

Second Quarter 2023



Royal Bank of Canada second quarter 2023 results

All amounts are in Canadian dollars and are based on financial statements presented in compliance with International Accounting Standard 34 *Interim Financial Reporting*, unless otherwise noted.

Net income \$3.6 Billion Down 14% YoY	Diluted EPS¹ \$2.58 Down 13% YoY	Total PCL¹ \$600 Million PCL on loans ratio ¹ up 5 bps ¹ QoQ	ROE² 14.4% Down from 18.4% last year	CET1 Ratio¹ 13.7% Well above regulatory requirements
Adjusted Net income³ \$3.8 Billion Down 13% YoY	Adjusted Diluted EPS³ \$2.65 Down 11% YoY	Total ACL¹ \$4.8 Billion ACL on loans ratio ¹ up 3 bps QoQ	Adjusted ROE³ 14.9% Down from 18.6% last year	LCR¹ 135% Up from 130% last quarter

TORONTO, May 25, 2023 – Royal Bank of Canada⁴ (RY on TSX and NYSE) today reported net income of \$3.6 billion for the quarter ended April 30, 2023, down \$604 million or 14% from the prior year. Diluted EPS was \$2.58, down 13% over the same period. Adjusted net income³ and adjusted EPS³ of \$3.8 billion and \$2.65 were down 13% and 11% from the prior year, respectively.

Results this quarter reflected higher provisions for credit losses, with a PCL on loans ratio of 30 bps, mainly attributable to provisions taken on performing loans in the current quarter, largely driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases in the prior year which reflected reduced uncertainty from the COVID-19 pandemic. The current quarter also reflected higher provisions on impaired loans.

Pre-provision, pre-tax earnings⁵ of \$5 billion were up \$54 million or 1% from a year ago, mainly reflecting higher net interest income driven by higher interest rates and strong loan growth in Canadian Banking and Wealth Management. Higher Corporate & Investment Banking revenue in Capital Markets also contributed to the increase. These factors were partially offset by higher expenses, mainly due to higher staff-related costs, including from headcount growth, as well as stock-based compensation. Higher professional fees (including technology investments) and higher discretionary costs to support strong client-driven growth also contributed to higher expenses.

Today we declared a quarterly dividend of \$1.35 per share reflecting an increase of \$0.03 or 2%.

Our balance sheet strength coupled with a robust capital position, with a CET1 ratio of 13.7%, supported solid volume growth and \$1.8 billion in common share dividends. We have a strong average LCR of 135%. We also continue to operate with a prudent ACL ratio, which included \$173 million of provisions taken on performing loans in the current quarter.

Compared to last quarter, net income was up 14% reflecting the impact of the Canada Recovery Dividend (CRD) and other tax related adjustments in the prior quarter. Adjusted net income³ was down 13% with lower results in Capital Markets, Personal & Commercial Banking, Wealth Management and Insurance.

“As our second quarter results demonstrate, RBC will never compromise on doing right by our clients and delivering sustainable, long-term value to them, our communities and shareholders. Our focused growth strategy, prudent risk and capital management, and diversified business mix exemplify our strength and stability amidst a complex macro environment. As we continue to realize the benefits of our strategic investments in technology and our incredible talent, we are confident in our ability to slow expense growth and drive greater efficiencies while supporting our clients’ needs.”

– **Dave McKay, RBC President and Chief Executive Officer**

	Reported:		Adjusted³:	
Q2 2023 Compared to Q2 2022	<ul style="list-style-type: none"> Net income of \$3,649 million ↓ 14% Diluted EPS of \$2.58 ↓ 13% ROE of 14.4% ↓ 400 bps CET1 ratio of 13.7% ↑ 50 bps 		<ul style="list-style-type: none"> Net income of \$3,758 million ↓ 13% Diluted EPS of \$2.65 ↓ 11% ROE of 14.9% ↓ 370 bps 	
Q2 2023 Compared to Q1 2023	<ul style="list-style-type: none"> Net income of \$3,649 million ↑ 14% Diluted EPS of \$2.58 ↑ 13% ROE of 14.4% ↑ 180 bps CET1 ratio of 13.7% ↑ 100 bps 		<ul style="list-style-type: none"> Net income of \$3,758 million ↓ 13% Diluted EPS of \$2.65 ↓ 15% ROE of 14.9% ↓ 220 bps 	
YTD 2023 Compared to YTD 2022	<ul style="list-style-type: none"> Net income of \$6,863 million ↓ 18% Diluted EPS of \$4.86 ↓ 16% ROE of 13.5% ↓ 440 bps 		<ul style="list-style-type: none"> Net income of \$8,101 million ↓ 4% Diluted EPS of \$5.76 ↓ 2% ROE of 16.0% ↓ 210 bps 	

(1) See Glossary section of this Q2 2023 Report to Shareholders for composition of this measure.

(2) Return on equity (ROE). This measure does not have a standardized meaning under generally accepted accounting principles (GAAP). For further information, refer to the Key performance and non-GAAP measures section of this Q2 2023 Report to Shareholders.

(3) This is a non-GAAP measure. For further information, including a reconciliation, refer to the Key performance and non-GAAP measures section of this Q2 2023 Report to Shareholders.

(4) When we say “we”, “us”, “our”, or “RBC”, we mean Royal Bank of Canada and its subsidiaries, as applicable.

(5) Pre-provision, pre-tax (PPPT) earnings is calculated as income (April 30, 2023: \$3,649 million; April 30, 2022: \$4,253 million) before income taxes (April 30, 2023: \$771 million; April 30, 2022: \$1,055 million) and PCL (April 30, 2023: \$600 million; April 30, 2022: \$(342) million). This is a non-GAAP measure. PPPT earnings do not have a standardized meaning under GAAP and may not be comparable to similar measures disclosed by other financial institutions. We use PPPT earnings to assess our ability to generate sustained earnings growth outside of credit losses, which are impacted by the cyclical nature of a credit cycle. We believe that certain non-GAAP measures are more reflective of our ongoing operating results and provide readers with a better understanding of management’s perspective on our performance.

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Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) is provided to enable a reader to assess our results of operations and financial condition for the three and six month periods ended or as at April 30, 2023, compared to the corresponding periods in the prior fiscal year and the three month period ended January 31, 2023. This MD&A should be read in conjunction with our unaudited Interim Condensed Consolidated Financial Statements for the quarter ended April 30, 2023 (Condensed Financial Statements) and related notes and our 2022 Annual Report. This MD&A is dated May 24, 2023. All amounts are in Canadian dollars, unless otherwise specified, and are based on financial statements presented in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board (IASB), unless otherwise noted.

Additional information about us, including our 2022 Annual Information Form, is available free of charge on our website at rbc.com/investorrelations, on the Canadian Securities Administrators' website at sedar.com and on the EDGAR section of the United States (U.S.) Securities and Exchange Commission's (SEC) website at sec.gov.

Information contained in or otherwise accessible through the websites mentioned herein does not form part of this report. All references in this report to websites are inactive textual references and are for your information only.

Caution regarding forward-looking statements

From time to time, we make written or oral forward-looking statements within the meaning of certain securities laws, including the "safe harbour" provisions of the *United States Private Securities Litigation Reform Act of 1995* and any applicable Canadian securities legislation. We may make forward-looking statements in this Q2 2023 Report to Shareholders, in other filings with Canadian regulators or the SEC, in other reports to shareholders, and in other communications. Forward-looking statements in this document include, but are not limited to, statements relating to our financial performance objectives, vision and strategic goals, the economic, market, and regulatory review and outlook for Canadian, U.S., U.K., European and global economies, the regulatory environment in which we operate, the impact from rising interest rates, the expected closing of the transaction involving HSBC Bank Canada, the expected closing of the transaction involving CACEIS and the risk environment including our credit risk, market risk, liquidity and funding risk, and includes our President and Chief Executive Officer's statements. The forward-looking information contained in this document is presented for the purpose of assisting the holders of our securities and financial analysts in understanding our financial position and results of operations as at and for the periods ended on the dates presented, as well as our financial performance objectives, vision and strategic goals, and may not be appropriate for other purposes. Forward-looking statements are typically identified by words such as "believe", "expect", "foresee", "forecast", "anticipate", "intend", "estimate", "goal", "commit", "target", "objective", "plan" and "project" and similar expressions of future or conditional verbs such as "will", "may", "might", "should", "could" or "would".

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 that our financial performance, environmental & social or other objectives, vision and strategic goals will not be achieved and that our actual results may differ materially from such predictions, forecasts, projections, expectations or conclusions.

We caution readers not to place undue reliance on these statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. These factors – many of which are beyond our control and the effects of which can be difficult to predict – include: credit, market, liquidity and funding, insurance, operational, regulatory compliance (which could lead to us being subject to various legal and regulatory proceedings, the potential outcome of which could include regulatory restrictions, penalties and fines), strategic, reputation, competitive, model, legal and regulatory environment, systemic risks and other risks discussed in the risk sections of our 2022 Annual Report and the Risk management section of this Q2 2023 Report to Shareholders; including business and economic conditions in the geographic regions in which we operate, Canadian housing and household indebtedness, information technology and cyber risks, geopolitical uncertainty, environmental and social risk (including climate change), digital disruption and innovation, privacy, data and third-party related risks, regulatory changes, culture and conduct risks, the effects of changes in government fiscal, monetary and other policies, tax risk and transparency, and the emergence of widespread health emergencies or public health crises such as pandemics and epidemics, including the COVID-19 pandemic and its impact on the global economy, financial market conditions and our business operations, and financial results, condition and objectives. Additional factors that could cause actual results to differ materially from the expectations in such forward-looking statements can be found in the risk sections of our 2022 Annual Report.

We caution that the foregoing list of risk factors is not exhaustive and other factors could also adversely affect our results. When relying on our forward-looking statements to make decisions with respect to us, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. Material economic assumptions underlying the forward-looking statements contained in this Q2 2023 Report to Shareholders are set out in the Economic, market and regulatory review and outlook section and for each business segment under the Strategic priorities and Outlook sections in our 2022 Annual Report, as updated by the Economic, market and regulatory review and outlook section of this Q2 2023 Report to Shareholders. Except as required by law, we do not undertake to update any forward-looking statement, whether written or oral, that may be made from time to time by us or on our behalf.

Additional information about these and other factors can be found in the risk sections of our 2022 Annual Report and the Risk management section of this Q2 2023 Report to Shareholders.

Overview and outlook

About Royal Bank of Canada

Royal Bank of Canada is a global financial institution with a purpose-driven, principles-led approach to delivering leading performance. Our success comes from the 98,000+ employees who leverage their imaginations and insights to bring our vision, values and strategy to life so we can help our clients thrive and communities prosper. As Canada's biggest bank and one of the largest in the world, based on market capitalization, we have a diversified business model with a focus on innovation and providing exceptional experiences to our 17 million clients in Canada, the U.S. and 27 other countries. Learn more at [rbc.com](https://www.rbc.com).

Effective the first quarter of 2023, we simplified our reporting structure by eliminating the Investor & Treasury Services segment and moving its former businesses to existing segments. We moved our Investor Services business to our Wealth Management segment, and our Treasury Services and Transaction Banking businesses to our Capital Markets segment. From a reporting perspective, there were no changes to our Personal & Commercial Banking and Insurance segments. Comparative results in this MD&A have been revised to conform to our new basis of segment presentation.

Our business and reporting segments are described below.

Personal & Commercial Banking	Provides a broad suite of financial products and services in Canada, the Caribbean and the U.S. Our commitment to building and maintaining deep and meaningful relationships with our clients is underscored by the breadth of our product suite, our depth of expertise, and the features of our digital solutions.
Wealth Management	Serves affluent, high net worth (HNW) and ultra-high net worth (UHNW) clients from our offices in key financial centres mainly in Canada, the U.S., the United Kingdom (U.K.), Europe, and Asia. We offer a comprehensive suite of investment, trust, banking, credit and other advice-based solutions. We also provide asset management products to institutional and individual clients through our distribution channels and third-party distributors. Asset and payment services are also provided to financial institutions and asset owners worldwide.
Insurance	Offers a wide range of advice and solutions for individual and business clients including life, health, wealth, home, auto, travel, annuities and reinsurance.
Capital Markets	Provides expertise in advisory & origination, sales & trading, and lending & financing, and transaction banking to corporations, institutional clients, asset managers, private equity firms and governments globally. We serve clients from 63 offices in 18 countries across North America, the U.K. & Europe, and Australia, Asia & other regions.
Corporate Support	Corporate Support consists of Technology & Operations, which provides the technological and operational foundation required to effectively deliver products and services to our clients, Functions, which includes our finance, human resources, risk management, internal audit and other functional groups, as well as our Corporate Treasury function.

Selected financial and other highlights

(Millions of Canadian dollars, except per share, number of and percentage amounts)	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Total revenue	\$ 13,520	\$ 15,094	\$ 11,220	\$ 28,614	\$ 24,286
Provision for credit losses (PCL)	600	532	(342)	1,132	(237)
Insurance policyholder benefits, claims and acquisition expense (PBCAE)	1,006	1,545	(180)	2,551	817
Non-interest expense	7,494	7,675	6,434	15,169	13,014
Income before income taxes	4,420	5,342	5,308	9,762	10,692
Net income	\$ 3,649	\$ 3,214	\$ 4,253	\$ 6,863	\$ 8,348
Net income adjusted (1)	\$ 3,758	\$ 4,343	\$ 4,299	\$ 8,101	\$ 8,441
Segments – net income					
Personal & Commercial Banking	\$ 1,915	\$ 2,126	\$ 2,234	\$ 4,041	\$ 4,208
Wealth Management (2)	742	848	809	1,590	1,630
Insurance	139	148	206	287	403
Capital Markets (2)	939	1,223	857	2,162	1,979
Corporate Support	(86)	(1,131)	147	(1,217)	128
Net income	\$ 3,649	\$ 3,214	\$ 4,253	\$ 6,863	\$ 8,348
Selected information					
Earnings per share (EPS) – basic	\$ 2.58	\$ 2.29	\$ 2.97	\$ 4.87	\$ 5.81
– diluted	2.58	2.29	2.96	4.86	5.80
Earnings per share (EPS) – basic adjusted (1)	2.66	3.11	3.00	5.76	5.87
– diluted adjusted (1)	2.65	3.10	2.99	5.76	5.86
Return on common equity (ROE) (3)	14.4%	12.6%	18.4%	13.5%	17.9%
Return on common equity (ROE) adjusted (1)	14.9%	17.1%	18.6%	16.0%	18.1%
Average common equity (3)	\$ 101,850	\$ 99,700	\$ 93,300	\$ 100,750	\$ 92,850
Net interest margin (NIM) – on average earning assets, net (4)	1.53%	1.47%	1.45%	1.50%	1.42%
PCL on loans as a % of average net loans and acceptances	0.30%	0.25%	(0.18)%	0.27%	(0.06)%
PCL on performing loans as a % of average net loans and acceptances	0.09%	0.08%	(0.27)%	0.08%	(0.15)%
PCL on impaired loans as a % of average net loans and acceptances	0.21%	0.17%	0.09%	0.19%	0.09%
Gross impaired loans (GIL) as a % of loans and acceptances	0.34%	0.31%	0.27%	0.34%	0.27%
Liquidity coverage ratio (LCR) (5)	135%	130%	121%	135%	121%
Net stable funding ratio (NSFR) (5)	113%	112%	113%	113%	113%
Capital, Leverage and Total loss absorbing capacity (TLAC) ratios (6)					
Common Equity Tier 1 (CET1) ratio	13.7%	12.7%	13.2%	13.7%	13.2%
Tier 1 capital ratio	14.9%	13.9%	14.4%	14.9%	14.4%
Total capital ratio	16.8%	15.7%	16.0%	16.8%	16.0%
Leverage ratio	4.2%	4.4%	4.7%	4.2%	4.7%
TLAC ratio (6)	31.0%	28.2%	27.0%	31.0%	27.0%
TLAC leverage ratio (6)	8.7%	9.0%	8.7%	8.7%	8.7%
Selected balance sheet and other information (7)					
Total assets	\$ 1,940,302	\$ 1,933,019	\$ 1,848,572	\$ 1,940,302	\$ 1,848,572
Securities, net of applicable allowance	319,828	320,553	298,315	319,828	298,315
Loans, net of allowance for loan losses	831,187	823,794	774,464	831,187	774,464
Derivative related assets	124,149	130,120	156,204	124,149	156,204
Deposits	1,210,053	1,203,842	1,151,597	1,210,053	1,151,597
Common equity	103,937	100,363	97,006	103,937	97,006
Total risk-weighted assets (RWA)	593,533	614,250	585,839	593,533	585,839
Assets under management (AUM) (4)	1,083,600	1,051,300	958,200	1,083,600	958,200
Assets under administration (AUA) (4), (8)	5,911,100	5,780,100	6,118,900	5,911,100	6,118,900
Common share information					
Shares outstanding (000s) – average basic	1,388,388	1,382,754	1,409,702	1,385,525	1,415,855
– average diluted	1,390,149	1,384,536	1,412,552	1,387,295	1,418,676
– end of period	1,389,730	1,382,818	1,401,800	1,389,730	1,401,800
Dividends declared per common share	\$ 1.32	\$ 1.32	\$ 1.20	\$ 2.64	\$ 2.40
Dividend yield (4)	4.0%	4.0%	3.5%	4.0%	3.5%
Dividend payout ratio (4)	51%	58%	40%	54%	41%
Common share price (RY on TSX) (9)	\$ 134.51	\$ 136.16	\$ 129.75	\$ 134.51	\$ 129.75
Market capitalization (TSX) (9)	186,933	188,284	181,884	186,933	181,884
Business information (number of)					
Employees (full-time equivalent) (FTE)	94,398	92,662	86,007	94,398	86,007
Bank branches	1,258	1,265	1,290	1,258	1,290
Automated teller machines (ATMs)	4,357	4,363	4,377	4,357	4,377
Period average US\$ equivalent of C\$1.00 (10)	0.737	0.745	0.789	0.741	0.788
Period-end US\$ equivalent of C\$1.00	0.738	0.752	0.778	0.738	0.778

(1) This is a non-GAAP measure, which is calculated excluding the impact of the Canada Recovery Dividend (CRD) and other tax related adjustments, HSBC Canada transaction and integration costs (net of tax), as well as the after-tax impact of amortization of acquisition-related intangibles. Amounts have been revised from those previously presented to conform to our basis of presentation for this non-GAAP measure. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

(2) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

(3) Average amounts are calculated using methods intended to approximate the average of the daily balances for the period. This includes average common equity used in the calculation of ROE. For further details, refer to the Key performance and non-GAAP measures section.

(4) See Glossary for composition of this measure.

(5) The LCR and NSFR are calculated in accordance with the Office of the Superintendent of Financial Institutions' (OSFI) Liquidity Adequacy Requirements (LAR) guideline. LCR is the average for the three months ended for each respective period. For further details, refer to the Liquidity and funding risk section.

(6) Capital ratios are calculated using OSFI's Capital Adequacy Requirements (CAR) guideline, the Leverage ratio is calculated using OSFI's Leverage Requirements (LR) guideline, and both the TLAC and TLAC leverage ratios are calculated using OSFI's TLAC guideline. The results for the period ended April 30, 2023 reflect our adoption of the revised CAR and LR guidelines as part of OSFI's implementation of the Basel III reforms. For further details, refer to the Capital management section.

(7) Represents period-end spot balances.

(8) AUA includes \$15 billion and \$8 billion (January 31, 2023 – \$15 billion and \$6 billion; April 30, 2022 – \$14 billion and \$4 billion) of securitized residential mortgages and credit card loans, respectively.

(9) Based on TSX closing market price at period-end.

(10) Average amounts are calculated using month-end spot rates for the period.

Economic, market and regulatory review and outlook – data as at May 24, 2023

The predictions and forecasts in this section are based on information and assumptions from sources we consider reliable. If this information or these assumptions are not accurate, actual economic outcomes may differ materially from the outlook presented in this section.

Economic and market review and outlook

Unemployment rates remain at historically low levels in Canada, the U.S., the Euro area and the U.K. However, the number of job openings in Canada and the U.S. has begun to slow and wage growth has shown signs of moderating. Inflation pressures have also eased across most advanced global economies. Household expenditure overall has been supported by resilient spending on services. However, the lagged impacts of central bank interest rate increases over the last year are expected to slow inflation and consumer demand further. The risk to financial markets resulting from raising interest rates aggressively has heightened after stresses emerged in the U.S. regional banking sector. Geopolitical uncertainty remains high with the ongoing war in Ukraine. With economic growth expected to slow, and mild recessions expected in the U.S. and Canada in the calendar year ahead, we expect most advanced economy central banks are currently at or approaching the end of their current cycle of rate increases.

Canada

Canadian GDP is expected to have risen 2.5%¹ in the first calendar quarter of 2023, following no growth in the final calendar quarter of 2022. Consumer spending continued to rise in the first calendar quarter of 2023 but is expected to slow as the lagged impact of Bank of Canada (BoC) interest rate increases over the last calendar year gradually flow through to household borrowing costs. We continue to expect a mild recession with modest GDP declines over the second and third calendar quarters of 2023. Inflation pressures have continued to moderate after peaking in the summer of 2022. The year-over-year rate of growth in the consumer price index (CPI) slowed to 4.4% in April 2023 from 6.3% in December 2022, partly reflecting easing global supply chain pressures and lower energy prices. Commodity prices have reversed initial increases following the start of the conflict between Russia and Ukraine in 2022. The breadth of price pressures has narrowed, with a smaller share of products and services impacted by abnormally high price growth. The unemployment rate was 5.0% in April 2023, holding for a fifth straight month at just above the multi-decade low rate of 4.9% in the summer of 2022. Labour shortages are still widespread but less intense according to the BoC's 2023 Business Outlook Survey conducted for the first calendar quarter. The BoC announced a conditional pause in interest rate increases in January 2023. The overnight rate is expected to remain at the current 4.5% level through calendar 2023.

U.S.

U.S. GDP grew by 1.1%¹ in the first calendar quarter of 2023 following a 2.6%¹ increase in the final calendar quarter of 2022. While household spending has so far been resilient, Federal Reserve (Fed) interest rate increases over the last calendar year and in calendar 2023 continue to raise debt payments with a lag and reduce household purchasing power. We expect a mild recession with GDP declining over the second and third calendar quarters of 2023. The unemployment rate remains very low at 3.4% as of April 2023, however the number of job openings is declining as labour demand begins to slow. Year-over-year growth in the CPI slowed to 4.9% in April 2023 from 6.5% in December 2022, largely as a result of easing global supply chain disruptions and lower commodity prices. The breadth of inflation pressures has been narrowing across products but is still wide, and price growth for domestically produced services has been slower to ease. Inflation is expected to slow further as consumer demand declines, and concerns among monetary policy setters on the risks to financial markets from raising interest rates aggressively have increased after stresses emerged in the U.S. regional banking sector. We expect the Fed will pause interest rate increases after the last 25 basis point increase to the federal funds target range in May.

Europe

Euro area GDP in the first calendar quarter of 2023 grew modestly by 0.1% following no growth in the final calendar quarter of 2022. GDP growth is expected to remain slow over the remainder of the calendar year. Unemployment rates remain very low across countries in the Euro area but are expected to rise modestly through the rest of calendar 2023. Year-over-year consumer price growth has slowed, due largely to lower global commodity prices. Despite rising concerns surrounding financial sector stability, we anticipate the European Central Bank will raise the deposit rate to 3.75% by the end of calendar 2023. U.K. GDP increased by 0.1% in the first calendar quarter of 2023 following a 0.1% increase in the final calendar quarter of 2022. Recent inflation trends have been stronger than previously expected, with year-over-year growth in the CPI at 10.1% in March 2023. The Bank of England increased the Bank Rate to 4.5% in May 2023. We expect no further interest rate increases before the end of calendar 2023.

Financial markets

Government bond yields are still elevated but have dropped lower amid slowing inflation trends and expectations that central banks are either at or close to the end of interest rate increases. Equity markets are up from lower levels earlier in 2022. Commodity prices have largely reversed increases following the start of the conflict between Russia and Ukraine in 2022 and supply chain challenges have moderated. Prices for crude oil however remain above pre-pandemic levels. Credit spreads widened significantly after the initial stresses emerged in the U.S. regional banking sector. Negotiations to raise the U.S. federal government debt limit are also adding to market volatility. Markets have since calmed but uncertainty remains high.

¹ Annualized rate

Regulatory environment

We continue to monitor and prepare for regulatory developments and changes in a manner that seeks to ensure compliance with new requirements while mitigating adverse business or financial impacts. Such impacts could result from new or amended laws or regulations and the expectations of those who enforce them. A high level summary of the key regulatory changes that have the potential to increase or decrease our costs and the complexity of our operations is included in the Legal and regulatory environment risk section of our 2022 Annual Report and updates are listed below.

Global uncertainty

Significant uncertainty about inflationary pressures and geopolitical tensions continues to pose risks to the global economic outlook. In the second calendar quarter of 2023, the banking turmoil caused by a rapid flight of deposits for some financial institutions in the U.S. and globally, created instability in the financial sector and added to global economic uncertainty. In April 2023, the International Monetary Fund (IMF) projected global growth of 2.8% in calendar 2023, down 0.1% from its January forecast. Uncertainty remains regarding the interest rate trajectory of central banks, the resilience of global economies to withstand another health crisis, ongoing geopolitical tensions, including those between Russia and Ukraine, the stability of U.S. regional banks and brokerages as well as the potential breach of the U.S. debt ceiling. Our diversified business model, as well as our product and geographic diversification, combined with our sound risk management practices, continue to help mitigate the risks posed by global uncertainty.

Climate-related regulatory activity

On March 7, 2023, OSFI released its final Guideline B-15 – Climate Risk Management, which sets out expectations for the management of climate-related risks for federally regulated financial institutions (FRFIs) and aims to support FRFIs in developing greater resilience to, and management of, these risks. The guideline will be effective starting fiscal 2024 and OSFI intends to review and amend the guideline as practices and standards evolve. We are currently assessing the impact of the guideline and have initiated a project to meet the requirements by the effective date. We will continue to monitor any updates and future developments.

Government of Canada 2023 budget

On March 28, 2023, the Government of Canada presented its 2023 budget (“Budget 2023”), which introduced a number of proposed measures including a proposal to deny the dividend received deduction in respect of dividends received by financial institutions after December 31, 2023 on shares of corporations resident in Canada where such shares are mark-to-market property for tax purposes, and a new 2% tax on net share buybacks for publicly listed corporations occurring on or after January 1, 2024. Budget 2023 also reinforced the Government of Canada’s commitment to the Organization for Economic Co-operation and Development’s two-pillar plan for international tax reform, including a global 15% minimum tax on multinational enterprises.

Budget 2023 also proposed to introduce GST and HST on payment card clearing services, to be applied prospectively in all cases and retroactively under certain circumstances. A bill with this legislation has passed second reading in the House of Commons but is not final until it receives royal assent.

Timing of enactment of these changes remains uncertain, and legislation remains subject to amendment prior to enactment. The ultimate impact of the proposed measures will depend on the final legislation.

Third-party risk management

On April 24, 2023, OSFI released its final Guideline B-10 – Third-Party Risk Management, which sets out expectations for managing risks associated with third-party arrangements for FRFIs.

This guideline will be effective on May 1, 2024. We have assessed the requirements and do not anticipate any issues in complying with the requirements by the effective date.

For a discussion on risk factors resulting from these and other developments which may affect our business and financial results, refer to the risk sections of our 2022 Annual Report. For further details on our framework and activities to manage risks, refer to the risk and Capital management sections of this Q2 2023 Report to Shareholders.

Key corporate events

HSBC Bank Canada

On November 29, 2022, we entered into an agreement to acquire 100% of the common shares of HSBC Bank Canada (HSBC Canada) for an all-cash purchase price of \$13.5 billion. In addition, we will purchase all of the existing preferred shares and subordinated debt of HSBC Canada held directly or indirectly by HSBC Holdings plc at par value. HSBC Canada is a premier Canadian personal and commercial bank focused on globally connected clients.

The transaction is expected to close in the first calendar quarter of 2024 and is subject to the satisfaction of customary closing conditions, including regulatory approvals. For further details, refer to Note 6 of our Condensed Financial Statements.

Financial performance

Overview

Q2 2023 vs. Q2 2022

Net income of \$3,649 million was down \$604 million or 14% from a year ago. Diluted EPS of \$2.58 was down \$0.38 or 13% and ROE of 14.4% was down from 18.4% last year. Our CET1 ratio of 13.7% was up 50 bps from a year ago.

Adjusted net income of \$3,758 million was down \$541 million or 13% from a year ago. Adjusted diluted EPS of \$2.65 was down \$0.34 or 11% and adjusted ROE of 14.9% was down from 18.6% last year.

Our earnings reflect lower results in Personal & Commercial Banking, Corporate Support, Wealth Management and Insurance, partially offset by higher results in Capital Markets. The current quarter results include higher PCL, reflecting provisions taken on performing loans as compared to releases of provisions on performing loans in the prior year.

Q2 2023 vs. Q1 2023

Net income of \$3,649 million was up \$435 million or 14% from last quarter. Diluted EPS of \$2.58 was up \$0.29 or 13% and ROE of 14.4% was up from 12.6% in the prior quarter. Our CET1 ratio of 13.7% was up 100 bps from last quarter.

Adjusted net income of \$3,758 million was down \$585 million or 13% from last quarter. Adjusted diluted EPS of \$2.65 was down \$0.45 or 15% and adjusted ROE of 14.9% was down from 17.1% last quarter.

Our earnings reflected higher results primarily driven by the impact of the CRD and other tax related adjustments in the prior quarter, which is reported in Corporate Support. This was partially offset by lower results in Capital Markets, Personal & Commercial Banking, Wealth Management and Insurance.

Q2 2023 vs. Q2 2022 (Six months ended)

Net income of \$6,863 million was down \$1,485 million or 18% from the same period last year. Diluted EPS of \$4.86 was down \$0.94 or 16% and ROE of 13.5% was down from 17.9% in the prior year.

Adjusted net income of \$8,101 million was down \$340 million or 4% from the same period last year. Adjusted diluted EPS of \$5.76 was down \$0.10 or 2% and adjusted ROE of 16.0% was down from 18.1% in the prior year.

Our earnings were down from the same period last year, primarily driven by the impact of the CRD and other tax related adjustments in the current period, which is reported in Corporate Support. Our results also reflect lower earnings in Personal & Commercial Banking, Insurance and Wealth Management. This was partially offset by higher earnings in Capital Markets. The current period results also include higher PCL, reflecting provisions taken on performing loans as compared to releases of provisions on performing loans in the same period last year.

For further details on our business segment results and CET1 ratio, refer to the Business segment results and Capital management sections, respectively.

Adjusted results

Adjusted results exclude specified items, consisting of the CRD and other tax related adjustments and HSBC Canada transaction and integration costs (net of tax), as well as the after-tax impact of amortization of acquisition-related intangibles. Adjusted results are non-GAAP measures. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

Impact of foreign currency translation

The following table reflects the estimated impact of foreign currency translation on key income statement items:

	For the three months ended		For the six months ended	
	Q2 2023 vs. Q2 2022	Q2 2023 vs. Q1 2023	Q2 2023 vs. Q2 2022	
(Millions of Canadian dollars, except per share amounts)				
<i>Increase (decrease):</i>				
Total revenue	\$ 320	\$ 72	\$ 535	
PCL	8	1	15	
Non-interest expense	206	49	327	
Income taxes	2	1	10	
Net income	104	21	183	
Impact on EPS				
Basic	\$ 0.08	\$ 0.02	\$ 0.13	
Diluted	0.08	0.02	0.13	

The relevant average exchange rates that impact our business are shown in the following table:

	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
(Average foreign currency equivalent of C\$1.00) (1)					
U.S. dollar	0.737	0.745	0.789	0.741	0.788
British pound	0.599	0.612	0.605	0.605	0.595
Euro	0.681	0.698	0.721	0.690	0.708

(1) Average amounts are calculated using month-end spot rates for the period.

Total revenue

(Millions of Canadian dollars, except percentage amounts)	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Interest and dividend income	\$ 20,318	\$ 19,337	\$ 7,758	\$ 39,655	\$ 15,136
Interest expense	14,219	13,135	2,484	27,354	4,591
Net interest income	\$ 6,099	\$ 6,202	\$ 5,274	\$ 12,301	\$ 10,545
NIM	1.53%	1.47%	1.45%	1.50%	1.42%
Insurance premiums, investment and fee income	\$ 1,347	\$ 1,891	\$ 234	\$ 3,238	\$ 1,633
Trading revenue	430	1,069	289	1,499	603
Investment management and custodial fees	2,083	2,056	1,892	4,139	3,853
Mutual fund revenue	1,000	1,015	1,086	2,015	2,251
Securities brokerage commissions	377	361	389	738	788
Service charges	511	511	480	1,022	965
Underwriting and other advisory fees	458	512	507	970	1,208
Foreign exchange revenue, other than trading	322	433	251	755	522
Card service revenue	279	325	288	604	579
Credit fees	357	379	398	736	874
Net gains on investment securities	111	53	23	164	38
Share of profit in joint ventures and associates	12	29	24	41	53
Other	134	258	85	392	374
Non-interest income	7,421	8,892	5,946	16,313	13,741
Total revenue	\$ 13,520	\$ 15,094	\$ 11,220	\$ 28,614	\$ 24,286
Additional trading information					
Net interest income (1)	\$ 469	\$ 186	\$ 531	\$ 655	\$ 1,156
Non-interest income	430	1,069	289	1,499	603
Total trading revenue	\$ 899	\$ 1,255	\$ 820	\$ 2,154	\$ 1,759

(1) Reflects net interest income arising from trading-related positions, including assets and liabilities that are classified or designated at fair value through profit or loss (FVTPL).

Q2 2023 vs. Q2 2022

Total revenue increased \$2,300 million or 20% from a year ago, primarily due to higher Insurance premiums, investment and fee income (insurance revenue). Higher net interest income, investment management and custodial fees and trading revenue also contributed to the increase. The impact of foreign exchange translation increased revenue by \$320 million.

Net interest income increased \$825 million or 16%, primarily due to higher spreads in Personal & Commercial Banking and U.S. Wealth Management as well as average volume growth in Canadian Banking. These factors were partially offset by lower revenue from non-trading derivatives, which was offset in Other revenue, and lower fixed income trading revenue, both in Capital Markets.

NIM was up 8 bps compared to last year, mainly due to the benefit of higher interest rates in Canadian Banking and Wealth Management, partially offset by an unfavourable change in product mix in Canadian Banking and the impact of higher funding costs in Capital Markets, with related revenue recorded in non-interest income.

Insurance revenue increased \$1,113 million, primarily due to the change in fair value of investments backing policyholder liabilities and business growth, both of which are largely offset in PBCAE.

Trading revenue increased \$141 million or 49%, mainly due to higher fixed income trading revenue across most regions. This factor was partially offset by lower equity trading revenue across all regions.

Investment management and custodial fees increased \$191 million or 10%, mainly reflecting the inclusion of RBC Brewin Dolphin and the impact of foreign exchange translation.

Other revenue increased \$49 million or 58%, mainly reflecting gains from our non-trading portfolios, which were offset in Net interest income, and changes in the fair value of the hedges related to our U.S. share-based compensation plans, which was largely offset in Non-interest expense. These factors were partially offset by the impact of economic hedges.

Q2 2023 vs. Q1 2023

Total revenue decreased \$1,574 million or 10% from last quarter, largely due to lower trading revenue and insurance revenue. Lower other revenue, foreign exchange revenue, other than trading and net interest income also contributed to the decrease.

Net interest income decreased \$103 million or 2%, mainly due to three less days in the current quarter and lower spreads including the impact of changes in product mix in Personal & Commercial Banking and Wealth Management. These factors were partially offset by higher fixed income and equity trading revenue in Capital Markets.

Insurance revenue decreased \$544 million or 29%, primarily due to the change in fair value of investments backing policyholder liabilities, which is largely offset in PBCAE. This factor was partially offset by higher group annuity sales.

Trading revenue decreased \$639 million or 60%, primarily due to lower fixed income trading revenue across most regions and equity trading revenue across all regions.

Foreign exchange revenue, other than trading decreased \$111 million or 26%, primarily driven by foreign currency translation losses associated with certain foreign currency denominated funding, which was offset by the impact of economic hedges in Other revenue in the prior quarter.

Other revenue decreased \$124 million or 48%, mainly attributable to changes in the fair value of the hedges related to our U.S. share-based compensation plans, which was largely offset in Non-interest expense.

Q2 2023 vs. Q2 2022 (Six months ended)

Total revenue increased \$4,328 million or 18% from the same period last year, primarily driven by higher net interest income, insurance revenue and trading revenue. Higher investment management and custodial fees and foreign exchange revenue, other than trading also contributed to the increase. These factors were partially offset by lower underwriting and other advisory fees and mutual fund revenue. The impact of foreign exchange translation increased revenue by \$535 million.

Net interest income increased \$1,756 million or 17%, largely due to higher spreads in Personal & Commercial Banking and Wealth Management and average volume growth in Canadian Banking. These factors were partially offset by lower revenue from non-trading derivatives, which was offset in Other revenue, and lower fixed income trading revenue, both in Capital Markets.

Insurance revenue increased \$1,605 million or 98%, mainly due to the change in fair value of investments backing policyholder liabilities, partially offset by lower group annuity sales, both of which are largely offset in PBCAE.

Trading revenue increased \$896 million, mainly due to higher fixed income trading revenue across all regions.

Investment management and custodial fees increased \$286 million or 7%, mainly reflecting the inclusion of RBC Brewin Dolphin.

Mutual fund revenue decreased \$236 million or 10%, largely due to lower average fee-based client assets driven by unfavourable market conditions in Wealth Management, and lower average mutual fund balances driving lower distribution fees in Canadian Banking.

Foreign exchange revenue, other than trading increased \$233 million or 45%, primarily driven by foreign currency translation gains associated with certain foreign currency denominated funding, which was offset by the impact of economic hedges in Other revenue.

Underwriting and other advisory fees decreased \$238 million or 20%, largely driven by lower equity and debt origination across all regions.

Other revenue increased \$18 million or 5%, mainly attributable to gains from our non-trading portfolios, which were offset in Net interest income, and changes in the fair value of the hedges related to our U.S. share-based compensation plans, which was largely offset in Non-interest expense. These factors were partially offset by the impact of economic hedges.

Provision for credit losses ⁽¹⁾

	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
(Millions of Canadian dollars, except percentage amounts)					
Personal & Commercial Banking	\$ 124	\$ 140	\$ (419)	\$ 264	\$ (482)
Wealth Management ⁽²⁾	2	24	(31)	26	(44)
Capital Markets ⁽²⁾	47	9	(55)	56	(59)
Corporate Support and other ⁽³⁾	–	–	1	–	1
PCL on performing loans	173	173	(504)	346	(584)
Personal & Commercial Banking	\$ 302	\$ 262	\$ 147	\$ 564	\$ 338
Wealth Management ⁽²⁾	26	42	–	68	1
Capital Markets ⁽²⁾	113	53	27	166	15
PCL on impaired loans	441	357	174	798	354
PCL – Loans	614	530	(330)	1,144	(230)
PCL – Other ⁽⁴⁾	(14)	2	(12)	(12)	(7)
Total PCL	\$ 600	\$ 532	\$ (342)	\$ 1,132	\$ (237)
PCL on loans is comprised of:					
Retail	\$ 97	\$ 134	\$ (188)	\$ 231	\$ (246)
Wholesale	76	39	(316)	115	(338)
PCL on performing loans	173	173	(504)	346	(584)
Retail	249	239	146	488	284
Wholesale	192	118	28	310	70
PCL on impaired loans	441	357	174	798	354
PCL – Loans	\$ 614	\$ 530	\$ (330)	\$ 1,144	\$ (230)
PCL on loans as a % of average net loans and acceptances	0.30%	0.25%	(0.18)%	0.27%	(0.06)%
PCL on impaired loans as a % of average net loans and acceptances	0.21%	0.17%	0.09%	0.19%	0.09%

(1) Information on loans represents loans, acceptance and commitments.

(2) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

(3) Includes PCL recorded in Corporate Support and Insurance.

(4) PCL – Other includes amounts related to debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, accounts receivable, and financial and purchased guarantees.

Q2 2023 vs. Q2 2022

Total PCL was \$600 million, compared to \$(342) million a year ago, primarily reflecting provisions taken in the current quarter as compared to releases in the prior year in Personal & Commercial Banking and Capital Markets. The PCL on loans ratio increased 48 bps.

PCL on performing loans was \$173 million, compared to \$(504) million a year ago, primarily reflecting provisions taken in the current quarter, largely driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases in the prior year which reflected reduced uncertainty from the COVID-19 pandemic, mainly in our Canadian Banking portfolios and Capital Markets.

PCL on impaired loans increased \$267 million, primarily due to higher provisions in our Canadian Banking portfolios and Capital Markets, in a few sectors, including the consumer discretionary and real estate and related sectors.

Q2 2023 vs. Q1 2023

Total PCL increased \$68 million or 13% from last quarter, primarily due to higher provisions in Capital Markets and Personal & Commercial Banking, partially offset by lower provisions in Wealth Management. The PCL on loans ratio increased 5 bps.

PCL on performing loans of \$173 million was flat as higher provisions in Capital Markets were offset by lower provisions in Wealth Management and Personal & Commercial Banking.

PCL on impaired loans increased \$84 million or 24%, primarily due to higher provisions in Capital Markets, in a few sectors, including the consumer discretionary and real estate and related sectors, and in our Canadian Banking portfolios.

Q2 2023 vs. Q2 2022 (Six months ended)

Total PCL was \$1,132 million, compared to \$(237) million in the same period last year, primarily reflecting provisions taken in the current period as compared to releases in the prior period in Personal & Commercial Banking and Capital Markets. The PCL on loans ratio increased 33 bps.

PCL on performing loans was \$346 million, compared to \$(584) million in the prior period, primarily reflecting provisions taken in the current period driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases in the prior period which reflected reduced uncertainty from the COVID-19 pandemic, primarily in our Canadian Banking portfolios and Capital Markets.

PCL on impaired loans increased \$444 million, mainly due to higher provisions in our Canadian Banking retail portfolios and in Capital Markets, in a few sectors, including the consumer discretionary and real estate and related sectors.

Insurance policyholder benefits, claims and acquisition expense (PBCAE)

Q2 2023 vs. Q2 2022

PBCAE increased \$1,186 million from a year ago, primarily due to the change in fair value of investments backing policyholder liabilities and business growth in Canadian Insurance, both of which are largely offset in revenue. These factors were partially offset by lower group annuity sales.

Q2 2023 vs. Q1 2023

PBCAE decreased \$539 million or 35% from last quarter, primarily due to the change in fair value of investments backing policyholder liabilities, which is largely offset in revenue. Higher favourable investment-related experience and lower claims costs also contributed to the decrease. These factors were partially offset by business growth, higher group annuity sales and the impact of an unfavourable actuarial adjustment in the current quarter.

Q2 2023 vs. Q2 2022 (Six months ended)

PBCAE increased \$1,734 million from the same period last year, mainly reflecting the change in fair value of investments backing policyholder liabilities, partially offset by lower group annuity sales, both of which are largely offset in revenue.

Non-interest expense

(Millions of Canadian dollars, except percentage amounts)	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Salaries	\$ 2,096	\$ 2,037	\$ 1,748	\$ 4,133	\$ 3,496
Variable compensation	1,812	2,025	1,754	3,837	3,695
Benefits and retention compensation	560	544	483	1,104	1,032
Share-based compensation	132	270	17	402	64
Human resources	4,600	4,876	4,002	9,476	8,287
Equipment	589	569	513	1,158	1,014
Occupancy	408	411	386	819	772
Communications	317	282	258	599	486
Professional fees	521	404	347	925	666
Amortization of other intangibles	380	369	336	749	673
Other	679	764	592	1,443	1,116
Non-interest expense	\$ 7,494	\$ 7,675	\$ 6,434	\$ 15,169	\$ 13,014
Efficiency ratio ⁽¹⁾	55.4%	50.8%	57.3%	53.0%	53.6%
Adjusted efficiency ratio ^{(2), (3)}	58.8%	55.9%	55.9%	57.3%	54.9%

(1) Efficiency ratio is calculated as Non-interest expense divided by Total revenue.

(2) This is a non-GAAP ratio. For further details, refer to the Key performance and non-GAAP measures section.

(3) Effective Q2 2023, we revised the composition of this non-GAAP ratio. Comparative adjusted amounts have been revised to conform with this presentation.

Q2 2023 vs. Q2 2022

Non-interest expense increased \$1,060 million or 16% from a year ago, mainly due to higher staff costs and the impact of foreign exchange translation. The inclusion of RBC Brewin Dolphin and related costs, the change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue, as well as higher professional fees also contributed to the increase.

Our efficiency ratio of 55.4% decreased 190 bps from 57.3% last year. Our adjusted efficiency ratio of 58.8% increased 290 bps from 55.9% last year.

Q2 2023 vs. Q1 2023

Non-interest expense decreased \$181 million or 2% from last quarter, primarily due to lower variable compensation on decreased revenue and the change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue. These factors were partially offset by higher professional fees.

Our efficiency ratio of 55.4% increased 460 bps from 50.8% last quarter. Our adjusted efficiency ratio of 58.8% increased 290 bps from 55.9% last quarter.

Q2 2023 vs. Q2 2022 (Six months ended)

Non-interest expense increased \$2,155 million or 17% from the same period last year, largely due to higher staff costs, the inclusion of RBC Brewin Dolphin and related costs, as well the impact of foreign exchange translation. The change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue, and technology-related costs also contributed to the increase.

Our efficiency ratio of 53.0% decreased 60 bps from 53.6% last year. Our adjusted efficiency ratio of 57.3% increased 240 bps from 54.9% last year.

Adjusted efficiency ratio is a non-GAAP ratio. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

Income taxes

(Millions of Canadian dollars, except percentage amounts)	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Income taxes	\$ 771	\$ 2,128	\$ 1,055	\$ 2,899	\$ 2,344
Income before income taxes	4,420	5,342	5,308	9,762	10,692
Effective income tax rate	17.4%	39.8%	19.9%	29.7%	21.9%
Adjusted effective income tax rate ^{(1), (2)}	17.6%	20.2%	20.0%	19.0%	22.0%

(1) This is a non-GAAP measure. This measure excludes the impact of the CRD and other tax related adjustments, the impact of HSBC Canada transaction and integration costs as well as amortization of acquisition-related intangibles. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

(2) Effective Q2 2023, we revised the composition of this non-GAAP measure to include the impact of HSBC Canada transaction and integration costs as well as amortization of acquisition-related intangibles. Comparative adjusted amounts have been revised to conform with this presentation.

Q2 2023 vs. Q2 2022

Income tax expense decreased \$284 million or 27% from a year ago, primarily due to the impact of changes in earnings mix and lower income before income taxes. These factors were partially offset by net favourable tax adjustments in the same quarter last year and the impact of the 1.5% increase in the Canadian corporate tax rate enacted in the current year.

The effective income tax rate of 17.4% decreased 2.5%, primarily due to the impact of changes in earnings mix, partially offset by the impact of net favourable tax adjustments in the same quarter last year and the 1.5% increase in the Canadian corporate tax rate.

Q2 2023 vs. Q1 2023

Income tax expense decreased \$1,357 million or 64% from last quarter, primarily due to the impact of the CRD and other tax related adjustments in the prior quarter. Lower income before income taxes also contributed to the decrease.

The effective income tax rate of 17.4% decreased 22.4%, primarily due to the impact of the CRD and other tax related adjustments noted above and the impact of changes in earnings mix. The adjusted effective income tax rate of 17.6% decreased 2.6% primarily due to the impact of changes in earnings mix.

Q2 2023 vs. Q2 2022 (Six months ended)

Income tax expense increased \$555 million or 24% from the same period last year, primarily due to the impact of CRD and other tax related adjustments in the current period, partially offset by the impact of changes in earnings mix.

The effective income tax rate of 29.7% increased 7.8%, primarily due to the impact of the CRD and other tax related adjustments noted above and the 1.5% increase in the Canadian corporate tax rate. These factors were partially offset by the impact of changes in earnings mix. The adjusted effective income tax rate of 19.0% decreased 3.0% mainly due to the impact of changes in earnings mix, partially offset by the 1.5% increase in the Canadian corporate tax rate.

The adjusted effective income tax rate is a non-GAAP measure. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

Business segment results

How we measure and report our business segments

The key methodologies and assumptions used in our management reporting framework are periodically reviewed by management to ensure they remain valid. Effective the first quarter of 2023, we simplified our reporting structure by eliminating the Investor & Treasury Services segment and moving its former businesses to existing segments. For further details, refer to the About Royal Bank of Canada section. Other than changes necessary to effect our new basis of segment presentation, our key methodologies and assumptions remain unchanged from October 31, 2022.

For further details on our key methodologies and assumptions used in our management reporting framework, refer to the How we measure and report our business segments section of our 2022 Annual Report.

Key performance and non-GAAP measures

Performance measures

We measure and evaluate the performance of our consolidated operations and each business segment using a number of financial metrics, such as net income and ROE. Certain financial metrics, including ROE, do not have a standardized meaning under generally accepted accounting principles (GAAP) and may not be comparable to similar measures disclosed by other financial institutions.

Return on common equity

We use ROE, at both the consolidated and business segment levels, as a measure of return on total capital invested in our business. Management views the business segment ROE measure as a useful measure for supporting investment and resource allocation decisions because it adjusts for certain items that may affect comparability between business segments and certain competitors.

Our consolidated ROE calculation is based on net income available to common shareholders divided by total average common equity for the period. Business segment ROE calculations are based on net income available to common shareholders divided by average attributed capital for the period. For each segment, average attributed capital includes the capital required to underpin various risks as described in the Capital management section and amounts invested in goodwill and intangibles.

The attribution of capital involves the use of assumptions, judgments and methodologies that are regularly reviewed and revised by management as deemed necessary. Changes to such assumptions, judgments and methodologies can have a material effect on the business segment ROE information that we report. Other companies that disclose information on similar attributions and related return measures may use different assumptions, judgments and methodologies.

The following table provides a summary of our ROE calculations:

(Millions of Canadian dollars, except percentage amounts)	For the three months ended							January 31 2023	April 30 2022	
	April 30 2023						Total			Total
	Personal & Commercial Banking	Wealth Management	Insurance	Capital Markets	Corporate Support	Total				
Net income available to common shareholders	\$ 1,894	\$ 727	\$ 138	\$ 922	\$ (100)	\$ 3,581	\$ 3,168	\$ 4,182		
Total average common equity (1), (2)	29,300	24,550	2,100	27,650	18,250	101,850	99,700	93,300		
ROE (3)	26.5%	12.1%	26.9%	13.7%	n.m.	14.4%	12.6%	18.4%		

(Millions of Canadian dollars, except percentage amounts)	For the six months ended							April 30 2022
	April 30 2023						Total	
	Personal & Commercial Banking	Wealth Management	Insurance	Capital Markets	Corporate Support	Total		
Net income available to common shareholders	\$ 4,007	\$ 1,563	\$ 285	\$ 2,132	\$ (1,238)	\$ 6,749	\$ 8,221	
Total average common equity (1), (2)	28,700	24,600	2,050	27,950	17,450	100,750	92,850	
ROE (3)	28.2%	12.8%	27.7%	15.4%	n.m.	13.5%	17.9%	

(1) Total average common equity represents rounded figures.

(2) The amounts for the segments are referred to as attributed capital.

(3) ROE is based on actual balances of average common equity before rounding.

n.m. not meaningful

Non-GAAP measures

We believe that certain non-GAAP measures (including non-GAAP ratios) are more reflective of our ongoing operating results and provide readers with a better understanding of management's perspective on our performance. These measures enhance the comparability of our financial performance for the three and six months ended April 30, 2023 with the corresponding periods in the prior year and the three months ended January 31, 2023. Non-GAAP measures do not have a standardized meaning under GAAP and may not be comparable to similar measures disclosed by other financial institutions.

The following discussion describes the non-GAAP measures we use in evaluating our operating results.

Adjusted results

We believe that providing adjusted results and certain measures excluding the impact of the specified items discussed below and amortization of acquisition-related intangibles enhance comparability with prior periods and enables readers to better assess trends in the underlying businesses. Specified items impacting our results for the three and six months ended April 30, 2023 and the three months ended January 31, 2023 are:

- CRD and other tax related adjustments: reflects the impact of the CRD and the 1.5% increase in the Canadian corporate tax rate applicable to fiscal 2022, net of deferred tax adjustments, which were announced in the Government of Canada's 2022 budget and enacted in the first quarter of 2023
- Transaction and integration costs relating to our planned acquisition of HSBC Canada

Adjusted efficiency ratio

The adjusted efficiency ratio is a non-GAAP ratio and is calculated based on adjusted Non-interest expense excluding HSBC Canada transaction and integration costs and amortization of acquisition-related intangibles divided by total revenue net of PBCAE, both of which are non-GAAP measures. We believe that the adjusted efficiency ratio is a useful measure as the change in fair value of investments backing policyholder liabilities can lead to volatility in revenue, which is largely offset within PBCAE, that could obscure trends in underlying business performance and reduce comparability with prior periods.

Consolidated results, reported and adjusted

The following table provides a reconciliation of adjusted results to our reported results and illustrates the calculation of adjusted measures presented. The adjusted results and measures presented below are non-GAAP measures or ratios.

(Millions of Canadian dollars, except per share, number of and percentage amounts)	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022 (1)	April 30 2023	April 30 2022 (1)
Total revenue	\$ 13,520	\$ 15,094	\$ 11,220	\$ 28,614	\$ 24,286
PCL	600	532	(342)	1,132	(237)
Non-interest expense	7,494	7,675	6,434	15,169	13,014
Income before income taxes	4,420	5,342	5,308	9,762	10,692
Income taxes	771	2,128	1,055	2,899	2,344
Net income	\$ 3,649	\$ 3,214	\$ 4,253	\$ 6,863	\$ 8,348
Net income available to common shareholders	\$ 3,581	\$ 3,168	\$ 4,182	\$ 6,749	\$ 8,221
Average number of common shares (thousands)	1,388,388	1,382,754	1,409,702	1,385,525	1,415,855
Basic earnings per share (in dollars)	\$ 2.58	\$ 2.29	\$ 2.97	\$ 4.87	\$ 5.81
Average number of diluted common shares (thousands)	1,390,149	1,384,536	1,412,552	1,387,295	1,418,676
Diluted earnings per share (in dollars)	\$ 2.58	\$ 2.29	\$ 2.96	\$ 4.86	\$ 5.80
ROE (2)	14.4%	12.6%	18.4%	13.5%	17.9%
Effective income tax rate	17.4%	39.8%	19.9%	29.7%	21.9%
Total adjusting items impacting net income (before-tax)	\$ 138	\$ 97	\$ 63	\$ 235	\$ 126
Specified item: HSBC Canada transaction and integration costs (3)	56	11	–	67	–
Amortization of acquisition-related intangibles (4)	82	86	63	168	126
Total income taxes for adjusting items impacting net income	\$ 29	\$ (1,032)	\$ 17	\$ (1,003)	\$ 33
Specified item: CRD and other tax related adjustments (3), (5)	–	(1,050)	–	(1,050)	–
Specified item: HSBC Canada transaction and integration costs (3)	13	3	–	16	–
Amortization of acquisition-related intangibles (4)	16	15	17	31	33
Adjusted results (6)					
Income before income taxes – adjusted	4,558	5,439	5,371	9,997	10,818
Income taxes – adjusted	800	1,096	1,072	1,896	2,377
Net income – adjusted	\$ 3,758	\$ 4,343	\$ 4,299	\$ 8,101	\$ 8,441
Net income available to common shareholders – adjusted	\$ 3,690	\$ 4,297	\$ 4,228	\$ 7,987	\$ 8,314
Average number of common shares (thousands)	1,388,388	1,382,754	1,409,702	1,385,525	1,415,855
Basic earnings per share (in dollars) – adjusted	\$ 2.66	\$ 3.11	\$ 3.00	\$ 5.76	\$ 5.87
Average number of diluted common shares (thousands)	1,390,149	1,384,536	1,412,552	1,387,295	1,418,676
Diluted earnings per share (in dollars) – adjusted	\$ 2.65	\$ 3.10	\$ 2.99	\$ 5.76	\$ 5.86
ROE – adjusted	14.9%	17.1%	18.6%	16.0%	18.1%
Adjusted effective income tax rate	17.6%	20.2%	20.0%	19.0%	22.0%
Adjusted efficiency ratio (7)					
Total revenue	\$ 13,520	\$ 15,094	\$ 11,220	\$ 28,614	\$ 24,286
Less: PBCAE	1,006	1,545	(180)	2,551	817
Total revenue – adjusted	\$ 12,514	\$ 13,549	\$ 11,400	\$ 26,063	\$ 23,469
Non-interest expense	\$ 7,494	\$ 7,675	\$ 6,434	\$ 15,169	\$ 13,014
Less specified item: HSBC Canada transaction and integration costs (before-tax) (3)	56	11	–	67	–
Less: Amortization of acquisition-related intangibles (before-tax) (4)	82	86	63	168	126
Non-interest expense – adjusted	\$ 7,356	\$ 7,578	\$ 6,371	\$ 14,934	\$ 12,888
Efficiency ratio	55.4%	50.8%	57.3%	53.0%	53.6%
Efficiency ratio – adjusted	58.8%	55.9%	55.9%	57.3%	54.9%

(1) There were no specified items for the three months ended April 30, 2022 or for the six months ended April 30, 2022.

(2) ROE is based on actual balances of average common equity before rounding.

(3) These amounts have been recognized in Corporate Support.

(4) Represents the impact of amortization of acquisition-related intangibles (excluding amortization of software), and any goodwill impairment.

(5) The impact of the CRD and other tax related adjustments does not include \$0.2 billion recognized in other comprehensive income.

(6) Effective the second quarter of 2023, we included HSBC Canada transaction and integration costs and amortization of acquisition-related intangibles as adjusting items for non-GAAP measures and non-GAAP ratios. Therefore, comparative adjusted results have been revised from those previously presented to conform to our basis of presentation for this non-GAAP measure.

(7) Effective the second quarter of 2023, we revised the composition of this non-GAAP ratio, which is calculated based on adjusted Non-interest expense excluding HSBC Canada transaction and integration costs and amortization of acquisition-related intangibles divided by total revenue net of PBCAE. Therefore, comparative adjusted results have been revised from those previously presented to conform to our basis of presentation for this non-GAAP ratio.

Personal & Commercial Banking

	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
(Millions of Canadian dollars, except percentage amounts and as otherwise noted)					
Net interest income	\$ 3,817	\$ 4,007	\$ 3,234	\$ 7,824	\$ 6,463
Non-interest income	1,481	1,534	1,505	3,015	3,079
Total revenue	5,298	5,541	4,739	10,839	9,542
PCL on performing assets	122	141	(420)	263	(480)
PCL on impaired assets	300	260	144	560	333
PCL	422	401	(276)	823	(147)
Non-interest expense	2,257	2,229	2,015	4,486	4,037
Income before income taxes	2,619	2,911	3,000	5,530	5,652
Net income	\$ 1,915	\$ 2,126	\$ 2,234	\$ 4,041	\$ 4,208
Revenue by business					
Canadian Banking	\$ 5,040	\$ 5,284	\$ 4,531	\$ 10,324	\$ 9,129
Caribbean & U.S. Banking	258	257	208	515	413
Selected balance sheet and other information					
ROE	26.5%	29.8%	34.4%	28.2%	32.0%
NIM	2.70%	2.76%	2.46%	2.73%	2.43%
Efficiency ratio (1)	42.6%	40.2%	42.5%	41.4%	42.3%
Operating leverage (1)	(0.2)%	5.2%	(0.5)%	2.5%	1.3%
Average total earning assets, net	\$ 579,800	\$ 575,900	\$ 540,100	\$ 577,800	\$ 535,400
Average loans and acceptances, net	586,700	581,800	544,000	584,300	539,200
Average deposits	588,000	579,800	543,400	583,800	541,300
AUA (2)	351,100	349,600	355,800	351,100	355,800
Average AUA	347,900	343,500	368,400	345,600	370,600
PCL on impaired loans as a % of average net loans and acceptances	0.21%	0.18%	0.11%	0.19%	0.13%
Other selected information – Canadian Banking					
Net income	\$ 1,825	\$ 2,056	\$ 2,140	\$ 3,881	\$ 4,054
NIM	2.65%	2.73%	2.45%	2.69%	2.43%
Efficiency ratio	41.4%	39.0%	41.2%	40.2%	41.0%
Operating leverage	(0.6)%	5.1%	(1.2)%	2.3%	0.8%

(1) See Glossary for composition of this measure.

(2) AUA represents period-end spot balances and includes securitized residential mortgages and credit card loans as at April 30, 2023 of \$15 billion and \$8 billion, respectively (January 31, 2023 – \$15 billion and \$6 billion; April 30, 2022 – \$14 billion and \$4 billion).

Financial performance

Q2 2023 vs. Q2 2022

Net income decreased \$319 million or 14% from a year ago, primarily attributable to higher PCL mainly reflecting provisions taken on performing loans in the current quarter as compared to releases of provisions on performing loans in the prior year. Higher staff and technology related costs, including digital initiatives, as well as a higher effective tax rate reflecting the 1.5% increase in the Canadian corporate tax rate also contributed to the decrease. These factors were partially offset by higher net interest income reflecting higher spreads and average volume growth of 8% in Canadian Banking.

Total revenue increased \$559 million or 12%.

Canadian Banking revenue increased \$509 million or 11%, largely due to higher net interest income reflecting higher spreads and average volume growth of 8% in deposits and loans. Higher service charges were more than offset by lower average mutual fund balances driving lower distribution fees.

Caribbean & U.S. Banking revenue increased \$50 million or 24%, mainly due to higher net interest income reflecting improved spreads.

NIM was up 24 bps, mainly due to the impact of the rising interest rate environment, partially offset by changes in product mix.

PCL was \$422 million, compared to \$(276) million a year ago, largely attributable to provisions taken in the current quarter on performing loans in our Canadian Banking portfolios, primarily driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases last year which reflected reduced uncertainty relating to the COVID-19 pandemic. The current quarter also reflected higher provisions on impaired loans, primarily in our Canadian Banking portfolios, resulting in an increase of 10 bps in the PCL on impaired loans ratio.

Non-interest expense increased \$242 million or 12%, primarily attributable to higher staff and technology related costs, including digital initiatives, as well as higher marketing costs.

Q2 2023 vs. Q1 2023

Net income decreased \$211 million or 10% from last quarter, primarily attributable to lower net interest income reflecting three less days in the current quarter and lower spreads. Lower card service revenue also contributed to the decrease.

NIM was down 6 bps, mainly due to changes in product mix.

Q2 2023 vs. Q2 2022 (Six months ended)

Net income decreased \$167 million or 4% from the same period last year, primarily attributable to higher PCL mainly reflecting provisions taken on performing loans in the current period as compared to releases of provisions on performing loans in the prior period. Higher staff and technology related costs, including digital initiatives, as well as a higher effective tax rate reflecting the 1.5% increase in the Canadian corporate tax rate also contributed to the decrease. These factors were partially offset by higher net interest income reflecting higher spreads and average volume growth of 8% in Canadian Banking.

Total revenue increased \$1,297 million or 14%, largely due to higher net interest income reflecting higher spreads and average volume growth in Canadian Banking of 8% in loans and deposits. This factor was partially offset by lower average mutual fund balances driving lower distribution fees.

PCL was \$823 million, compared to \$(147) million in the same period last year, largely attributable to provisions taken on performing loans in the current period primarily in our Canadian Banking retail portfolios driven by unfavourable changes in our credit quality and macroeconomic outlook as compared to releases in the prior period which reflected reduced uncertainty relating to the COVID-19 pandemic. The current period also reflected higher provisions on impaired loans, primarily in our Canadian Banking retail portfolios, resulting in an increase of 6 bps in the PCL on impaired loans ratio.

Non-interest expense increased \$449 million or 11%, primarily attributable to higher staff and technology related costs, including digital initiatives, as well as higher marketing costs.

Wealth Management

(Millions of Canadian dollars, except number of, percentage amounts and as otherwise noted)	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022 (1)	April 30 2023	April 30 2022 (1)
Net interest income	\$ 1,096	\$ 1,225	\$ 878	\$ 2,321	\$ 1,731
Non-interest income	3,328	3,360	3,123	6,688	6,288
Total revenue	4,424	4,585	4,001	9,009	8,019
PCL on performing assets	2	24	(31)	26	(44)
PCL on impaired assets	26	42	-	68	1
PCL	28	66	(31)	94	(43)
Non-interest expense	3,447	3,434	2,971	6,881	5,915
Income before income taxes	949	1,085	1,061	2,034	2,147
Net income	\$ 742	\$ 848	\$ 809	\$ 1,590	\$ 1,630
Revenue by business					
Canadian Wealth Management	\$ 1,094	\$ 1,111	\$ 1,071	\$ 2,205	\$ 2,143
U.S. Wealth Management (including City National)	2,005	2,128	1,775	4,133	3,502
U.S. Wealth Management (including City National) (US\$ millions)	1,477	1,585	1,399	3,062	2,758
Global Asset Management	634	683	678	1,317	1,414
International Wealth Management	323	288	81	611	159
Investor Services (2)	368	375	396	743	801
Selected balance sheet and other information					
ROE	12.1%	13.5%	16.6%	12.8%	16.7%
NIM	2.44%	2.63%	2.25%	2.53%	2.15%
Pre-tax margin (3)	21.5%	23.7%	26.5%	22.6%	26.8%
Number of advisors (4)	6,246	6,199	5,623	6,246	5,623
Average total earning assets, net	\$ 184,000	\$ 185,200	\$ 160,000	\$ 184,800	\$ 162,000
Average loans and acceptances, net	121,600	122,300	105,600	122,000	103,900
Average deposits	158,600	185,600	198,000	172,400	201,000
AUA (5)	5,540,900	5,412,000	5,745,700	5,540,900	5,745,700
U.S. Wealth Management (including City National) (5)	737,500	713,100	681,600	737,500	681,600
U.S. Wealth Management (including City National) (US\$ millions) (5)	544,300	536,100	530,400	544,300	530,400
Investor Services (5)	4,067,800	3,974,100	4,443,800	4,067,800	4,443,800
AUM (5)	1,074,900	1,042,900	949,800	1,074,900	949,800
Average AUA	5,499,000	5,423,100	5,841,500	5,460,500	5,927,300
Average AUM	1,060,300	1,027,300	980,300	1,043,600	1,001,100
PCL on impaired loans as a % of average net loans and acceptances	0.09%	0.13%	0.00%	0.11%	0.00%

Estimated impact of U.S. dollar, British pound and Euro translation on key income statement items

(Millions of Canadian dollars, except percentage amounts)

	For the three months ended		For the six months ended
	Q2 2023 vs. Q2 2022	Q2 2023 vs. Q1 2023	Q2 2023 vs. Q2 2022
Increase (decrease):			
Total revenue	\$ 154	\$ 37	\$ 249
PCL	2	-	5
Non-interest expense	129	30	204
Net income	18	6	31
Percentage change in average U.S. dollar equivalent of C\$1.00	(7)%	(1)%	(6)%
Percentage change in average British pound equivalent of C\$1.00	(1)%	(2)%	2%
Percentage change in average Euro equivalent of C\$1.00	(6)%	(2)%	(3)%

(1) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

(2) Effective Q1 2023, we entered into a definitive agreement to sell the European asset servicing activities of RBC Investor Services® and its associated Malaysian centre of excellence. For further details, refer to Note 6 of our Condensed Financial Statements.

(3) Pre-tax margin is defined as Income before income taxes divided by Total revenue.

(4) Represents client-facing advisors across all of our Wealth Management businesses.

(5) Represents period-end spot balances.

Financial performance

Q2 2023 vs. Q2 2022

Net income decreased \$67 million or 8% from a year ago, mainly due to lower average fee-based client assets driven by unfavourable market conditions and gains on the sale of certain non-core affiliates in the same quarter last year. Higher PCL, professional fees and staff costs also contributed to the decrease. These factors were partially offset by an increase in net interest income driven by higher spreads reflecting higher interest rates, which also drove an increase in revenue from sweep deposits.

Total revenue increased \$423 million or 11%.

Canadian Wealth Management revenue increased \$23 million or 2%, primarily due to an increase in net interest income driven by higher spreads reflecting higher interest rates, partially offset by lower transactional revenue driven by a decline in client activity.

U.S. Wealth Management (including City National) revenue increased \$230 million or 13%. In U.S. dollars, revenue increased \$78 million or 6%, primarily due to an increase in net interest income driven by higher spreads reflecting higher interest rates, which also drove an increase in revenue from sweep deposits. Higher transactional revenue also contributed to the increase. These factors were partially offset by gains on the sale of certain non-core affiliates in the same quarter last year, as well as lower average fee-based client assets, largely driven by unfavourable market conditions.

Global Asset Management revenue decreased \$44 million or 6%, primarily due to lower average fee-based client assets, largely driven by unfavourable market conditions.

International Wealth Management revenue increased \$242 million, primarily reflecting the inclusion of RBC Brewin Dolphin, as well as an increase in net interest income driven by higher spreads reflecting higher interest rates.

Investor Services revenue decreased \$28 million or 7%, primarily due to lower net interest income as the benefit from higher interest rates was more than offset by higher funding costs and lower deposit volume, as well as lower fee-based revenue. These factors were partially offset by the impact of foreign exchange translation and higher transactional revenue.

PCL was \$28 million, compared to \$(31) million a year ago, primarily in U.S. Wealth Management (including City National), mainly reflecting the impact of releases of provisions on performing loans in the prior year driven by reduced uncertainty relating to the COVID-19 pandemic. Provisions on impaired loans in the current quarter, mainly in the real estate and related and consumer discretionary sectors, also contributed to the increase, resulting in an increase of 9 bps in the PCL on impaired loans ratio.

Non-interest expense increased \$476 million or 16%, largely due to the inclusion of RBC Brewin Dolphin and related costs and the impact of foreign exchange translation. Higher professional fees and staff costs also contributed to the increase.

Q2 2023 vs. Q1 2023

Net income decreased \$106 million or 13% from last quarter, primarily due to lower net interest income as higher funding costs and the impact of changes in product mix more than offset the benefit from higher interest rates. Lower transactional revenue also contributed to the decrease.

Q2 2023 vs. Q2 2022 (Six months ended)

Net income decreased \$40 million or 2% from the same period last year, mainly due to lower average fee-based client assets, higher PCL, staff costs and professional fees. The impact of a legal provision release in U.S. Wealth Management (including City National) as well as gains on the sale of certain non-core affiliates, both in the same period last year, also contributed to the decrease. These factors were partially offset by an increase in net interest income driven by higher spreads reflecting higher interest rates, which also drove higher revenue from sweep deposits, as well as an increase in transactional revenue.

Total revenue increased \$990 million or 12%, primarily due to an increase in net interest income driven by higher spreads reflecting higher interest rates, and the inclusion of RBC Brewin Dolphin. The impact of foreign exchange translation, as well as higher revenue from sweep deposits and higher transactional revenue also contributed to the increase. These factors were partially offset by lower average fee-based client assets driven by unfavourable market conditions, and gains on the sale of certain non-core affiliates in the same period last year.

PCL was \$94 million, compared to \$(43) million in the same period last year, primarily in U.S. Wealth Management (including City National), mainly attributable to provisions taken on performing loans in the current period, largely driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases in the prior period which reflected reduced uncertainty relating to the COVID-19 pandemic. The current period also reflected higher provisions on impaired loans in a few sectors, including the other services, consumer discretionary and real estate and related sectors, resulting in an increase of 11 bps in the PCL on impaired loans ratio.

Non-interest expense increased \$966 million or 16%, largely due to the inclusion of RBC Brewin Dolphin and related costs and the impact of foreign exchange translation. Higher staff costs and professional fees, as well as the impact of a legal provision release in U.S. Wealth Management (including City National) in the same period last year also contributed to the increase.

Insurance

(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Non-interest income					
Net earned premiums	\$ 1,195	\$ 1,042	\$ 1,210	\$ 2,237	\$ 2,809
Investment income, gains/(losses) on assets supporting insurance policyholder liabilities (1)	103	798	(1,022)	901	(1,274)
Fee income	49	51	46	100	98
Total revenue	1,347	1,891	234	3,238	1,633
Insurance policyholder benefits and claims (1)	923	1,465	(261)	2,388	653
Insurance policyholder acquisition expense	83	80	81	163	164
Non-interest expense	159	156	145	315	292
Income before income taxes	182	190	269	372	524
Net income	\$ 139	\$ 148	\$ 206	\$ 287	\$ 403
Revenue by business					
Canadian Insurance	\$ 695	\$ 1,297	\$ (507)	\$ 1,992	\$ 186
International Insurance	652	594	741	1,246	1,447
Selected balances and other information					
ROE	26.9%	28.6%	34.6%	27.7%	33.5%
Premiums and deposits (2)	\$ 1,419	\$ 1,239	\$ 1,458	\$ 2,658	\$ 3,272
Fair value changes on investments backing policyholder liabilities (1)	12	663	(1,133)	675	(1,563)

(1) Includes unrealized gains and losses on investments backing policyholder liabilities attributable to fluctuation of assets designated as FVTPL. The investments which support actuarial liabilities are predominantly fixed income assets designated as FVTPL. Consequently, changes in the fair values of these assets are recorded in Insurance premiums, investment and fee income in the Consolidated Statements of Income and are largely offset by changes in the fair value of the actuarial liabilities, the impact of which is reflected in PBCAE.

(2) Premiums and deposits include premiums on risk-based insurance and annuity products, and individual and group segregated fund deposits, consistent with insurance industry practices.

Financial performance

Q2 2023 vs. Q2 2022

Net income decreased \$67 million or 33% from a year ago, primarily due to higher capital funding costs.

Total revenue increased \$1,113 million.

Canadian Insurance revenue increased \$1,202 million, primarily due to the change in fair value of investments backing policyholder liabilities and business growth, both of which are largely offset in PBCAE as indicated below. These factors were partially offset by lower group annuity sales.

International Insurance revenue decreased \$89 million or 12%, primarily due to the change in fair value of investments backing policyholder liabilities, which is largely offset in PBCAE as indicated below.

PBCAE increased \$1,186 million, primarily due to the change in fair value of investments backing policyholder liabilities and business growth in Canadian Insurance, both of which are largely offset in revenue. These factors were partially offset by lower group annuity sales.

Non-interest expense increased \$14 million or 10%, primarily due to higher staff-related costs.

Q2 2023 vs. Q1 2023

Net income decreased \$9 million or 6% from last quarter, primarily due to the impact of an unfavourable actuarial adjustment in the current quarter.

Q2 2023 vs. Q2 2022 (Six months ended)

Net income decreased \$116 million or 29% from the same period last year, primarily due to higher capital funding costs.

Total revenue increased \$1,605 million or 98%, mainly due to the change in fair value of investments backing policyholder liabilities, partially offset by lower group annuity sales, both of which are largely offset in PBCAE as indicated below.

PBCAE increased \$1,734 million, mainly reflecting the change in fair value of investments backing policyholder liabilities, partially offset by lower group annuity sales, both of which are largely offset in revenue.

Non-interest expense increased \$23 million or 8%, primarily due to higher staff-related costs.

Capital Markets

(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	As at or for the three months ended			As at or for the six months ended	
	April 30 2023	January 31 2023	April 30 2022 (1)	April 30 2023	April 30 2022 (1)
Net interest income (2)	\$ 920	\$ 768	\$ 1,231	\$ 1,688	\$ 2,527
Non-interest income (2)	1,712	2,353	1,272	4,065	2,968
Total revenue (2)	2,632	3,121	2,503	5,753	5,495
PCL on performing assets	37	12	(65)	49	(71)
PCL on impaired assets	113	53	29	166	23
PCL	150	65	(36)	215	(48)
Non-interest expense	1,510	1,701	1,421	3,211	2,950
Income before income taxes	972	1,355	1,118	2,327	2,593
Net income	\$ 939	\$ 1,223	\$ 857	\$ 2,162	\$ 1,979
Revenue by business					
Corporate and Investment Banking	\$ 1,331	\$ 1,299	\$ 1,196	\$ 2,630	\$ 2,656
Global Markets	1,393	1,885	1,431	3,278	3,044
Other	(92)	(63)	(124)	(155)	(205)
Selected balance sheet and other information					
ROE	13.7%	17.0%	13.0%	15.4%	15.0%
Average total assets	\$ 994,800	\$ 1,184,600	\$ 1,014,000	\$ 1,091,300	\$ 1,020,700
Average trading securities	143,000	155,100	140,900	149,100	142,600
Average loans and acceptances, net	139,000	138,500	121,100	138,800	117,300
Average deposits	296,800	306,900	283,100	301,900	280,300
PCL on impaired loans as a % of average net loans and acceptances	0.33%	0.15%	0.09%	0.24%	0.03%

Estimated impact of U.S. dollar, British pound and Euro translation on key income statement items

(Millions of Canadian dollars, except percentage amounts)

	For the three months ended		For the six months ended
	Q2 2023 vs. Q2 2022	Q2 2023 vs. Q1 2023	Q2 2023 vs. Q2 2022
Increase (decrease):			
Total revenue	\$ 126	\$ 29	\$ 207
PCL	6	1	9
Non-interest expense	59	15	90
Net income	57	12	99
Percentage change in average U.S. dollar equivalent of C\$1.00	(7)%	(1)%	(6)%
Percentage change in average British pound equivalent of C\$1.00	(1)%	(2)%	2%
Percentage change in average Euro equivalent of C\$1.00	(6)%	(2)%	(3)%

- (1) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.
- (2) The taxable equivalent basis (teb) adjustment for the three months ended April 30, 2023 was \$213 million (January 31, 2023 – \$116 million; April 30, 2022 – \$145 million) and for the six months ended April 30, 2023 was \$329 million (April 30, 2022 – \$287 million). For further discussion, refer to the How we measure and report our business segments section of our 2022 Annual Report.

Financial performance

Q2 2023 vs. Q2 2022

Net income increased \$82 million or 10% from a year ago, primarily driven by a lower effective tax rate reflecting changes in earnings mix, higher revenue in Corporate & Investment Banking and the impact of foreign exchange translation. These factors were partially offset by higher PCL and lower revenue in Global Markets.

Total revenue increased \$129 million or 5%.

Corporate and Investment Banking revenue increased \$135 million or 11%, mainly due to the reversal of loan underwriting markdowns, primarily in the U.S. Higher municipal banking activity, improved margins in our transaction banking business and the impact of foreign exchange translation also contributed to the increase. These factors were partially offset by lower loan syndication and M&A activity across most regions.

Global Markets revenue decreased \$38 million or 3%, largely due to lower equity trading revenue across all regions, partially offset by higher fixed income trading revenue across most regions as well as the impact of foreign exchange translation.

Other revenue improved \$32 million or 26%, mainly reflecting the impact of fair value changes in our legacy U.S. portfolios.

PCL was \$150 million, compared to \$(36) million a year ago, mainly attributable to provisions taken on performing loans in the current quarter driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases last year which reflected reduced uncertainty relating to the COVID-19 pandemic. The current quarter also reflected higher provisions on impaired loans in a few sectors, including the consumer discretionary and real estate and related sectors, resulting in an increase of 24 bps in the PCL on impaired loans ratio.

Non-interest expense increased \$89 million or 6%, mainly driven by the impact of foreign exchange translation and ongoing technology investments.

Q2 2023 vs. Q1 2023

Net income decreased \$284 million or 23% from last quarter, largely driven by lower equity trading revenue across all regions, as well as lower fixed income trading revenue and M&A activity across most regions. These factors were partially offset by lower compensation on decreased results.

Q2 2023 vs. Q2 2022 (Six months ended)

Net income increased \$183 million or 9% from the same period last year, mainly driven by a lower effective tax rate reflecting changes in earnings mix, higher revenue in Global Markets and the impact of foreign exchange translation. These factors were partially offset by higher PCL, lower revenue in Corporate & Investment Banking and ongoing technology investments.

Total revenue increased \$258 million or 5%, mainly due to higher fixed income trading revenue across all regions and the impact of foreign exchange translation. These factors were partially offset by lower equity trading revenue across all regions and lower loan syndication activity in the U.S. and Europe.

PCL was \$215 million, compared to \$(48) million in the same period last year, largely reflecting higher provisions on impaired loans in the current period in a few sectors, including the consumer discretionary and real estate and related sectors, resulting in an increase of 21 bps in the PCL on impaired loans ratio. Provisions taken on performing loans in the current period, primarily driven by unfavourable changes in our credit quality and macroeconomic outlook, as compared to releases in the same period last year which reflected reduced uncertainty relating to the COVID-19 pandemic, also contributed to an increase in PCL.

Non-interest expense increased \$261 million or 9%, mainly driven by the impact of foreign exchange translation, ongoing technology investments and higher compensation on increased results. Higher marketing and business development costs also contributed to the increase.

Corporate Support

(Millions of Canadian dollars)	For the three months ended			For the six months ended	
	April 30 2023	January 31 2023	April 30 2022	April 30 2023	April 30 2022
Net interest income (loss) (1)	\$ 266	\$ 202	\$ (69)	\$ 468	\$ (176)
Non-interest income (loss) (1), (2)	(447)	(246)	(188)	(693)	(227)
Total revenue (1), (2)	(181)	(44)	(257)	(225)	(403)
PCL	–	–	1	–	1
Non-interest expense (2)	121	155	(118)	276	(180)
Income (loss) before income taxes (1)	(302)	(199)	(140)	(501)	(224)
Income taxes (recoveries) (1)	(216)	932	(287)	716	(352)
Net income (loss)	\$ (86)	\$ (1,131)	\$ 147	\$ (1,217)	\$ 128

(1) Teb adjusted.

(2) Revenue for the three months ended April 30, 2023 included gains of \$11 million (January 31, 2023 and April 30, 2022 – gains of \$121 million and losses of \$154 million, respectively) on economic hedges of our U.S. Wealth Management (including City National) share-based compensation plans, and non-interest expense included \$19 million (January 31, 2023 and April 30, 2022 – \$100 million and \$(122) million, respectively) of share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. Wealth Management (including City National) share-based compensation plans. Revenue for the six months ended April 30, 2023 included gains of \$132 million (April 30, 2022 – losses of \$243 million) on economic hedges of our U.S. Wealth Management (including City National) share-based compensation plans, and non-interest expense included \$119 million (April 30, 2022 – \$(193) million) of share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. Wealth Management (including City National) share-based compensation plans.

Due to the nature of activities and consolidation adjustments reported in this segment, we believe that a comparative period analysis is not relevant.

Total revenue and Income taxes (recoveries) in each period in Corporate Support include the deduction of the teb adjustments related to the gross-up of income from Canadian taxable corporate dividends and the U.S. tax credit investment business recorded in Capital Markets. The amount deducted from revenue was offset by an equivalent increase in Income taxes (recoveries).

The teb amount for the three months ended April 30, 2023 was \$213 million, compared to \$116 million in the prior quarter and \$145 million in the same quarter last year. The teb amount for the six months ended April 30, 2023 was \$329 million, compared to \$287 million in the same period last year.

The following identifies the material items, other than the teb impacts noted previously, affecting the reported results in each period.

Q2 2023

Net loss was \$86 million, primarily due to residual unallocated items, as well as transaction and integration costs of \$43 million relating to the planned acquisition of HSBC Canada (for further details, refer to the Key performance and non-GAAP measures section).

Q1 2023

Net loss was \$1,131 million, primarily due to the impact of the CRD and other tax related adjustments of \$1,050 million (for further details, refer to the Key performance and non-GAAP measures section). Asset/liability management activities and residual unallocated items also contributed to the net loss.

Q2 2022

Net income was \$147 million, primarily due to net favourable tax adjustments.

Q2 2023 (Six months ended)

Net loss was \$1,217 million, primarily due to the impact of the CRD and other tax related adjustments of \$1,050 million (for further details, refer to the Key performance and non-GAAP measures section).

Q2 2022 (Six months ended)

Net income was \$128 million, mainly due to net favourable tax adjustments.

Quarterly results and trend analysis

Our quarterly results are impacted by a number of trends and recurring factors, which include seasonality of certain businesses, general economic and market conditions, and fluctuations in the Canadian dollar relative to other currencies. The following table summarizes our results for the last eight quarters (the period):

Quarterly results ⁽¹⁾

(Millions of Canadian dollars, except per share and percentage amounts)	2023			2022			2021	
	Q2	Q1	Q4	Q3	Q2	Q1	Q4	Q3
Personal & Commercial Banking	\$ 5,298	\$ 5,541	\$ 5,419	\$ 5,182	\$ 4,739	\$ 4,803	\$ 4,605	\$ 4,651
Wealth Management ⁽²⁾	4,424	4,585	4,308	4,022	4,001	4,018	3,862	3,774
Insurance	1,347	1,891	644	1,233	234	1,399	1,501	1,754
Capital Markets ^{(2), (3)}	2,632	3,121	2,484	1,864	2,503	2,992	2,428	2,579
Corporate Support ⁽³⁾	(181)	(44)	(288)	(169)	(257)	(146)	(20)	(2)
Total revenue	13,520	15,094	12,567	12,132	11,220	13,066	12,376	12,756
PCL	600	532	381	340	(342)	105	(227)	(540)
PBCAE	1,006	1,545	116	850	(180)	997	1,032	1,304
Non-interest expense	7,494	7,675	7,209	6,386	6,434	6,580	6,583	6,420
Income before income taxes	4,420	5,342	4,861	4,556	5,308	5,384	4,988	5,572
Income taxes	771	2,128	979	979	1,055	1,289	1,096	1,276
Net income	\$ 3,649	\$ 3,214	\$ 3,882	\$ 3,577	\$ 4,253	\$ 4,095	\$ 3,892	\$ 4,296
EPS – basic	\$ 2.58	\$ 2.29	\$ 2.75	\$ 2.52	\$ 2.97	\$ 2.84	\$ 2.68	\$ 2.97
– diluted	2.58	2.29	2.74	2.51	2.96	2.84	2.68	2.97
Effective income tax rate	17.4%	39.8%	20.1%	21.5%	19.9%	23.9%	22.0%	22.9%
Period average US\$ equivalent of C\$1.00	\$ 0.737	\$ 0.745	\$ 0.739	\$ 0.783	\$ 0.789	\$ 0.787	\$ 0.796	\$ 0.812

(1) Fluctuations in the Canadian dollar relative to other foreign currencies have affected our consolidated results over the period.

(2) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

(3) Teb adjusted. For further discussion, refer to the How we measure and report our business segments section of our 2022 Annual Report.

Seasonality

Seasonal factors may impact our results in certain quarters. The first quarter has historically been stronger for our Capital Markets businesses. The second quarter has fewer days than the other quarters, which generally results in a decrease in net interest income and certain expense items. The third and fourth quarters include the summer months which generally results in lower client activity and may negatively impact the results of our Capital Markets trading business.

Trend analysis

Earnings over the period have been impacted by the factors noted below.

Personal & Commercial Banking revenue has benefitted from solid volume growth in loans and deposits over the period. NIM has been favourably impacted over the majority of the period by the rising interest rate environment, whereas a low interest rate environment persisted in the earlier part of the period. Towards the end of the period, NIM has been adversely impacted by a shift in product mix.

Wealth Management revenue has generally benefitted from growth in average fee-based client assets, which is impacted by market conditions, and volume growth in loans over the period. The rising interest rate environment also favourably impacted revenue over the recent quarters, whereas a low interest rate environment persisted in the earlier part of the period. The revenue of RBC Brewin Dolphin has been included since the acquisition closed on September 27, 2022.

Insurance revenue has fluctuated over the period, primarily due to the impact of changes in the fair value of investments backing policyholder liabilities as well as the timing of group annuity sales, both of which are largely offset in PBCAE. Group annuity sales are generally higher in the first half of the fiscal year.

Capital Markets revenue is influenced, to a large extent, by market conditions that impact client activity. Beginning in the second quarter of 2022, there was a decline in global investment banking fee pools. Sales and trading results were impacted notably in the third quarter of 2022 amidst challenging market conditions, driving lower fixed income trading revenue, including the impact from loan underwriting markdowns. The first half of 2023 saw improvement in sales and trading, reflecting strong client activity.

PCL is comprised of provisions taken on performing assets and provisions taken on impaired assets. PCL on performing assets has fluctuated over the period as it is impacted by changes in credit quality, macroeconomic conditions, and exposures. Throughout 2021 and the first half of 2022, we saw improvements in our macroeconomic and credit quality outlook, as the economic impact from the COVID-19 pandemic eased in most regions, resulting in releases of provisions on performing assets. In the last half of 2022 and first half of 2023, unfavourable changes in our macroeconomic and credit quality outlook resulted in an increase in provisions. PCL on impaired assets remained below pre-pandemic levels over most of the period, though provisions started to increase in the latter part of the period.

PBCAE has fluctuated over the period reflecting changes in the fair value of investments backing policyholder liabilities, which is impacted by changes in market conditions, as well as group annuity sales, both of which are largely offset in revenue. PBCAE has also fluctuated due to the impact of investment-related experience and claims costs over the period. Actuarial adjustments, which generally occur in the fourth quarter of each year, also impact PBCAE.

Non-interest expense has been impacted by fluctuations in variable compensation over the period, commensurate with fluctuations in revenue and earnings. Changes in the fair value of our U.S. share-based compensation plans, which are largely offset in revenue, have also contributed to fluctuations over the period and are impacted by market conditions. While we continue to focus on efficiency management activities, expenses over the period also reflect investments in staff and technology. The fourth quarter of 2021 included a legal provision in U.S. Wealth Management (including City National) that was partially released in the first quarter of 2022. Non-interest expenses of RBC Brewin Dolphin have been included since the acquisition closed on September 27, 2022.

Our effective income tax rate has fluctuated over the period, mostly due to varying levels of tax adjustments and changes in earnings mix. The second and fourth quarters of 2022 reflected the impact of net favourable tax adjustments and an increase in income from lower tax rate jurisdictions, respectively. The first quarter of 2023 reflects the impact of the CRD and other tax related adjustments.

Financial condition

Condensed balance sheets

(Millions of Canadian dollars)	As at	
	April 30 2023	October 31 2022
Assets		
Cash and due from banks	\$ 99,199	\$ 72,397
Interest-bearing deposits with banks	81,880	108,011
Securities, net of applicable allowance (1)	319,828	318,223
Assets purchased under reverse repurchase agreements and securities borrowed	335,239	317,845
Loans		
Retail	554,139	549,751
Wholesale	281,380	273,967
Allowance for loan losses	(4,332)	(3,753)
Other – Derivatives	124,149	154,439
– Other (2)	148,820	126,339
Total assets	\$ 1,940,302	\$ 1,917,219
Liabilities		
Deposits	\$ 1,210,053	\$ 1,208,814
Other – Derivatives	123,898	153,491
– Other (2)	483,432	436,714
Subordinated debentures	11,565	10,025
Total liabilities	1,828,948	1,809,044
Equity attributable to shareholders	111,256	108,064
Non-controlling interests	98	111
Total equity	111,354	108,175
Total liabilities and equity	\$ 1,940,302	\$ 1,917,219

(1) Securities are comprised of trading and investment securities.

(2) Other – Other assets and liabilities include Segregated fund net assets and liabilities, respectively.

Q2 2023 vs. Q4 2022

Total assets increased \$23 billion or 1% from October 31, 2022. Foreign exchange translation decreased total assets by \$19 billion.

Cash and due from banks was up \$27 billion or 37%, primarily due to higher deposits with central banks, reflecting our short-term cash management activities.

Interest-bearing deposits with banks decreased \$26 billion or 24%, primarily due to the classification of certain interest-bearing deposits as assets held for sale, which are presented in Other assets. For further details, refer to Note 6 of our Condensed Financial Statements. Lower deposits with central banks also contributed to the decrease, reflecting our short-term cash management activities.

Securities, net of applicable allowance, were up \$2 billion or 1%, primarily due to higher corporate debt securities, reflecting cash management activities, higher equity trading securities and the impact of foreign exchange translation. These factors were partially offset by lower government debt securities.

Assets purchased under reverse repurchase agreements (reverse repos) and securities borrowed increased \$17 billion or 5%, primarily due to increased client demand. The impact of foreign exchange translation also contributed to the increase.

Loans (net of Allowance for loan losses) were up \$11 billion or 1%, primarily due to volume growth in wholesale loans and residential mortgages.

Derivative assets were down \$30 billion or 20%, primarily attributable to the impact of foreign exchange translation and lower fair values on interest rate contracts, partially offset by higher fair values on foreign exchange contracts.

Other assets were up \$22 billion or 18%, primarily due to the reclassification of certain interest-bearing deposits noted above, partially offset by lower cash collateral.

Total liabilities increased \$20 billion or 1%. Foreign exchange translation decreased total liabilities by \$19 billion.

Deposits increased \$1 billion, primarily due to issuances of long-term notes due to funding requirements, a shift in clients' preference towards term deposits driven by higher interest rates, and the impact of foreign exchange translation. These factors were largely offset by the classification of certain deposits as liabilities held for sale, which are presented in Other liabilities.

Derivative liabilities were down \$30 billion or 19%, primarily attributable to the impact of foreign exchange translation and lower fair values on interest rate contracts, partially offset by higher fair values on foreign exchange contracts.

Other liabilities were up \$47 billion or 11%, largely due to the reclassification of certain deposits noted above and higher obligations related to repurchase agreements (repos) reflecting increased client demand.

Total equity increased \$3 billion, primarily reflecting earnings, net of dividends.

Off-balance sheet arrangements

In the normal course of business, we engage in a variety of financial transactions that, for accounting purposes, are not recorded on our consolidated balance sheets. Off-balance sheet transactions are generally undertaken for risk, capital and funding management purposes which benefit us and our clients. These include transactions with structured entities and may also include the purchase or issuance of guarantees. These transactions give rise to, among other risks, varying degrees of market, credit, and liquidity and funding risks, which are discussed in the Risk management section of this Q2 2023 Report to Shareholders.

The following provides an update to our significant off-balance sheet transactions, which are described on pages 56 to 58 of our 2022 Annual Report.

Involvement with unconsolidated structured entities

RBC-administered multi-seller conduits

We administer multi-seller conduits which are used primarily for the securitization of our clients' financial assets. Our maximum exposure to loss under these transactions primarily relates to backstop liquidity and partial credit enhancement facilities extended to the conduits. As at April 30, 2023, the total assets of the multi-seller conduits were \$52 billion (October 31, 2022 – \$47 billion) and our maximum exposure to loss was \$53 billion (October 31, 2022 – \$48 billion). The increase reflects higher securitization activities since October 31, 2022, mainly in the student loans, fleet finance receivables and consumer loans asset classes. This was partially offset by lower securitization activities in the credit cards asset class.

As at April 30, 2023, the total asset-backed commercial paper (ABCP) issued by the conduits amounted to \$36 billion (October 31, 2022 – \$33 billion). The rating agencies that rate the ABCP rated 100% (October 31, 2022 – 100%) of the total amount issued within the top ratings category.

Risk management

Credit risk

Credit risk is the risk of loss associated with an obligor's potential inability or unwillingness to fulfill its contractual obligations on a timely basis and may arise directly from the risk of default of a primary obligor (e.g., issuer, debtor, counterparty, borrower or policyholder), indirectly from a secondary obligor (e.g., guarantor or reinsurer), through off-balance sheet exposures, contingent credit risk, associated credit risk and/or transactional risk. Credit risk includes counterparty credit risk arising from both trading and non-trading activities.

Our Enterprise Credit Risk Management Framework (ECRMF) and supporting credit policies are designed to clearly define roles and responsibilities, acceptable practices, limits and key controls. There have been no material changes to our ECRMF as described in our 2022 Annual Report.

Residential mortgages and home equity lines of credit (insured vs. uninsured) (1)

Residential mortgages and home equity lines of credit are secured by residential properties. The following table presents a breakdown by geographic region.

(Millions of Canadian dollars, except percentage amounts)	As at April 30, 2023					
	Residential mortgages				Home equity lines of credit (2)	
	Insured (3)		Uninsured		Total	Total
Region (4)						
Canada						
Atlantic provinces	\$ 8,329	45%	\$ 10,329	55%	\$ 18,658	\$ 1,619
Quebec	12,008	28	30,957	72	42,965	3,192
Ontario	30,868	16	161,255	84	192,123	16,716
Alberta	19,325	46	22,251	54	41,576	4,655
Saskatchewan and Manitoba	8,651	42	11,790	58	20,441	1,833
B.C. and territories	12,106	17	60,313	83	72,419	7,159
Total Canada (5)	91,287	24	296,895	76	388,182	35,174
U.S.	–	–	32,663	100	32,663	2,089
Other International	–	–	3,065	100	3,065	1,703
Total International	–	–	35,728	100	35,728	3,792
Total	\$ 91,287	22%	\$ 332,623	78%	\$ 423,910	\$ 38,966

(Millions of Canadian dollars, except percentage amounts)	As at January 31, 2023					
	Residential mortgages				Home equity lines of credit (2)	
	Insured (3)		Uninsured		Total	Total
Region (4)						
Canada						
Atlantic provinces	\$ 8,422	45%	\$ 10,202	55%	\$ 18,624	\$ 1,636
Quebec	12,268	28	30,827	72	43,095	3,235
Ontario	31,277	16	159,310	84	190,587	16,669
Alberta	19,404	47	22,216	53	41,620	4,755
Saskatchewan and Manitoba	8,749	43	11,795	57	20,544	1,887
B.C. and territories	12,221	17	59,935	83	72,156	7,188
Total Canada (5)	92,341	24	294,285	76	386,626	35,370
U.S.	–	–	31,572	100	31,572	1,967
Other International	–	–	2,984	100	2,984	1,667
Total International	–	–	34,556	100	34,556	3,634
Total	\$ 92,341	22%	\$ 328,841	78%	\$ 421,182	\$ 39,004

- (1) Disclosure is provided in accordance with the requirements of OSFI's Guideline B-20 (Residential Mortgage Underwriting Practices and Procedures).
- (2) Includes \$38,945 million and \$21 million of uninsured and insured home equity lines of credit, respectively (January 31, 2023 – \$38,982 million and \$22 million, respectively), reported within the personal loan category. The amounts in U.S. and Other International include term loans collateralized by residential properties.
- (3) Insured residential mortgages are mortgages whereby our exposure to default is mitigated by insurance through the Canadian Mortgage and Housing Corporation or other private mortgage default insurers.
- (4) Region is based upon the address of the property mortgaged. The Atlantic provinces are comprised of Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick; B.C. and territories are comprised of British Columbia, Nunavut, Northwest Territories and Yukon.
- (5) Total consolidated residential mortgages in Canada of \$388 billion (January 31, 2023 – \$387 billion) includes \$12 billion (January 31, 2023 – \$12 billion) of mortgages with commercial clients in Canadian Banking, of which \$9 billion (January 31, 2023 – \$9 billion) are insured, and \$18 billion (January 31, 2023 – \$18 billion) of residential mortgages in Capital Markets, of which \$17 billion (January 31, 2023 – \$17 billion) are held for securitization purposes in Capital Markets. All of the residential mortgages held for securitization purposes are insured (January 31, 2023 – all insured).

Residential mortgages portfolio by amortization period (1)

The following table provides a summary of the percentage of residential mortgages that fall within the remaining amortization periods based upon current customer payment amounts, which incorporate payments larger than the minimum contractual amount and/or higher frequency of payments.

	As at					
	April 30 2023			January 31 2023		
	Canada (2)	U.S. and other International	Total	Canada (2)	U.S. and other International	Total
Amortization period						
≤ 25 years	57%	25%	54%	57%	25%	54%
> 25 years ≤ 30 years	17	75	22	16	75	21
> 30 years ≤ 35 years	1	–	1	1	–	1
> 35 years	25	–	23	26	–	24
Total	100%	100%	100%	100%	100%	100%

- (1) Disclosure is provided in accordance with the requirements of OSFI's Guideline B-20 (Residential Mortgage Underwriting Practices and Procedures).
- (2) Our policy is to originate mortgages with amortization periods of 30 years or less. Amortization periods greater than 30 years reflect the impact of increases in interest rates on our variable rate mortgage portfolios. For these loans, the amortization period resets to the original amortization schedule upon renewal.

Average loan-to-value (LTV) ratios ⁽¹⁾

The following table provides a summary of our average LTV ratios for newly originated and acquired uninsured residential mortgages and RBC Homeline Plan[®] products by geographic region, as well as the respective LTV ratios for our total Canadian Banking residential mortgage portfolio outstanding.

	For the three months ended				For the six months ended	
	April 30 2023		January 31 2023		April 30 2023	
	Uninsured		Uninsured		Uninsured	
	Residential mortgages (2)	RBC Homeline Plan products (3)	Residential mortgages (2)	RBC Homeline Plan products (3)	Residential mortgages (2)	RBC Homeline Plan products (3)
Average of newly originated and acquired for the period, by region (4)						
Atlantic provinces	71%	72%	70%	70%	71%	71%
Quebec	70	70	69	70	70	70
Ontario	71	64	71	65	71	64
Alberta	73	71	72	71	72	71
Saskatchewan and Manitoba	73	73	73	73	73	73
B.C. and territories	67	63	69	64	68	64
U.S.	75	n.m.	74	n.m.	74	n.m.
Other International	69	n.m.	71	n.m.	70	n.m.
Average of newly originated and acquired for the period (5), (6)	71%	66%	71%	66%	71%	66%
Total Canadian Banking residential mortgage portfolio (7)	57%	50%	55%	49%	57%	50%

(1) Disclosure is provided in accordance with the requirements of OSFI's Guideline B-20 (Residential Mortgage Underwriting Practices and Procedures).

(2) Residential mortgages exclude residential mortgages within the RBC Homeline Plan products.

(3) RBC Homeline Plan products are comprised of both residential mortgages and home equity lines of credit.

(4) Region is based upon the address of the property mortgaged. The Atlantic provinces are comprised of Newfoundland and Labrador, Prince Edward Island, Nova Scotia and New Brunswick; B.C. and territories are comprised of British Columbia, Nunavut, Northwest Territories and Yukon.

(5) The average LTV ratios for newly originated and acquired uninsured residential mortgages and RBC Homeline Plan products are calculated on a weighted basis by mortgage amounts at origination.

(6) For newly originated mortgages and RBC Homeline Plan products, LTV is calculated based on the total facility amount for the residential mortgage and RBC Homeline Plan product divided by the value of the related residential property.

(7) Weighted by mortgage balances and adjusted for property values based on the Teranet-National Bank National House Price Index[†].

n.m. not meaningful

Net International wholesale exposure by region, asset type and client type ^{(1), (2)}

The following table provides a breakdown of our credit risk exposure by region, asset type and client type.

(Millions of Canadian dollars)	As at								
	April 30 2023								January 31 2023
	Asset type				Client type				Total
	Loans Outstanding	Securities (3)	Repo-style transactions	Derivatives	Financials	Sovereign	Corporate		
Europe (excluding U.K.)	\$ 16,398	\$ 46,496	\$ 1,797	\$ 1,806	\$ 19,270	\$ 33,662	\$ 13,565	\$ 66,497	\$ 64,080
U.K.	7,810	30,706	799	2,545	11,993	23,299	6,568	41,860	39,844
Caribbean	8,350	10,513	431	474	7,627	3,983	8,158	19,768	19,129
Asia-Pacific	6,860	33,976	810	1,415	12,826	25,146	5,089	43,061	43,127
Other (4)	585	1,800	296	25	441	1,626	639	2,706	3,029
Net International exposure (5), (6)	\$ 40,003	\$ 123,491	\$ 4,133	\$ 6,265	\$ 52,157	\$ 87,716	\$ 34,019	\$ 173,892	\$ 169,209

(1) Geographic profile is based on country of risk, which reflects our assessment of the geographic risk associated with a given exposure. Typically, this is the residence of the borrower.

(2) Exposures are calculated on a fair value basis and net of collateral, which includes \$370 billion against repo-style transactions (January 31, 2023 – \$361 billion) and \$13 billion against derivatives (January 31, 2023 – \$13 billion).

(3) Securities include \$14 billion of trading securities (January 31, 2023 – \$13 billion), \$72 billion of deposits (January 31, 2023 – \$69 billion), and \$37 billion of investment securities (January 31, 2023 – \$38 billion).

(4) Includes exposures in the Middle East, Africa and Latin America.

(5) Excludes \$6,186 million (January 31, 2023 – \$4,862 million) of exposures to supranational agencies.

(6) Reflects \$2,147 million of mitigation through credit default swaps, which are largely used to hedge single name exposures and market risk (January 31, 2023 – \$2,603 million).

Credit quality performance

The following credit quality performance tables and analysis provide information on loans, which represents loans, acceptances and commitments, and other financial assets.

Gross impaired loans

(Millions of Canadian dollars, except percentage amounts)	As at and for the three months ended		
	April 30 2023	January 31 2023	October 31 2022
Personal & Commercial Banking	\$ 1,653	\$ 1,517	\$ 1,362
Wealth Management	404	396	278
Capital Markets	836	686	559
Total GIL	\$ 2,893	\$ 2,599	\$ 2,199
Impaired loans, beginning balance	\$ 2,599	\$ 2,199	\$ 2,059
Classified as impaired during the period (new impaired) (1)	767	874	592
Net repayments (1)	(109)	(128)	(130)
Amounts written off	(361)	(299)	(362)
Other (2)	(3)	(47)	40
Impaired loans, balance at end of period	\$ 2,893	\$ 2,599	\$ 2,199
GIL as a % of related loans and acceptances			
Total GIL as a % of related loans and acceptances	0.34%	0.31%	0.26%
Personal & Commercial Banking	0.28%	0.26%	0.23%
Canadian Banking	0.23%	0.21%	0.18%
Caribbean Banking	3.80%	3.84%	3.93%
Wealth Management (3)	0.33%	0.33%	0.23%
Capital Markets (3)	0.61%	0.49%	0.42%

(1) Certain GIL movements for Canadian Banking retail and wholesale portfolios are generally allocated to new impaired, as Net repayments and certain Other movements are not reasonably determinable. Certain GIL movements for Caribbean Banking retail and wholesale portfolios are generally allocated to Net repayments and new impaired, as Net repayments and certain Other movements are not reasonably determinable.

(2) Includes return to performing status during the period, recoveries of loans and advances previously written off, sold, and foreign exchange translation and other movements.

(3) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

Q2 2023 vs. Q1 2023

Total GIL increased \$294 million or 11% from last quarter, and the total GIL ratio increased 3 bps, primarily due to higher impaired loans in Capital Markets and Personal & Commercial Banking.

GIL in Personal & Commercial Banking increased \$136 million or 9%, largely due to higher impaired loans in our Canadian Banking commercial portfolios in a few sectors, including the consumer discretionary, public works and infrastructure and other services sectors, as well as in our Canadian Banking retail portfolios.

GIL in Capital Markets increased \$150 million or 22%, largely due to higher impaired loans in the transportation and consumer discretionary sectors.

Allowance for credit losses (ACL)

(Millions of Canadian dollars)	As at		
	April 30 2023	January 31 2023	October 31 2022
Personal & Commercial Banking	\$ 3,543	\$ 3,369	\$ 3,200
Wealth Management (1)	421	429	384
Capital Markets (1)	813	651	597
ACL on loans	4,777	4,449	4,181
ACL on other financial assets (2)	31	36	33
Total ACL	\$ 4,808	\$ 4,485	\$ 4,214
ACL on loans is comprised of:			
Retail	\$ 2,521	\$ 2,419	\$ 2,285
Wholesale	1,341	1,253	1,227
ACL on performing loans	\$ 3,862	\$ 3,672	\$ 3,512
ACL on impaired loans	915	777	669

(1) Amounts have been revised from those previously presented to conform to our new basis of segment presentation. For further details, refer to the About Royal Bank of Canada section.

(2) ACL on other financial assets mainly represents allowances on debt securities measured at FVOCI and amortized cost, accounts receivable and financial guarantees.

Q2 2023 vs. Q1 2023

Total ACL increased \$323 million or 7% from last quarter, primarily reflecting an increase of \$328 million in ACL on loans.

ACL on performing loans increased \$190 million or 5%, primarily due to higher ACL in our Canadian Banking portfolios and Capital Markets, mainly attributable to unfavourable changes in our credit quality and macroeconomic outlook.

ACL on impaired loans increased \$138 million or 18%, primarily due to higher ACL in Capital Markets and Personal & Commercial Banking.

For further details, refer to Note 5 of our Condensed Financial Statements.

Market risk

Market risk is defined to be the impact of market factors and prices upon our financial condition. This includes potential financial gains or losses due to changes in market-determined variables such as interest rates, credit spreads, equity prices, commodity prices, foreign exchange rates and implied volatilities. There have been no material changes to our Market Risk Management Framework from the framework described in our 2022 Annual Report. Using that framework, we continuously seek to ensure that our market risk exposure is consistent with risk appetite constraints set by the Board of Directors.

Market risk controls include limits on probabilistic measures of potential loss in trading positions, such as Value-at-Risk (VaR), Stressed Value-at-Risk (SVaR), stress testing and Incremental Risk Charge (IRC). Market risk controls are also in place to manage Interest Rate Risk in the Banking Book (IRRBB). To monitor and control IRRBB, we assess two primary metrics, Net Interest Income (NII) risk and Economic Value of Equity (EVE) risk, under a range of market shocks, scenarios, and time horizons. There has been no material change to the IRRBB measurement methodology, controls, or limits from those described in our 2022 Annual Report. For further details on our approach to the management of market risk, refer to the Market risk section of our 2022 Annual Report.

Market risk measures – FVTPL positions

VaR and SVaR

The following table presents our Market risk VaR and Market risk SVaR figures.

(Millions of Canadian dollars)	April 30, 2023				January 31, 2023		April 30, 2022		
	As at	For the three months ended			As at	For the three months ended		As at	For the three months ended
		Average	High	Low		Average	Average		
Equity	\$ 18	\$ 18	\$ 24	\$ 11	\$ 19	\$ 34	\$ 46	\$ 33	
Foreign exchange	3	3	5	2	3	3	3	4	
Commodities	4	5	7	4	5	6	4	4	
Interest rate (1)	40	45	58	35	41	44	22	22	
Credit specific (2)	5	5	5	4	5	5	7	8	
Diversification (3)	(29)	(29)	n.m.	n.m.	(31)	(37)	(27)	(25)	
Market risk VaR (4)	\$ 41	\$ 47	\$ 56	\$ 37	\$ 42	\$ 55	\$ 55	\$ 46	
Market risk Stressed VaR (4)	\$ 68	\$ 108	\$ 168	\$ 48	\$ 97	\$ 176	\$ 101	\$ 80	

(Millions of Canadian dollars)	April 30, 2023				April 30, 2022	
	As at	For the six months ended			As at	For the six months ended
		Average	High	Low		Average
Equity	\$ 18	\$ 26	\$ 47	\$ 11	\$ 46	\$ 33
Foreign exchange	3	3	6	2	3	4
Commodities	4	6	8	4	4	4
Interest rate (1)	40	44	58	35	22	31
Credit specific (2)	5	5	5	4	7	8
Diversification (3)	(29)	(33)	n.m.	n.m.	(27)	(29)
Market risk VaR (5)	\$ 41	\$ 51	\$ 65	\$ 37	\$ 55	\$ 51
Market risk Stressed VaR (5)	\$ 68	\$ 143	\$ 205	\$ 48	\$ 101	\$ 75

(1) General credit spread risk and funding spread risk associated with uncollateralized derivatives are included under interest rate VaR.

(2) Credit specific risk captures issuer-specific credit spread volatility.

(3) Market risk VaR is less than the sum of the individual risk factor VaR results due to risk factor diversification.

(4) The average market risk VaR and average SVaR for the three months ended April 30, 2023 includes \$22 million and \$96 million, respectively (January 31, 2023 – \$20 million and \$117 million; April 30, 2022 – \$3 million and \$21 million), related to loan underwriting commitments.

(5) The average market risk VaR and average SVaR for the six months ended April 30, 2023 includes \$21 million and \$107 million, respectively (April 30, 2022 – \$6 million and \$15 million), related to loan underwriting commitments.

n.m. not meaningful

Q2 2023 vs. Q2 2022

Average market risk VaR of \$47 million increased \$1 million and average SVaR of \$108 million increased \$28 million from a year ago, reflecting the impact of unfavourable market conditions on our loan underwriting commitments, partially offset by exposure changes in our equity derivatives portfolio.

Q2 2023 vs. Q1 2023

Average market risk VaR of \$47 million decreased \$8 million and average SVaR of \$108 million decreased \$68 million from last quarter, primarily driven by exposure changes in our equity derivatives portfolio.

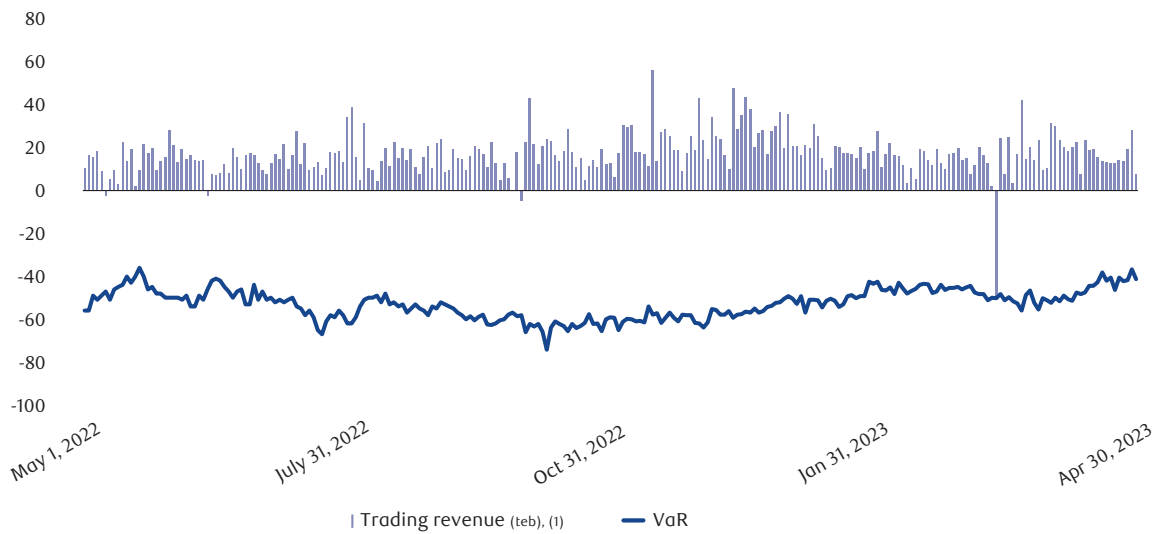
Q2 2023 vs. Q2 2022 (Six months ended)

Average market risk VaR of \$51 million remained stable.

Average SVaR of \$143 million increased \$68 million from the same period last year, largely due to the effects of unfavourable market conditions, which impacted loan underwriting commitments as noted above.

The following chart displays a bar graph of our daily trading profit and loss and a line graph of our daily market risk VaR. We incurred 1 day of net trading loss in the three months ended April 30, 2023, largely associated with stresses in the U.S. regional banking sector, which did not exceed VaR. There were no net trading losses in the three months ended January 31, 2023.

Trading revenue (teb), (1) and VaR (Millions of Canadian dollars)



(1) Trading revenue (teb) in the chart above excludes the impact of loan underwriting commitments.

Market risk measures for assets and liabilities of RBC Insurance®

We offer a range of insurance products to clients and hold investments to meet the future obligations to policyholders. The investments which support actuarial liabilities are predominantly fixed income assets designated as FVTPL. Consequently, changes in the fair values of these assets are recorded in the Consolidated Statements of Income and are largely offset by changes in the fair value of the actuarial liabilities, the impact of which is reflected in PBCAE. As at April 30, 2023, we held assets in support of \$12 billion of liabilities with respect to insurance obligations (January 31, 2023 – \$12 billion).

Market risk measures – IRRBB sensitivities

The following table shows the potential before-tax impact of an immediate and sustained 100 bps increase or decrease in interest rates on projected 12-month NII and EVE, assuming no subsequent hedging. Interest rate risk measures are based on current on and off-balance sheet positions which can change over time in response to business activity and management actions.

(Millions of Canadian dollars)	April 30 2023						January 31 2023		April 30 2022	
	EVE risk			NII risk (1)			EVE risk	NII risk (1)	EVE risk	NII risk (1)
	Canadian dollar impact	U.S. dollar impact	Total	Canadian dollar impact	U.S. dollar impact	Total				
Before-tax impact of:										
100 bps increase in rates	\$ (1,448)	\$ (278)	\$ (1,726)	\$ 541	\$ 283	\$ 824	\$ (2,069)	\$ 663	\$ (2,054)	\$ 1,087
100 bps decrease in rates	1,428	79	1,507	(582)	(312)	(894)	1,808	(776)	1,728	(1,214)

(1) Represents the 12-month NII exposure to an instantaneous and sustained shift in interest rates.

As at April 30, 2023, an immediate and sustained -100 bps shock would have had a negative impact to our NII of \$894 million, up from \$776 million last quarter. An immediate and sustained +100 bps shock as at April 30, 2023 would have had a negative impact to the bank's EVE of \$1,726 million, down from \$2,069 million last quarter. Quarter-over-quarter NII sensitivity increased and EVE sensitivity decreased mainly in response to a marginal increase in floating rate assets held within banking books. During the second quarter of 2023, NII and EVE risks remained within approved limits.

Linkage of market risk to selected balance sheet items

The following tables provide the linkages between selected balance sheet items with positions included in our trading market risk and non-trading market risk disclosures, which illustrates how we manage market risk for our assets and liabilities through different risk measures:

(Millions of Canadian dollars)	As at April 30, 2023			
	Balance sheet amount	Market risk measure		Non-traded risk primary risk sensitivity
		Traded risk (1)	Non-traded risk (2)	
Assets subject to market risk				
Cash and due from banks	\$ 99,199	\$ –	\$ 99,199	Interest rate
Interest-bearing deposits with banks (3)	81,880	77,609	4,271	Interest rate
Securities				
Trading	136,207	123,967	12,240	Interest rate, credit spread
Investment, net of applicable allowance	183,621	–	183,621	Interest rate, credit spread, equity
Assets purchased under reverse repurchase agreements and securities borrowed	335,239	284,637	50,602	Interest rate
Loans				
Retail	554,139	6,837	547,302	Interest rate
Wholesale	281,380	7,162	274,218	Interest rate
Allowance for loan losses	(4,332)	–	(4,332)	Interest rate
Segregated fund net assets	2,883	–	2,883	Interest rate
Other				
Derivatives	124,149	119,757	4,392	Interest rate, foreign exchange
Other assets (3)	130,639	8,421	122,218	Interest rate
Assets not subject to market risk (4)	15,298			
Total assets	\$ 1,940,302	\$ 628,390	\$ 1,296,614	
Liabilities subject to market risk				
Deposits (3)	\$ 1,210,053	\$ 135,014	\$ 1,075,039	Interest rate
Segregated fund liabilities	2,883	–	2,883	Interest rate
Other				
Obligations related to securities sold short	36,048	36,048	–	
Obligations related to assets sold under repurchase agreements and securities loaned	291,558	262,165	29,393	Interest rate
Derivatives	123,898	113,531	10,367	Interest rate, foreign exchange
Other liabilities (3)	132,427	12,102	120,325	Interest rate
Subordinated debentures	11,565	–	11,565	Interest rate
Liabilities not subject to market risk (5)	20,516			
Total liabilities	\$ 1,828,948	\$ 558,860	\$ 1,249,572	
Total equity	111,354			
Total liabilities and equity	\$ 1,940,302			

(1) Traded risk includes positions that are classified or designated as FVTPL and positions whose revaluation gains and losses are reported in revenue. Market risk measures of VaR, SVaR, IRC and stress testing are used as risk controls for traded risk.

(2) Non-traded risk includes positions used in the management of IRRBB and other non-trading portfolios. Other material non-trading portfolios include positions from RBC Insurance and investment securities, net of applicable allowance, not included in IRRBB.

(3) Effective Q1 2023, we entered into a definitive agreement to sell the European asset servicing activities of RBC Investor Services and its associated Malaysian centre of excellence. For further details, refer to Note 6 of our Condensed Financial Statements.

(4) Assets not subject to market risk include physical and other assets.

(5) Liabilities not subject to market risk include payroll related and other liabilities.

(Millions of Canadian dollars)	As at January 31, 2023			
	Balance sheet amount	Market risk measure		Non-traded risk primary risk sensitivity
		Traded risk (1)	Non-traded risk (2)	
Assets subject to market risk				
Cash and due from banks	\$ 86,277	\$ –	\$ 86,277	Interest rate
Interest-bearing deposits with banks (3)	93,495	87,860	5,635	Interest rate
Securities				
Trading	145,517	133,681	11,836	Interest rate, credit spread
Investment, net of applicable allowance	175,036	–	175,036	Interest rate, credit spread, equity
Assets purchased under reverse repurchase agreements and securities borrowed	328,379	279,899	48,480	Interest rate
Loans				
Retail	549,893	6,470	543,423	Interest rate
Wholesale	277,900	11,149	266,751	Interest rate
Allowance for loan losses	(3,999)	–	(3,999)	Interest rate
Segregated fund net assets	2,827	–	2,827	Interest rate
Other				
Derivatives	130,120	126,298	3,822	Interest rate, foreign exchange
Other assets (3)	132,567	7,578	124,989	Interest rate
Assets not subject to market risk (4)	15,007			
Total assets	\$ 1,933,019	\$ 652,935	\$ 1,265,077	
Liabilities subject to market risk				
Deposits (3)	\$ 1,203,842	\$ 134,237	\$ 1,069,605	Interest rate
Segregated fund liabilities	2,827	–	2,827	Interest rate
Other				
Obligations related to securities sold short	35,247	35,247	–	
Obligations related to assets sold under repurchase agreements and securities loaned	290,367	262,942	27,425	Interest rate
Derivatives	131,082	120,080	11,002	Interest rate, foreign exchange
Other liabilities (3)	129,970	10,400	119,570	Interest rate
Subordinated debentures	11,530	–	11,530	Interest rate
Liabilities not subject to market risk (5)	20,355			
Total liabilities	\$ 1,825,220	\$ 562,906	\$ 1,241,959	
Total equity	107,799			
Total liabilities and equity	\$ 1,933,019			

(1) Traded risk includes positions that are classified or designated as FVTPL and positions whose revaluation gains and losses are reported in revenue. Market risk measures of VaR, SVaR, IRC and stress testing are used as risk controls for traded risk.

(2) Non-traded risk includes positions used in the management of IRRBB and other non-trading portfolios. Other material non-trading portfolios include positions from RBC Insurance and investment securities, net of applicable allowance, not included in IRRBB.

(3) Effective Q1 2023, we entered into a definitive agreement to sell the European asset servicing activities of RBC Investor Services and its associated Malaysian centre of excellence. For further details, refer to Note 6 of our Condensed Financial Statements.

(4) Assets not subject to market risk include physical and other assets.

(5) Liabilities not subject to market risk include payroll related and other liabilities.

Liquidity and funding risk

Liquidity and funding risk (liquidity risk) is the risk that we may be unable to generate sufficient cash or its equivalents in a timely and cost-effective manner to meet our commitments. Liquidity risk arises from mismatches in the timing and value of on-balance sheet and off-balance sheet cash flows.

Our Liquidity Risk Management Framework (LRMF) is designed to ensure that we have sufficient liquidity to satisfy current and prospective commitments in both normal and stressed conditions. There have been no material changes to our LRMF as described in our 2022 Annual Report.

We continue to maintain liquidity and funding that we believe is appropriate for the execution of our strategy. Liquidity risk remains well within our risk appetite.

Liquidity reserve

Our liquidity reserve consists of available unencumbered liquid assets. Although unused wholesale funding capacity, which is regularly assessed, could be another potential source of liquidity to mitigate stressed conditions, it is excluded in the determination of the liquidity reserve. Similarly, uncommitted and undrawn central bank borrowing facilities that could be accessed subject to satisfying certain preconditions as set by various central banks (e.g., BoC, the Fed, Bank of England, and Bank of France), as well as amounts that qualify as eligible collateral at the Federal Reserve Bank of New York (FRBNY) and Federal Home Loan Bank (FHLB) are also excluded from the determination of the liquidity reserve.

	As at April 30, 2023				
	Bank-owned liquid assets	Securities received as collateral from securities financing and derivative transactions	Total liquid assets	Encumbered liquid assets	Unencumbered liquid assets
(Millions of Canadian dollars)					
Cash and deposits with banks ⁽¹⁾	\$ 202,692	\$ –	\$ 202,692	\$ 3,936	\$ 198,756
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks ⁽²⁾	248,352	339,071	587,423	386,613	200,810
Other securities	115,107	128,447	243,554	145,627	97,927
Other liquid assets ⁽³⁾	33,619	–	33,619	30,816	2,803
Total liquid assets	\$ 599,770	\$ 467,518	\$ 1,067,288	\$ 566,992	\$ 500,296

	As at January 31, 2023				
	Bank-owned liquid assets	Securities received as collateral from securities financing and derivative transactions	Total liquid assets	Encumbered liquid assets	Unencumbered liquid assets
(Millions of Canadian dollars)					
Cash and deposits with banks	\$ 200,958	\$ –	\$ 200,958	\$ 3,555	\$ 197,403
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks ⁽²⁾	244,210	346,165	590,375	387,355	203,020
Other securities	117,919	115,480	233,399	139,625	93,774
Other liquid assets ⁽³⁾	39,074	–	39,074	36,008	3,066
Total liquid assets	\$ 602,161	\$ 461,645	\$ 1,063,806	\$ 566,543	\$ 497,263

	As at	
	April 30 2023	January 31 2023
(Millions of Canadian dollars)		
Royal Bank of Canada	\$ 205,189	\$ 199,223
Foreign branches	97,977	116,965
Subsidiaries	197,130	181,075
Total unencumbered liquid assets	\$ 500,296	\$ 497,263

(1) Includes balances that were classified as held for sale and presented in Other assets. For further details, refer to Note 6 of our Condensed Financial Statements.

(2) Includes liquid securities issued by provincial governments and U.S. government-sponsored entities working under U.S. Federal government's conservatorship (e.g., Federal National Mortgage Association and Federal Home Loan Mortgage Corporation).

(3) Encumbered liquid assets amount represents cash collateral and margin deposit amounts pledged related to over-the-counter and exchange-traded derivative transactions.

The liquidity reserve is typically most affected by routine flows of retail and commercial client banking activities, where liquid asset portfolios reflect changes in deposit and loan balances, as well as business strategies and client flows related to the activities in Capital Markets. Corporate Treasury and Capital Markets activities also affect liquidity reserves through the management of funding issuances where reserves absorb timing mismatches between debt issuances and deployment into business activities.

Q2 2023 vs. Q1 2023

Total unencumbered liquid assets increased \$3 billion or 1% from last quarter, mainly due to an increase in on-balance sheet securities, as well as cash and deposits with banks, reflecting higher deposit levels.

Asset encumbrance

The table below provides a summary of our on- and off-balance sheet amounts for cash, securities and other assets, distinguishing between those that are encumbered or available-for-sale or use as collateral in secured funding transactions. Other assets, such as mortgages and credit card receivables, can also be monetized, albeit over longer timeframes than those required for marketable securities. As at April 30, 2023, our unencumbered assets available as collateral comprised 25% of total assets (January 31, 2023 – 25%).

(Millions of Canadian dollars)	As at									
	April 30 2023					January 31 2023				
	Encumbered		Unencumbered			Encumbered		Unencumbered		
	Pledged as collateral	Other (1)	Available as collateral (2)	Other (3)	Total	Pledged as collateral	Other (1)	Available as collateral (2)	Other (3)	Total
Cash and deposits with banks (4)	\$ –	\$ 3,936	\$ 198,756	\$ –	\$ 202,692	\$ –	\$ 3,555	\$ 197,403	\$ –	\$ 200,958
Securities										
Trading	64,544	–	78,517	2,411	145,472	63,483	–	89,639	3,010	156,132
Investment, net of applicable allowance	11,096	–	173,213	–	184,309	8,783	–	167,070	–	175,853
Assets purchased under reverse repurchase agreements and securities borrowed (5)	476,663	22,843	13,707	3,248	516,461	473,404	21,443	7,758	2,328	504,933
Loans										
Retail										
Mortgage securities	27,952	–	27,406	–	55,358	27,713	–	28,033	–	55,746
Mortgage loans	73,961	–	28,736	265,855	368,552	75,859	–	23,879	265,698	365,436
Non-mortgage loans	7,385	–	–	122,844	130,229	5,920	–	–	122,791	128,711
Wholesale	–	–	9,445	272,429	281,874	–	–	9,311	269,218	278,529
Allowance for loan losses	–	–	–	(4,332)	(4,332)	–	–	–	(3,999)	(3,999)
Segregated fund net assets	–	–	–	2,883	2,883	–	–	–	2,827	2,827
Other										
Derivatives	–	–	–	124,317	124,317	–	–	–	130,283	130,283
Others (6)	30,816	–	2,803	85,837	119,456	36,008	–	3,066	82,113	121,187
Total assets	\$ 692,417	\$ 26,779	\$ 532,583	\$ 875,492	\$ 2,127,271	\$ 691,170	\$ 24,998	\$ 526,159	\$ 874,269	\$ 2,116,596

(1) Includes assets restricted from use to generate secured funding due to legal or other constraints.

(2) Represents assets that are readily available for use as collateral, including National Housing Act Mortgage-Backed Securities (NHA MBS), our unencumbered mortgage loans that qualify as eligible collateral at FHLB, as well as loans that qualify as eligible collateral for discount window facility available to us and lodged at the FRBNY.

(3) Other unencumbered assets are not subject to any restrictions on their use to secure funding or as collateral but would not be considered readily available.

(4) Includes balances that were classified as held for sale and presented in Other assets. For further details, refer to Note 6 of our Condensed Financial Statements.

(5) Includes bank-owned liquid assets and securities received as collateral from off-balance sheet securities financing, derivative transactions, and margin lending. Includes \$23 billion (January 31, 2023 – \$21 billion) of collateral received through reverse repurchase transactions that cannot be rehypothecated in its current legal form.

(6) The Pledged as collateral amount represents cash collateral and margin deposit amounts pledged related to OTC and exchange-traded derivative transactions.

Funding

Funding strategy

Core funding, comprising capital, longer-term wholesale liabilities and a diversified pool of personal and, to a lesser extent, commercial and institutional deposits, is the foundation of our structural liquidity position.

Deposit and funding profile

As at April 30, 2023, relationship-based deposits, which are the primary source of funding for retail and commercial lending, were \$826 billion or 53% of our total funding (January 31, 2023 – \$814 billion or 52%). The remaining portion is comprised of short- and long-term wholesale funding.

Funding for highly liquid assets consists primarily of short-term wholesale funding that reflects the monetization period of those assets. Long-term wholesale funding is used mostly to fund less liquid wholesale assets and to support liquid asset buffers.

Senior long-term 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 he or she is of the opinion that it is in the public interest to do so, grant an order directing the Canada Deposit Insurance Corporation (CDIC) to convert all or a portion of certain shares and liabilities of that bank into common shares. As at April 30, 2023, the notional value of issued and outstanding long-term debt subject to conversion under the Bail-in regime was \$101 billion (January 31, 2023 – \$94 billion).

For further details on our wholesale funding, refer to the Composition of wholesale funding tables below.

Long-term debt issuance

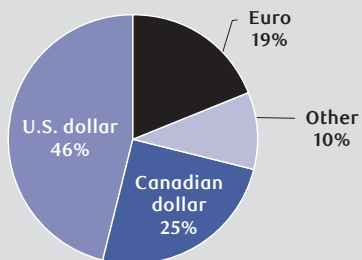
Our wholesale funding activities are well-diversified by geography, investor segment, instrument, currency, structure and maturity. We maintain an ongoing presence in different funding markets, which allows us to continuously monitor market developments and trends, identify opportunities and risks, and take appropriate and timely actions. We operate long-term debt issuance registered programs. The following table summarizes these programs with their authorized limits by geography.

Programs by geography

Canada	U.S.	Europe/Asia
<ul style="list-style-type: none"> Canadian Shelf Program – \$25 billion 	<ul style="list-style-type: none"> U.S. Shelf Program – US\$50 billion 	<ul style="list-style-type: none"> European Debt Issuance Program – US\$40 billion Global Covered Bond Program – €75 billion Japanese Issuance Programs – ¥1 trillion

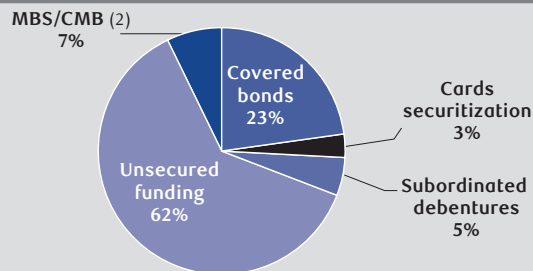
We also raise long-term funding using Canadian Senior Notes, Canadian National Housing Act MBS, Canada Mortgage Bonds, credit card receivable-backed securities, Kangaroo Bonds (issued in the Australian domestic market by foreign firms) and Yankee Certificates of Deposit (issued in the U.S. domestic market by foreign firms). We continuously evaluate opportunities to expand into new markets and untapped investor segments since diversification expands our wholesale funding flexibility, minimizes funding concentration and dependency, and generally reduces financing costs. As presented in the following charts, our current long-term debt profile is well-diversified by both currency and product. Maintaining competitive credit ratings is also critical to cost-effective funding.

Long-term debt (1) – funding mix by currency of issuance



(1) Includes unsecured and secured long-term funding and subordinated debentures with an original term to maturity greater than 1 year

Long-term debt (1) – funding mix by product



(1) Includes unsecured and secured long-term funding and subordinated debentures with an original term to maturity greater than 1 year
 (2) Mortgage-backed securities and Canada Mortgage Bonds

The following table provides our composition of wholesale funding based on remaining term to maturity:

Composition of wholesale funding ⁽¹⁾

(Millions of Canadian dollars)	As at April 30, 2023							
	Less than 1 month	1 to 3 months	3 to 6 months	6 to 12 months	Less than 1 year sub-total	1 year to 2 years	2 years and greater	Total
Deposits from banks (2)	\$ 5,060	\$ 1,216	\$ 553	\$ 902	\$ 7,731	\$ –	\$ –	\$ 7,731
Certificates of deposit and commercial paper	10,098	15,149	25,783	17,523	68,553	–	–	68,553
Asset-backed commercial paper (3)	3,606	2,663	6,098	952	13,319	–	227	13,546
Senior unsecured medium-term notes (4)	2,935	2,258	9,739	6,428	21,360	28,489	52,585	102,434
Senior unsecured structured notes (5)	983	1,854	2,792	3,055	8,684	5,053	11,468	25,205
Mortgage securitization	–	613	1,994	912	3,519	3,327	9,308	16,154
Covered bonds/asset-backed securities (6)	–	2,239	813	3,265	6,317	5,323	47,740	59,380
Subordinated liabilities	–	110	–	–	110	2,963	8,978	12,051
Other (7)	6,498	6,060	10,284	5,777	28,619	10,063	39	38,721
Total	\$ 29,180	\$ 32,162	\$ 58,056	\$ 38,814	\$ 158,212	\$ 55,218	\$ 130,345	\$ 343,775
Of which:								
– Secured	\$ 8,984	\$ 10,239	\$ 16,533	\$ 5,129	\$ 40,885	\$ 8,650	\$ 57,275	\$ 106,810
– Unsecured	20,196	21,923	41,523	33,685	117,327	46,568	73,070	236,965

(Millions of Canadian dollars)	As at January 31, 2023							
	Less than 1 month	1 to 3 months	3 to 6 months	6 to 12 months	Less than 1 year sub-total	1 year to 2 years	2 years and greater	Total
Deposits from banks (2)	\$ 5,834	\$ 304	\$ 1,196	\$ 1,112	\$ 8,446	\$ –	\$ –	\$ 8,446
Certificates of deposit and commercial paper	9,882	12,662	23,745	32,375	78,664	–	–	78,664
Asset-backed commercial paper (3)	3,541	4,658	3,245	1,271	12,715	–	815	13,530
Senior unsecured medium-term notes (4)	35	1,754	5,082	15,739	22,610	23,433	49,895	95,938
Senior unsecured structured notes (5)	1,467	1,432	1,847	4,044	8,790	2,434	10,812	22,036
Mortgage securitization	–	420	614	2,530	3,564	2,295	9,986	15,845
Covered bonds/asset-backed securities (6)	–	2,112	2,169	3,969	8,250	3,688	46,332	58,270
Subordinated liabilities	–	–	110	–	110	2,992	8,933	12,035
Other (7)	9,085	7,440	7,949	7,123	31,597	7,264	18	38,879
Total	\$ 29,844	\$ 30,782	\$ 45,957	\$ 68,163	\$ 174,746	\$ 42,106	\$ 126,791	\$ 343,643
Of which:								
– Secured	\$ 10,746	\$ 12,639	\$ 13,290	\$ 7,770	\$ 44,445	\$ 5,983	\$ 57,133	\$ 107,561
– Unsecured	19,098	18,143	32,667	60,393	130,301	36,123	69,658	236,082

(1) Excludes bankers' acceptances and repos.

(2) Excludes deposits associated with services we provide to banks (e.g., custody, cash management).

(3) Only includes consolidated liabilities, including our collateralized commercial paper program.

(4) Includes deposit notes.

(5) Includes notes where the payout is tied to movements in foreign exchange, commodities and equities.

(6) Includes credit card and mortgage loans.

(7) Includes tender option bonds (secured) of \$5,740 million (January 31, 2023 – \$5,816 million), bearer deposit notes (unsecured) of \$4,908 million (January 31, 2023 – \$4,387 million), floating rate notes (unsecured) of \$1,675 million (January 31, 2023 – \$2,620 million), other long-term structured deposits (unsecured) of \$14,207 million (January 31, 2023 – \$11,777 million) and FHLB advances (secured) of \$11,991 million (January 31, 2023 – \$14,100 million) and wholesale guaranteed interest certificates of \$200 million (January 31, 2023 – \$179 million). Bearer deposit note (unsecured), floating rate note (unsecured) and wholesale guaranteed interest certificates amounts have been revised from those previously presented.

Credit ratings

Our ability to access unsecured funding markets and to engage in certain collateralized business activities on a cost-effective basis are primarily dependent upon maintaining competitive credit ratings. Credit ratings and outlooks provided by rating agencies reflect their views and methodologies. Ratings are subject to change, based on a number of factors including, but not limited to, our financial strength, competitive position, liquidity and other factors not completely within our control.

Other than as noted below, there have been no changes to our major credit ratings as disclosed in our 2022 Annual Report.

Credit ratings (1)

	As at May 24, 2023			
	Short-term debt	Legacy senior long-term debt (2)	Senior long-term debt (3)	Outlook
Moody's (4)	P-1	Aa1	A1	stable
Standard & Poor's (5)	A-1+	AA-	A	stable
Fitch Ratings (6)	F1+	AA	AA-	stable
DBRS (7)	R-1 (high)	AA (high)	AA	stable

- (1) Credit ratings are not recommendations to purchase, sell or hold a financial obligation in as much as they do not comment on market price or suitability for a particular investor. Ratings are determined by the rating agencies based on criteria established from time to time by them, and are subject to revision or withdrawal at any time by the rating organization.
- (2) Includes senior long-term debt issued prior to September 23, 2018 and senior long-term debt issued on or after September 23, 2018 which is excluded from the Bail-in regime.
- (3) Includes senior long-term debt issued on or after September 23, 2018 which is subject to conversion under the Bail-in regime.
- (4) In December 2022, Moody's affirmed our ratings and assessments with a stable outlook following the announcement of the acquisition of HSBC Canada.
- (5) On May 13, 2022, Standard & Poor's affirmed our ratings with a stable outlook.
- (6) On July 11, 2022, Fitch Ratings affirmed our ratings with a stable outlook.
- (7) On May 12, 2023, DBRS affirmed our ratings with a stable outlook.

Additional contractual obligations for rating downgrades

We are required to deliver collateral to certain counterparties in the event of a downgrade to our current credit rating. The following table provides the additional collateral obligations required at the reporting date in the event of a one-, two- or three-notch downgrade to our credit ratings. These additional collateral obligations are incremental requirements for each successive downgrade and do not represent the cumulative impact of multiple downgrades. The amounts reported change periodically as a result of several factors, including the transfer of trading activity to centrally cleared financial market infrastructures and exchanges, the expiration of transactions with downgrade triggers, the imposition of internal limitations on new agreements to exclude downgrade triggers, as well as normal course mark-to-market. There is no outstanding senior debt issued in the market that contains rating triggers that would lead to early prepayment of principal.

	As at					
	April 30 2023			January 31 2023		
	One-notch downgrade	Two-notch downgrade	Three-notch downgrade	One-notch downgrade	Two-notch downgrade	Three-notch downgrade
(Millions of Canadian dollars)						
Contractual derivatives funding or margin requirements	\$ 137	\$ 56	\$ 136	\$ 200	\$ 80	\$ 167
Other contractual funding or margin requirements (1)	42	35	24	44	23	94

- (1) Includes Guaranteed Investment Certificates (GICs) issued by our municipal markets business out of New York.

Liquidity Coverage Ratio (LCR)

The LCR is a Basel III metric that measures the sufficiency of high-quality liquid assets (HQLA) available to meet liquidity needs over a 30-day period in an acute stress scenario. The Basel Committee on Banking Supervision (BCBS) and OSFI regulatory minimum coverage level for LCR is 100%.

OSFI requires Canadian banks to disclose the LCR using the standard Basel disclosure template and calculated using the average of daily LCR positions during the quarter.

Liquidity coverage ratio common disclosure template ⁽¹⁾

	For the three months ended	
	April 30 2023	
	Total unweighted value (average) ⁽²⁾	Total weighted value (average)
<i>(Millions of Canadian dollars, except percentage amounts)</i>		
High-quality liquid assets		
Total high-quality liquid assets (HQLA)		\$ 390,546
Cash outflows		
Retail deposits and deposits from small business customers, of which:	\$ 356,663	\$ 33,207
<i>Stable deposits</i> ⁽³⁾	121,629	3,649
<i>Less stable deposits</i>	235,034	29,558
Unsecured wholesale funding, of which:	415,797	201,272
<i>Operational deposits (all counterparties) and deposits in networks of cooperative banks</i> ⁽⁴⁾	167,024	39,688
<i>Non-operational deposits</i>	215,519	128,330
<i>Unsecured debt</i>	33,254	33,254
Secured wholesale funding		35,036
Additional requirements, of which:	339,036	76,175
<i>Outflows related to derivative exposures and other collateral requirements</i>	66,003	18,090
<i>Outflows related to loss of funding on debt products</i>	10,849	10,849
<i>Credit and liquidity facilities</i>	262,184	47,236
Other contractual funding obligations ⁽⁵⁾	27,483	27,483
Other contingent funding obligations ⁽⁶⁾	750,954	12,151
Total cash outflows		\$ 385,324
Cash inflows		
Secured lending (e.g., reverse repos)	\$ 300,475	\$ 51,981
Inflows from fully performing exposures	17,658	10,754
Other cash inflows	34,143	34,143
Total cash inflows		\$ 96,878
		Total adjusted value
Total HQLA		\$ 390,546
Total net cash outflows		288,446
Liquidity coverage ratio		135%

	January 31 2023	
	Total adjusted value	
<i>(Millions of Canadian dollars, except percentage amounts)</i>		
Total HQLA	\$	383,200
Total net cash outflows		294,771
Liquidity coverage ratio		130%

- (1) The LCR is calculated in accordance with OSFI's LAR guideline, which, in turn, reflects liquidity-related requirements issued by the BCBS. The LCR for the quarter ended April 30, 2023 is calculated as an average of 61 daily positions.
- (2) With the exception of other contingent funding obligations, unweighted inflow and outflow amounts are items maturing or callable in 30 days or less. Other contingent funding obligations also include debt securities with remaining maturity greater than 30 days.
- (3) As defined by the BCBS, stable deposits from retail and small business customers are deposits that are insured and are either held in transactional accounts or the bank has an established relationship with the client making the withdrawal unlikely.
- (4) Operational deposits from customers other than retail and small and medium-sized enterprises, are deposits which clients need to keep with the bank in order to facilitate their access and ability to use payment and settlement systems primarily for clearing, custody and cash management activities.
- (5) Other contractual funding obligations primarily include outflows from unsettled securities trades and outflows from obligations related to securities sold short.
- (6) Other contingent funding obligations include outflows related to other off-balance sheet facilities that carry low LCR runoff factors (0% – 5%).

We manage our LCR position within a target range that reflects our liquidity risk tolerance and takes into account business mix, asset composition and funding capabilities. The range is subject to periodic review in light of changes to internal requirements and external developments.

We maintain HQLAs in major currencies with dependable market depth and breadth. Our treasury management practices ensure that the levels of HQLA are actively managed to meet target LCR objectives. Our Level 1 assets, as calculated according to OSFI LAR and the BCBS LCR requirements, represent 89% of total HQLA. These assets consist of cash, placements with central banks and highly rated securities issued or guaranteed by governments, central banks and supranational entities.

LCR captures cash flows from on- and off-balance sheet activities that are either expected or could potentially occur within 30 days in an acute stress scenario. Cash outflows result from the application of withdrawal and non-renewal factors to demand and term deposits, differentiated by client type (wholesale, retail and small- and medium-sized enterprises). Cash outflows also arise from business activities that create contingent funding and collateral requirements, such as repo funding, derivatives, short sales of securities and the extension of credit and liquidity commitments to clients. Cash inflows arise primarily from maturing secured loans, interbank loans and non-HQLA securities.

LCR does not reflect any market funding capacity that we believe would be available in a stress situation. All maturing wholesale debt is assigned 100% outflow in the LCR calculation.

Q2 2023 vs. Q1 2023

The average LCR for the quarter ended April 30, 2023 was 135%, which translates into a surplus of approximately \$102 billion, compared to 130% and a surplus of approximately \$88 billion last quarter. LCR levels increased compared to the prior quarter primarily due to an increase in deposits and average wholesale funding balances, partially offset by loan growth.

Net Stable Funding Ratio (NSFR)

NSFR is a Basel III metric that measures the sufficiency of available stable funding relative to the amount of required stable funding. The BCBS and OSFI regulatory minimum coverage level for NSFR is 100%.

Available stable funding is defined as the portion of capital and liabilities expected to be reliable over the time horizon considered by the NSFR, which extends to one year. Required stable funding 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.

OSFI requires Canadian Domestic Systemically Important Banks (D-SIBs) to disclose the NSFR using the standard Basel disclosure template. Amounts presented in this disclosure template are determined in accordance with the requirements of OSFI's LAR guideline and are not necessarily aligned with the classification requirements prescribed under IFRS.

Net Stable Funding Ratio common disclosure template (1)

(Millions of Canadian dollars, except percentage amounts)	As at April 30, 2023				
	Unweighted value by residual maturity (2)				Weighted value
	No maturity	< 6 months	6 months to < 1 year	≥ 1 year	
Available Stable Funding (ASF) Item					
Capital:	\$ 111,245	\$ –	\$ –	\$ 11,140	\$ 122,385
Regulatory Capital	111,245	–	–	11,140	122,385
Other Capital Instruments	–	–	–	–	–
Retail deposits and deposits from small business customers:	302,495	95,285	45,066	47,080	453,319
Stable deposits (3)	101,627	41,514	21,598	21,022	177,524
Less stable deposits	200,868	53,771	23,468	26,058	275,795
Wholesale funding:	292,702	502,875	44,429	147,278	351,903
Operational deposits (4)	175,191	–	–	–	87,596
Other wholesale funding	117,511	502,875	44,429	147,278	264,307
Liabilities with matching interdependent assets (5)	–	4,943	1,807	21,866	–
Other liabilities:	44,349	–	205,957	–	12,076
NSFR derivative liabilities	–	–	29,258	–	–
All other liabilities and equity not included in the above categories	44,349	163,213	2,820	10,666	12,076
Total ASF					\$ 939,683
Required Stable Funding (RSF) Item					
Total NSFR high-quality liquid assets (HQLA)					\$ 42,550
Deposits held at other financial institutions for operational purposes	–	1,503	–	–	752
Performing loans and securities:	203,290	327,553	102,854	507,710	674,213
Performing loans to financial institutions secured by Level 1 HQLA	–	130,745	13,008	–	13,121
Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	4,572	99,712	33,780	27,109	59,459
Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:	126,728	60,730	33,267	162,215	291,304
With a risk weight of less than or equal to 35% under the Basel II standardized approach for credit risk	–	815	738	2,293	2,267
Performing residential mortgages, of which:	37,656	32,611	22,115	301,206	264,334
With a risk weight of less than or equal to 35% under the Basel II standardized approach for credit risk	37,656	32,579	22,100	300,215	263,468
Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	34,334	3,755	684	17,180	45,995
Assets with matching interdependent liabilities (5)	–	4,943	1,807	21,866	–
Other assets:	2,760	–	290,299	–	83,789
Physical traded commodities, including gold	2,760	–	–	–	2,346
Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs	–	–	25,850	–	21,973
NSFR derivative assets	–	–	22,727	–	–
NSFR derivative liabilities before deduction of variation margin posted	–	–	61,063	–	3,053
All other assets not included in the above categories	–	126,097	145	54,417	56,417
Off-balance sheet items	–	–	759,454	–	28,473
Total RSF					\$ 829,777
Net Stable Funding Ratio (%)					113%

As at January 31, 2023

(Millions of Canadian dollars, except percentage amounts)	Weighted value
Total ASF	\$ 921,184
Total RSF	820,936
Net Stable Funding Ratio (%)	112%

(1) The NSFR is calculated in accordance with OSFI's LAR guideline, which, in turn, reflects liquidity-related requirements issued by the BCBS.

(2) Totals for the following rows encompass the residual maturity categories of less than 6 months, 6 months to less than 1 year, and greater than or equal to 1 year in accordance with the requirements of the common disclosure template prescribed by OSFI: Other liabilities, NSFR derivative liabilities, Other assets, Assets posted as initial margin for derivative contracts and contributions to default funds of central counterparties (CCPs), NSFR derivative assets, NSFR derivative liabilities before deduction of variation margin posted, and Off-balance sheet items.

(3) As defined by the BCBS, stable deposits from retail and small business customers are deposits that are insured and are either held in transactional accounts or the bank has an established relationship with the client making the withdrawal unlikely.

(4) Operational deposits from customers other than retail and small and medium-sized enterprises, are deposits which clients need to keep with the bank in order to facilitate their access and ability to use payment and settlement systems primarily for clearing, custody and cash management activities.

(5) Interdependent assets and liabilities represent NHA MBS liabilities, including liabilities arising from transactions involving the Canada Mortgage Bond program and their corresponding encumbered mortgages.

Available stable funding is comprised primarily of a diversified pool of personal and commercial deposits, capital, as well as long-term wholesale liabilities. Required stable funding is driven mainly by the bank's mortgage and loan portfolio, secured loans to financial institutions and to a lesser extent by other less liquid assets. NSFR does not reflect any unused market funding capacity that we believe is available to the bank.

Volume and composition of available stable funding is actively managed to optimize our structural funding position and meet NSFR objectives. Our NSFR is managed in accordance with our comprehensive LRMF.

Q2 2023 vs. Q1 2023

The NSFR as at April 30, 2023 was 113%, which translates into a surplus of approximately \$110 billion, compared to 112% and a surplus of approximately \$100 billion last quarter. NSFR increased compared to the prior quarter primarily due to an increase in deposits and stable funding, partially offset by loan growth.

Contractual maturities of financial assets, financial liabilities and off-balance sheet items

The following tables provide remaining contractual maturity profiles of all our assets, liabilities, and off-balance sheet items at their carrying value (e.g., amortized cost or fair value) at the balance sheet date. Off-balance sheet items are allocated based on the expiry date of the contract.

Details of contractual maturities and commitments to extend funds are a source of information for the management of liquidity risk. Among other purposes, these details form a basis for modelling a behavioural balance sheet with effective maturities to calculate liquidity risk measures. For further details, refer to the Risk measurement section within the Liquidity and funding risk section of our 2022 Annual Report.

(Millions of Canadian dollars)	As at April 30, 2023									
	Less than 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 year to 2 years	2 years to 5 years	5 years and greater	With no specific maturity	Total
Assets										
Cash and deposits with banks	\$ 178,490	\$ 5	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 2,584	\$ 181,079
Securities										
Trading (1)	70,150	1,115	24	76	23	141	130	10,015	54,533	136,207
Investment, net of applicable allowance	4,797	6,216	3,823	4,599	3,823	21,330	54,591	83,486	956	183,621
Assets purchased under reverse repurchase agreements and securities borrowed (2)	135,148	67,541	66,718	18,388	23,429	–	–	–	24,015	335,239
Loans, net of applicable allowance	29,831	29,719	31,452	31,034	30,733	183,187	329,594	76,651	88,986	831,187
Other										
Customers' liability under acceptances	11,944	8,275	5	2	–	–	–	–	(41)	20,185
Derivatives	6,370	10,713	6,923	7,989	5,898	17,236	27,446	41,573	1	124,149
Other financial assets	63,216	6,662	1,792	114	675	165	241	2,385	3,512	78,762
Total financial assets	499,946	130,246	110,737	62,202	64,581	222,059	412,002	214,110	174,546	1,890,429
Other non-financial assets	5,805	1,661	239	(389)	193	4,319	1,620	5,451	30,974	49,873
Total assets	\$ 505,751	\$ 131,907	\$ 110,976	\$ 61,813	\$ 64,774	\$ 226,378	\$ 413,622	\$ 219,561	\$ 205,520	\$ 1,940,302
Liabilities and equity										
Deposits (3)										
Unsecured borrowing	\$ 112,270	\$ 59,775	\$ 79,544	\$ 66,729	\$ 54,570	\$ 57,916	\$ 72,665	\$ 28,859	\$ 575,209	\$ 1,107,537
Secured borrowing	4,486	4,974	10,366	2,478	860	7,002	15,369	8,282	–	53,817
Covered bonds	–	2,229	–	2,543	–	5,233	32,297	6,397	–	48,699
Other										
Acceptances	11,945	8,275	5	2	–	–	–	–	1	20,228
Obligations related to securities sold short	36,048	–	–	–	–	–	–	–	–	36,048
Obligations related to assets sold under repurchase agreements and securities loaned (2)	233,535	33,718	1,026	717	907	1	–	–	21,654	291,558
Derivatives	6,923	13,269	6,399	8,161	5,788	16,078	27,525	39,755	–	123,898
Other financial liabilities	44,611	6,622	9,511	1,356	1,530	916	2,329	12,849	22,805	102,529
Subordinated debentures	–	110	–	–	–	–	1,919	9,536	–	11,565
Total financial liabilities	449,818	128,972	106,851	81,986	63,655	87,146	152,104	105,678	619,669	1,795,879
Other non-financial liabilities	973	1,083	182	4,453	322	968	1,844	13,347	9,897	33,069
Equity	–	–	–	–	–	–	–	–	111,354	111,354
Total liabilities and equity	\$ 450,791	\$ 130,055	\$ 107,033	\$ 86,439	\$ 63,977	\$ 88,114	\$ 153,948	\$ 119,025	\$ 740,920	\$ 1,940,302
Off-balance sheet items										
Financial guarantees	\$ 880	\$ 2,147	\$ 3,400	\$ 2,907	\$ 3,458	\$ 1,098	\$ 5,968	\$ 1,070	\$ 25	\$ 20,953
Commitments to extend credit	5,644	11,750	12,600	16,202	17,862	57,647	204,060	21,147	11,911	358,823
Other credit-related commitments	8,951	995	1,505	1,703	1,532	570	411	48	88,944	104,659
Other commitments	7	11	16	16	15	55	127	188	851	1,286
Total off-balance sheet items	\$ 15,482	\$ 14,903	\$ 17,521	\$ 20,828	\$ 22,867	\$ 59,370	\$ 210,566	\$ 22,453	\$ 101,731	\$ 485,721

(1) Trading debt securities classified as FVTPL have been included in the less than 1 month category as there is no expectation to hold these assets to their contractual maturity.

(2) Open reverse repo and repo contracts, which have no set maturity date and are typically short term, have been included in the with no specific maturity category.

(3) A major portion of relationship-based deposits are repayable on demand or at short notice on a contractual basis while, in practice, these customer balances form a core base for our operations and liquidity needs, as explained in the preceding Deposit and funding profile section.

As at January 31, 2023										
(Millions of Canadian dollars)	Less than 1 month	1 to 3 months	3 to 6 months	6 to 9 months	9 to 12 months	1 year to 2 years	2 years to 5 years	5 years and greater	With no specific maturity	Total
Assets										
Cash and deposits with banks	\$ 177,299	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ 2,473	\$ 179,772
Securities										
Trading (1)	79,624	36	8	–	28	125	132	9,754	55,810	145,517
Investment, net of applicable allowance	7,698	6,237	4,365	4,279	3,944	12,396	53,605	81,558	954	175,036
Assets purchased under reverse repurchase agreements and securities borrowed (2)	157,406	78,914	30,994	27,371	16,864	1	–	–	16,829	328,379
Loans, net of applicable allowance	30,933	23,895	37,367	33,298	32,644	165,122	337,720	75,586	87,229	823,794
Other										
Customers' liability under acceptances	12,963	6,264	–	–	2	–	–	–	(41)	19,188
Derivatives	8,280	11,373	6,985	5,489	7,388	17,236	30,487	42,851	31	130,120
Other financial assets	66,475	8,155	1,746	136	525	216	246	2,331	3,424	83,254
Total financial assets	540,678	134,874	81,465	70,573	61,395	195,096	422,190	212,080	166,709	1,885,060
Other non-financial assets	4,659	1,551	197	(302)	202	4,460	2,541	5,458	29,193	47,959
Total assets	\$ 545,337	\$ 136,425	\$ 81,662	\$ 70,271	\$ 61,597	\$ 199,556	\$ 424,731	\$ 217,538	\$ 195,902	\$ 1,933,019
Liabilities and equity										
Deposits (3)										
Unsecured borrowing	\$ 103,157	\$ 53,165	\$ 72,200	\$ 75,994	\$ 69,898	\$ 48,428	\$ 69,735	\$ 22,891	\$ 587,362	\$ 1,102,830
Secured borrowing	5,037	5,693	5,291	5,083	2,152	5,377	15,083	8,179	–	51,895
Covered bonds	–	2,112	2,147	–	2,451	3,689	32,485	6,233	–	49,117
Other										
Acceptances	12,963	6,263	–	–	2	–	–	–	1	19,229
Obligations related to securities sold short	35,247	–	–	–	–	–	–	–	–	35,247
Obligations related to assets sold under repurchase agreements and securities loaned (2)	242,465	27,723	1,828	–	1,080	335	–	–	16,936	290,367
Derivatives	9,893	14,196	7,061	5,616	7,896	16,275	29,797	40,347	1	131,082
Other financial liabilities	45,791	8,313	8,797	967	1,361	839	2,270	11,218	22,461	102,017
Subordinated debentures	–	–	110	–	–	–	1,873	9,547	–	11,530
Total financial liabilities	454,553	117,465	97,434	87,660	84,840	74,943	151,243	98,415	626,761	1,793,314
Other non-financial liabilities	1,102	1,159	169	183	3,687	972	1,771	13,141	9,722	31,906
Equity	–	–	–	–	–	–	–	–	107,799	107,799
Total liabilities and equity	\$ 455,655	\$ 118,624	\$ 97,603	\$ 87,843	\$ 88,527	\$ 75,915	\$ 153,014	\$ 111,556	\$ 744,282	\$ 1,933,019
Off-balance sheet items										
Financial guarantees	\$ 1,002	\$ 2,377	\$ 2,961	\$ 3,580	\$ 2,977	\$ 1,391	\$ 4,870	\$ 1,037	\$ 18	\$ 20,213
Commitments to extend credit	2,981	10,176	17,727	12,902	21,406	54,825	199,763	19,344	11,546	350,670
Other credit-related commitments	7,295	1,147	1,416	1,532	1,710	659	497	48	84,492	98,796
Other commitments	7	10	16	15	15	54	129	190	898	1,334
Total off-balance sheet items	\$ 11,285	\$ 13,710	\$ 22,120	\$ 18,029	\$ 26,108	\$ 56,929	\$ 205,259	\$ 20,619	\$ 96,954	\$ 471,013

(1) Trading debt securities classified as FVTPL have been included in the less than 1 month category as there is no expectation to hold these assets to their contractual maturity.

(2) Open reverse repo and repo contracts, which have no set maturity date and are typically short term, have been included in the with no specific maturity category.

(3) A major portion of relationship-based deposits are repayable on demand or at short notice on a contractual basis while, in practice, these customer balances form a core base for our operations and liquidity needs, as explained in the preceding Deposit and funding profile section.

Capital management

We continue to manage our capital in accordance with our Capital Management Framework as described in our 2022 Annual Report. In addition, we continue to monitor for new regulatory capital developments, including OSFI guidance relating to the BCBS Basel III reforms, in order to ensure compliance with these requirements as disclosed in the Capital management section in our 2022 Annual Report, as updated below.

OSFI expects Canadian banks to meet the Basel III targets for CET1, Tier 1, and Total capital ratios. Under Basel III, banks select from two main approaches, the Standardized Approach (SA) or the Internal Ratings Based (IRB) Approach, to calculate their minimum regulatory capital required to support credit, market and operational risks.

The Financial Stability Board (FSB) has re-designated us as a Global Systemically Important Bank (G-SIB). This designation requires us to maintain a higher loss absorbency requirement (common equity as a percentage of RWA) of 1% consistent with the D-SIB requirement.

OSFI's Total Loss Absorbing Capacity (TLAC) guideline establishes two minimum standards: the risk-based TLAC ratio, which builds on the risk-based capital ratios described in the CAR guideline, and the TLAC leverage ratio, which builds on the leverage ratio described in OSFI's LR guideline. The TLAC requirement is intended to address the sufficiency of a D-SIB's loss absorbing capacity in supporting its recapitalization in the event of its failure. TLAC is defined as the aggregate of Tier 1 capital, Tier 2 capital, and external TLAC instruments, which allow conversion in whole or in part into common shares under the CDIC Act and meet all of the eligibility criteria under the guideline.

During the quarter, OSFI's revised capital, leverage, and disclosure guidelines incorporating and implementing OSFI's first phase of the adoption of the final BCBS Basel III reforms came into effect. The second phase of OSFI's implementation relating to the revised credit valuation adjustment (CVA) and market risk chapters of the CAR guideline will be effective for us in Q1 2024. The revised CAR and LR guidelines implemented in the current quarter includes the following notable changes:

- For IRB portfolios, elimination of a 6% regulatory scaling factor applied to RWA generated by internal models and introduction of prescribed supervisory parameters applicable to certain asset classes within our wholesale portfolio.
- Adoption of a new operational risk SA framework based on 3 years of average income and 10 years of historical losses.
- Adoption of a new SA framework enhancing risk sensitivity.
- Prescribed revisions to the current regulatory capital floor from 70% to 65% requiring a transition to a new regulatory capital floor of 72.5% of RWA under the SA by 2026. This new regulatory floor will be transitioned over three years, reflecting a regulatory capital floor requirement of 67.5%, 70% and 72.5% in, fiscal 2024, 2025 and 2026, respectively.
- Application of a 50 bps leverage ratio buffer to all D-SIBs.

The revised Pillar 3 disclosure requirements that were effective this quarter have been included in our standalone Pillar 3 Report as at April 30, 2023.

In Q2 2020, OSFI announced a series of regulatory adjustments and guidance to support the financial and operational resilience of the banking sector in response to the ongoing COVID-19 pandemic and subsequently continued, as needed, to release guidance implementing, clarifying, updating or unwinding certain aspects or requirements. Most measures and guidance issued in response to the COVID-19 pandemic have been unwound including, most recently the exclusion of central bank reserves that qualify as HQLA from leverage ratio exposure amounts, which ceased to be effective April 1, 2023.

For further details, refer to the Capital management section of our 2022 Annual Report. We have incorporated the effective adjustments and guidance, as applicable, into our results and in our ongoing capital planning activities.

The following table provides a summary of OSFI's current regulatory target ratios under Basel III and Pillar 2 requirements. We are in compliance with all current capital, leverage and TLAC requirements imposed by OSFI:

Basel III capital, leverage and TLAC ratios	OSFI regulatory target requirements for large banks under Basel III					RBC capital, leverage and TLAC ratios as at April 30, 2023	Domestic Stability Buffer ⁽³⁾	Minimum including Capital Buffers, D-SIB/G-SIB surcharge and Domestic Stability Buffer as at April 30, 2023 ⁽⁴⁾
	Minimum	Capital Buffers ⁽¹⁾	Minimum including Capital Buffers	D-SIB/G-SIB surcharge ⁽²⁾	Minimum including Capital Buffers and D-SIB/G-SIB surcharge ⁽²⁾			
Common Equity Tier 1	4.5%	2.5%	7.0%	1.0%	8.0%	13.7%	3.0%	11.0%
Tier 1 capital	6.0%	2.5%	8.5%	1.0%	9.5%	14.9%	3.0%	12.5%
Total capital	8.0%	2.5%	10.5%	1.0%	11.5%	16.8%	3.0%	14.5%
Leverage ratio	3.5%	n.a.	3.5%	n.a.	3.5%	4.2%	n.a.	3.5%
TLAC ratio	21.5%	n.a.	21.5%	n.a.	21.5%	31.0%	3.0%	24.5%
TLAC leverage ratio	7.25%	n.a.	7.25%	n.a.	7.25%	8.7%	n.a.	7.25%

(1) The capital buffers include the capital conservation buffer and the countercyclical capital buffer as prescribed by OSFI.

(2) A capital surcharge, equal to the higher of our D-SIB surcharge and the BCBS's G-SIB surcharge, is applicable to risk-weighted capital.

(3) The DSB can range from 0% to 4% of total RWA and as at April 30, 2023 is set at 3% by OSFI.

(4) Effective February 1, 2023 the DSB level, the leverage ratio minimum and the TLAC leverage ratio minimum increased by 50 bps.

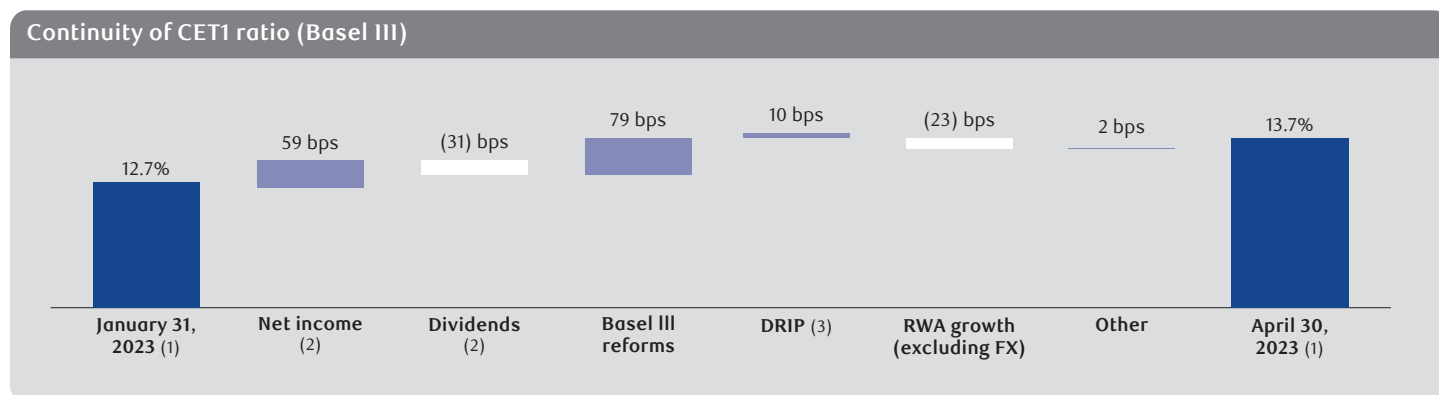
n.a. not applicable

The following table provides details on our regulatory capital, TLAC available, RWA, and on ratios for capital, leverage and TLAC. Our capital position remains strong and our capital, leverage and TLAC ratios remain well above OSFI regulatory targets.

(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	As at		
	April 30 2023	January 31 2023	October 31 2022
Capital ⁽¹⁾			
CET1 capital	\$ 81,103	\$ 78,055	\$ 76,945
Tier 1 capital	88,400	85,357	84,242
Total capital	99,540	96,438	93,850
RWA used in calculation of capital ratios ⁽¹⁾			
Credit risk	\$ 479,953	\$ 502,807	\$ 496,898
Market risk	37,685	32,635	35,342
Operational risk	75,895	78,808	77,639
Total RWA	\$ 593,533	\$ 614,250	\$ 609,879
Capital ratios and Leverage ratio ⁽¹⁾			
CET1 ratio	13.7%	12.7%	12.6%
Tier 1 capital ratio	14.9%	13.9%	13.8%
Total capital ratio	16.8%	15.7%	15.4%
Leverage ratio	4.2%	4.4%	4.4%
Leverage ratio exposure (billions)	\$ 2,116	\$ 1,921	\$ 1,898
TLAC available and ratios ⁽²⁾			
TLAC available	\$ 183,978	\$ 173,179	\$ 160,961
TLAC ratio	31.0%	28.2%	26.4%
TLAC leverage ratio	8.7%	9.0%	8.5%

- (1) Capital, RWA, and capital ratios are calculated using OSFI's CAR guideline and the Leverage ratio is calculated using OSFI's LR guideline. Both the CAR guideline and LR guideline are based on the Basel III framework. The results for the period ended April 30, 2023 reflect our adoption of the revised CAR and LR guidelines as part of OSFI's implementation of the Basel III reforms.
- (2) TLAC available and TLAC ratios are calculated using OSFI's TLAC guideline. The TLAC standard is applied at the resolution entity level which for us is deemed to be Royal Bank of Canada and its subsidiaries. A resolution entity and its subsidiaries are collectively called a resolution group. The TLAC ratio and TLAC leverage ratio are calculated using the TLAC available as a percentage of total RWA and leverage exposure, respectively.

Q2 2023 vs. Q1 2023



(1) Represents rounded figures.

(2) Represents net internal capital generation of \$1.7 billion or 28 bps consisting of Net income available to shareholders, less common and preferred share dividends and distributions on other equity instruments.

(3) For further details about the Dividend reinvestment plan (DRIP), refer to Note 10 of our Condensed Financial Statements.

Our CET1 ratio was 13.7%, up 100 bps from last quarter, mainly reflecting the favourable impact of the Basel III reforms, net internal capital generation and share issuances under the DRIP, partially offset by higher RWA from business growth.

Total RWA decreased by \$21 billion, primarily reflecting the favourable impact of the Basel III reforms on credit and operational risk noted above. This was partially offset by business growth in trading activities and commercial lending, as well as the impact of foreign exchange translation. In our CET1 ratio, the impact of foreign exchange translation on RWA is largely mitigated with economic hedges.

Our Tier 1 capital ratio of 14.9% was up 100 bps and our Total capital ratio of 16.8% was up 110 bps, mainly reflecting the factors noted above under the CET1 ratio.

Our Leverage ratio of 4.2% was down 20 bps, mainly due to the reversal of the regulatory modification for central bank reserves qualifying as HQLA noted above. This was partially offset by net internal capital generation, the impact of the Basel III reforms and share issuances under the DRIP.

Leverage exposures increased by \$195 billion, mainly driven by the reversal of the regulatory modification noted above and the impact of foreign exchange translation. Business growth primarily in trading activities and loans, partially offset by lower securities, also contributed to the increase. These factors were partially offset by the impact of the Basel III reforms.

Our TLAC ratio of 31% was up 280 bps, reflecting the factors noted above under the Total capital ratio, as well as a favourable impact from the net issuance of external TLAC instruments.

Our TLAC leverage ratio of 8.7% was down 30 bps, reflecting the factors noted above under the Leverage ratio, as well as a favourable impact from the net issuance of external TLAC instruments.

External TLAC instruments include long-term debt subject to conversion under the Bail-in regime. For further details, refer to Deposit and funding profile in the Liquidity and funding risk section.

Selected capital management activity

The following table provides our selected capital management activity:

	For the three months ended April 30, 2023			For the six months ended April 30, 2023	
	Issuance or redemption date	Number of shares (000s)	Amount	Number of shares (000s)	Amount
(Millions of Canadian dollars, except number of shares)					
Tier 1 capital					
Common shares activity					
Issued in connection with share-based compensation plans (1)		235	\$ 21	504	\$ 45
Issued under the DRIP (2)		4,604	621	4,604	621
Tier 2 capital					
Issuance of February 1, 2023 subordinated debentures (3), (4)	January 31, 2023		\$ -		\$ 1,500

(1) Amounts include cash received for stock options exercised during the period and fair value adjustments to stock options.

(2) During the three months ended April 30, 2023, the requirements of the DRIP were satisfied through shares issued from treasury.

(3) For further details, refer to Note 10 of our Condensed Financial Statements.

(4) Non-Viability Contingent Capital (NVCC) instruments.

As at April 30, 2023, we did not have an active normal course issuer bid (NCIB).

On January 31, 2023, we issued \$1,500 million of NVCC subordinated debentures. The notes bear interest at a fixed rate of 5.01% per annum until February 1, 2028, and at the Daily Compounded Canadian Overnight Repo Rate Average plus 2.12% thereafter until their maturity on February 1, 2033.

Selected share data ⁽¹⁾

(Millions of Canadian dollars, except number of shares and as otherwise noted)	As at April 30, 2023		
	Number of shares (000s)	Amount	Dividends declared per share
Common shares issued	1,390,699	\$ 17,984	\$ 1.32
Treasury shares – common shares ⁽²⁾	(969)	(127)	
Common shares outstanding	1,389,730	\$ 17,857	
Stock options and awards			
Outstanding	8,096		
Exercisable	4,066		
First preferred shares issued			
Non-cumulative Series AZ ^{(3), (4)}	20,000	\$ 500	\$ 0.23
Non-cumulative Series BB ^{(3), (4)}	20,000	500	0.23
Non-cumulative Series BD ^{(3), (4)}	24,000	600	0.20
Non-cumulative Series BF ^{(3), (4)}	12,000	300	0.19
Non-cumulative Series BH ⁽⁴⁾	6,000	150	0.31
Non-cumulative Series BI ⁽⁴⁾	6,000	150	0.31
Non-cumulative Series BO ^{(3), (4)}	14,000	350	0.30
Non-cumulative Series BT ^{(3), (4), (5)}	750	750	4.20%
Non-cumulative Series C-2 ⁽⁶⁾	15	23	US\$ 16.88
Other equity instruments issued			
Limited recourse capital notes Series 1 ^{(3), (4), (7), (8)}	1,750	1,750	4.50%
Limited recourse capital notes Series 2 ^{(3), (4), (7), (8)}	1,250	1,250	4.00%
Limited recourse capital notes Series 3 ^{(3), (4), (7), (8)}	1,000	1,000	3.65%
Preferred shares and other equity instruments issued	106,765	7,323	
Treasury instruments – preferred shares and other equity instruments ⁽²⁾	(6)	(4)	
Preferred shares and other equity instruments outstanding	106,759	\$ 7,319	
Dividends on common shares		\$ 1,836	
Dividends on preferred shares and distributions on other equity instruments ⁽⁹⁾		67	

- (1) For further details about our capital management activity, refer to Note 10 of our Condensed Financial Statements.
- (2) Positive amounts represent a short position and negative amounts represent a long position.
- (3) Dividend rate will reset every five years.
- (4) NVCC instruments.
- (5) The dividends declared per share represent the per annum dividend rate applicable to the shares issued as at the reporting date.
- (6) Represents 615,400 depository shares relating to preferred shares Series C-2. Each depository share represents one-fortieth interest in a share of Series C-2.
- (7) For Limited Recourse Capital Notes (LRCN) Series, the number of shares represent the number of notes issued and the dividends declared per share represent the annual interest rate percentage applicable to the notes issued as at the reporting date.
- (8) In connection with the issuance of LRCN Series 1, on July 28, 2020, we issued \$1,750 million of First Preferred Shares Series BQ (Series BQ); in connection with the issuance of LRCN Series 2, on November 2, 2020, we issued \$1,250 million of First Preferred Shares Series BR (Series BR); and in connection with the issuance of LRCN Series 3, on June 8, 2021, we issued \$1,000 million of First Preferred Shares Series BS (Series BS). The Series BQ, BR and BS preferred shares were issued at a price of \$1,000 per share and were issued to a consolidated trust to be held as trust assets in connection with the LRCN structure. For further details, refer to Note 20 of our 2022 Annual Consolidated Financial Statements.
- (9) Excludes distributions to non-controlling interests.

As at May 19, 2023, the number of outstanding common shares was 1,389,653,472, net of treasury shares held of 1,097,527, and the number of stock options and awards was 8,044,057.

NVCC provisions require the conversion of the capital instrument into a variable number of common shares in the event that OSFI deems a bank to be non-viable or a federal or provincial government in Canada publicly announces that a bank has accepted or agreed to accept a capital injection. If a NVCC trigger event were to occur, our NVCC capital instruments as at April 30, 2023, which were the preferred shares Series AZ, BB, BD, BF, BH, BI, BO, BT, LRCN Series 1, LRCN Series 2, LRCN Series 3 and subordinated debentures due on January 27, 2026, July 25, 2029, December 23, 2029, June 30, 2030, January 28, 2033, November 3, 2031, May 3, 2032, and February 1, 2033 would be converted into common shares pursuant to an automatic conversion formula with a conversion price based on the greater of: (i) a contractual floor price of \$5.00, and (ii) the current market price of our common shares at the time of the trigger event (10-day weighted average). Based on a floor price of \$5.00 and including an estimate for accrued dividends and interest, these NVCC capital instruments would convert into a maximum of 4,999 million common shares, in aggregate, which would represent a dilution impact of 78.25% based on the number of common shares outstanding as at April 30, 2023.

Accounting and control matters

Summary of accounting policies and estimates

Our Condensed Financial Statements are presented in compliance with International Accounting Standard (IAS) 34 *Interim Financial Reporting*. Our significant accounting policies are described in Note 2 of our audited 2022 Annual Consolidated Financial Statements.

Future changes in accounting policies and disclosures

Future changes in accounting policies and disclosures that are not yet effective for us are described in Note 2 of our audited 2022 Annual Consolidated Financial Statements.

Controls and procedures

Disclosure controls and procedures

As of April 30, 2023, management evaluated, under the supervision of and with the participation of the President and Chief Executive Officer and the Chief Financial Officer, the effectiveness of our disclosure controls and procedures as defined under rules adopted by the Canadian securities regulatory authorities and the U.S. SEC. Based on that evaluation, the President and Chief Executive Officer and the Chief Financial Officer concluded that our disclosure controls and procedures were effective as of April 30, 2023.

Internal control over financial reporting

No changes were made in our internal control over financial reporting during the quarter ended April 30, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Related party transactions

In the ordinary course of business, we provide normal banking services and operational services, and enter into other transactions with associated and other related corporations, including our joint venture entities, on terms similar to those offered to non-related parties. We grant loans to directors, officers and other employees at rates normally accorded to preferred clients. In addition, we offer deferred share and other plans to non-employee directors, executives and certain other key employees. For further information, refer to Notes 12 and 26 of our audited 2022 Annual Consolidated Financial Statements.

Glossary

Acceptances

A bill of exchange or negotiable instrument drawn by the borrower for payment at maturity and accepted by a bank. The acceptance constitutes a guarantee of payment by the bank and can be traded in the money market. The bank earns a "stamping fee" for providing this guarantee.

Allowance for credit losses (ACL)

The amount deemed adequate by management to absorb expected credit losses as at the balance sheet date. The allowance is established for all financial assets subject to impairment assessment, including certain loans, debt securities, customers' liability under acceptances, financial guarantees, and undrawn loan commitments. The allowance is changed by the amount of provision for credit losses recorded, which is charged to income, and decreased by the amount of write-offs net of recoveries in the period.

ACL on loans ratio

ACL on loans ratio is calculated as ACL on loans as a percentage of total loans and acceptances.

Asset-backed securities (ABS)

Securities created through the securitization of a pool of assets, for example auto loans or credit card loans.

Assets under administration (AUA)

Assets administered by us, which are beneficially owned by clients, unless otherwise noted. Services provided in respect of assets under administration are of an administrative nature, including safekeeping, collecting investment income, settling purchase and sale transactions, and record keeping.

Assets under management (AUM)

Assets managed by us, which are beneficially owned by clients, unless otherwise noted. Services provided in respect of assets under management include the selection of investments and the provision of investment advice. We have assets under management that are also administered by us and included in assets under administration.

Attributed capital

Attributed capital is based on the Basel III regulatory capital requirements and economic capital.

Auction rate securities (ARS)

Debt securities whose interest rates are regularly reset through an auction process.

Average earning assets, net

Average earning assets include interest-bearing deposits with other banks, securities, net of applicable allowance, assets purchased under reverse repurchase agreements and securities borrowed, loans, net of allowance, cash collateral and margin deposits. Insurance assets, and all other assets not specified are excluded. The averages are based on the daily balances for the period.

Basis point (bp)

One one-hundredth of a percentage point (.01%).

Collateral

Assets pledged as security for a loan or other obligation. Collateral can take many forms, such as cash, highly rated securities, property, inventory, equipment and receivables.

Collateralized debt obligation (CDO)

Securities with multiple tranches that are issued by structured entities and collateralized by debt obligations including bonds and loans. Each tranche offers a varying degree of risk and return so as to meet investor demand.

Commercial mortgage-backed securities (CMBS)

Securities created through the securitization of commercial mortgages.

Commitments to extend credit

Unutilized amount of credit facilities available to clients either in the form of loans, bankers' acceptances and other on-balance sheet financing, or through off-balance sheet products such as guarantees and letters of credit.

Common Equity Tier 1 (CET1) capital

A regulatory Basel III capital measure comprised mainly of common shareholders' equity less regulatory deductions and adjustments for goodwill and intangibles, defined benefit pension fund assets, shortfall in allowances and other specified items.

Common Equity Tier 1 capital ratio

A risk-based capital measure calculated as CET1 capital divided by risk-weighted assets.

Covered bonds

Full recourse on-balance sheet obligations issued by banks and credit institutions that are fully collateralized by assets over which investors enjoy a priority claim in the event of an issuer's insolvency.

Credit default swaps (CDS)

A derivative contract that provides the purchaser with a one-time payment should the referenced entity/entities default (or a similar triggering event occur).

Derivative

A contract between two parties, which requires little or no initial investment and where payments between the parties are dependent upon the movements in price of an underlying instrument, index or financial rate. Examples of derivatives include swaps, options, forward rate agreements and futures. The notional amount of the derivative is the contract amount used as a reference point to calculate the payments to be exchanged between the two parties, and the notional amount itself is generally not exchanged by the parties.

Dividend payout ratio

Common dividends as a percentage of net income available to common shareholders.

Dividend yield

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

Earnings per share (EPS), basic

Calculated as net income available to common shareholders divided by the average number of shares outstanding.

Earnings per share (EPS), diluted

Calculated as net income available to common shareholders divided by the average number of shares outstanding adjusted for the dilutive effects of stock options and other convertible securities.

Efficiency Ratio

Non-interest expense as a percentage of total revenue.

Expected credit losses

The difference between the contractual cash flows due to us in accordance with the relevant contractual terms and the cash flows that we expect to receive, discounted to the balance sheet date.

Fair value

Fair value of a financial instrument is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date.

Funding Valuation Adjustment

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

Guarantees and standby letters of credit

These primarily represent irrevocable assurances that a bank will make payments in the event that its client cannot meet its financial obligations to third parties. Certain other guarantees, such as bid and performance bonds, represent non-financial undertakings.

Hedge

A risk management technique used to mitigate exposure from market, interest rate or foreign currency exchange risk arising from normal banking operations. The elimination or reduction of such exposure is accomplished by establishing offsetting positions. For example, assets denominated in foreign currencies can be offset with liabilities in the same currencies or through the use of foreign exchange hedging instruments such as futures, options or foreign exchange contracts.

Hedge funds

A type of investment fund, marketed to accredited high net worth investors, that is subject to limited regulation and restrictions on its investments compared to retail mutual funds, and that often utilize aggressive strategies such as selling short, leverage, program trading, swaps, arbitrage and derivatives.

High-quality liquid assets (HQLA)

Assets are considered to be HQLA if they can be easily and immediately converted into cash at little or no loss of value during a time of stress.

Impaired loans

Loans are classified as impaired when there has been a deterioration of credit quality to the extent that management no longer has reasonable assurance of timely collection of the full amount of principal and interest in accordance with the contractual terms of the loan agreement. Credit card balances are not classified as impaired as they are directly written off after payments are 180 days past due.

International Financial Reporting Standards (IFRS)

IFRS are principles-based standards, interpretations and the framework adopted by the International Accounting Standards Board.

Leverage ratio

A Basel III regulatory measure, the ratio divides Tier 1 capital by the sum of total assets plus specified off-balance sheet items.

Liquidity Coverage Ratio (LCR)

The Liquidity Coverage Ratio is a Basel III metric that measures the sufficiency of HQLA available to meet net short-term financial obligations over a thirty day period in an acute stress scenario.

Loan-to-value (LTV) ratio

Calculated based on the total facility amount for the residential mortgage and RBC Homeline Plan product divided by the value of the related residential property.

Master netting agreement

An agreement between us and a counterparty designed to reduce the credit risk of multiple derivative transactions through the creation of a legal right of offset of exposure in the event of a default.

Net interest income

The difference between what is earned on assets such as loans and securities and what is paid on liabilities such as deposits and subordinated debentures.

Net interest margin (NIM) on average earning assets, net

Calculated as net interest income divided by average earning assets, net.

Net Stable Funding Ratio (NSFR)

The Net Stable Funding Ratio is a Basel III metric that measures the sufficiency of available stable funding to meet the minimum coverage level of required stable funding.

Normal course issuer bid (NCIB)

A program for the repurchase of our own shares for cancellation through a stock exchange that is subject to the various rules of the relevant stock exchange and securities commission.

Notional amount

The contract amount used as a reference point to calculate payments for derivatives.

Off-balance sheet financial instruments

A variety of arrangements offered to clients, which include credit derivatives, written put options, backstop liquidity facilities, stable value products, financial standby letters of credit, performance guarantees, credit enhancements, mortgage loans sold with recourse, commitments to extend credit, securities lending, documentary and commercial letters of credit, sponsor member guarantees, securities lending indemnifications and indemnifications.

Office of the Superintendent of Financial Institutions Canada (OSFI)

The primary regulator of federally chartered financial institutions and federally administered pension plans in Canada. OSFI's mission is to safeguard policyholders, depositors and pension plan members from undue loss.

Operating leverage

The difference between our revenue growth rate and non-interest expense growth rate.

Options

A contract or a provision of a contract that gives one party (the option holder) the right, but not the obligation, to perform a specified transaction with another party (the option issuer or option writer) according to specified terms.

Provision for credit losses (PCL)

The amount charged to income necessary to bring the allowance for credit losses to a level determined appropriate by management. This includes provisions on performing and impaired financial assets.

PCL on loans ratio

PCL on loans ratio is calculated using PCL on loans as a percentage of average net loans and acceptances.

RBC Homeline Plan products

This is comprised of residential mortgages and secured personal loans whereby the borrower pledges real estate as collateral.

Repurchase agreements

These involve the sale of securities for cash and the simultaneous repurchase of the securities for value at a later date. These transactions normally do not constitute economic sales and therefore are treated as collateralized financing transactions.

Return on common equity (ROE)

Net income available to common shareholders, expressed as a percentage of average common equity.

Reverse repurchase agreements

These involve the purchase of securities for cash and the simultaneous sale of the securities for value at a later date. These transactions normally do not constitute economic sales and therefore are treated as collateralized financing transactions.

Risk-weighted assets (RWA)

Assets adjusted by a regulatory risk-weight factor to reflect the riskiness of on and off-balance sheet exposures. Certain assets are not risk-weighted, but deducted from capital. The calculation is defined by OSFI's Capital Adequacy Requirements guidelines. For more details, refer to the Capital management section.

Securities lending

Transactions in which the owner of securities agrees to lend it under the terms of a prearranged contract to a borrower for a fee. Collateral for the loan consists of either high quality securities or cash and collateral value must be at least equal to the market value of the loaned securities. Borrowers pay a negotiated fee for loans collateralized by securities, whereas for cash collateral lenders pay borrowers interest at a negotiated rate and reinvest the cash collateral to earn a return. An intermediary such as a bank often acts as agent lender for the owner of the security in return for a share of the revenue earned by the owner from lending securities. Most often, agent lenders indemnify the owner against the risk of the borrower's failure to redeliver the loaned securities – counterparty credit risk if a borrower defaults and market risk if the value of the non-cash collateral declines. The agent lender does not indemnify against the investment risk of re-investing cash collateral which is borne by the owner.

Securities sold short

A transaction in which the seller sells securities and then borrows the securities in order to deliver them to the purchaser upon settlement. At a later date, the seller buys identical securities in the market to replace the borrowed securities.

Securitization

The process by which various financial assets are packaged into newly issued securities backed by these assets.

Standardized Approach (SA)

Risk weights prescribed by OSFI are used to calculate RWA for the credit risk exposures. Credit assessments by OSFI-recognized external credit rating agencies of S&P, Moody's, Fitch, and DBRS are used to risk-weight our Sovereign and Bank exposures based on the standards and guidelines issued by OSFI. For our Business and Retail exposures, we use the standard risk weights prescribed by OSFI.

Structured entities

A structured entity is an entity in which voting or similar rights are not the dominant factor in deciding who controls the entity, such as when the activities that significantly affect the entity's returns are directed by means of contractual arrangements. Structured entities often have restricted activities, narrow and well defined objectives, insufficient equity to finance their activities, and financing in the form of multiple contractually-linked instruments.

Taxable equivalent basis (teb)

Income from certain specified tax advantaged sources (eligible Canadian taxable corporate dividends) is increased to a level that would make it comparable to income from taxable sources. There is an offsetting adjustment in the tax provision, thereby generating the same after-tax net income.

Tier 1 capital

Tier 1 capital comprises predominantly of CET1 capital, with additional Tier 1 items such as preferred shares, limited recourse capital notes and non-controlling interests in subsidiaries Tier 1 instruments.

Tier 2 capital

Tier 2 capital consists mainly of subordinated debentures that meet certain criteria, certain loan loss allowances and non-controlling interests in subsidiaries' Tier 2 instruments.

Total Loss Absorbing Capacity (TLAC)

The aggregate of Tier 1 capital, Tier 2 capital, and external TLAC instruments which allow conversion in whole or in part into common shares under the Canada Deposit Insurance Corporation Act and meet all of the eligibility criteria under the guideline.

TLAC ratio

The risk-based TLAC ratio is defined as TLAC divided by total risk-weighted assets.

TLAC leverage ratio

The TLAC leverage ratio is defined as TLAC divided by the Leverage ratio exposure.

Total capital and total capital ratio

Total capital is defined as the total of Tier 1 and Tier 2 capital. The total capital ratio is calculated by dividing total capital by risk-weighted assets.

Tranche

A security class created whereby the risks and returns associated with a pool of assets are packaged into several classes of securities offering different risk and return profiles from those of the underlying asset pool. Tranches are typically rated by ratings agencies, and reflect both the credit quality of underlying collateral as well as the level of protection based on the tranches' relative subordination.

Unattributed capital

Unattributed capital represents common equity in excess of common equity attributed to our business segments and is reported in the Corporate Support segment.

Value-at-Risk (VaR)

A generally accepted risk-measurement concept that uses statistical models based on historical information to estimate within a given level of confidence the maximum loss in market value we would experience in our trading portfolio from an adverse one-day movement in market rates and prices.

Enhanced Disclosure Task Force recommendations index

We aim to present transparent, high-quality risk disclosures by providing disclosures in our 2022 Annual Report, Q2 2023 Report to Shareholders (RTS), Supplementary Financial Information package (SFI), and Pillar 3 Report, in accordance with recommendations from the FSB's Enhanced Disclosure Task Force (EDTF). Information within the SFI and Pillar 3 Report is not and should not be considered incorporated by reference into our Q2 2023 Report to Shareholders.

The following index summarizes our disclosure by EDTF recommendation:

Type of Risk	Recommendation	Disclosure	Location of disclosure		
			RTS page	Annual Report page	SFI page
General	1	Table of contents for EDTF risk disclosure	49	128	1
	2	Define risk terminology and measures		60-65, 126-127	–
	3	Top and emerging risks		58-60	–
	4	New regulatory ratios	41-44	105-110	–
Risk governance, risk management and business model	5	Risk management organization		60-65	–
	6	Risk culture		60-65	–
	7	Risk in the context of our business activities		113	–
	8	Stress testing		63-64, 76	–
Capital adequacy and risk-weighted assets (RWA)	9	Minimum Basel III capital ratios and Domestic systemically important bank surcharge	42	105-110	–
	10	Composition of capital and reconciliation of the accounting balance sheet to the regulatory balance sheet		–	*
	11	Flow statement of the movements in regulatory capital		–	19
	12	Capital strategic planning		105-110	–
	13	RWA by business segments		–	20
	14	Analysis of capital requirement, and related measurement model information		66-69	*
	15	RWA credit risk and related risk measurements		–	*
16	Movement of RWA by risk type		–	20	
17	Basel back-testing		63, 66-67	31	
Liquidity	18	Quantitative and qualitative analysis of our liquidity reserve	32-33	83-84, 88-89	–
Funding	19	Encumbered and unencumbered assets by balance sheet category, and contractual obligations for rating downgrades	33, 36	84, 87	–
	20	Maturity analysis of consolidated total assets, liabilities and off-balance sheet commitments analyzed by remaining contractual maturity at the balance sheet date	40-41	91-92	–
	21	Sources of funding and funding strategy	34-35	84-86	–
Market risk	22	Relationship between the market risk measures for trading and non-trading portfolios and the balance sheet	30-31	80-81	–
	23	Decomposition of market risk factors	28-29	76-81	–
	24	Market risk validation and back-testing		76	–
	25	Primary risk management techniques beyond reported risk measures and parameters		76-79	–
Credit risk	26	Bank's credit risk profile	24-27	66-75, 175-182	21-31,*
		Quantitative summary of aggregate credit risk exposures that reconciles to the balance sheet	65-70	120-125	*
	27	Policies for identifying impaired loans		68-70, 115, 147-149	–
	28	Reconciliation of the opening and closing balances of impaired loans and impairment allowances during the year		–	23, 28
	29	Quantification of gross notional exposure for over-the-counter derivatives or exchange-traded derivatives		71	32
	30	Credit risk mitigation, including collateral held for all sources of credit risk		69-70	*
Other	31	Other risk types		94-104	–
	32	Publicly known risk events		98-99, 219-220	–

* These disclosure requirements are satisfied or partially satisfied by disclosures provided in our Pillar 3 Report for the quarter ended April 30, 2023 and for the year ended October 31, 2022.

Interim Condensed Consolidated Financial Statements (unaudited)

Interim Condensed Consolidated Balance Sheets (unaudited)

(Millions of Canadian dollars)	As at	
	April 30 2023	October 31 2022
Assets		
Cash and due from banks	\$ 99,199	\$ 72,397
Interest-bearing deposits with banks	81,880	108,011
Securities		
Trading	136,207	148,205
Investment, net of applicable allowance (Note 4)	183,621	170,018
	319,828	318,223
Assets purchased under reverse repurchase agreements and securities borrowed	335,239	317,845
Loans (Note 5)		
Retail	554,139	549,751
Wholesale	281,380	273,967
	835,519	823,718
Allowance for loan losses (Note 5)	(4,332)	(3,753)
	831,187	819,965
Segregated fund net assets	2,883	2,638
Other		
Customers' liability under acceptances	20,185	17,827
Derivatives	124,149	154,439
Premises and equipment	7,023	7,214
Goodwill	12,469	12,277
Other intangibles	6,026	6,083
Other assets (Note 6)	100,234	80,300
	270,086	278,140
Total assets	\$ 1,940,302	\$ 1,917,219
Liabilities and equity		
Deposits (Note 7)		
Personal	\$ 428,305	\$ 404,932
Business and government	734,038	759,870
Bank	47,710	44,012
	1,210,053	1,208,814
Segregated fund net liabilities	2,883	2,638
Other		
Acceptances	20,228	17,872
Obligations related to securities sold short	36,048	35,511
Obligations related to assets sold under repurchase agreements and securities loaned	291,558	273,947
Derivatives	123,898	153,491
Insurance claims and policy benefit liabilities	12,243	11,511
Other liabilities (Note 6)	120,472	95,235
	604,447	587,567
Subordinated debentures (Note 10)	11,565	10,025
Total liabilities	1,828,948	1,809,044
Equity attributable to shareholders		
Preferred shares and other equity instruments	7,319	7,318
Common shares (Note 10)	17,857	16,984
Retained earnings	80,326	78,037
Other components of equity	5,754	5,725
	111,256	108,064
Non-controlling interests	98	111
Total equity	111,354	108,175
Total liabilities and equity	\$ 1,940,302	\$ 1,917,219

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

Interim Condensed Consolidated Statements of Income (unaudited)

(Millions of Canadian dollars, except per share amounts)	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Interest and dividend income (Note 3)				
Loans	\$ 10,384	\$ 5,707	\$ 20,381	\$ 11,264
Securities	3,178	1,396	6,181	2,775
Assets purchased under reverse repurchase agreements and securities borrowed	4,907	556	9,673	905
Deposits and other	1,849	99	3,420	192
	20,318	7,758	39,655	15,136
Interest expense (Note 3)				
Deposits and other	8,656	1,473	16,428	2,768
Other liabilities	5,394	953	10,619	1,723
Subordinated debentures	169	58	307	100
	14,219	2,484	27,354	4,591
Net interest income	6,099	5,274	12,301	10,545
Non-interest income				
Insurance premiums, investment and fee income	1,347	234	3,238	1,633
Trading revenue	430	289	1,499	603
Investment management and custodial fees	2,083	1,892	4,139	3,853
Mutual fund revenue	1,000	1,086	2,015	2,251
Securities brokerage commissions	377	389	738	788
Service charges	511	480	1,022	965
Underwriting and other advisory fees	458	507	970	1,208
Foreign exchange revenue, other than trading	322	251	755	522
Card service revenue	279	288	604	579
Credit fees	357	398	736	874
Net gains on investment securities	111	23	164	38
Share of profit in joint ventures and associates	12	24	41	53
Other	134	85	392	374
	7,421	5,946	16,313	13,741
Total revenue	13,520	11,220	28,614	24,286
Provision for credit losses (Notes 4 and 5)	600	(342)	1,132	(237)
Insurance policyholder benefits, claims and acquisition expense	1,006	(180)	2,551	817
Non-interest expense				
Human resources (Note 8)	4,600	4,002	9,476	8,287
Equipment	589	513	1,158	1,014
Occupancy	408	386	819	772
Communications	317	258	599	486
Professional fees	521	347	925	666
Amortization of other intangibles	380	336	749	673
Other	679	592	1,443	1,116
	7,494	6,434	15,169	13,014
Income before income taxes	4,420	5,308	9,762	10,692
Income taxes (Note 9)	771	1,055	2,899	2,344
Net income	\$ 3,649	\$ 4,253	\$ 6,863	\$ 8,348
Net income attributable to:				
Shareholders	\$ 3,648	\$ 4,250	\$ 6,860	\$ 8,343
Non-controlling interests	1	3	3	5
	\$ 3,649	\$ 4,253	\$ 6,863	\$ 8,348
Basic earnings per share (in dollars) (Note 11)	\$ 2.58	\$ 2.97	\$ 4.87	\$ 5.81
Diluted earnings per share (in dollars) (Note 11)	2.58	2.96	4.86	5.80
Dividends per common share (in dollars)	1.32	1.20	2.64	2.40

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

Interim Condensed Consolidated Statements of Comprehensive Income (unaudited)

(Millions of Canadian dollars)	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Net income	\$ 3,649	\$ 4,253	\$ 6,863	\$ 8,348
Other comprehensive income (loss), net of taxes				
Items that will be reclassified subsequently to income:				
Net change in unrealized gains (losses) on debt securities and loans at fair value through other comprehensive income				
Net unrealized gains (losses) on debt securities and loans at fair value through other comprehensive income	(20)	(892)	612	(1,145)
Provision for credit losses recognized in income	–	(4)	–	(11)
Reclassification of net losses (gains) on debt securities and loans at fair value through other comprehensive income to income	(81)	(18)	(113)	(29)
	(101)	(914)	499	(1,185)
Foreign currency translation adjustments				
Unrealized foreign currency translation gains (losses)	1,537	198	582	1,672
Net foreign currency translation gains (losses) from hedging activities	(611)	137	(547)	(370)
Reclassification of losses (gains) on foreign currency translation to income	–	–	–	(18)
Reclassification of losses (gains) on net investment hedging activities to income	–	–	–	17
	926	335	35	1,301
Net change in cash flow hedges				
Net gains (losses) on derivatives designated as cash flow hedges	(193)	869	(591)	967
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	84	117	86	148
	(109)	986	(505)	1,115
Items that will not be reclassified subsequently to income:				
Remeasurement gains (losses) on employee benefit plans (Note 8)	(129)	765	(359)	1,048
Net gains (losses) from fair value changes due to credit risk on financial liabilities designated at fair value through profit or loss	309	853	(487)	1,033
Net gains (losses) on equity securities designated at fair value through other comprehensive income	8	4	18	43
	188	1,622	(828)	2,124
Total other comprehensive income (loss), net of taxes	904	2,029	(799)	3,355
Total comprehensive income (loss)	\$ 4,553	\$ 6,282	\$ 6,064	\$ 11,703
Total comprehensive income attributable to:				
Shareholders	\$ 4,549	\$ 6,278	\$ 6,061	\$ 11,695
Non-controlling interests	4	4	3	8
	\$ 4,553	\$ 6,282	\$ 6,064	\$ 11,703

The income tax effect on the Interim Condensed Consolidated Statements of Comprehensive Income is shown in the table below.

(Millions of Canadian dollars)	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Income taxes on other comprehensive income				
Net unrealized gains (losses) on debt securities and loans at fair value through other comprehensive income	\$ 20	\$ (291)	\$ 191	\$ (368)
Provision for credit losses recognized in income	1	(1)	1	(2)
Reclassification of net losses (gains) on debt securities and loans at fair value through other comprehensive income to income	(21)	(3)	(30)	(4)
Unrealized foreign currency translation gains (losses)	1	–	1	–
Net foreign currency translation gains (losses) from hedging activities	(226)	52	(64)	(118)
Reclassification of losses (gains) on net investment hedging activities to income	–	–	–	6
Net gains (losses) on derivatives designated as cash flow hedges	(76)	329	(140)	363
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	33	42	34	53
Remeasurement gains (losses) on employee benefit plans	(49)	267	(72)	367
Net gains (losses) from fair value changes due to credit risk on financial liabilities designated at fair value through profit or loss	119	302	(187)	366
Net gains (losses) on equity securities designated at fair value through other comprehensive income	3	(5)	15	(1)
Total income tax expenses (recoveries)	\$ (195)	\$ 692	\$ (251)	\$ 662

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

Interim Condensed Consolidated Statements of Changes in Equity (unaudited)

	For the three months ended April 30, 2023											
	Preferred shares and other equity instruments	Common shares	Treasury – preferred shares and other equity instruments	Treasury – common shares	Retained earnings	FVOCI securities and loans	Foreign currency translation	Cash flow hedges	Total other components of equity	Equity attributable to shareholders	Non-controlling interests	Total equity
Balance at beginning of period	\$ 7,323	\$ 17,342	\$ 10	\$ (389)	\$ 78,369	\$ (1,757)	\$ 4,800	\$ 1,998	\$ 5,041	\$ 107,696	\$ 103	\$ 107,799
Changes in equity												
Issues of share capital and other equity instruments	–	642	–	–	–	–	–	–	–	642	–	642
Common shares purchased for cancellation	–	–	–	–	–	–	–	–	–	–	–	–
Redemption of preferred shares and other equity instruments	–	–	–	–	–	–	–	–	–	–	–	–
Sales of treasury shares and other equity instruments	–	–	112	1,335	–	–	–	–	–	1,447	–	1,447
Purchases of treasury shares and other equity instruments	–	–	(126)	(1,073)	–	–	–	–	–	(1,199)	–	(1,199)
Share-based compensation awards	–	–	–	–	(1)	–	–	–	–	(1)	–	(1)
Dividends on common shares	–	–	–	–	(1,836)	–	–	–	–	(1,836)	–	(1,836)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(67)	–	–	–	–	(67)	(9)	(76)
Other	–	–	–	–	25	–	–	–	–	25	–	25
Net income	–	–	–	–	3,648	–	–	–	–	3,648	1	3,649
Total other comprehensive income (loss), net of taxes	–	–	–	–	188	(101)	923	(109)	713	901	3	904
Balance at end of period	\$ 7,323	\$ 17,984	\$ (4)	\$ (127)	\$ 80,326	\$ (1,858)	\$ 5,723	\$ 1,889	\$ 5,754	\$ 111,256	\$ 98	\$ 111,354

	For the three months ended April 30, 2022											
	Preferred shares and other equity instruments	Common shares	Treasury – preferred shares and other equity instruments	Treasury – common shares	Retained earnings	FVOCI securities and loans	Foreign currency translation	Cash flow hedges	Total other components of equity	Equity attributable to shareholders	Non-controlling interests	Total equity
Balance at beginning of period	\$ 7,473	\$ 17,651	\$ (32)	\$ (79)	\$ 73,542	\$ (359)	\$ 3,019	\$ 695	\$ 3,355	\$ 101,910	\$ 98	\$ 102,008
Changes in equity												
Issues of share capital and other equity instruments	–	8	–	–	–	–	–	–	–	8	–	8
Common shares purchased for cancellation	–	(171)	–	–	(1,721)	–	–	–	–	(1,892)	–	(1,892)
Redemption of preferred shares and other equity instruments	(150)	–	–	–	(5)	–	–	–	–	(155)	–	(155)
Sales of treasury shares and other equity instruments	–	–	152	1,191	–	–	–	–	–	1,343	–	1,343
Purchases of treasury shares and other equity instruments	–	–	(145)	(1,286)	–	–	–	–	–	(1,431)	–	(1,431)
Share-based compensation awards	–	–	–	–	(1,686)	–	–	–	–	(1,686)	–	(1,686)
Dividends on common shares	–	–	–	–	(68)	–	–	–	–	(68)	(1)	(69)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(3)	–	–	–	–	(3)	–	(3)
Other	–	–	–	–	4,250	–	–	–	–	4,250	3	4,253
Net income	–	–	–	–	1,622	(914)	334	986	406	2,028	1	2,029
Total other comprehensive income (loss), net of taxes	–	–	(25)	(174)	75,931	(1,273)	3,353	1,681	3,761	104,304	101	104,405
Balance at end of period	\$ 7,323	\$ 17,488	\$ (25)	\$ (174)	\$ 75,931	\$ (1,273)	\$ 3,353	\$ 1,681	\$ 3,761	\$ 104,304	\$ 101	\$ 104,405

	For the six months ended April 30, 2023											
	Other components of equity											
	Preferred shares and other equity instruments	Common shares	Treasury – preferred shares and other equity instruments	Treasury – common shares	Retained earnings	FVOCI securities and loans	Foreign currency translation	Cash flow hedges	Total other components of equity	Equity attributable to shareholders	Non-controlling interests	Total equity
(Millions of Canadian dollars)												
Balance at beginning of period	\$ 7,323	\$ 17,318	\$ (5)	\$ (334)	\$ 78,037	\$ (2,357)	\$ 5,688	\$ 2,394	\$ 5,725	\$ 108,064	\$ 111	\$ 108,175
Changes in equity												
Issues of share capital and other equity instruments	–	666	–	–	1	–	–	–	–	667	–	667
Common shares purchased for cancellation	–	–	–	–	–	–	–	–	–	–	–	–
Redemption of preferred shares and other equity instruments	–	–	–	–	–	–	–	–	–	–	–	–
Sales of treasury shares and other equity instruments	–	–	389	2,077	–	–	–	–	–	2,466	–	2,466
Purchases of treasury shares and other equity instruments	–	–	(388)	(1,870)	–	–	–	–	–	(2,258)	–	(2,258)
Share-based compensation awards	–	–	–	–	4	–	–	–	–	4	–	4
Dividends on common shares	–	–	–	–	(3,665)	–	–	–	–	(3,665)	–	(3,665)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(111)	–	–	–	–	(111)	(16)	(127)
Other	–	–	–	–	28	–	–	–	–	28	–	28
Net income	–	–	–	–	6,860	–	–	–	–	6,860	3	6,863
Total other comprehensive income (loss), net of taxes	–	–	–	–	(828)	499	35	(505)	29	(799)	–	(799)
Balance at end of period	\$ 7,323	\$ 17,984	\$ (4)	\$ (127)	\$ 80,326	\$ (1,858)	\$ 5,723	\$ 1,889	\$ 5,754	\$ 111,256	\$ 98	\$ 111,354

For the six months ended April 30, 2022

	Other components of equity											
	Preferred shares and other equity instruments	Common shares	Treasury – preferred shares and other equity instruments	Treasury – common shares	Retained earnings	FVOCI securities and loans	Foreign currency translation	Cash flow hedges	Total other components of equity	Equity attributable to shareholders	Non-controlling interests	Total equity
(Millions of Canadian dollars)												
Balance at beginning of period	\$ 6,723	\$ 17,728	\$ (39)	\$ (73)	\$ 71,795	\$ (88)	\$ 2,055	\$ 566	\$ 2,533	\$ 98,667	\$ 95	\$ 98,762
Changes in equity												
Issues of share capital and other equity instruments	750	42	–	–	(1)	–	–	–	–	791	–	791
Common shares purchased for cancellation	–	(282)	–	–	(2,824)	–	–	–	–	(3,106)	–	(3,106)
Redemption of preferred shares and other equity instruments	(150)	–	–	–	(5)	–	–	–	–	(155)	–	(155)
Sales of treasury shares and other equity instruments	–	–	308	2,707	–	–	–	–	–	3,015	–	3,015
Purchases of treasury shares and other equity instruments	–	–	(294)	(2,808)	–	–	–	–	–	(3,102)	–	(3,102)
Share-based compensation awards	–	–	–	–	2	–	–	–	–	2	–	2
Dividends on common shares	–	–	–	–	(3,388)	–	–	–	–	(3,388)	–	(3,388)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(122)	–	–	–	–	(122)	(2)	(124)
Other	–	–	–	–	7	–	–	–	–	7	–	7
Net income	–	–	–	–	8,343	–	–	–	–	8,343	5	8,348
Total other comprehensive income (loss), net of taxes	–	–	–	–	2,124	(1,185)	1,298	1,115	1,228	3,352	3	3,355
Balance at end of period	\$ 7,323	\$ 17,488	\$ (25)	\$ (174)	\$ 75,931	\$ (1,273)	\$ 3,353	\$ 1,681	\$ 3,761	\$ 104,304	\$ 101	\$ 104,405

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

Interim Condensed Consolidated Statements of Cash Flows (unaudited)

(Millions of Canadian dollars)	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Cash flows from operating activities				
Net income	\$ 3,649	\$ 4,253	\$ 6,863	\$ 8,348
Adjustments for non-cash items and others				
Provision for credit losses	600	(342)	1,132	(237)
Depreciation	314	314	628	627
Deferred income taxes	(112)	418	(351)	645
Amortization and impairment of other intangibles	392	340	772	679
Net changes in investments in joint ventures and associates	(11)	(24)	(40)	(52)
Losses (Gains) on investment securities	(111)	(23)	(164)	(38)
Losses (Gains) on disposition of businesses	–	(89)	–	(89)
Adjustments for net changes in operating assets and liabilities				
Insurance claims and policy benefit liabilities	140	(900)	732	(743)
Net change in accrued interest receivable and payable	1,555	(68)	1,952	(79)
Current income taxes	(314)	(372)	591	(3,090)
Derivative assets	5,971	(63,885)	30,127	(60,663)
Derivative liabilities	(7,184)	63,439	(29,183)	60,102
Trading securities	9,310	5,759	11,998	(4,526)
Loans, net of securitizations	(7,726)	(34,093)	(12,430)	(56,957)
Assets purchased under reverse repurchase agreements and securities borrowed	(6,860)	(4,572)	(17,394)	(8,795)
Obligations related to assets sold under repurchase agreements and securities loaned	1,191	14,329	17,611	17,137
Obligations related to securities sold short	801	(2,080)	537	1,623
Deposits, net of securitizations	6,211	9,358	22,356	51,369
Brokers and dealers receivable and payable	(2,198)	(914)	(3,169)	1,099
Other	4,689	9,889	(4,402)	2,811
Net cash from (used in) operating activities	10,307	737	28,166	9,171
Cash flows from investing activities				
Change in interest-bearing deposits with banks	11,615	(5,409)	7,949	10,809
Proceeds from sales and maturities of investment securities	42,915	24,394	77,197	47,495
Purchases of investment securities	(48,318)	(27,559)	(88,833)	(56,223)
Net acquisitions of premises and equipment and other intangibles	(707)	(553)	(1,405)	(1,143)
Net proceeds from (cash transferred for) dispositions	–	95	–	95
Net cash from (used in) investing activities	5,505	(9,032)	(5,092)	1,033
Cash flows from financing activities				
Issuance of subordinated debentures	–	–	1,500	1,000
Repayment of subordinated debentures	–	–	(60)	–
Issue of common shares, net of issuance costs	20	7	42	38
Common shares purchased for cancellation	–	(1,892)	–	(3,106)
Issue of preferred shares and other equity instruments, net of issuance costs	–	–	–	749
Redemption of preferred shares and other equity instruments	–	(155)	–	(155)
Sales of treasury shares and other equity instruments	1,447	1,343	2,466	3,015
Purchases of treasury shares and other equity instruments	(1,199)	(1,431)	(2,258)	(3,102)
Dividends paid on shares and distributions paid on other equity instruments	(1,252)	(1,756)	(3,093)	(3,364)
Dividends/distributions paid to non-controlling interests	(9)	(1)	(16)	(2)
Change in short-term borrowings of subsidiaries	(2,109)	1	2,382	1
Repayment of lease liabilities	(163)	(154)	(329)	(317)
Net cash from (used in) financing activities	(3,265)	(4,038)	634	(5,243)
Effect of exchange rate changes on cash and due from banks	375	(2,901)	3,094	(2,878)
Net change in cash and due from banks	12,922	(15,234)	26,802	2,083
Cash and due from banks at beginning of period ⁽¹⁾	86,277	131,163	72,397	113,846
Cash and due from banks at end of period ⁽¹⁾	\$ 99,199	\$ 115,929	\$ 99,199	\$ 115,929
Cash flows from operating activities include:				
Amount of interest paid	\$ 11,796	\$ 1,757	\$ 23,022	\$ 3,528
Amount of interest received	19,064	6,775	36,556	13,601
Amount of dividends received	788	678	1,620	1,545
Amount of income taxes paid	972	1,657	2,408	5,336

(1) We are required to maintain balances due to regulatory requirements or contractual restrictions from central banks, other regulatory authorities, and other counterparties. The total balances were \$3 billion as at April 30, 2023 (January 31, 2023 – \$2 billion; October 31, 2022 – \$2 billion; April 30, 2022 – \$2 billion; October 31, 2021 – \$2 billion).

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

Note 1 General information

Royal Bank of Canada and its subsidiaries (the Bank) provide diversified financial services including Personal & Commercial Banking, Wealth Management, Insurance and Capital Markets products and services on a global basis. Refer to Note 13 for further details on our business segments.

Our unaudited Interim Condensed Consolidated Financial Statements (Condensed Financial Statements) are presented in compliance with International Accounting Standard (IAS) 34 *Interim Financial Reporting*. The Condensed Financial Statements do not include all the information and disclosures required in the annual financial statements and should be read in conjunction with our audited 2022 Annual Consolidated Financial Statements and the accompanying notes included on pages 138 to 229 in our 2022 Annual Report. Unless otherwise stated, monetary amounts are stated in Canadian dollars. Tabular information is stated in millions of dollars, except as noted. On May 24, 2023, the Board of Directors authorized the Condensed Financial Statements for issue.

Note 2 Summary of significant accounting policies, estimates and judgments

The Condensed Financial Statements have been prepared using the same accounting policies and methods used in the preparation of our audited 2022 Annual Consolidated Financial Statements. Our significant accounting policies and future changes in accounting policies and disclosures that are not yet effective for us are described in Note 2 of our audited 2022 Annual Consolidated Financial Statements.

Note 3 Fair value of financial instruments

Carrying value and fair value of financial instruments

The following tables provide a comparison of the carrying values and fair values for financial instruments classified or designated as fair value through profit or loss (FVTPL) and fair value through other comprehensive income (FVOCI). Embedded derivatives are presented on a combined basis with the host contracts. Refer to Note 2 and Note 3 of our audited 2022 Annual Consolidated Financial Statements for a description of the valuation techniques and inputs used in the fair value measurement of our financial instruments. There have been no significant changes to our determination of fair value during the quarter.

	As at April 30, 2023							
	Carrying value and fair value				Carrying value		Fair value	
	Financial instruments classified as FVTPL	Financial instruments designated as FVTPL	Financial instruments classified as FVOCI	Financial instruments designated as FVOCI	Financial instruments measured at amortized cost	Financial instruments measured at amortized cost	Total carrying amount	Total fair value
(Millions of Canadian dollars)								
Financial assets								
Interest-bearing deposits with banks	\$ –	\$ 77,608	\$ –	\$ –	\$ 4,272	\$ 4,272	\$ 81,880	\$ 81,880
Securities								
Trading	124,614	11,593	–	–	–	–	136,207	136,207
Investment, net of applicable allowance	–	–	104,287	977	78,357	73,360	183,621	178,624
	124,614	11,593	104,287	977	78,357	73,360	319,828	314,831
Assets purchased under reverse repurchase agreements and securities borrowed	284,637	–	–	–	50,602	50,602	335,239	335,239
Loans, net of applicable allowance								
Retail	90	380	233	–	550,873	533,532	551,576	534,235
Wholesale	5,445	3,530	573	–	270,063	265,068	279,611	274,616
	5,535	3,910	806	–	820,936	798,600	831,187	808,851
Other								
Derivatives	124,149	–	–	–	–	–	124,149	124,149
Other assets (1)	4,478	5	–	–	67,073	67,073	71,556	71,556
Financial liabilities								
Deposits								
Personal	\$ 308	\$ 25,683			\$ 402,314	\$ 401,278	\$ 428,305	\$ 427,269
Business and government (2)	77	142,246			591,715	591,249	734,038	733,572
Bank (3)	–	14,749			32,961	32,962	47,710	47,711
	385	182,678			1,026,990	1,025,489	1,210,053	1,208,552
Other								
Obligations related to securities sold short	36,048	–			–	–	36,048	36,048
Obligations related to assets sold under repurchase agreements and securities loaned	–	262,834			28,724	28,724	291,558	291,558
Derivatives	123,898	–			–	–	123,898	123,898
Other liabilities (4)	(609)	22			92,721	92,630	92,134	92,043
Subordinated debentures	–	–			11,565	11,357	11,565	11,357

(Millions of Canadian dollars)	As at October 31, 2022								Total carrying amount	Total fair value	
	Carrying value and fair value				Carrying value		Fair value				
	Financial instruments classified as FVTPL	Financial instruments designated as FVTPL	Financial instruments classified as FVOCI	Financial instruments designated as FVOCI	Financial instruments measured at amortized cost	Financial instruments measured at amortized cost					
Financial assets											
Interest-bearing deposits with banks	\$	–	\$ 84,468	\$	–	\$	23,543	\$	23,543	\$ 108,011	\$ 108,011
Securities											
Trading		138,507	9,698	–	–	–	–	–	–	148,205	148,205
Investment, net of applicable allowance		–	–	92,063	828	77,127	70,073	70,073	70,073	170,018	162,964
		138,507	9,698	92,063	828	77,127	70,073	70,073	70,073	318,223	311,169
Assets purchased under reverse repurchase agreements and securities borrowed		264,665	–	–	–	53,180	53,180	53,180	53,180	317,845	317,845
Loans, net of applicable allowance											
Retail		73	375	218	–	546,767	521,428	547,433	521,428	547,433	522,094
Wholesale		6,914	3,222	563	–	261,833	253,816	272,532	253,816	272,532	264,515
		6,987	3,597	781	–	808,600	775,244	819,965	775,244	819,965	786,609
Other											
Derivatives		154,439	–	–	–	–	–	154,439	–	154,439	154,439
Other assets (1)		3,377	–	–	–	73,084	73,084	76,461	73,084	76,461	76,461
Financial liabilities											
Deposits											
Personal	\$	298	\$ 21,959			\$ 382,675	\$ 380,396	\$ 404,932	\$ 380,396	\$ 404,932	\$ 402,653
Business and government (2)		447	152,119			607,304	605,102	759,870	605,102	759,870	757,668
Bank (3)		–	7,196			36,816	36,758	44,012	36,758	44,012	43,954
		745	181,274			1,026,795	1,022,256	1,208,814	1,022,256	1,208,814	1,204,275
Other											
Obligations related to securities sold short		35,511	–			–	–	35,511	–	35,511	35,511
Obligations related to assets sold under repurchase agreements and securities loaned		–	248,835			25,112	25,112	273,947	25,112	273,947	273,947
Derivatives		153,491	–			–	–	153,491	–	153,491	153,491
Other liabilities (4)		(360)	69			90,348	90,160	90,057	90,160	90,057	89,869
Subordinated debentures		–	–			10,025	9,668	10,025	9,668	10,025	9,668

(1) Includes Customers' liability under acceptances and financial instruments recognized in Other assets.

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

(3) Bank deposits refer to deposits from regulated banks and central banks.

(4) Includes Acceptances and financial instruments recognized in Other liabilities.

Note 3 Fair value of financial instruments (continued)

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

(Millions of Canadian dollars)	As at									
	April 30, 2023					October 31, 2022				
	Fair value measurements using			Netting adjustments	Fair value	Fair value measurements using			Netting adjustments	Fair value
Level 1	Level 2	Level 3	Level 1			Level 2	Level 3			
Financial assets										
Interest-bearing deposits with banks	\$ –	\$ 77,608	\$ –	\$ –	\$ 77,608	\$ –	\$ 84,468	\$ –	\$ –	\$ 84,468
Securities										
Trading										
Debt issued or guaranteed by:										
Canadian government (1)										
Federal	14,802	2,411	–	–	17,213	15,024	3,779	–	–	18,803
Provincial and municipal	–	11,794	–	–	11,794	–	13,257	–	–	13,257
U.S. federal, state, municipal and agencies (1), (2)	684	22,100	–	–	22,784	1,254	35,570	4	–	36,828
Other OECD government (3)	3,843	3,083	–	–	6,926	1,325	3,452	–	–	4,777
Mortgage-backed securities (1)	–	2	–	–	2	–	2	–	–	2
Asset-backed securities										
Non-CDO securities (4)	–	1,174	–	–	1,174	–	1,308	2	–	1,310
Corporate debt and other debt	–	21,762	19	–	21,781	–	21,162	7	–	21,169
Equities	50,055	2,301	2,177	–	54,533	46,592	3,593	1,874	–	52,059
	69,384	64,627	2,196	–	136,207	64,195	82,123	1,887	–	148,205
Investment										
Debt issued or guaranteed by:										
Canadian government (1)										
Federal	928	3,569	–	–	4,497	1,226	2,555	–	–	3,781
Provincial and municipal	–	3,272	–	–	3,272	–	2,124	–	–	2,124
U.S. federal, state, municipal and agencies (1)	61	51,864	–	–	51,925	440	43,918	–	–	44,358
Other OECD government	–	6,937	–	–	6,937	–	5,144	–	–	5,144
Mortgage-backed securities (1)	–	2,682	27	–	2,709	–	2,860	28	–	2,888
Asset-backed securities										
CDO	–	7,652	–	–	7,652	–	7,524	–	–	7,524
Non-CDO securities	–	464	–	–	464	–	524	–	–	524
Corporate debt and other debt	–	26,681	150	–	26,831	–	25,569	151	–	25,720
Equities	37	504	436	–	977	36	395	397	–	828
	1,026	103,625	613	–	105,264	1,702	90,613	576	–	92,891
Assets purchased under reverse repurchase agreements and securities borrowed	–	284,637	–	–	284,637	–	264,665	–	–	264,665
Loans	–	7,841	2,410	–	10,251	–	9,673	1,692	–	11,365
Other										
Derivatives										
Interest rate contracts	–	34,325	262	–	34,587	–	39,804	263	–	40,067
Foreign exchange contracts	–	76,950	8	–	76,958	–	99,424	13	–	99,437
Credit derivatives	–	396	–	–	396	–	388	–	–	388
Other contracts	2,677	12,435	86	–	15,198	3,939	14,786	62	–	18,787
Valuation adjustments	–	(1,776)	6	–	(1,770)	–	(2,100)	45	–	(2,055)
Total gross derivatives	2,677	122,330	362	–	125,369	3,939	152,302	383	–	156,624
Netting adjustments	–	–	–	(1,220)	(1,220)	–	–	–	(2,185)	(2,185)
Total derivatives	2,677	122,330	362	(1,220)	124,149	3,939	152,302	383	(2,185)	154,439
Other assets	1,476	2,994	13	–	4,483	1,221	2,141	15	–	3,377
	\$ 74,563	\$ 663,662	\$ 5,594	\$ (1,220)	\$ 742,599	\$ 71,057	\$ 685,985	\$ 4,553	\$ (2,185)	\$ 759,410
Financial liabilities										
Deposits										
Personal	\$ –	\$ 25,741	\$ 250	\$ –	\$ 25,991	\$ –	\$ 22,016	\$ 241	\$ –	\$ 22,257
Business and government	–	142,323	–	–	142,323	–	152,566	–	–	152,566
Bank	–	14,749	–	–	14,749	–	7,196	–	–	7,196
Other										
Obligations related to securities sold short	15,535	20,513	–	–	36,048	16,383	19,128	–	–	35,511
Obligations related to assets sold under repurchase agreements and securities loaned	–	262,834	–	–	262,834	–	248,835	–	–	248,835
Derivatives										
Interest rate contracts	–	33,492	900	–	34,392	–	39,592	1,122	–	40,714
Foreign exchange contracts	–	69,694	64	–	69,758	–	94,310	145	–	94,455
Credit derivatives	–	144	–	–	144	–	125	–	–	125
Other contracts	2,474	18,595	499	–	21,568	3,847	16,663	847	–	21,357
Valuation adjustments	–	(734)	(10)	–	(744)	–	(967)	(8)	–	(975)
Total gross derivatives	2,474	121,191	1,453	–	125,118	3,847	149,723	2,106	–	155,676
Netting adjustments	–	–	–	(1,220)	(1,220)	–	–	–	(2,185)	(2,185)
Total derivatives	2,474	121,191	1,453	(1,220)	123,898	3,847	149,723	2,106	(2,185)	153,491
Other liabilities	444	(1,031)	–	–	(587)	341	(632)	–	–	(291)
	\$ 18,453	\$ 586,320	\$ 1,703	\$ (1,220)	\$ 605,256	\$ 20,571	\$ 598,832	\$ 2,347	\$ (2,185)	\$ 619,565

(1) As at April 30, 2023, residential and commercial mortgage-backed securities (MBS) included in all fair value levels of trading securities were \$11,839 million and \$nil (October 31, 2022 – \$12,273 million and \$nil), respectively, and in all fair value levels of Investment securities were \$20,898 million and \$2,613 million (October 31, 2022 – \$23,362 million and \$2,755 million), respectively.

(2) United States (U.S.).

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

(4) Collateralized debt obligations (CDO).

Fair value measurements using significant unobservable inputs (Level 3 Instruments)

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

During the three months ended April 30, 2023, there were no significant changes made to the valuation techniques and ranges and weighted averages of unobservable inputs used in the determination of fair value of Level 3 financial instruments. As at April 30, 2023, the impacts of adjusting one or more of the unobservable inputs by reasonably possible alternative assumptions did not change significantly from the impacts disclosed in our audited 2022 Annual Consolidated Financial Statements.

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

(Millions of Canadian dollars)	For the three months ended April 30, 2023								
	Fair value at beginning of period	Gains (losses) included in earnings	Gains (losses) included in OCI (1)	Purchases (issuances)	Settlement (sales) and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value at end of period	Gains (losses) included in earnings for positions still held
Assets									
Securities									
Trading									
Debt issued or guaranteed by:									
U.S. state, municipal and agencies	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –	\$ –
Asset-backed securities									
Non-CDO securities	–	–	–	–	–	–	–	–	–
Corporate debt and other debt	–	–	–	2	–	17	–	19	–
Equities	2,106	(108)	19	171	(12)	1	–	2,177	(87)
	2,106	(108)	19	173	(12)	18	–	2,196	(87)
Investment									
Mortgage-backed securities	28	–	(2)	1	–	–	–	27	n.a.
Corporate debt and other debt	149	–	8	–	(7)	–	–	150	n.a.
Equities	420	–	16	–	–	–	–	436	n.a.
	597	–	22	1	(7)	–	–	613	n.a.
Loans	2,597	26	30	46	(261)	–	(28)	2,410	27
Other									
Net derivative balances (3)									
Interest rate contracts	(654)	(1)	–	12	2	5	(2)	(638)	(4)
Foreign exchange contracts	(63)	(4)	3	(3)	–	–	11	(56)	(24)
Other contracts	(547)	92	(7)	(30)	4	(28)	103	(413)	21
Valuation adjustments	17	–	–	–	(1)	–	–	16	–
Other assets	13	–	–	–	–	–	–	13	–
	\$ 4,066	\$ 5	\$ 67	\$ 199	\$ (275)	\$ (5)	\$ 84	\$ 4,141	\$ (67)
Liabilities									
Deposits	\$ (250)	\$ (7)	\$ (1)	\$ (42)	\$ 4	\$ (17)	\$ 63	\$ (250)	\$ (4)
Other									
Other liabilities	–	–	–	–	–	–	–	–	–
	\$ (250)	\$ (7)	\$ (1)	\$ (42)	\$ 4	\$ (17)	\$ 63	\$ (250)	\$ (4)

Note 3 Fair value of financial instruments (continued)

For the three months ended April 30, 2022

(Millions of Canadian dollars)	Fair value at beginning of period	Gains (losses) included in earnings	Gains (losses) included in OCI (1)	Purchases (issuances)	Settlement (sales) and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value at end of period	Gains (losses) included in earnings for positions still held
Assets									
Securities									
Trading									
Debt issued or guaranteed by:									
U.S. state, municipal and agencies	\$ 22	\$ -	\$ -	\$ -	\$ (6)	\$ -	\$ -	\$ 16	\$ -
Asset-backed securities									
Non-CDO securities	2	-	-	-	-	-	-	2	-
Corporate debt and other debt	15	(1)	-	-	-	-	(9)	5	-
Equities	1,689	4	11	79	(25)	1	-	1,759	(4)
	1,728	3	11	79	(31)	1	(9)	1,782	(4)
Investment									
Mortgage-backed securities	20	-	1	-	-	-	-	21	n.a.
Corporate debt and other debt	155	-	(6)	-	-	-	-	149	n.a.
Equities	349	-	(2)	2	-	-	-	349	n.a.
	524	-	(7)	2	-	-	-	519	n.a.
Loans	679	(23)	(24)	161	(1)	9	(19)	782	38
Other									
Net derivative balances (3)									
Interest rate contracts	(555)	(146)	(3)	99	(16)	-	(42)	(663)	(163)
Foreign exchange contracts	7	(17)	-	21	16	-	(3)	24	(12)
Other contracts	(448)	123	(3)	(12)	6	(117)	15	(436)	107
Valuation adjustments	39	-	-	-	(11)	-	-	28	-
Other assets	-	-	-	15	-	-	-	15	-
	\$ 1,974	\$ (60)	\$ (26)	\$ 365	\$ (37)	\$ (107)	\$ (58)	\$ 2,051	\$ (34)
Liabilities									
Deposits	\$ (122)	\$ (3)	\$ -	\$ (52)	\$ 12	\$ (16)	\$ 24	\$ (157)	\$ 8
Other									
Other liabilities	(7)	-	-	-	4	-	-	(3)	-
	\$ (129)	\$ (3)	\$ -	\$ (52)	\$ 16	\$ (16)	\$ 24	\$ (160)	\$ 8

For the six months ended April 30, 2023

(Millions of Canadian dollars)	Fair value at beginning of period	Gains (losses) included in earnings	Gains (losses) included in OCI (1)	Purchases (issuances)	Settlement (sales) and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value at end of period	Gains (losses) included in earnings for positions still held
Assets									
Securities									
Trading									
Debt issued or guaranteed by:									
U.S. state, municipal and agencies	\$ 4	\$ -	\$ -	\$ -	\$ (4)	\$ -	\$ -	\$ -	\$ -
Asset-backed securities									
Non-CDO securities	2	-	-	-	(2)	-	-	-	-
Corporate debt and other debt	7	-	-	2	-	17	(7)	19	-
Equities	1,874	(122)	(6)	421	(32)	42	-	2,177	(111)
	1,887	(122)	(6)	423	(38)	59	(7)	2,196	(111)
Investment									
Mortgage-backed securities	28	-	(2)	1	-	-	-	27	n.a.
Corporate debt and other debt	151	-	7	-	(8)	-	-	150	n.a.
Equities	397	-	40	-	(1)	-	-	436	n.a.
	576	-	45	1	(9)	-	-	613	n.a.
Loans	1,692	(26)	23	1,239	(381)	28	(165)	2,410	3
Other									
Net derivative balances (3)									
Interest rate contracts	(859)	4	5	(8)	175	23	22	(638)	9
Foreign exchange contracts	(132)	1	11	1	37	-	26	(56)	(4)
Other contracts	(785)	37	10	(38)	66	(59)	356	(413)	30
Valuation adjustments	53	-	-	-	(37)	-	-	16	-
Other assets	15	-	-	-	(2)	-	-	13	-
	\$ 2,447	\$ (106)	\$ 88	\$ 1,618	\$ (189)	\$ 51	\$ 232	\$ 4,141	\$ (73)
Liabilities									
Deposits	\$ (241)	\$ (27)	\$ -	\$ (77)	\$ 6	\$ (51)	\$ 140	\$ (250)	\$ (15)
Other									
Other liabilities	-	-	-	-	-	-	-	-	-
	\$ (241)	\$ (27)	\$ -	\$ (77)	\$ 6	\$ (51)	\$ 140	\$ (250)	\$ (15)

For the six months ended April 30, 2022										
(Millions of Canadian dollars)	Fair value at beginning of period	Gains (losses) included in earnings	Gains (losses) included in OCI (1)	Purchases (issuances)	Settlement (sales) and other (2)	Transfers into Level 3	Transfers out of Level 3	Fair value at end of period	Gains (losses) included in earnings for positions still held	
Assets										
Securities										
Trading										
Debt issued or guaranteed by:										
U.S. state, municipal and agencies	\$ 25	\$ -	\$ 1	\$ -	(\$ 10)	\$ -	\$ -	\$ 16	\$ -	
Asset-backed securities										
Non-CDO securities	2	-	-	-	-	-	-	2	-	
Corporate debt and other debt	25	(2)	-	-	(5)	-	(13)	5	-	
Equities	1,530	78	34	161	(45)	1	-	1,759	93	
	1,582	76	35	161	(60)	1	(13)	1,782	93	
Investment										
Mortgage-backed securities	20	-	1	-	-	-	-	21	n.a.	
Corporate debt and other debt	152	-	(3)	-	-	-	-	149	n.a.	
Equities	334	-	43	8	(1)	-	(35)	349	n.a.	
	506	-	41	8	(1)	-	(35)	519	n.a.	
Loans	1,077	(13)	(32)	217	(462)	16	(21)	782	(46)	
Other										
Net derivative balances (3)										
Interest rate contracts	(635)	(157)	(2)	100	66	-	(35)	(663)	108	
Foreign exchange contracts	47	(47)	1	21	12	-	(10)	24	53	
Other contracts	(393)	184	(11)	(115)	48	(193)	44	(436)	166	
Valuation adjustments	20	-	-	-	(11)	19	-	28	-	
Other assets	-	-	-	15	-	-	-	15	-	
	\$ 2,204	\$ 43	\$ 32	\$ 407	(\$ 408)	(\$ 157)	(\$ 70)	\$ 2,051	\$ 374	
Liabilities										
Deposits	\$ (151)	\$ (9)	\$ (1)	\$ (79)	\$ 17	\$ (36)	\$ 102	\$ (157)	\$ (9)	
Other										
Other liabilities	(7)	-	-	-	4	-	-	(3)	-	
	\$ (158)	\$ (9)	\$ (1)	\$ (79)	\$ 21	\$ (36)	\$ 102	\$ (160)	\$ (9)	

(1) These amounts include the foreign currency translation gains or losses arising on consolidation of foreign subsidiaries relating to the Level 3 instruments, where applicable. The unrealized gains on Investment securities recognized in other comprehensive income (OCI) were \$12 million for the three months ended April 30, 2023 (April 30, 2022 - losses of \$1 million) and gains of \$30 million for the six months ended April 30, 2023 (April 30, 2022 - gains of \$44 million), excluding the translation gains or losses arising on consolidation.

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

(3) Net derivatives as at April 30, 2023 included derivative assets of \$362 million (April 30, 2022 - \$551 million) and derivative liabilities of \$1,453 million (April 30, 2022 - \$1,598 million).

n.a. not applicable

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

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

Transfers between Level 1 and 2 are dependent on whether fair value is obtained on the basis of quoted market prices in active markets (Level 1).

During the three months ended April 30, 2023, transfers out of Level 1 to Level 2 included Trading U.S. federal, state, municipal and agencies debt of \$112 million. During the three months ended April 30, 2022, there were no significant transfers out of Level 1 to Level 2.

During the three months ended April 30, 2023 and April 30, 2022, there were no significant transfers out of Level 2 to Level 1.

During the six months ended April 30, 2023, transfers out of Level 1 to Level 2 included Investment U.S. federal, state, municipal and agencies debt of \$435 million and Trading U.S. federal, state, municipal and agencies debt of \$112 million. During the six months ended April 30, 2022, there were no significant transfers out of Level 1 to Level 2.

During the six months ended April 30, 2023 and April 30, 2022, there were no significant transfers out of Level 2 to Level 1.

Transfers between Level 2 and Level 3 are primarily due to either a change in the market observability for an input, or a change in an unobservable input's significance to a financial instrument's fair value.

During the three months ended April 30, 2023, there were no significant transfers out of Level 2 to Level 3. During the three months ended April 30, 2022, significant transfers out of Level 2 to Level 3 included Other contracts due to changes in the market observability of inputs.

During the three months ended April 30, 2023, significant transfers out of Level 3 to Level 2 included Other contracts due to changes in the significance of unobservable inputs. During the three months ended April 30, 2022, there were no significant transfers out of Level 3 to Level 2.

Note 3 Fair value of financial instruments (continued)

During the six months ended April 30, 2023, there were no significant transfers out of Level 2 to Level 3. During the six months ended April 30, 2022, significant transfers out of Level 2 to Level 3 included Other contracts due to changes in the market observability of inputs.

During the six months ended April 30, 2023, significant transfers out of Level 3 to Level 2 included Other contracts and Loans due to changes in the market observability of inputs and changes in the significance of unobservable inputs. During the six months ended April 30, 2022, there were no significant transfers out of Level 3 to Level 2.

Net interest income from financial instruments

Interest and dividend income arising from financial assets and financial liabilities and the associated costs of funding are reported in Net interest income.

	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
(Millions of Canadian dollars)				
Interest and dividend income ^{(1), (2)}				
Financial instruments measured at fair value through profit or loss	\$ 6,948	\$ 1,575	\$ 13,657	\$ 2,994
Financial instruments measured at fair value through other comprehensive income	1,114	124	2,056	201
Financial instruments measured at amortized cost	12,256	6,059	23,942	11,941
	20,318	7,758	39,655	15,136
Interest expense ⁽¹⁾				
Financial instruments measured at fair value through profit or loss	6,275	1,085	12,515	1,946
Financial instruments measured at amortized cost	7,944	1,399	14,839	2,645
	14,219	2,484	27,354	4,591
Net interest income	\$ 6,099	\$ 5,274	\$ 12,301	\$ 10,545

- (1) Excludes the following amounts related to our insurance operations and included in Insurance premiums, investment and fee income in the Interim Condensed Consolidated Statements of Income: for the three months ended April 30, 2023, Interest income of \$99 million (April 30, 2022 – \$147 million), and Interest expense of \$8 million (April 30, 2022 – \$2 million); for the six months ended April 30, 2023, Interest income of \$232 million (April 30, 2022 – \$343 million), and Interest expense of \$12 million (April 30, 2022 – \$3 million).
- (2) Includes dividend income for the three months ended April 30, 2023 of \$801 million (April 30, 2022 – \$690 million) and for the six months ended April 30, 2023 of \$1,593 million (April 30, 2022 – \$1,440 million), which is presented in Interest and dividend income in the Interim Condensed Consolidated Statements of Income.

Note 4 Securities**Unrealized gains and losses on securities at FVOCI** ^{(1), (2)}

	As at							
	April 30, 2023				October 31, 2022			
	Cost/ Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value	Cost/ Amortized cost	Gross unrealized gains	Gross unrealized losses	Fair value
(Millions of Canadian dollars)								
Debt issued or guaranteed by:								
Canadian government								
Federal	\$ 4,740	\$ 2	\$ (245)	\$ 4,497	\$ 4,081	\$ 1	\$ (301)	\$ 3,781
Provincial and municipal	3,751	3	(482)	3,272	2,685	6	(567)	2,124
U.S. federal, state, municipal and agencies	53,298	174	(1,547)	51,925	46,034	343	(2,019)	44,358
Other OECD government	6,935	7	(5)	6,937	5,154	7	(17)	5,144
Mortgage-backed securities	2,786	–	(77)	2,709	2,985	1	(98)	2,888
Asset-backed securities								
CDO	7,751	2	(101)	7,652	7,741	3	(220)	7,524
Non-CDO securities	474	–	(10)	464	547	–	(23)	524
Corporate debt and other debt	26,879	50	(98)	26,831	25,852	51	(183)	25,720
Equities	658	324	(5)	977	551	284	(7)	828
	\$ 107,272	\$ 562	\$ (2,570)	\$ 105,264	\$ 95,630	\$ 696	\$ (3,435)	\$ 92,891

- (1) Excludes \$78,357 million of held-to-collect securities as at April 30, 2023 that are carried at amortized cost, net of allowance for credit losses (October 31, 2022 – \$77,127 million).
- (2) Gross unrealized gains and losses includes \$(20) million of allowance for credit losses on debt securities at FVOCI as at April 30, 2023 (October 31, 2022 – \$(19) million) recognized in income and Other components of equity.

Allowance for credit losses on investment securities

The following tables reconcile the opening and closing allowance for debt securities at FVOCI and amortized cost by stage. Reconciling items include the following:

- Transfers between stages, which are presumed to occur before any corresponding remeasurement of the allowance.
- Purchases, which reflect the allowance related to assets newly recognized during the period, including those assets that were derecognized following a modification of terms.
- Sales and maturities, which reflect the allowance related to assets derecognized during the period without a credit loss being incurred, including those assets that were derecognized following a modification of terms.

- Changes in risk, parameters and exposures, which comprise the impact of changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions; partial repayments; changes in the measurement following a transfer between stages; and unwinding of the time value discount due to the passage of time.

Allowance for credit losses – securities at FVOCI ⁽¹⁾

(Millions of Canadian dollars)	For the three months ended							
	April 30, 2023				April 30, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3 (2)	Total	Stage 1	Stage 2	Stage 3 (2)	Total
Balance at beginning of period	\$ 4	\$ 1	\$ (24)	\$ (19)	\$ 2	\$ 1	\$ (14)	\$ (11)
Provision for credit losses								
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	1	–	–	1	1	–	–	1
Sales and maturities	(1)	–	–	(1)	(1)	–	–	(1)
Changes in risk, parameters and exposures	–	2	(3)	(1)	1	–	(3)	(2)
Exchange rate and other	(1)	(1)	2	–	(1)	1	–	–
Balance at end of period	\$ 3	\$ 2	\$ (25)	\$ (20)	\$ 2	\$ 2	\$ (17)	\$ (13)

(Millions of Canadian dollars)	For the six months ended							
	April 30, 2023				April 30, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3 (2)	Total	Stage 1	Stage 2	Stage 3 (2)	Total
Balance at beginning of period	\$ 3	\$ 1	\$ (23)	\$ (19)	\$ 2	\$ 1	\$ (12)	\$ (9)
Provision for credit losses								
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	3	–	–	3	1	–	–	1
Sales and maturities	(1)	–	–	(1)	(1)	–	–	(1)
Changes in risk, parameters and exposures	(1)	2	(5)	(4)	1	–	(5)	(4)
Exchange rate and other	(1)	(1)	3	1	(1)	1	–	–
Balance at end of period	\$ 3	\$ 2	\$ (25)	\$ (20)	\$ 2	\$ 2	\$ (17)	\$ (13)

(1) Expected credit losses on debt securities at FVOCI are not separately recognized on the balance sheet as the related securities are recorded at fair value. The cumulative amount of credit losses recognized in income is presented in Other components of equity.

(2) Reflects changes in the allowance for purchased credit impaired securities.

Allowance for credit losses – securities at amortized cost

(Millions of Canadian dollars)	For the three months ended							
	April 30, 2023				April 30, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Balance at beginning of period	\$ 10	\$ 13	\$ –	\$ 23	\$ 9	\$ 17	\$ –	\$ 26
Provision for credit losses								
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	1	–	–	1	2	–	–	2
Sales and maturities	–	–	–	–	–	–	–	–
Changes in risk, parameters and exposures	(3)	–	–	(3)	(2)	(1)	–	(3)
Exchange rate and other	1	–	–	1	–	–	–	–
Balance at end of period	\$ 9	\$ 13	\$ –	\$ 22	\$ 9	\$ 16	\$ –	\$ 25

Note 4 Securities (continued)

(Millions of Canadian dollars)	For the six months ended							
	April 30, 2023				April 30, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Balance at beginning of period	\$ 8	\$ 14	\$ –	\$ 22	\$ 5	\$ 18	\$ –	\$ 23
Provision for credit losses								
Model changes	–	–	–	–	–	–	–	–
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	5	–	–	5	8	–	–	8
Sales and maturities	–	–	–	–	(1)	–	–	(1)
Changes in risk, parameters and exposures	(5)	(1)	–	(6)	(3)	(2)	–	(5)
Exchange rate and other	1	–	–	1	–	–	–	–
Balance at end of period	\$ 9	\$ 13	\$ –	\$ 22	\$ 9	\$ 16	\$ –	\$ 25

Credit risk exposure by internal risk rating

The following table presents the fair value of debt securities at FVOCI and gross carrying amount of securities at amortized cost. Risk ratings are based on internal ratings used in the measurement of expected credit losses as at the reporting date, as outlined in the internal ratings maps in the Credit risk section of our 2022 Annual Report.

(Millions of Canadian dollars)	As at							
	April 30, 2023				October 31, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3 (1)	Total	Stage 1	Stage 2	Stage 3 (1)	Total
Investment securities								
Securities at FVOCI								
Investment grade	\$ 103,173	\$ 185	\$ –	\$ 103,358	\$ 91,177	\$ 56	\$ –	\$ 91,233
Non-investment grade	779	–	–	779	680	–	–	680
Impaired	–	–	150	150	–	–	150	150
Items not subject to impairment (2)	103,952	185	150	104,287	91,857	56	150	92,063
				977				828
				\$ 105,264				\$ 92,891
Securities at amortized cost								
Investment grade	\$ 77,328	\$ –	\$ –	\$ 77,328	\$ 76,035	\$ –	\$ –	\$ 76,035
Non-investment grade	779	272	–	1,051	898	216	–	1,114
Impaired	–	–	–	–	–	–	–	–
Allowance for credit losses	78,107	272	–	78,379	76,933	216	–	77,149
	9	13	–	22	8	14	–	22
	\$ 78,098	\$ 259	\$ –	\$ 78,357	\$ 76,925	\$ 202	\$ –	\$ 77,127

(1) Reflects \$150 million of purchased credit impaired securities (October 31, 2022 – \$150 million).

(2) Investment securities at FVOCI not subject to impairment represent equity securities designated as FVOCI.

Note 5 Loans and allowance for credit losses

Allowance for credit losses

(Millions of Canadian dollars)	For the three months ended									
	April 30, 2023					April 30, 2022				
	Balance at beginning of period	Provision for credit losses	Net write-offs	Exchange rate and other	Balance at end of period	Balance at beginning of period	Provision for credit losses	Net write-offs	Exchange rate and other	Balance at end of period
Retail										
Residential mortgages	\$ 469	\$ 11	\$ (4)	\$ 4	\$ 480	\$ 409	\$ (16)	\$ (7)	\$ 2	\$ 388
Personal	1,129	136	(98)	(2)	1,165	1,038	(39)	(56)	–	943
Credit cards	926	169	(115)	–	980	870	8	(83)	–	795
Small business	204	30	(7)	(2)	225	178	5	(6)	2	179
Wholesale	1,680	269	(54)	(9)	1,886	1,811	(246)	(15)	(9)	1,541
Customers' liability under acceptances	41	(1)	–	1	41	83	(42)	–	–	41
	\$ 4,449	\$ 614	\$ (278)	\$ (8)	\$ 4,777	\$ 4,389	\$ (330)	\$ (167)	\$ (5)	\$ 3,887
Presented as:										
Allowance for loan losses	\$ 3,999				\$ 4,332	\$ 4,047				\$ 3,566
Other liabilities – Provisions	403				397	251				275
Customers' liability under acceptances	41				41	83				41
Other components of equity	6				7	8				5

(Millions of Canadian dollars)	For the six months ended									
	April 30, 2023					April 30, 2022				
	Balance at beginning of period	Provision for credit losses	Net write-offs	Exchange rate and other	Balance at end of period	Balance at beginning of period	Provision for credit losses	Net write-offs	Exchange rate and other	Balance at end of period
Retail										
Residential mortgages	\$ 432	\$ 62	\$ (9)	\$ (5)	\$ 480	\$ 416	\$ (22)	\$ (12)	\$ 6	\$ 388
Personal	1,043	305	(181)	(2)	1,165	1,079	(21)	(112)	(3)	943
Credit cards	893	305	(217)	(1)	980	875	73	(154)	1	795
Small business	194	47	(16)	–	225	177	8	(10)	4	179
Wholesale	1,574	430	(71)	(47)	1,886	1,797	(234)	(21)	(1)	1,541
Customers' liability under acceptances	45	(5)	–	1	41	75	(34)	–	–	41
	\$ 4,181	\$ 1,144	\$ (494)	\$ (54)	\$ 4,777	\$ 4,419	\$ (230)	\$ (309)	\$ 7	\$ 3,887
Presented as:										
Allowance for loan losses	\$ 3,753				\$ 4,332	\$ 4,089				\$ 3,566
Other liabilities – Provisions	378				397	241				275
Customers' liability under acceptances	45				41	75				41
Other components of equity	5				7	14				5

The following table reconciles the opening and closing allowance for each major product of loans and commitments as determined by our modelled, scenario-weighted allowance and the application of expert credit judgment as applicable. Reconciling items include the following:

- Transfers between stages, which are presumed to occur before any corresponding remeasurements of the allowance.
- Originations, which reflect the allowance related to assets newly recognized during the period, including those assets that were derecognized following a modification of terms.
- Maturities, which reflect the allowance related to assets derecognized during the period without a credit loss being incurred, including those assets that were derecognized following a modification of terms.
- Changes in risk, parameters and exposures, which comprise the impact of changes in model inputs or assumptions, including changes in forward-looking macroeconomic conditions; partial repayments and additional draws on existing facilities; changes in the measurement following a transfer between stages; and unwinding of the time value discount due to the passage of time in stage 1 and stage 2.

Note 5 Loans and allowance for credit losses (continued)**Allowance for credit losses – Retail and wholesale loans**

(Millions of Canadian dollars)	For the three months ended								
	April 30, 2023				April 30, 2022				
	Performing		Impaired		Performing		Impaired		
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total	
Residential mortgages									
Balance at beginning of period	\$ 254	\$ 82	\$ 133	\$ 469	\$ 187	\$ 85	\$ 137	\$ 409	
Provision for credit losses									
Transfers to stage 1	19	(19)	–	–	36	(31)	(5)	–	
Transfers to stage 2	(13)	15	(2)	–	(4)	5	(1)	–	
Transfers to stage 3	(1)	(2)	3	–	–	(8)	8	–	
Originations	13	–	–	13	29	–	–	29	
Maturities	(4)	–	–	(4)	(5)	(1)	–	(6)	
Changes in risk, parameters and exposures	(31)	26	7	2	(60)	20	1	(39)	
Write-offs	–	–	(8)	(8)	–	–	(10)	(10)	
Recoveries	–	–	4	4	–	–	3	3	
Exchange rate and other	1	1	2	4	1	1	–	2	
Balance at end of period	\$ 238	\$ 103	\$ 139	\$ 480	\$ 184	\$ 71	\$ 133	\$ 388	
Personal									
Balance at beginning of period	\$ 286	\$ 725	\$ 118	\$ 1,129	\$ 404	\$ 547	\$ 87	\$ 1,038	
Provision for credit losses									
Transfers to stage 1	147	(146)	(1)	–	157	(157)	–	–	
Transfers to stage 2	(20)	21	(1)	–	(39)	39	–	–	
Transfers to stage 3	(1)	(12)	13	–	–	(13)	13	–	
Originations	25	–	–	25	22	–	–	22	
Maturities	(10)	(25)	–	(35)	(17)	(25)	–	(42)	
Changes in risk, parameters and exposures	(130)	184	92	146	(216)	159	38	(19)	
Write-offs	–	–	(124)	(124)	–	–	(89)	(89)	
Recoveries	–	–	26	26	–	–	33	33	
Exchange rate and other	1	–	(3)	(2)	(1)	–	1	–	
Balance at end of period	\$ 298	\$ 747	\$ 120	\$ 1,165	\$ 310	\$ 550	\$ 83	\$ 943	
Credit cards									
Balance at beginning of period	\$ 184	\$ 742	\$ –	\$ 926	\$ 226	\$ 644	\$ –	\$ 870	
Provision for credit losses									
Transfers to stage 1	125	(125)	–	–	129	(129)	–	–	
Transfers to stage 2	(22)	22	–	–	(28)	28	–	–	
Transfers to stage 3	(1)	(98)	99	–	–	(81)	81	–	
Originations	3	–	–	3	2	–	–	2	
Maturities	(1)	(8)	–	(9)	(2)	(7)	–	(9)	
Changes in risk, parameters and exposures	(89)	248	16	175	(159)	172	2	15	
Write-offs	–	–	(159)	(159)	–	–	(126)	(126)	
Recoveries	–	–	44	44	–	–	43	43	
Exchange rate and other	–	–	–	–	1	(1)	–	–	
Balance at end of period	\$ 199	\$ 781	\$ –	\$ 980	\$ 169	\$ 626	\$ –	\$ 795	
Small business									
Balance at beginning of period	\$ 73	\$ 73	\$ 58	\$ 204	\$ 87	\$ 56	\$ 35	\$ 178	
Provision for credit losses									
Transfers to stage 1	8	(8)	–	–	4	(4)	–	–	
Transfers to stage 2	(4)	4	–	–	(6)	6	–	–	
Transfers to stage 3	(1)	(2)	3	–	–	(1)	1	–	
Originations	8	–	–	8	8	–	–	8	
Maturities	(3)	(4)	–	(7)	(6)	(5)	–	(11)	
Changes in risk, parameters and exposures	(6)	15	20	29	(13)	13	8	8	
Write-offs	–	–	(10)	(10)	–	–	(9)	(9)	
Recoveries	–	–	3	3	–	–	3	3	
Exchange rate and other	1	1	(4)	(2)	3	1	(2)	2	
Balance at end of period	\$ 76	\$ 79	\$ 70	\$ 225	\$ 77	\$ 66	\$ 36	\$ 179	
Wholesale									
Balance at beginning of period	\$ 600	\$ 612	\$ 468	\$ 1,680	\$ 580	\$ 765	\$ 466	\$ 1,811	
Provision for credit losses									
Transfers to stage 1	49	(49)	–	–	160	(158)	(2)	–	
Transfers to stage 2	(15)	15	–	–	(23)	23	–	–	
Transfers to stage 3	(1)	(13)	14	–	(1)	(23)	24	–	
Originations	159	–	–	159	127	–	–	127	
Maturities	(98)	(58)	–	(156)	(92)	(84)	–	(176)	
Changes in risk, parameters and exposures	(31)	119	178	266	(267)	64	6	(197)	
Write-offs	–	–	(60)	(60)	–	–	(26)	(26)	
Recoveries	–	–	6	6	–	–	11	11	
Exchange rate and other	5	6	(20)	(9)	(1)	3	(11)	(9)	
Balance at end of period	\$ 668	\$ 632	\$ 586	\$ 1,886	\$ 483	\$ 590	\$ 468	\$ 1,541	

(Millions of Canadian dollars)	For the six months ended							
	April 30, 2023				April 30, 2022			
	Performing		Impaired		Performing		Impaired	
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Residential mortgages								
Balance at beginning of period	\$ 235	\$ 65	\$ 132	\$ 432	\$ 186	\$ 92	\$ 138	\$ 416
Provision for credit losses								
Transfers to stage 1	32	(32)	–	–	60	(50)	(10)	–
Transfers to stage 2	(19)	25	(6)	–	(6)	7	(1)	–
Transfers to stage 3	(1)	(5)	6	–	(1)	(15)	16	–
Originations	43	–	–	43	59	–	–	59
Maturities	(8)	(2)	–	(10)	(12)	(4)	–	(16)
Changes in risk, parameters and exposures	(44)	51	22	29	(104)	39	–	(65)
Write-offs	–	–	(16)	(16)	–	–	(20)	(20)
Recoveries	–	–	7	7	–	–	8	8
Exchange rate and other	–	1	(6)	(5)	2	2	2	6
Balance at end of period	\$ 238	\$ 103	\$ 139	\$ 480	\$ 184	\$ 71	\$ 133	\$ 388
Personal								
Balance at beginning of period	\$ 285	\$ 661	\$ 97	\$ 1,043	\$ 422	\$ 569	\$ 88	\$ 1,079
Provision for credit losses								
Transfers to stage 1	297	(296)	(1)	–	327	(326)	(1)	–
Transfers to stage 2	(43)	44	(1)	–	(61)	61	–	–
Transfers to stage 3	(1)	(25)	26	–	(1)	(25)	26	–
Originations	48	–	–	48	48	–	–	48
Maturities	(22)	(50)	–	(72)	(38)	(50)	–	(88)
Changes in risk, parameters and exposures	(268)	415	182	329	(387)	321	85	19
Write-offs	–	–	(236)	(236)	–	–	(175)	(175)
Recoveries	–	–	55	55	–	–	63	63
Exchange rate and other	2	(2)	(2)	(2)	–	–	(3)	(3)
Balance at end of period	\$ 298	\$ 747	\$ 120	\$ 1,165	\$ 310	\$ 550	\$ 83	\$ 943
Credit cards								
Balance at beginning of period	\$ 177	\$ 716	\$ –	\$ 893	\$ 233	\$ 642	\$ –	\$ 875
Provision for credit losses								
Transfers to stage 1	289	(289)	–	–	275	(275)	–	–
Transfers to stage 2	(42)	42	–	–	(51)	51	–	–
Transfers to stage 3	(1)	(192)	193	–	(1)	(151)	152	–
Originations	7	–	–	7	6	–	–	6
Maturities	(2)	(15)	–	(17)	(3)	(14)	–	(17)
Changes in risk, parameters and exposures	(228)	519	24	315	(291)	373	2	84
Write-offs	–	–	(301)	(301)	–	–	(238)	(238)
Recoveries	–	–	84	84	–	–	84	84
Exchange rate and other	(1)	–	–	(1)	1	–	–	1
Balance at end of period	\$ 199	\$ 781	\$ –	\$ 980	\$ 169	\$ 626	\$ –	\$ 795
Small business								
Balance at beginning of period	\$ 73	\$ 73	\$ 48	\$ 194	\$ 88	\$ 55	\$ 34	\$ 177
Provision for credit losses								
Transfers to stage 1	18	(18)	–	–	9	(9)	–	–
Transfers to stage 2	(7)	7	–	–	(8)	8	–	–
Transfers to stage 3	(1)	(4)	5	–	–	(2)	2	–
Originations	16	–	–	16	17	–	–	17
Maturities	(7)	(10)	–	(17)	(11)	(12)	–	(23)
Changes in risk, parameters and exposures	(18)	28	38	48	(23)	24	13	14
Write-offs	–	–	(21)	(21)	–	–	(15)	(15)
Recoveries	–	–	5	5	–	–	5	5
Exchange rate and other	2	3	(5)	–	5	2	(3)	4
Balance at end of period	\$ 76	\$ 79	\$ 70	\$ 225	\$ 77	\$ 66	\$ 36	\$ 179
Wholesale								
Balance at beginning of period	\$ 597	\$ 585	\$ 392	\$ 1,574	\$ 566	\$ 794	\$ 437	\$ 1,797
Provision for credit losses								
Transfers to stage 1	100	(100)	–	–	268	(265)	(3)	–
Transfers to stage 2	(35)	36	(1)	–	(41)	41	–	–
Transfers to stage 3	(4)	(27)	31	–	(2)	(27)	29	–
Originations	312	–	–	312	283	–	–	283
Maturities	(216)	(129)	–	(345)	(198)	(191)	–	(389)
Changes in risk, parameters and exposures	(86)	269	280	463	(396)	224	44	(128)
Write-offs	–	–	(86)	(86)	–	–	(49)	(49)
Recoveries	–	–	15	15	–	–	28	28
Exchange rate and other	–	(2)	(45)	(47)	3	14	(18)	(1)
Balance at end of period	\$ 668	\$ 632	\$ 586	\$ 1,886	\$ 483	\$ 590	\$ 468	\$ 1,541

Note 5 Loans and allowance for credit losses (continued)

Key inputs and assumptions

The following provides an update on the key inputs and assumptions used in the measurement of expected credit losses. For further details, refer to Note 2 and Note 5 of our audited 2022 Annual Consolidated Financial Statements.

Our base scenario reflects rising unemployment rates, high inflation, production capacity limits and high central bank policy interest rates, which result in mild recessions in Canada and the U.S. in calendar 2023. Expectations are that increases in central bank interest rates, including in Canada and the U.S., are likely at or close to the end of the cycle. Our base scenario also reflects declining housing prices in Canada in the near-term and an unfavourable outlook for commercial real estate prices.

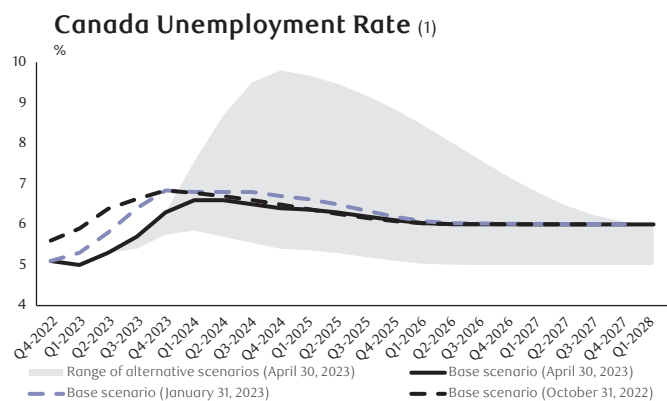
Downside scenarios, including two additional and more severe downside scenarios designed for the energy and real estate sectors, reflect the possibility of a more severe macroeconomic shock beginning in calendar Q3 2023 relative to our base scenario. Conditions are expected to deteriorate from calendar Q2 2023 levels for up to 18 months, followed by a recovery for the remainder of the period. These scenarios assume monetary policy responses that return the economy to a long-run, sustainable growth rate within the forecast period. The possibility of a deeper recession and a more prolonged recovery as compared to our base scenario, including further monetary policy responses to elevated inflation rates which may increase credit risk, is reflected in our general downside scenario.

The upside scenario reflects slightly stronger economic growth than the base scenario, without prompting a further offsetting monetary policy response as compared to our base scenario, followed by a return to a long-run sustainable growth rate within the forecast period.

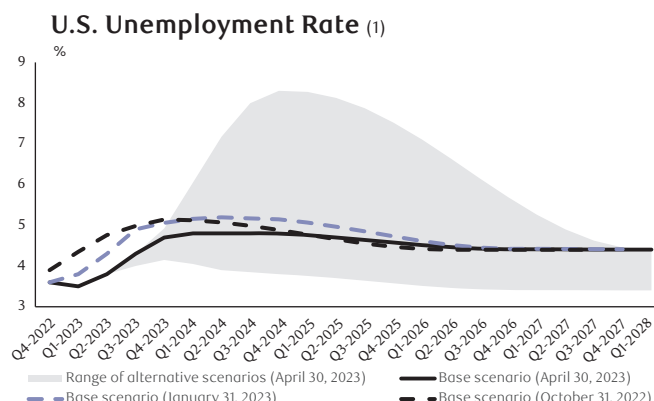
We reduced weight to our downside scenarios relative to October 31, 2022 and January 31, 2023, in order to reflect reduced uncertainty and an increased likelihood of a mild recession as reflected in our base scenario relative to the more severe recessions reflected in our downside scenarios.

The following provides additional detail about our calendar quarter forecasts for certain key macroeconomic variables used in the models to estimate the allowance for credit losses:

Unemployment rates – In our base forecast, calendar Q2 2023 unemployment rates are expected to rise to 5.3% in Canada and 3.8% in the U.S., peaking in Q1 2024 at 6.6% in Canada and at 4.8% in the U.S., and reverting to the long run equilibrium towards the latter end of the forecast horizon.

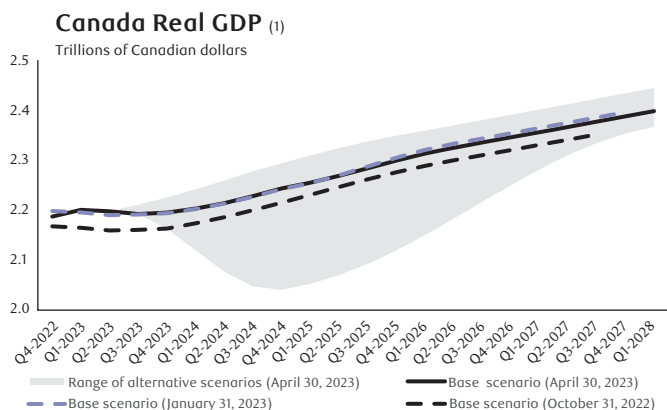


(1) Represents the average quarterly unemployment level over the calendar quarters presented.

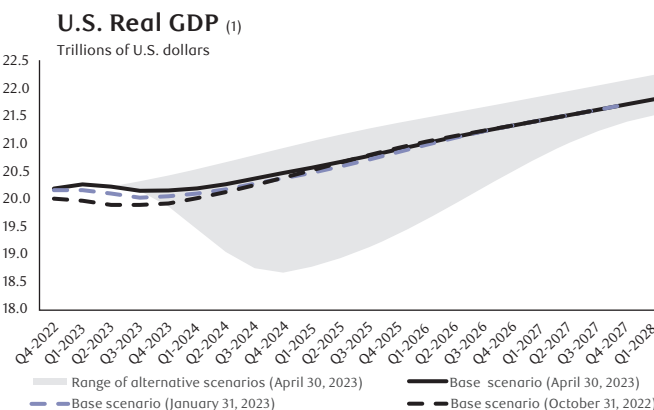


(1) Represents the average quarterly unemployment level over the calendar quarters presented.

• **Gross Domestic Product (GDP)** – In our base forecast, we expect Canadian and U.S. GDP growth to slow, with both Canada and the U.S. expected to experience mild recessions during calendar Q2 and Q3 2023. GDP in calendar Q4 2023 is expected to be 0.4% above Q4 2022 levels in Canada, and 0.2% below such levels in the U.S.



(1) Represents the seasonally adjusted annual rate indexed to 2012 Canadian dollars over the calendar quarters presented.



(1) Represents the seasonally adjusted annual rate indexed to 2012 U.S. dollars over the calendar quarters presented.

- **Oil price (West Texas Intermediate in US\$)** – In our base forecast, we expect oil prices to average \$82 per barrel over the next 12 months from calendar Q2 2023 and \$70 per barrel in the following 2 to 5 years. The range of average prices in our alternative downside and upside scenarios is \$28 to \$101 per barrel for the next 12 months and \$42 to \$73 per barrel for the following 2 to 5 years. As at January 31, 2023, our base forecast included an average price of \$84 per barrel for the next 12 months and \$71 per barrel for the following 2 to 5 years. As at October 31, 2022, our base forecast included an average price of \$88 per barrel for the next 12 months and \$72 per barrel for the following 2 to 5 years.
- **Canadian housing price index** – In our base forecast, we expect housing prices to increase by 1.8% over the next 12 months from calendar Q2 2023, with a compound annual growth rate of 4.8% for the following 2 to 5 years. The range of annual housing price growth (contraction) in our alternative real estate downside and upside scenarios is (30.0%) to 10.9% over the next 12 months and 4.2% to 9.6% for the following 2 to 5 years. As at January 31, 2023, our base forecast included housing price growth of 2.6% for the next 12 months and 5.1% for the following 2 to 5 years. As at October 31, 2022, our base forecast included housing price contraction of (1.0)% from calendar Q4 2022 for the next 12 months and housing price growth of 5.2% for the following 2 to 5 years.

Credit risk exposure by internal risk rating

The following table presents the gross carrying amount of loans measured at amortized cost, and the full contractual amount of undrawn loan commitments subject to the impairment requirements of IFRS 9 *Financial Instruments*. Risk ratings are based on internal ratings used in the measurement of expected credit losses as at the reporting date, as outlined in the internal ratings maps for Wholesale and Retail facilities in the Credit risk section of our 2022 Annual Report.

(Millions of Canadian dollars)	As at							
	April 30, 2023				October 31, 2022			
	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Retail								
Loans outstanding – Residential mortgages								
Low risk	\$ 339,382	\$ 6,193	\$ –	\$ 345,575	\$ 340,716	\$ 2,573	\$ –	\$ 343,289
Medium risk	16,584	1,469	–	18,053	15,035	1,932	–	16,967
High risk	1,297	3,880	–	5,177	1,188	3,125	–	4,313
Not rated (1)	52,715	1,333	–	54,048	51,915	1,304	–	53,219
Impaired	–	–	587	587	–	–	560	560
	409,978	12,875	587	423,440	408,854	8,934	560	418,348
Items not subject to impairment (2)				470				448
Total				\$ 423,910				\$ 418,796
Loans outstanding – Personal								
Low risk	\$ 72,973	\$ 2,861	\$ –	\$ 75,834	\$ 73,339	\$ 2,575	\$ –	\$ 75,914
Medium risk	5,081	3,144	–	8,225	5,482	3,780	–	9,262
High risk	421	1,908	–	2,329	836	1,660	–	2,496
Not rated (1)	9,218	129	–	9,347	9,733	104	–	9,837
Impaired	–	–	256	256	–	–	200	200
Total	\$ 87,693	\$ 8,042	\$ 256	\$ 95,991	\$ 89,390	\$ 8,119	\$ 200	\$ 97,709
Loans outstanding – Credit cards								
Low risk	\$ 15,623	\$ 91	\$ –	\$ 15,714	\$ 15,088	\$ 83	\$ –	\$ 15,171
Medium risk	1,680	1,690	–	3,370	1,418	1,911	–	3,329
High risk	43	1,486	–	1,529	39	1,255	–	1,294
Not rated (1)	803	46	–	849	751	32	–	783
Total	\$ 18,149	\$ 3,313	\$ –	\$ 21,462	\$ 17,296	\$ 3,281	\$ –	\$ 20,577
Loans outstanding – Small business								
Low risk	\$ 8,316	\$ 957	\$ –	\$ 9,273	\$ 8,571	\$ 838	\$ –	\$ 9,409
Medium risk	1,677	1,003	–	2,680	1,512	1,130	–	2,642
High risk	102	505	–	607	102	375	–	477
Not rated (1)	9	–	–	9	3	–	–	3
Impaired	–	–	207	207	–	–	138	138
Total	\$ 10,104	\$ 2,465	\$ 207	\$ 12,776	\$ 10,188	\$ 2,343	\$ 138	\$ 12,669
Undrawn loan commitments – Retail								
Low risk	\$ 255,573	\$ 1,603	\$ –	\$ 257,176	\$ 247,620	\$ 1,041	\$ –	\$ 248,661
Medium risk	9,641	273	–	9,914	9,021	246	–	9,267
High risk	855	405	–	1,260	876	367	–	1,243
Not rated (1)	6,052	152	–	6,204	5,668	118	–	5,786
Total	\$ 272,121	\$ 2,433	\$ –	\$ 274,554	\$ 263,185	\$ 1,772	\$ –	\$ 264,957
Wholesale – Loans outstanding								
Investment grade	\$ 91,282	\$ 315	\$ –	\$ 91,597	\$ 88,513	\$ 202	\$ –	\$ 88,715
Non-investment grade	152,779	15,860	–	168,639	145,908	15,758	–	161,666
Not rated (1)	10,052	274	–	10,326	11,789	360	–	12,149
Impaired	–	–	1,843	1,843	–	–	1,301	1,301
	254,113	16,449	1,843	272,405	246,210	16,320	1,301	263,831
Items not subject to impairment (2)				8,975				10,136
Total				\$ 281,380				\$ 273,967
Undrawn loan commitments – Wholesale								
Investment grade	\$ 301,467	\$ 230	\$ –	\$ 301,697	\$ 284,481	\$ 179	\$ –	\$ 284,660
Non-investment grade	130,063	10,447	–	140,510	126,225	10,657	–	136,882
Not rated (1)	3,983	–	–	3,983	3,692	1	–	3,693
Total	\$ 435,513	\$ 10,677	\$ –	\$ 446,190	\$ 414,398	\$ 10,837	\$ –	\$ 425,235

(1) In certain cases where an internal risk rating is not assigned, we use other approved credit risk assessment or rating methodologies, policies and tools to manage our credit risk.

(2) Items not subject to impairment are loans held at FVTPL.

Note 5 Loans and allowance for credit losses (continued)**Loans past due but not impaired** (1), (2)

(Millions of Canadian dollars)	As at					
	April 30, 2023			October 31, 2022		
	30 to 89 days	90 days and greater	Total	30 to 89 days	90 days and greater	Total
Retail	\$ 1,422	\$ 169	\$ 1,591	\$ 1,328	\$ 168	\$ 1,496
Wholesale	1,042	61	1,103	1,279	2	1,281
	\$ 2,464	\$ 230	\$ 2,694	\$ 2,607	\$ 170	\$ 2,777

(1) Excludes loans less than 30 days past due as they are not generally representative of the borrowers' ability to meet their payment obligations.

(2) Amounts presented may include loans past due as a result of administrative processes, such as mortgage loans on which payments are restrained pending payout due to sale or refinancing, which can fluctuate based on business volumes. Past due loans arising from administrative processes are not representative of the borrowers' ability to meet their payment obligations.

Note 6 Significant acquisition and disposition**Acquisition****HSBC Bank Canada**

On November 29, 2022, we entered into an agreement to acquire 100% of the common shares of HSBC Bank Canada (HSBC Canada) for an all-cash purchase price of \$13.5 billion. In addition, we will purchase all of the existing preferred shares and subordinated debt of HSBC Canada held directly or indirectly by HSBC Holdings plc at par value (\$2.1 billion as of March 31, 2023). HSBC Canada is a premier Canadian personal and commercial bank focused on globally connected clients.

The transaction is expected to close in the first calendar quarter of 2024 and is subject to the satisfaction of customary closing conditions, including regulatory approvals. The results of the acquired business will be consolidated from the date of close.

Disposition**Wealth Management**

On December 23, 2022, we entered into a definitive agreement to sell the European asset servicing activities of RBC Investor Services and its associated Malaysian centre of excellence to CACEIS (the asset servicing banking group of Crédit Agricole S.A. and Banco Santander, S.A.). The transaction is subject to customary closing conditions, including regulatory and antitrust approvals, and is expected to close in the third calendar quarter of 2023. As a result of the disposition, the assets and liabilities of the disposal group are classified as held for sale, measured at the lower of their carrying amount and fair value less costs to sell and presented in Other assets and Other liabilities. The disposal group consists of assets of \$27 billion, primarily consisting of interest-bearing deposits with banks, and liabilities of \$26 billion, primarily consisting of deposits.

Note 7 Deposits

(Millions of Canadian dollars)	As at							
	April 30, 2023				October 31, 2022			
	Demand (1)	Notice (2)	Term (3)	Total	Demand (1)	Notice (2)	Term (3)	Total
Personal	\$ 191,423	\$ 56,449	\$ 180,433	\$ 428,305	\$ 203,645	\$ 64,743	\$ 136,544	\$ 404,932
Business and government	303,043	15,565	415,430	734,038	348,004	17,855	394,011	759,870
Bank	7,751	978	38,981	47,710	10,458	490	33,064	44,012
	\$ 502,217	\$ 72,992	\$ 634,844	\$ 1,210,053	\$ 562,107	\$ 83,088	\$ 563,619	\$ 1,208,814
Non-interest-bearing (4)								
Canada	\$ 140,690	\$ 6,821	\$ 152	\$ 147,663	\$ 149,737	\$ 7,797	\$ 466	\$ 158,000
United States	42,385	–	–	42,385	52,702	–	–	52,702
Europe (5)	114	–	–	114	620	–	–	620
Other International	7,484	–	–	7,484	7,840	–	–	7,840
Interest-bearing (4)								
Canada	286,834	15,786	471,508	774,128	305,779	17,982	409,586	733,347
United States	12,272	50,227	90,255	152,754	11,410	57,055	85,111	153,576
Europe (5)	6,760	158	57,455	64,373	28,276	254	52,144	80,674
Other International	5,678	–	15,474	21,152	5,743	–	16,312	22,055
	\$ 502,217	\$ 72,992	\$ 634,844	\$ 1,210,053	\$ 562,107	\$ 83,088	\$ 563,619	\$ 1,208,814

- (1) Demand deposits are deposits for which we do not have the right to require notice of withdrawal, which include both savings and chequing accounts.
- (2) Notice deposits are deposits for which we can legally require notice of withdrawal. These deposits are primarily savings accounts.
- (3) Term deposits are deposits payable on a fixed date, and include term deposits, guaranteed investment certificates and similar instruments.
- (4) The geographical splits of the deposits are based on the point of origin of the deposits and where the revenue is recognized. As at April 30, 2023, deposits denominated in U.S. dollars, British pounds, Euro and other foreign currencies were \$446 billion, \$36 billion, \$50 billion and \$30 billion, respectively (October 31, 2022 – \$465 billion, \$35 billion, \$50 billion and \$30 billion, respectively).
- (5) Europe includes the United Kingdom, the Channel Islands, France and Luxembourg.

Contractual maturities of term deposits

(Millions of Canadian dollars)	As at	
	April 30 2023	October 31 2022
Within 1 year:		
less than 3 months	\$ 183,734	\$ 159,602
3 to 6 months	89,910	61,996
6 to 12 months	127,180	156,531
1 to 2 years	70,151	49,225
2 to 3 years	47,021	42,809
3 to 4 years	35,107	27,609
4 to 5 years	38,203	33,835
Over 5 years	43,538	32,012
	\$ 634,844	\$ 563,619
Aggregate amount of term deposits in denominations of one hundred thousand dollars or more	\$ 584,000	\$ 521,000

Note 8 Employee benefits – Pension and other post-employment benefits

We offer a number of defined benefit and defined contribution plans which provide pension and post-employment benefits to eligible employees. The following tables present the composition of our pension and other post-employment benefit expense and the effects of remeasurements recorded in OCI.

Pension and other post-employment benefit expense

(Millions of Canadian dollars)	For the three months ended			
	Pension plans		Other post-employment benefit plans	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Current service costs	\$ 49	\$ 78	\$ 8	\$ 7
Past service costs	–	(1)	–	–
Net interest expense (income)	(40)	(21)	20	15
Remeasurements of other long-term benefits	–	–	1	(14)
Administrative expense	3	4	–	–
Defined benefit pension expense	12	60	29	8
Defined contribution pension expense	76	56	–	–
	\$ 88	\$ 116	\$ 29	\$ 8

(Millions of Canadian dollars)	For the six months ended			
	Pension plans		Other post-employment benefit plans	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Current service costs	\$ 98	\$ 155	\$ 16	\$ 17
Past service costs	–	(1)	–	2
Net interest expense (income)	(81)	(42)	39	31
Remeasurements of other long-term benefits	–	–	3	(13)
Administrative expense	6	7	–	–
Defined benefit pension expense	23	119	58	37
Defined contribution pension expense	161	130	–	–
	\$ 184	\$ 249	\$ 58	\$ 37

Pension and other post-employment benefit remeasurements ⁽¹⁾

(Millions of Canadian dollars)	For the three months ended			
	Defined benefit pension plans		Other post-employment benefit plans	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Actuarial (gains) losses:				
Changes in financial assumptions ⁽²⁾	\$ 132	\$ (2,337)	\$ 15	\$ (218)
Experience adjustments	–	1	(2)	(3)
Return on plan assets (excluding interest based on discount rate)	33	1,525	–	–
	\$ 165	\$ (811)	\$ 13	\$ (221)

(Millions of Canadian dollars)	For the six months ended			
	Defined benefit pension plans		Other post-employment benefit plans	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
Actuarial (gains) losses:				
Changes in financial assumptions ⁽²⁾	\$ 904	\$ (2,998)	\$ 90	\$ (258)
Experience adjustments	–	1	(2)	(3)
Return on plan assets (excluding interest based on discount rate)	(561)	1,843	–	–
	\$ 343	\$ (1,154)	\$ 88	\$ (261)

(1) Market based assumptions, including Changes in financial assumptions and Return on plan assets, are reviewed on a quarterly basis. All other assumptions are updated during our annual review of plan assumptions.

(2) Changes in financial assumptions in our defined benefit pension plans primarily relate to changes in discount rates.

Note 9 Income taxes

On December 15, 2022, Bill C-32, Fall Economic Statement Implementation Act, 2022 (the Bill), tabled by the Government of Canada, received royal assent. The Bill amends the Income Tax Act (Canada) to implement a Canada Recovery Dividend (CRD) and a permanent increase in the Canadian corporate tax rate on banks and life insurer groups.

The CRD is a one-time 15% tax for 2022 determined based on the average taxable income above \$1 billion for taxation years 2020 and 2021 and payable in equal installments over five years. The CRD resulted in an increase in income taxes of \$1.2 billion for the three months ended January 31, 2023, of which \$1 billion was recognized in net income and \$0.2 billion was recognized in other comprehensive income.

The permanent increase in the Canadian corporate tax rate is 1.5% on taxable income above \$100 million and applies to taxation years that end after April 7, 2022, resulting in an increase in the Canadian statutory tax rate from 26.2% to 27.7% for the year ending October 31, 2023.

Note 10 Significant capital and funding transactions**Subordinated debentures**

On January 31, 2023, we issued \$1,500 million of non-viability contingent capital (NVCC) subordinated debentures. The notes bear interest at a fixed rate of 5.01% per annum until February 1, 2028, and at the Daily Compounded Canadian Overnight Repo Rate Average plus 2.12% thereafter until their maturity on February 1, 2033.

Common shares issued

(Millions of Canadian dollars, except number of shares)	For the three months ended			
	April 30, 2023		April 30, 2022	
	Number of shares (thousands)	Amount	Number of shares (thousands)	Amount
Issued in connection with share-based compensation plans (1)	235	\$ 21	105	\$ 8
Issued in connection with dividend reinvestment plan (2)	4,604	621	–	–
Purchased for cancellation (3)	–	–	(13,700)	(171)
	4,839	\$ 642	(13,595)	\$ (163)

(Millions of Canadian dollars, except number of shares)	For the six months ended			
	April 30, 2023		April 30, 2022	
	Number of shares (thousands)	Amount	Number of shares (thousands)	Amount
Issued in connection with share-based compensation plans (1)	504	\$ 45	512	\$ 42
Issued in connection with dividend reinvestment plan (2)	4,604	621	–	–
Purchased for cancellation (3)	–	–	(22,571)	(282)
	5,108	\$ 666	(22,059)	\$ (240)

(1) Amounts include cash received for stock options exercised during the period and the fair value adjustment to stock options.

(2) The requirements of our dividend reinvestment plan (DRIP) are satisfied through either open market share purchases or shares issued from treasury. During the three months ended April 30, 2023 our DRIP requirements were satisfied through shares issued from treasury. During the three months ended January 31, 2023 and the three and six months ended April 30, 2022 our DRIP requirements were satisfied through open market share purchases.

(3) During the three and six months ended April 30, 2023, we did not purchase for cancellation any common shares. During the three months ended April 30, 2022, we purchased for cancellation common shares at a total fair value of \$1,892 million (average cost of \$138.04 per share), with a book value of \$171 million (book value of \$12.46 per share). During the six months ended April 30, 2022, we purchased for cancellation common shares at a total fair value of \$3,106 million (average cost of \$137.57 per share), with a book value of \$282 million (book value of \$12.46 per share).

Note 11 Earnings per share

	For the three months ended		For the six months ended	
	April 30 2023	April 30 2022	April 30 2023	April 30 2022
(Millions of Canadian dollars, except share and per share amounts)				
Basic earnings per share				
Net income	\$ 3,649	\$ 4,253	\$ 6,863	\$ 8,348
Dividends on preferred shares and distributions on other equity instruments	(67)	(68)	(111)	(122)
Net income attributable to non-controlling interests	(1)	(3)	(3)	(5)
Net income available to common shareholders	\$ 3,581	\$ 4,182	\$ 6,749	\$ 8,221
Weighted average number of common shares (in thousands)	1,388,388	1,409,702	1,385,525	1,415,855
Basic earnings per share (in dollars)	\$ 2.58	\$ 2.97	\$ 4.87	\$ 5.81
Diluted earnings per share				
Net income available to common shareholders	\$ 3,581	\$ 4,182	\$ 6,749	\$ 8,221
Weighted average number of common shares (in thousands)	1,388,388	1,409,702	1,385,525	1,415,855
Stock options (1)	1,735	2,247	1,744	2,219
Issuable under other share-based compensation plans	26	603	26	602
Average number of diluted common shares (in thousands)	1,390,149	1,412,552	1,387,295	1,418,676
Diluted earnings per share (in dollars)	\$ 2.58	\$ 2.96	\$ 4.86	\$ 5.80

(1) The dilutive effect of stock options was calculated using the treasury stock method. When the exercise price of options outstanding is greater than the average market price of our common shares, the options are excluded from the calculation of diluted earnings per share. For the three and six months ended April 30, 2023, and April 30, 2022, no outstanding options were excluded from the calculation of diluted earnings per share.

Note 12 Legal and regulatory matters

We are a large global institution that is subject to many different complex legal and regulatory requirements that continue to evolve. We are and have been subject to a variety of legal proceedings, including civil claims and lawsuits, regulatory examinations, investigations, audits and requests for information by various governmental regulatory agencies and law enforcement authorities in various jurisdictions. Some of these matters may involve novel legal theories and interpretations and may be advanced under criminal as well as civil statutes, and some proceedings could result in the imposition of civil, regulatory enforcement or criminal penalties. We review the status of all proceedings on an ongoing basis and will exercise judgment in resolving them in such manner as we believe to be in our best interest. In many proceedings, it is inherently difficult to determine whether any loss is probable or to reliably estimate the amount of any loss. This is an area of significant judgment and uncertainty and the extent of our financial and other exposure to these proceedings after taking into account current provisions could be material to our results of operations in any particular period.

Our significant legal proceeding and regulatory matters are described in Note 25 of our audited 2022 Annual Consolidated Financial Statements and as updated below.

Vacation pay class action

On December 29, 2022, the Ontario Superior Court of Justice certified a class in an action against RBC Dominion Securities Limited and RBC Dominion Securities Inc. (together, RBC DS). The action commenced in July 2020, asserting claims relating to statutory vacation pay and public holiday pay for investment advisors, associates and assistants in our Canadian Wealth Management business, with the exception of those employed in Alberta and British Columbia. On January 13, 2023, RBC DS served a notice of motion for leave to appeal the court's certification decision. Based on the facts currently known, it is not possible at this time to predict the ultimate outcome of these proceedings or the timing of their resolution.

Foreign exchange matters

On March 29, 2023, the parties executed a settlement agreement resolving all claims in both the U.S. Opt Out Action and the U.K. action.

Note 13 Results by business segment

Composition of business segments

For management purposes, based on the products and services offered, we are organized into four business segments: Personal & Commercial Banking, Wealth Management, Insurance and Capital Markets. Effective the first quarter of 2023, we simplified our reporting structure by eliminating the Investor & Treasury Services segment and moving its former businesses to existing segments. We moved our Investor Services business to our Wealth Management segment, and our Treasury Services and Transaction Banking businesses to our Capital Markets segment. From a reporting perspective, there were no changes to our Personal & Commercial Banking and Insurance segments. Comparative results have been revised to conform to our new basis of segment presentation.

(Millions of Canadian dollars)	For the three months ended April 30, 2023					
	Personal & Commercial Banking	Wealth Management	Insurance	Capital Markets (1)	Corporate Support (1)	Total
Net interest income (2)	\$ 3,817	\$ 1,096	\$ –	\$ 920	\$ 266	\$ 6,099
Non-interest income	1,481	3,328	1,347	1,712	(447)	7,421
Total revenue	5,298	4,424	1,347	2,632	(181)	13,520
Provision for credit losses	422	28	–	150	–	600
Insurance policyholder benefits, claims and acquisition expense	–	–	1,006	–	–	1,006
Non-interest expense	2,257	3,447	159	1,510	121	7,494
Income (loss) before income taxes	2,619	949	182	972	(302)	4,420
Income taxes (recoveries)	704	207	43	33	(216)	771
Net income	\$ 1,915	\$ 742	\$ 139	\$ 939	\$ (86)	\$ 3,649
Non-interest expense includes:						
Depreciation and amortization	\$ 240	\$ 312	\$ 14	\$ 128	\$ –	\$ 694

(Millions of Canadian dollars)	For the three months ended April 30, 2022					
	Personal & Commercial Banking	Wealth Management (3)	Insurance	Capital Markets (1), (3)	Corporate Support (1)	Total
Net interest income (2)	\$ 3,234	\$ 878	\$ –	\$ 1,231	\$ (69)	\$ 5,274
Non-interest income	1,505	3,123	234	1,272	(188)	5,946
Total revenue	4,739	4,001	234	2,503	(257)	11,220
Provision for credit losses	(276)	(31)	–	(36)	1	(342)
Insurance policyholder benefits, claims and acquisition expense	–	–	(180)	–	–	(180)
Non-interest expense	2,015	2,971	145	1,421	(118)	6,434
Income (loss) before income taxes	3,000	1,061	269	1,118	(140)	5,308
Income taxes (recoveries)	766	252	63	261	(287)	1,055
Net income	\$ 2,234	\$ 809	\$ 206	\$ 857	\$ 147	\$ 4,253
Non-interest expense includes:						
Depreciation and amortization	\$ 232	\$ 275	\$ 14	\$ 127	\$ 2	\$ 650

Note 13 Results by business segment (continued)

(Millions of Canadian dollars)	For the six months ended April 30, 2023					
	Personal & Commercial Banking	Wealth Management	Insurance	Capital Markets (1)	Corporate Support (1)	Total
Net interest income (2)	\$ 7,824	\$ 2,321	\$ –	\$ 1,688	\$ 468	\$ 12,301
Non-interest income	3,015	6,688	3,238	4,065	(693)	16,313
Total revenue	10,839	9,009	3,238	5,753	(225)	28,614
Provision for credit losses	823	94	–	215	–	1,132
Insurance policyholder benefits, claims and acquisition expense	–	–	2,551	–	–	2,551
Non-interest expense	4,486	6,881	315	3,211	276	15,169
Income (loss) before income taxes	5,530	2,034	372	2,327	(501)	9,762
Income taxes (recoveries)	1,489	444	85	165	716	2,899
Net income	\$ 4,041	\$ 1,590	\$ 287	\$ 2,162	\$ (1,217)	\$ 6,863
Non-interest expense includes:						
Depreciation and amortization	\$ 481	\$ 613	\$ 28	\$ 255	\$ –	\$ 1,377

(Millions of Canadian dollars)	For the six months ended April 30, 2022					
	Personal & Commercial Banking	Wealth Management (3)	Insurance	Capital Markets (1), (3)	Corporate Support (1)	Total
Net interest income (2)	\$ 6,463	\$ 1,731	\$ –	\$ 2,527	\$ (176)	\$ 10,545
Non-interest income	3,079	6,288	1,633	2,968	(227)	13,741
Total revenue	9,542	8,019	1,633	5,495	(403)	24,286
Provision for credit losses	(147)	(43)	–	(48)	1	(237)
Insurance policyholder benefits, claims and acquisition expense	–	–	817	–	–	817
Non-interest expense	4,037	5,915	292	2,950	(180)	13,014
Income (loss) before income taxes	5,652	2,147	524	2,593	(224)	10,692
Income taxes (recoveries)	1,444	517	121	614	(352)	2,344
Net income	\$ 4,208	\$ 1,630	\$ 403	\$ 1,979	\$ 128	\$ 8,348
Non-interest expense includes:						
Depreciation and amortization	\$ 465	\$ 549	\$ 29	\$ 253	\$ 4	\$ 1,300

(1) Taxable equivalent basis.

(2) Interest revenue is reported net of interest expense as we rely primarily on net interest income as a performance measure.

(3) Amounts have been revised from those previously presented to conform to our new basis of segment presentation.

Total assets and total liabilities by business segment

(Millions of Canadian dollars)	As at April 30, 2023					
	Personal & Commercial Banking	Wealth Management	Insurance	Capital Markets	Corporate Support	Total
Total assets	\$ 614,671	\$ 212,389	\$ 24,072	\$ 1,027,242	\$ 61,928	\$ 1,940,302
Total liabilities	614,606	212,564	24,634	1,027,488	(50,344)	1,828,948

(Millions of Canadian dollars)	As at October 31, 2022					
	Personal & Commercial Banking	Wealth Management (1)	Insurance	Capital Markets (1)	Corporate Support	Total
Total assets	\$ 602,824	\$ 206,466	\$ 21,918	\$ 1,025,892	\$ 60,119	\$ 1,917,219
Total liabilities	602,741	206,415	22,588	1,025,603	(48,303)	1,809,044

(1) Amounts have been revised from those previously presented to conform to our new basis of segment presentation.

Note 14 Capital management

Regulatory capital and capital ratios

OSFI formally establishes risk-based capital and leverage minimums and Total Loss Absorbing Capacity (TLAC) ratios for deposit-taking institutions in Canada. During the second quarter of 2023, we complied with all applicable capital, leverage and TLAC requirements, including the Domestic Stability Buffer, imposed by OSFI.

	As at	
	April 30 2023	October 31 2022
<i>(Millions of Canadian dollars, except percentage amounts and as otherwise noted)</i>		
Capital ⁽¹⁾		
CET1 capital	\$ 81,103	\$ 76,945
Tier 1 capital	88,400	84,242
Total capital	99,540	93,850
Risk-weighted assets (RWA) used in calculation of capital ratios ⁽¹⁾		
Credit risk	\$ 479,953	\$ 496,898
Market risk	37,685	35,342
Operational risk	75,895	77,639
Total RWA	\$ 593,533	\$ 609,879
Capital ratios and Leverage ratio ⁽¹⁾		
CET1 ratio	13.7%	12.6%
Tier 1 capital ratio	14.9%	13.8%
Total capital ratio	16.8%	15.4%
Leverage ratio	4.2%	4.4%
Leverage ratio exposure (billions)	\$ 2,116	\$ 1,898
TLAC available and ratios ⁽²⁾		
TLAC available	\$ 183,978	\$ 160,961
TLAC ratio	31.0%	26.4%
TLAC leverage ratio	8.7%	8.5%

- (1) Capital, RWA, and capital ratios are calculated using OSFI's Capital Adequacy Requirements (CAR) guideline and the Leverage ratio is calculated using OSFI's Leverage Requirements (LR) guideline. Both the CAR guideline and LR guideline are based on the Basel III framework. The results for the period ended April 30, 2023 reflect our adoption of the revised CAR and LR guidelines as part of OSFI's implementation of the Basel III reforms.
- (2) TLAC available and TLAC ratios are calculated using OSFI's TLAC guideline. The TLAC standard is applied at the resolution entity level which for us is deemed to be Royal Bank of Canada and its subsidiaries. A resolution entity and its subsidiaries are collectively called a resolution group. The TLAC ratio and TLAC leverage ratio are calculated using the TLAC available as percentage of total RWA and leverage exposure, respectively.

Shareholder Information

Corporate headquarters

Street address:
Royal Bank of Canada
200 Bay Street
Toronto, Ontario M5J 2J5
Canada
Tel: 1-888-212-5533

Mailing address:

P.O. Box 1
Royal Bank Plaza
Toronto, Ontario M5J 2J5
Canada
website: rbc.com

Transfer Agent and Registrar

Main Agent:
Computershare Trust Company
of Canada
1500 Robert-Bourassa Blvd.
Suite 700
Montreal, Quebec H3A 3S8
Canada
Tel: 1-866-586-7635 (Canada and
the U.S.) or 514-982-7555
(International)
Fax: 514-982-7580
website: computershare.com/rbc

Co-Transfer Agent (U.S.):
Computershare Trust
Company, N.A.
250 Royall Street
Canton, Massachusetts 02021
U.S.A.

Co-Transfer Agent (U.K.):
Computershare Investor
Services PLC
Securities Services – Registrars
P.O. Box 82, The Pavilions,
Bridgewater Road,
Bristol BS99 6ZZ
U.K.

Stock exchange listings

(Symbol: RY)

Common shares are listed on:
Canada – Toronto Stock
Exchange (TSX)
U.S. – New York Stock Exchange
(NYSE)

Preferred shares AZ, BB, BD, BF,
BH, BI and BO are listed on the
TSX. The related depository
shares of the series C-2 preferred
shares are listed on the NYSE.

Valuation day price

For Canadian income tax
purposes, Royal Bank of Canada's
common stock was quoted at
\$29.52 per share on the Valuation
Day (December 22, 1971). This is
equivalent to \$7.38 per share after

adjusting for the two-for-one
stock split of March 1981 and the
two-for-one stock split of
February 1990. The one-for-one
stock dividends in October 2000
and April 2006 did not affect the
Valuation Day amount for our
common shares.

Shareholder contacts

For dividend information, change
in share registration or address,
lost stock certificates, tax forms,
estate transfers or dividend
reinvestment, please contact:
Computershare Trust Company of
Canada
100 University Avenue, 8th Floor
Toronto, Ontario M5J 2Y1
Canada

Tel: 1-866-586-7635 (Canada and
the U.S.) or 514-982-7555
(International)
Fax: 1-888-453-0330 (Canada and
the U.S.) or 416-263-9394
(International)
email: service@computershare.com

Financial analysts, portfolio managers, institutional investors

For financial information
inquiries, please contact:
Investor Relations
Royal Bank of Canada
200 Bay Street
South Tower
Toronto, Ontario M5J 2J5
Canada
Tel: 416-955-7802
or visit our website at
rbc.com/investorrelations

Direct deposit service

Shareholders in Canada and the
U.S. may have their common share
dividends deposited directly to
their bank account by electronic
funds transfer. To arrange for this
service, please contact our
Transfer Agent and Registrar,
Computershare Trust Company of
Canada.

International shareholders (other
than holders in the U.S. or
Canada) may be able to receive
their dividend and/or distribution
payments in the currency of their
choice. Computershare offers an
International Currency Exchange
service that enables RBC's
international shareholders to
receive their dividend and/or
distribution payments in the
currency of their choice. Please
refer to investorcentre.com/rbc.

Eligible dividend designation

For purposes of the *Income Tax
Act* (Canada) and any
corresponding provincial and
territorial tax legislation, all
dividends (and deemed
dividends) paid by RBC to
Canadian residents on both its
common and preferred shares,
are designated as "eligible
dividends", unless stated
otherwise.

Common share repurchases

As at April 30, 2023, we did not
have an active normal course
issuer bid (NCIB). For further
details, refer to the Capital
management section.

Dividend dates for 2023

Subject to approval by the Board of Directors

	Record dates	Payment dates
Common and preferred shares series AZ, BB, BD, BF, BH, BI and BO	January 26 April 25 July 26 October 26	February 24 May 24 August 24 November 24
Preferred shares series C-2 (US\$)	January 27 April 28 July 28 October 27	February 7 May 8 August 8 November 7
Preferred shares series BT	February 15 August 17	February 24 August 24

Governance

Summaries of the significant ways in which corporate governance
practices followed by RBC differ from corporate governance
practices required to be followed by U.S. domestic companies
under the NYSE listing standards are available on our website at
rbc.com/governance.

CEO AND CFO CERTIFICATIONS

SOX 302 Certification

I, David McKay, certify that:

1. I have reviewed this quarterly report for the period ended April 30, 2023 (the "report") of Royal Bank of Canada (the "registrant");
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 25, 2023

/s/ David McKay

Name: David McKay

Title: President and Chief Executive Officer

SOX 302 Certification

I, Nadine Ahn, certify that:

1. I have reviewed this quarterly report for the period ended April 30, 2023 (the “report”) of Royal Bank of Canada (the “registrant”);
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant’s other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant’s disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant’s internal control over financial reporting that occurred during the registrant’s most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the registrant’s internal control over financial reporting; and
5. The registrant’s other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant’s auditors and the audit committee of the registrant’s board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant’s ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant’s internal control over financial reporting.

Date: May 25, 2023

/s/ Nadine Ahn

Name: Nadine Ahn

Title: Chief Financial Officer