 OSFI announced that the Domestic Stability Buffer (DSB) will increase to 3.0% of total risk-weighted assets, effective February 1, 2023, and has increased the DSB's range from 0% to 4.0%. OSFI's minimum regulatory capital ratio requirements, including the domestic systemically important bank (D-SIB) 1.0% surcharge and its Domestic Stability Buffer will increase to: 11.0%, 12.5% and 14.5% for Common Equity Tier 1 (CET1), Tier 1 and Total capital ratios, respectively.

Effective Q2 2023, the Bank's Leverage and TLAC Leverage ratios will no longer benefit from the temporary exclusion of central bank reserves. The Q1 2023 Leverage ratio included a benefit of approximately 20 basis points from the temporary exclusion of central bank reserves.

Regulatory capital and total loss absorbing capacity ratios

The Bank's various regulatory capital and total loss absorbing capacity measures consist of the following:

T32 Regulatory capital and total loss absorbing capacity ratios

	As at	
($ millions)	**January 31 2023**	October 31 2022
Common Equity Tier 1 capital(1)	**$ 54,138**	$ 53,081
Tier 1 capital(1)	**62,317**	61,262
Total regulatory capital(1)	**71,867**	70,710
Total loss absorbing capacity (TLAC)(2)	**131,433**	126,565
Risk-weighted assets(1)(3)	**$ 471,528**	$ 462,448
Capital ratios (%)(1):		
Common Equity Tier 1 capital ratio	**11.5**	11.5
Tier 1 capital ratio	**13.2**	13.2
Total capital ratio	**15.2**	15.3
Total loss absorbing capacity ratio(2)	**27.9**	27.4
Leverage(4):		
Leverage exposures	**$1,468,559**	$1,445,619
Leverage ratio (%)	**4.2**	4.2
Total loss absorbing capacity leverage ratio (%)(2)	**8.9**	8.8

(1) Regulatory capital ratios are determined in accordance with OSFI Guideline – Capital Adequacy Requirements (November 2018).
(2) This measure has been disclosed in this document in accordance with OSFI Guideline – Total Loss Absorbing Capacity (September 2018).
(3) As at January 31, 2023 and October 31, 2022, the Bank did not have a regulatory capital floor add-on to risk-weighted assets for CET1, Tier1, Total and TLAC RWA.
(4) This measure has been disclosed in this document in accordance with OSFI Guideline – Leverage Requirements (November 2018).

The Bank's CET1 capital ratio was 11.5% as at January 31, 2023, unchanged from the prior quarter, as internal capital generation and gains from the revaluation of FVOCI securities were offset by organic growth in risk-weighted assets across all business lines and the impact of the Canada Recovery Dividend (CRD).

The Bank's Tier 1 capital ratio was 13.2% as at January 31, 2023, approximately in line with the prior quarter, due primarily to the above noted impacts to the CET1 ratio.

The Bank's Total capital ratio was 15.2% as at January 31, 2023, a decrease of approximately 10 basis points from the prior quarter, mainly due to the above noted impacts to the Tier 1 capital ratio.

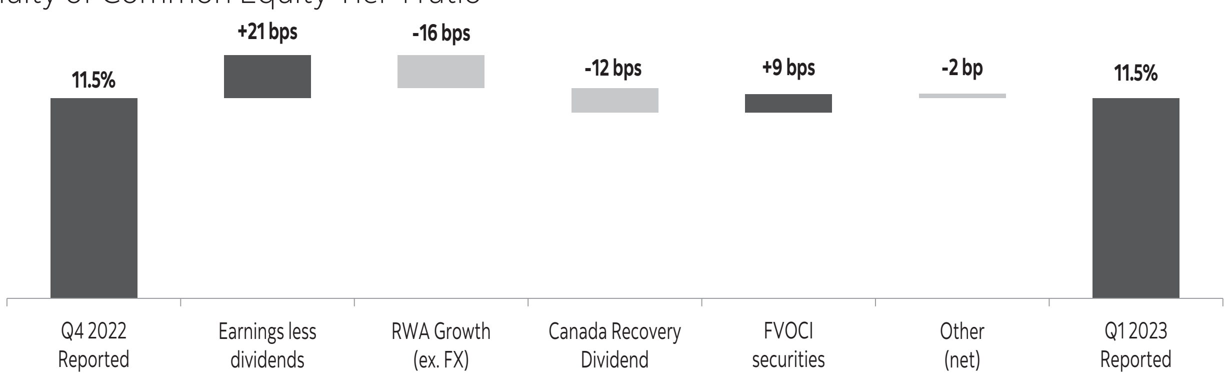
The Leverage ratio was 4.2% as at January 31, 2023 and also remained in line with the prior quarter, due primarily to higher Tier 1 capital offset by strong growth in the Bank's on and off-balance sheet assets.

The TLAC ratio was 27.9% as at January 31, 2023, an increase of approximately 50 basis points from the prior quarter, mainly from higher TLAC instruments partly offset by the above noted impacts to the Total capital ratio.

The TLAC Leverage ratio was 8.9%, an increase of approximately 10 basis points, due primarily to higher TLAC instruments partly offset by the growth in leverage exposures.

As at January 31, 2023, the CET1, Tier 1, Total capital, Leverage, TLAC and TLAC Leverage ratios were well above OSFI's minimum capital ratios.

Continuity of Common Equity Tier 1 ratio(1)



(1) This measure has been disclosed in this document in accordance with OSFI Guideline – Capital Adequacy Requirements (November 2018).

Changes in regulatory capital

The Bank's Common Equity Tier 1 capital was $54.1 billion, as at January 31, 2023, an increase of approximately $1.0 billion from the prior quarter, due primarily to strong internal capital generation of $982 million (excluding the CRD) and higher net accumulated other comprehensive income of $526 million, mainly from net gains in FVOCI securities and from foreign currency translation, partly offset by the CRD of $579 million.

Risk-weighted assets

CET1 risk-weighted assets (RWA) increased during the quarter by $9.1 billion (or 2.0%) to $471.5 billion, due primarily to organic growth in retail mortgages, personal and business lending and the impacts from foreign currency translation.

Global Systemically Important Bank (G-SIB) Disclosures

In 2013, the Basel Committee on Banking Supervision (BCBS), in conjunction with the Financial Stability Board (FSB), issued "Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement" which assesses the systemic importance of banks to the global financial system and wider economy. Banks with Basel III leverage exposures in excess of EUR 200 billion or those classified as a G-SIB in the past year are required to participate in an annual survey.

The G-SIB indicators as defined by the BCBS are intended to reflect the size of banks, their interconnectedness, the amount of financial institution infrastructure they provide, their cross-jurisdictional activity and their complexity. According to the most recent assessment by the FSB communicated in November 2022, the Bank is not considered to be a G-SIB based on October 31, 2021 indicators. However, the Bank is required to disclose the values of its indicators in accordance with the "Global systemically important banks – Public disclosure requirements" as revised by OSFI in 2021. The G-SIB indicators provided below are calculated based on specific instructions issued by the BCBS and may not be directly comparable against other disclosed information.

T33 G-SIB indicators

As at and for the year ended October 31 ($ millions)

Category[(1)]	**Indicator**[(1)]	**2022**	2021
Cross-jurisdictional activity	Cross-jurisdictional claims	**$ 643,118**	$ 526,898
	Cross-jurisdictional liabilities	**435,855**	345,942
Size	Total exposures as defined for use in the Basel III leverage ratio	**1,513,699**	1,347,678
Interconnectedness	Intra-financial system assets	**140,274**	126,348
	Intra-financial system liabilities	**108,988**	88,154
	Securities outstanding	**343,516**	304,979
Substitutability/financial institution infrastructure	Payments activity	**17,254,651**	14,431,274
	Assets under custody	**371,855**	359,478
	Underwritten transactions in debt and equity markets	**87,482**	85,121
	Trading volume		
	– Trading volume fixed income	**2,809,979**	2,783,046
	– Trading volume equities and other securities	**1,554,656**	1,576,615
Complexity	Notional amount of over-the-counter derivatives	**7,291,214**	5,842,155
	Trading, FVTPL, and FVOCI securities	**38,359**	73,321
	Level 3 assets	**1,750**	1,411

(1) As defined by the BCBS publication "Global systemically important banks: updated assessment methodology and the higher loss absorbency requirement" (July 2018).

Changes in G-SIB Indicators

During 2022, intra-financial system liabilities increased primarily due to increased deposits. Payment activity increased primarily due to higher volumes in US and CAD dollars. Level 3 assets increased primarily from equity securities. Notional amounts of over-the-counter derivatives increased primarily in interest rate contracts. Trading, FVTPL, and FVOCI securities decreased primarily due to the indicator's exclusions of higher volumes of Basel III LCR Level 1 Trading and FVOCI securities. Other year-over-year movements generally reflect changes in business activity or impacts from foreign currency translation.

Normal Course Issuer Bid

The Bank currently does not have an active normal course issuer bid and did not repurchase any common shares during the quarter ended January 31, 2023. The Bank's previous normal course issuer bid terminated on December 1, 2022. Under this program, the Bank repurchased and cancelled approximately 32.9 million common shares at a volume weighted average price of $87.28 per share for a total amount of $2,873 million. These repurchases were carried out prior to October 31, 2022.

Common dividend

The Board of Directors, at its meeting on February 27, 2023, approved a dividend of $1.03 per share. This quarterly dividend is payable to shareholders of record as of April 4, 2023, on April 26, 2023.

Shareholders of the Bank may elect to have their cash dividends reinvested in common shares of the Bank, in accordance with the Shareholder Dividend Reinvestment and Share Purchase Plan (the "Plan"). The Bank has determined that, beginning with the dividend declared on February 28, 2023, and to be paid on April 26, 2023, and until further announcement, the Bank will issue the common shares from treasury with a discount of 2% to the average market price (as defined in the Plan). Previously, common shares received by participants under the Plan were shares purchased from the open market at prevailing market prices.

Regulatory capital developments

Basel Committee on Banking Supervision – Finalized Basel III Regulatory Capital Reforms

In December 2017, the Group of Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision (BCBS), announced that they have agreed on the remaining Basel III reforms. The previously expected implementation year of 2022 was delayed to 2023.

The final Basel III reforms package includes:

- a revised standardized approach for credit risk;
- revisions to the internal ratings-based approach for credit risk;
- revisions to the credit valuation adjustment (CVA) framework, including the removal of the internally modelled approach and the introduction of a revised standardized approach;
- a revised market risk framework from a Fundamental Review of the Trading Book (FRTB);

- a revised standardized approach for operational risk, which will replace the existing standardized approaches and the advanced measurement approach;
- revisions to the measurement of the leverage ratio and a leverage ratio buffer for global systemically important banks (G-SIBs), which will take the form of a Tier 1 capital buffer set at 50% of a G-SIB's risk-weighted capital buffer; and
- an aggregate output floor, which will ensure that banks' risk-weighted assets (RWAs) generated by internal models are not lower than 72.5% of RWAs as calculated by the Basel III framework's standardized approaches.

Banks will also be required to disclose their RWAs based on these standardized approaches. There is a phase-in period for the 72.5% output floor from 2023 until 2028.

In January 2022, OSFI finalized revisions to its Capital Adequacy Requirements Guideline, Leverage Requirements Guideline, and Pillar 3 Disclosures Guideline for D-SIBs. OSFI's requirements are substantially aligned with Basel III with some differences, primarily in retail residential real estate and qualifying revolving retail exposures and with respect to an acceleration of the phase-in period of the aggregate output floor to 72.5% by 2026. Implementation timelines are Q2 2023, with exception of CVA and FRTB market risk requirements which are effective Q1 2024.

The Bank will be implementing the Basel III reforms in line with OSFI's requirements in Q2 2023. The expected benefit on adoption is estimated to be in the range of approximately 20 to 30 basis points.

Financial Instruments

Given the nature of the Bank's main business activities, financial instruments make up a substantial portion of the balance sheet and are integral to the Bank's business. There are various measures that reflect the level of risk associated with the Bank's portfolio of financial instruments. Further discussion of some of these risk measures is included in the Risk Management section. The methods of determining the fair value of financial instruments are detailed on page 166 of the Bank's 2022 Annual Report.

Management's judgment on valuation inputs is necessary when observable market data is not available, and in the selection of appropriate valuation models. Uncertainty in these estimates and judgments can affect fair value and financial results recorded. During the quarter, changes in the fair value of financial instruments reflect the current economic environment, industry and market conditions.

Many financial instruments are traded products such as derivatives, and are generally transacted under industry standard International Swaps and Derivatives Association (ISDA) master netting agreements with counterparties, which allow for a single net settlement of all transactions covered by that agreement in the event of a default or early termination of the transactions. ISDA agreements are frequently accompanied by an ISDA Credit Support Annex (CSA), the terms of which may vary according to each party's view of the other party's creditworthiness. CSAs can require one party to post initial margin at the onset of each transaction. CSAs also allow for variation margin to be called if total uncollateralized mark-to-market exposure exceeds an agreed upon threshold. Such variation margin provisions can be one-way (only one party will ever post collateral) or bi-lateral (either party may post depending upon which party is in-the-money). The CSA will also detail the types of collateral that are acceptable to each party, and the haircuts that will be applied against each collateral type. The terms of the ISDA master netting agreements and CSAs are taken into consideration in the calculation of counterparty credit risk exposure (see also page 84 of the Bank's 2022 Annual Report).

Total derivative notional amounts were $7,960 billion as at January 31, 2023, compared to $7,597 billion as at October 31, 2022. The quarterly increase was primarily due to an increase in the volume of interest rate and foreign exchange contracts, partly offset by foreign currency translation. The total notional amount of over-the-counter derivatives was $7,510 billion compared to $7,290 billion as at October 31, 2022, of which $5,625 billion was settled through central counterparties as at January 31, 2023 (October 31, 2022 – $5,474 billion). The credit equivalent amount, after taking master netting arrangements into account, was $38.0 billion, compared to $41.0 billion at October 31, 2022. The decrease was primarily attributable to the lower exposure of commodity and foreign exchange contracts partly offset by an increase in equity contracts.

Selected credit instruments

A complete discussion of selected credit instruments which markets regarded as higher risk during the financial crisis was provided on page 71 of the Bank's 2022 Annual Report. The Bank's net exposures have remained substantially unchanged from year end.

Off-Balance Sheet Arrangements

In the normal course of business, the Bank enters into contractual arrangements that are either consolidated or not required to be consolidated in its financial statements, but could have a current or future impact on the Bank's financial performance or financial condition. These arrangements can be classified into the following categories: structured entities, securitizations and guarantees and other commitments.

No material contractual obligations were entered into this quarter by the Bank with the structured entities that are not in the ordinary course of business. Processes for review and approval of these contractual arrangements are unchanged from last year. For a complete discussion of these types of arrangements, please refer to pages 67 to 70 of the Bank's 2022 Annual Report.

Structured entities

The Bank sponsors two Canadian multi-seller conduits that are not consolidated. These multi-seller conduits purchase high-quality financial assets and finance these assets through the issuance of highly rated commercial paper. Although the Bank has power over the relevant activities of the conduits, it has limited exposure to variability in returns, which results in the Bank not consolidating the two Canadian conduits.

A significant portion of the conduits' assets have been structured to receive credit enhancements from the sellers, including overcollateralization protection and cash reserve accounts. Each asset purchased by the conduits is supported by a backstop liquidity facility provided by the Bank in the form of a liquidity asset purchase agreement (LAPA). The primary purpose of the backstop liquidity facility is to provide an alternative source of financing in the event the conduits are unable to access the commercial paper market. Under the terms of the LAPA, in most cases, the Bank is not obliged to purchase defaulted assets.

The Bank's primary exposure to the Canadian-based conduits is the liquidity support provided, with total liquidity facilities of $7 billion as at January 31, 2023 (October 31, 2022 – $6.4 billion). As at January 31, 2023, total commercial paper outstanding for these conduits was $5.1 billion (October 31, 2022 – $3.8 billion). Funded assets purchased and held by these conduits as at January 31, 2023, as reflected at original cost, were $5.1 billion (October 31, 2022 – $3.8 billion). The fair value of these assets approximates original cost. There has been no significant change in the composition or risk profile of these conduits since October 31, 2022.

Other off-balance sheet arrangements

Guarantees and other indirect commitments increased by 1% from October 31, 2022. The increase is due primarily to securities lending activities and undrawn commitments. Fees from guarantees and loan commitment arrangements recorded as credit fees in non-interest income were $178 million for the three months ended January 31, 2023, compared to $174 million in the previous quarter, and $170 million in the same period last year.

Regulatory Developments

The Bank continues to monitor and respond to global regulatory developments relating to a broad spectrum of topics, in order to ensure that control functions and business lines are responsive on a timely basis and business impacts, if any, are minimized. A high-level summary of some of the key regulatory developments that have the potential of impacting the Bank's operations is included in the Legal and compliance risk section in the Bank's 2022 Annual Report, as may be updated below.

Regulatory Initiatives Impacting Financial Services in Canada

On September 22, 2021, Bill 64, Quebec's Act to Modernize Legislative Provisions respecting the Protection of Personal Information received royal assent. The first series of amendments came into force on September 22, 2022, and the second series of amendments come into force on September 22, 2023, with the remainder coming into force in 2024. This law reforms the Quebec Act Respecting the Protection of Personal Information in the Private Sector. It is modeled after the initial versions of the European Union's General Data Protection Regulation, and introduced key changes, including increased enforcement powers for the Commission d'accès à l'information, significant new monetary penalties for non-compliance, risk assessments for data transfers outside Quebec, mandatory breach notification and record keeping, and itemized express consent requirements. The Bank has established a project under which it has engaged business stakeholders and key groups to consider the law's application.

On July 16, 2022, the Canadian federal government introduced Bill C-27, the Digital Charter Implementation Act 2022. Bill C-27 is designed to modernize, and in certain respects reinforce, Canadian private sector privacy law by enhancing transparency and control over personal information held by businesses, and imposing new, potentially significant fines for non-compliance. Bill C-27 is currently in its second reading in Parliament, and the Bank continues to monitor its progress.

On July 13, 2022, the Office of the Superintendent of Financial Institutions (OSFI) issued Guideline B-13 – Technology and Cyber Risk Management. B-13 applies to all federally regulated financial institutions (FRFIs), which includes the Bank, and establishes expectations with the aim to support FRFIs in developing greater resilience to technology and cyber risks. B-13 is organized into three domains, each of which sets out key components for sound risk management: Governance and Risk Management, Technology Operations and Resilience, and Cyber Security. B-13 will become effective on January 1, 2024. The Bank has completed the gap assessment against this Guideline and is currently working on remediation plans to achieve compliance.

On June 14, 2022, the House of Commons of Canada introduced Bill C-26, the Critical Cyber System Protection Act (CCSP) that will require, among other things, mandatory reporting of cyberattacks against systems of critical importance to Canadian interests. The legislative process regarding Bill C-26 is ongoing. The Bank continues to monitor developments under this Bill.

The Commodity Futures Trading Commission (CFTC) Position Limit and Swap Reporting Rules

In October 2020, the CFTC approved final position limit rules for twenty-five commodity derivatives and their linked cash-settled futures, options on futures, and economically equivalent swaps. New position limits for futures, options on futures, and for economically equivalent swaps went into effect in January 2022 and January 2023, respectively. The Bank is on track with the implementation of these rules.

On January 31, 2022, the CFTC published No-Action Relief extending the Compliance Dates of the Swap Data Reporting Rule Amendments from May 2022 and May 2023 to December 5, 2022, and December 4, 2023, respectively. Certain swap reporting rule amendments went into effect in December 2022. The Bank is on track with the implementation for December 2023.

The Ontario Securities Commission New Fees

The Ontario Securities Commission (OSC) changed OSC Rule 13-502 to establish new fees for entities that enter into over-the-counter (OTC) derivatives transactions. The changes are effective April 2023. BNS will be subject to new fees which will finance the OSC's supervision of banks' OTC derivatives business conduct. The CSA has indicated that new Canada OTC derivative business conduct rules may be published in 2023 and have an effective date one year following the date of publication. The Bank has been involved in discussions within the industry to prepare for these new conduct requirements.

Disclosure of Climate-Related Matters

In 2022, various regulators and standard setting bodies announced draft climate-related disclosure guidelines that are aligned to the Task Force on Climate-related Financial Disclosures (TCFD) recommendations.

The Bank participated in the reviewing of these draft guidelines. General advocacy themes included a phased-in approach to full compliance that encourages harmonization across jurisdictions, allows for flexibility in the timing and location of disclosures that are based on materiality, and requires climate-specific safe harbor protections for certain disclosure elements.

Recently, the SEC published its intention to release its final climate risk guideline in April 2023 and the International Sustainability Standards Board (ISSB) signaled that their final climate and sustainability-related disclosure standards are expected to be published in June 2023.

From a Canadian perspective, OSFI's final climate risk management guideline should be released in Spring 2023 and will align to the ISSB standards. The CSA announced the removal of their initial disclosure deadline and are actively considering the impact of international developments on their proposed climate-related disclosure rule before final publication.

The Bank actively monitors policy and legislative requirements through ongoing dialogue with government, industry, and stakeholders in the countries where it operates.

Interest rate benchmark reform

Major interest rate benchmark reviews have been undertaken globally to either reform or phase out certain interbank offered rates (IBORs), including the Canadian Dollar Offered Rate (CDOR). As an alternative to IBORs, the regulators have recommended markets begin adopting alternative risk-free rates.

As of June 30, 2023, USD LIBOR will cease to be published in its current form. The Bank's Transition Program continues to focus its efforts on the transition of products referencing USD LIBOR and ensuring the Bank is not building its exposure to USD LIBOR, except as permitted by the regulators.

On May 16, 2022, Refinitiv Benchmark Services (UK) Limited, the administrator of CDOR, announced the cessation of the publication of one-month, two-month, and three-month CDOR tenors after June 28, 2024, and this was authorized by the Ontario Securities Commission and the Autorité des marchés financiers.

The Canadian Alternative Reference Rate (CARR) committee has published a detailed transition roadmap with milestones to guide market participants on the transition away from CDOR for all product types. The CARR has also confirmed its intention to move forward with the development of a forward-looking Term Canadian Overnight Repo Rate Average (CORRA), which is expected to become available by September 30, 2023. OSFI has also set out its expectations for FRFIs, with transactions linked to CDOR, to transition to new reference rates before the cessation date.

The Bank's Transition Program has updated its project plans to align with the CDOR transition roadmap and milestones published by CARR and ensure alignment with OSFI's expectations for FRFIs. The details regarding the Bank's Transition Program for the interest rate benchmark reform are available in Note 4 of the 2022 Annual Report.

Canadian Federal Tax Measures

On December 15, 2022, Bill C-32 relating to tax measures announced in the 2022 Federal Budget completed all readings in parliament and received royal assent to become law. These tax measures included the Canada Recovery Dividend (CRD) under which the Bank and certain Canadian banking subsidiaries will pay a one-time 15% tax on "taxable income" in excess of $1 billion, as well as an increase of 1.5% to the federal corporate income tax rate on their taxable income above $100 million. For the CRD, "taxable income" is based on the average taxable income for the 2020 and 2021 taxation years. The CRD is payable in equal amounts over five years.

The impact of these enacted tax measures has been recognized in the Bank's financial results as at January 31, 2023. The Bank recognized income tax expense of $579 million in the Consolidated Statement of Income for the present value of the total CRD payable of approximately $640 million. The increase in the Canadian statutory tax rate resulted in a benefit of $39 million related to the 2022 taxation year, including the revaluation of the Bank's deferred tax assets and liabilities. Of this amount, $13 million was recognized in the Consolidated Statement of Income and the remainder in Other Comprehensive Income.

Accounting Policies and Controls

Accounting policies and estimates

The condensed interim consolidated financial statements have been prepared in accordance with IAS 34 *Interim Financial Reporting*, using International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB). The significant accounting policies used in the preparation of the condensed interim consolidated financial statements are consistent with those used in the Bank's audited consolidated financial statements for the year ended October 31, 2022, as described in Note 3 of the Bank's 2022 annual consolidated financial statements.

Future accounting developments

There are no significant updates to the future accounting developments disclosed in Note 5 of the Bank's audited consolidated financial statements in the 2022 Annual Report.

Changes in internal control over financial reporting

There have been no changes in the Bank's internal control over financial reporting during the three months ended January 31, 2023, that have materially affected, or are reasonably likely to materially affect, the Bank's internal control over financial reporting.

Related party transactions

There were no changes to the Bank's procedures and policies for related party transactions from those outlined in the Bank's 2022 Annual Report. All transactions with related parties continued to be at market terms and conditions.

Share Data

T34 Shares and other instruments

January 31, 2023	Amount ($ millions)	Dividends declared per share[1]	Number outstanding (000s)	Conversion feature
Common Shares [2]	$ 18,732	$ 1.03	1,191,752	n/a
NVCC Preferred Shares[3]				
Preferred shares Series 40[4]	$ 300	$ 0.303125	12,000	Series 41

NVCC Additional Tier 1 Securities[3][6]	Amount ($ millions)	Distribution[5]	Yield (%)	Number outstanding (000s)
Subordinated Additional Tier 1 Capital Notes	US$ 1,250	US$ 18.6347	7.45386	1,250
Subordinated Additional Tier 1 Capital Notes	US$ 1,250	US$ 12.25	4.900	1,250
Limited Recourse Capital Notes Series 1	$ 1,250	$ 9.25	3.700	1,250
Limited Recourse Capital Notes Series 2	US$ 600	US$ 9.0625	3.625	600
Limited Recourse Capital Notes Series 3	$ 1,500	$ 17.5575	7.023	1,500
Limited Recourse Capital Notes Series 4	US$ 750	US$ 21.5625	8.625	750

NVCC Subordinated Debentures[3]	Amount ($ millions)	Interest rate (%)
Subordinated debentures due December 2025	US$ 1,250	4.50
Subordinated debentures due January 2029	$ 1,750	3.89
Subordinated debentures due July 2029	$ 1,500	2.836
Subordinated debentures due May 2032	$ 1,750	3.934
Subordinated debentures due December 2032	JPY 33,000	1.800
Subordinated debentures due May 2037	US$ 1,250	4.588

Other	Amount ($ millions)	Distribution[5]	Yield (%)	Number outstanding (000s)
Scotiabank Trust Securities – Series 2006-1 issued by Scotiabank Capital Trust[7]	$ 750	$ 28.25	5.650	750

Options	Number outstanding (000s)
Outstanding options granted under the Stock Option Plans to purchase common shares[2]	11,937

(1) Dividends are paid quarterly, if and when declared. Represents dividends announced on February 28, 2023. The Board of Directors, at its meeting on February 27, 2023, approved a dividend payable on April 26, 2023 to shareholders of record as of April 4, 2023.
(2) As at February 17, 2023, the number of outstanding common shares and options were 1,191,758 thousand and 11,888 thousand, respectively.
(3) These securities contain Non-Viability Contingent Capital (NVCC) provisions necessary to qualify as regulatory capital under Basel III. Refer to Notes 21 and 24 of the consolidated financial statements in the Bank's 2022 Annual Report for further details. The maximum number of common shares issuable on conversion of NVCC subordinated debentures, NVCC Subordinated additional Tier 1 capital notes, including those issued to Scotiabank LRCN Trust as recourse assets in respect of NVCC Limited Recourse Capital Notes, and NVCC Preferred Shares as at January 31, 2023 would be 4,627 million common shares based on the floor price and excluding the impact of any accrued and unpaid interest and any declared but unpaid dividends.
(4) These preferred shares are entitled to non-cumulative preferential cash dividends payable quarterly. These preferred shares have conversion features. Refer to Note 24 of the Consolidated Financial Statements in the Bank's 2022 Annual Report for further details.
(5) Distributions per face amount of $1,000 or US$1,000 semi-annually or quarterly, as applicable.
(6) Quarterly distributions are recorded in each fiscal quarter, if and when paid.
(7) These securities have exchange features. Refer to Table 29 in the Bank's 2022 Annual Report for further details.

For further details on outstanding securities of the Bank, including convertibility features, refer to Notes 21, 24 and 26 of the Bank's consolidated financial statements in the 2022 Annual Report.

Glossary

Allowance for Credit Losses: An allowance set aside which, in management's opinion, is adequate to absorb credit-related losses on all financial assets and off-balance sheet exposures subject to impairment assessment. It includes allowances for performing financial assets and impaired financial assets.

Allowance for Credit Losses Ratio: The ratio of period end total allowance for credit losses (excluding debt securities and deposits with financial institutions) divided by gross loans and acceptances.

Allowance for Impaired Loans Ratio: The ratio of period end impaired allowance for credit losses (excluding debt securities and deposits with financial institutions) divided by gross loans and acceptances.

Allowance for Performing Loans Ratio: The ratio of period end performing allowance for credit losses (excluding debt securities and deposits with financial institutions) divided by gross loans and acceptances.

Allowance against Impaired Loans as a % of Gross Impaired Loans: The ratio of allowance against impaired loans to gross impaired loans.

Assets Under Administration (AUA): Assets administered by the Bank which are beneficially owned by clients and therefore not reported on the Bank's Consolidated Statement of Financial Position. Services provided for AUA are of an administrative nature, such as trusteeship, custodial, safekeeping, income collection and distribution, securities trade settlements, customer reporting, and other similar services.

Assets Under Management (AUM): Assets managed by the Bank on a discretionary basis and in respect of which the Bank earns investment management fees. AUM are beneficially owned by clients and are therefore not reported on the Bank's Consolidated Statement of Financial Position. Some AUM are also administered assets and are therefore included in assets under administration.

Bankers' Acceptances (BAs): Negotiable, short-term debt securities, guaranteed for a fee by the issuer's bank.

Basis Point: A unit of measure defined as one-hundredth of one per cent.

Book Value per Common Share: Common shareholders equity divided by the number of outstanding common shares at the end of the period.

Common Equity Tier 1 (CET1), Tier 1 and Total Capital Ratios: Under Basel III, there are three primary regulatory capital ratios used to assess capital adequacy, CET1, Tier 1 and Total capital ratios, which are determined by dividing those capital components by their respective risk-weighted assets.

CET1 consists primarily of common shareholders' equity net of regulatory adjustments. These regulatory adjustments include goodwill, intangible assets net of deferred tax liabilities, deferred tax assets that rely on future profitability, defined-benefit pension fund net assets, shortfall of credit provision to expected losses and significant investments in common equity of other financial institutions.

Tier 1 includes CET1 and additional Tier 1 capital which consists primarily of qualifying non-cumulative preferred shares, non-cumulative subordinated additional Tier 1 capital notes and limited recourse capital notes. Tier 2 capital consists mainly of qualifying subordinated debentures and the eligible allowances for credit losses.

Total capital is comprised of CET1 capital, Tier 1 capital and Tier 2 capital.

Covered Bonds: Debt obligations of the Bank for which the payment of all amounts of interest and principal are unconditionally and irrevocably guaranteed by a limited partnership and secured by a pledge of the covered bond portfolio. The assets in the covered bond portfolio held by the limited partnership consist of first lien Canadian uninsured residential mortgages or first lien Canadian residential mortgages insured under CMHC Mortgage Insurance, respectively, and their related security interest.

Derivative Products: Financial contracts whose value is derived from an underlying price, interest rate, exchange rate or price index. Forwards, options and swaps are all derivative instruments.

Dividend Yield: Dividends per common share divided by the average of the high and low share price in the relevant period.

Effective Tax Rate: The effective tax rate is the overall tax rate paid by the Bank on its earned income. The effective tax rate is calculated by dividing the Bank's income tax expenses by the income before taxes.

Fair Value: The price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants in the principal, or in its absence, the most advantageous market to which the Bank has access at the measurement date.

Foreign Exchange Contracts: Commitments to buy or sell a specified amount of foreign currency on a set date and at a predetermined rate of exchange.

Forward Rate Agreement (FRA): A contract between two parties, whereby a designated interest rate, applied to a notional principal amount, is locked in for a specified period of time. The difference between the contracted rate and prevailing market rate is paid in cash on the settlement date. These agreements are used to protect against, or take advantage of, future interest rate movements.

Futures: Commitments to buy or sell designated amounts of commodities, securities or currencies on a specified date at a predetermined price. Futures are traded on recognized exchanges. Gains and losses on these contracts are settled daily, based on closing market prices.

Gross Impaired Loans as a % of Loans and Acceptances: The ratio of gross impaired loans, debt investments and off-balance sheet exposures expressed as a percentage of loans and acceptances.

Hedging: Protecting against price, interest rate or foreign exchange exposures by taking positions that are expected to react to market conditions in an offsetting manner.

Impaired Loans: Loans on which the Bank no longer has reasonable assurance as to the timely collection of interest and principal, or where a contractual payment is past due for a prescribed period or the customer is declared to be bankrupt.

Leverage Ratio: The ratio of Basel III Tier 1 capital to a leverage exposure measure which includes on-balance sheet assets and off-balance sheet commitments, derivatives and securities financing transactions, as defined within the OSFI Leverage Requirements Guideline.

Liquidity Coverage Ratio (LCR): The ratio of high quality liquid assets to stressed net cash outflows over a 30 calendar day time horizon, as defined within the OSFI Liquidity Adequacy Requirements Guideline.

Marked-To-Market: The valuation of certain financial instruments at fair value as of the Consolidated Statement of Financial Position date.

Market Value to Book Value Multiple: This financial valuation metric is calculated by dividing the current closing share price of the period by the book value per common share.

Net Impaired Loans as a % of Loans and Acceptances: The ratio of net impaired loans, debt investments and off-balance sheet exposures expressed as a percentage of loans and acceptances.

Net Interest Margin: Net interest margin is calculated as core net interest income for the business line divided by average core earning assets.

Net Stable Funding Ratio (NSFR): The ratio of available stable funding to required stable funding, as defined within the OSFI Liquidity Adequacy Requirements Guideline.

Net Write-offs as a % of Average Net Loans and Acceptances: The ratio of net write-offs expressed as a percentage of average net loans and acceptances.

Notional Principal Amounts: The contract or principal amounts used to determine payments for certain off-balance sheet instruments and derivatives, such as FRAs, interest rate swaps and cross-currency swaps. The amounts are termed "notional" because they are not usually exchanged themselves, serving only as the basis for calculating amounts that do change hands.

Off-Balance Sheet Instruments: These are indirect credit commitments, including undrawn commitments to extend credit and derivative instruments, which are not recorded on the Bank's balance sheet under IFRS.

Operating Leverage: This financial metric measures the rate of growth in total revenue less the rate of growth in non-interest expenses.

Options: Contracts between buyer and seller giving the buyer of the option the right, but not the obligation, to buy (call) or sell (put) a specified commodity, financial instrument or currency at a set price or rate on or before a specified future date.

OSFI: The Office of the Superintendent of Financial Institutions Canada, the regulator of Canadian banks.

Pacific Alliance: Comprises the countries of Chile, Colombia, Mexico and Peru.

Price to Earnings Multiple (Trailing 4 Quarters): Closing share price at period end divided by cumulative basic earnings per common share (EPS) of the past 4 quarters.

Productivity Ratio: Management uses the productivity ratio as a measure of the Bank's efficiency. This ratio represents non-interest expenses as a percentage of total revenue.

Provision for Credit Losses (PCL) as a % of Average Net Loans and Acceptances: The ratio of PCL on loans, acceptances and off-balance sheet exposures expressed as a percentage of average net loans and acceptances.

Provision for Credit Losses (PCL) on Impaired Loans as a % of Average Net Loans and Acceptances: PCL on impaired loans ratio under IFRS 9 is calculated using PCL on impaired loans, acceptances and off-balance sheet exposures as a percentage of average net loans and acceptances.

Repos: Repos is short for "obligations related to securities sold under repurchase agreements" – a short-term transaction where the Bank sells assets, normally government bonds, to a client and simultaneously agrees to repurchase them on a specified date and at a specified price. It is a form of short-term funding.

Return on Assets (ROA): Net income expressed as a percentage of total average assets.

Return on Equity (ROE): Net income attributable to common shareholders, expressed as a percentage of average common shareholders' equity. The Bank attributes capital to its business lines on a basis that approximates 10.5% of Basel III common equity capital requirements which includes credit, market and operational risks and leverage inherent in each business segment. Return on equity for the business segments is calculated as a ratio of net income attributable to common shareholders of the business segment and the capital attributed.

Return on Tangible Common Equity (ROTCE): Return on Tangible Common Equity is calculated by dividing the net income attributable to common shareholders, adjusted for the amortization of intangibles (excluding software), by average tangible common equity. Tangible common equity is defined as common shareholders' equity adjusted for goodwill and acquisition-related intangible assets (excluding software), net of deferred taxes.

Reverse Repos: Reverse repos is short for "securities purchased under resale agreements" – a short-term transaction where the Bank purchases assets, normally government bonds, from a client and simultaneously agrees to resell them on a specified date and at a specified price. It is a form of short-term collateralized lending.

Risk-Weighted Assets: Comprised of three broad categories including credit risk, market risk and operational risk, which are computed under the Basel III Framework in accordance with OSFI Guideline – Capital Adequacy Requirements (November 2018). Risk-weighted assets for credit risk are calculated using modelled parameters, formulas and risk-weight requirements as specified by the Basel III Framework. In addition, the Bank uses both internal models and standardized approaches to calculate market risk capital and standardized approaches for operational risk capital which are converted to risk-weighted assets.

Securitization: The process by which financial assets (typically loans) are transferred to a trust, which normally issues a series of different classes of asset-backed securities to investors to fund the purchase of loans.

Structured Entities: A structured entity is defined as an entity created to accomplish a narrow and well-defined objective. A structured entity may take the form of a corporation, trust, partnership or unincorporated entity. Structured entities are often created with legal arrangements that impose strict and sometimes permanent limits on the decision-making powers of their governing board, trustee or management over the operations of the entity.

Standby Letters of Credit and Letters of Guarantee: Written undertakings by the Bank, at the request of the customer, to provide assurance of payment to a third-party regarding the customer's obligations and liabilities to that third-party.

Structured Credit Instruments: A wide range of financial products which includes Collateralized Debt Obligations, Collateralized Loan Obligations, Structured Investment Vehicles, and Asset-Backed Securities. These instruments represent investments in pools of credit-related assets, whose values are primarily dependent on the performance of the underlying pools.

Swaps: Interest rate swaps are agreements to exchange streams of interest payments, typically one at a floating rate, the other at a fixed rate, over a specified period of time, based on notional principal amounts. Cross-currency swaps are agreements to exchange payments in different currencies over predetermined periods of time.

Taxable Equivalent Basis (TEB): The Bank analyzes net interest income, non-interest income, and total revenue on a taxable equivalent basis (TEB). This methodology grosses up tax-exempt income earned on certain securities reported in either net interest income or non-interest income to an equivalent before tax basis. A corresponding increase is made to the provision for income taxes; hence, there is no impact on net income. Management believes that this basis for measurement provides a uniform comparability of net interest income and non-interest income arising from both taxable and non-taxable sources and facilitates a consistent basis of measurement. While other banks also use TEB, their methodology may not be comparable to the Bank's methodology. For purposes of segmented reporting, a segment's revenue and provision for income taxes are grossed up by the taxable equivalent amount. The elimination of the TEB gross up is recorded in the Other segment.

Total Annual Shareholder Return (TSR): Total annual shareholder return is calculated as the overall appreciation in share price, plus any dividends paid during the year; this sum is then divided by the share price at the beginning of the year to arrive at the TSR. Total annual shareholder return assumes reinvestment of quarterly dividends.

Total Loss Absorbing Capacity (TLAC): The aggregate of NVCC Tier 1 capital, NVCC Tier 2 capital, and other TLAC instruments that are subject to conversion in whole or in part into common shares under the CDIC Act and meet all of the eligibility criteria under the OSFI guideline – Total Loss Absorbing Capacity (September 2018).

Other TLAC Instruments include prescribed shares and liabilities that are subject to conversion into common shares pursuant to the CDIC Act and which meet all of the eligibility criteria set out in the Total Loss Absorbing Capacity (TLAC) Guidelines.

Value At Risk (VaR): An estimate of the potential loss that might result from holding a position for a specified period of time, with a given level of statistical confidence.

Yield Curve: A graph showing the term structure of interest rates, plotting the yields of similar quality bonds by term to maturity.

Basel III Glossary

Credit Risk Parameters

Exposure at Default (EAD): Generally represents the expected gross exposure – outstanding amount for on-balance sheet exposure and loan equivalent amount for off-balance sheet exposure at default.

Probability of Default (PD): Measures the likelihood that a borrower will default within a one-year time horizon, expressed as a percentage.

Loss Given Default (LGD): Measures the severity of loss on a facility in the event of a borrower's default, expressed as a percentage of exposure at default.

Exposure Types

Non-retail

Corporate: Defined as a debt obligation of a corporation, partnership, or proprietorship.

Bank: Defined as a debt obligation of a bank or bank equivalent (including certain public sector entities (PSEs) treated as bank equivalent exposures).

Sovereign: Defined as a debt obligation of a sovereign, central bank, certain multi development banks and certain PSEs treated as sovereign.

Securitization: On-balance sheet investments in asset-backed securities, mortgage-backed securities, collateralized loan obligations and collateralized debt obligations, off-balance sheet liquidity lines to the Bank's own sponsored and third-party conduits and credit enhancements.

Retail

Residential Mortgage: Loans to individuals against residential property (four units or less).

Secured Lines Of Credit: Revolving personal lines of credit secured by residential real estate.

Qualifying Revolving Retail Exposures: Credit cards and unsecured lines of credit for individuals.

Other Retail: All other personal loans.

Exposure Sub-types

Drawn: Outstanding amounts for loans, leases, acceptances, deposits with banks and FVOCI debt securities.

Undrawn: Unutilized portion of authorized committed credit lines.

Other Exposures

Repo-Style Transactions: Reverse repurchase agreements (reverse repos) and repurchase agreements (repos), securities lending and borrowing.

OTC Derivatives: Over-the-counter derivatives contracts refers to financial instruments which are traded through a dealer network rather than through an exchange.

Other Off-balance Sheet: Direct credit substitutes, such as standby letters of credit and guarantees, trade letters of credit, and performance letters of credit and guarantees.

Exchange-Traded Derivative Contracts: Exchange-traded derivative contracts are derivative contracts (e.g., futures contracts and options) that are transacted on an organized futures exchange. These include futures contracts (both long and short positions), purchased options and written options.

Qualifying Central Counterparty (QCCP): A licensed central counterparty is considered "qualifying" when it is compliant with the International Organization of Securities Commissions (IOSCO) standards and is able to assist clearing member banks in properly capitalizing for CCP exposures.

Asset Value Correlation Multiplier (AVC): Basel III has increased the risk-weights on exposures to certain Financial Institutions (FIs) relative to the non-financial corporate sector by introducing an AVC. The correlation factor in the risk-weight formula is multiplied by this AVC factor of 1.25 for all exposures to regulated FIs whose total assets are greater than or equal to US $100 billion and all exposures to unregulated FIs.

Specific Wrong-Way Risk (WWR): Specific Wrong-Way Risk arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty.

Basel II Regulatory Capital Floor: Since the introduction of Basel II in 2008, OSFI has prescribed a minimum regulatory capital floor for institutions that use the advanced internal ratings-based approach for credit risk. Effective Q2 2018, the Basel II capital floor add-on is determined by comparing a capital requirement calculated by reference to the Basel II standardized approach for credit risk. Revised Basel II capital floor requirements also include risk-weighted assets for market risk and CVA. A shortfall in the Basel III capital requirement as compared with the Basel II floor is added to RWA.