Royal Bank of Canada

Third Quarter 2022

Royal Bank of Canada third quarter 2022 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	Diluted EPS(1)	PCL(1)	ROE(2)	CET1 Ratio(1)
$3.6 Billion	**$2.51**	**$340 Million**	**14.6%**	**13.1%**
Down 17% YoY	*Down 15% YoY*	*PCL on loans ratio(1) up 35 bps(1) QoQ*	*Down from 19.6% last year*	*Well above regulatory requirements*

TORONTO, August 24, 2022 — Royal Bank of Canada (RY on TSX and NYSE) today reported net income of $3.6 billion for the quarter ended July 31, 2022, down $719 million or 17% from the prior year. Diluted EPS was $2.51, down 15% over the same period. Our consolidated results reflect $340 million of provisions primarily taken on loans in the current quarter, mainly due to unfavourable changes in our macroeconomic outlook, as compared to releases of provisions, largely on loans of $540 million in the prior year that reflected improvements in our macroeconomic and credit quality outlook. Lower earnings in Capital Markets, Personal & Commercial Banking and Insurance were partially offset by higher results in Investor & Treasury Services and Wealth Management.

Pre-provision, pre-tax earnings[3] of $4.9 billion were down $136 million or 3% from a year ago, mainly due to lower revenue in Capital Markets, including the impact from loan underwriting markdowns, largely driven by challenging market conditions. Higher salaries, technology investments and discretionary costs to support strong client-driven growth, also contributed to the decrease. These factors were partially offset by higher net interest income driven by strong volume growth and higher spreads in Canadian Banking and Wealth Management. Results also included the impact of lower variable and share-based compensation.

Compared to last quarter, net income was down $676 million or 16% with lower results in Capital Markets, Personal & Commercial Banking, Corporate Support, and Insurance, partially offset by higher results in Investor & Treasury Services and Wealth Management.

The PCL on loans ratio of 17 bps was up 35 bps from (18) bps last quarter, due to provisions taken in the current quarter as compared to releases of provisions in the prior quarter. The PCL on impaired loans ratio of 8 bps was down 1 bp from last quarter.

Our capital position remained robust, with a Common Equity Tier 1 (CET1) ratio of 13.1% supporting strong client-driven organic growth, $1.8 billion in common share dividends and $1.3 billion (or 10.4 million common shares) in common share buybacks.

> *"In an uncertain world, we continue to operate from a position of strategic and financial strength. Our balance sheet is strong and our talented team is as focused as ever on delivering the innovative products, insightful advice and leading partnerships that our clients count on. Looking ahead, our size, scale and diversified business model will continue to create value for our clients, communities and shareholders."*
>
> ***– Dave McKay, RBC President and Chief Executive Officer***

Q3 2022 Compared to Q3 2021	• Net income of $3,577 million • Diluted EPS of $2.51 • ROE of 14.6% • CET1 ratio of 13.1%	↓ 17% ↓ 15% ↓ 500 bps ↓ 50 bps
Q3 2022 Compared to Q2 2022	• Net income of $3,577 million • Diluted EPS of $2.51 • ROE of 14.6% • CET1 ratio of 13.1%	↓ 16% ↓ 15% ↓ 380 bps ↓ 10 bps
YTD 2022 Compared to YTD 2021	• Net income of $11,925 million • Diluted EPS of $8.31 • ROE of 16.7%	↓ 2% ↓ 1% ↓ 250 bps

(1) See Glossary section of this Q3 2022 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 Q3 2022 Report to Shareholders.
(3) Pre-provision, pre-tax (PPPT) earnings is calculated as income (July 31, 2022: $3,577 million; July 31, 2021: $4,296 million) before income taxes (July 31, 2022: $979 million; July 31, 2021: $1,276 million) and PCL (July 31, 2022: $340 million; July 31, 2021: $(540) 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 nine month periods ended or as at July 31, 2022, compared to the corresponding periods in the prior fiscal year and the three month period ended April 30, 2022. This MD&A should be read in conjunction with our unaudited Interim Condensed Consolidated Financial Statements for the quarter ended July 31, 2022 (Condensed Financial Statements) and related notes and our 2021 Annual Report. This MD&A is dated August 23, 2022. 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 2021 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 Q3 2022 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 Brewin Dolphin Holdings PLC and the risk environment including our credit risk, market risk, liquidity and funding risk, and the potential continued impacts of the coronavirus (COVID-19) pandemic on our business operations, financial results, condition and objectives and on the global economy and financial market conditions 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 and that our financial performance objectives, vision and strategic goals will not be achieved. We caution readers not to place undue reliance on these statements as a number of risk factors 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, legal and regulatory environment, and systemic risks and other risks discussed in the risk sections and Impact of COVID-19 pandemic section of our 2021 Annual Report and the Risk management section of this Q3 2022 Report to Shareholders; including business and economic conditions in the geographic regions in which we operate, information technology and cyber risks, environmental and social risk (including climate change), digital disruption and innovation, Canadian housing and household indebtedness, geopolitical uncertainty, privacy, data and third-party related risks, regulatory changes, culture and conduct, 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. In addition, as we work to advance our climate goals, external factors outside of RBC's reasonable control may act as constraints on their achievement, including varying decarbonization efforts across economies, the need for thoughtful climate policies around the world, more and better data, reasonably supported methodologies, technological advancements, the evolution of consumer behaviour, the challenges of balancing interim emissions goals with an orderly and just transition, and other significant considerations such as legal and regulatory obligations.

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 Q3 2022 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 2021 Annual Report, as updated by the Economic, market and regulatory review and outlook section of this Q3 2022 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 and Impact of COVID-19 pandemic section of our 2021 Annual Report and the Risk management section of this Q3 2022 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 92,000+ 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.

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 July 31 2022	April 30 2022	July 31 2021	As at or for the nine months ended July 31 2022	July 31 2021
Total revenue	$ 12,132	$ 11,220	$ 12,756	$ 36,418	$ 37,317
Provision for credit losses (PCL)	340	(342)	(540)	103	(526)
Insurance policyholder benefits, claims and acquisition expense (PBCAE)	850	(180)	1,304	1,667	2,859
Non-interest expense	6,386	6,434	6,420	19,400	19,341
Income before income taxes	4,556	5,308	5,572	15,248	15,643
Net income	$ 3,577	$ 4,253	$ 4,296	$ 11,925	$ 12,158
Segments – net income					
Personal & Commercial Banking	$ 2,023	$ 2,234	$ 2,113	$ 6,231	$ 5,814
Wealth Management (1)	777	750	744	2,322	2,068
Insurance	186	206	234	589	622
Investor & Treasury Services	164	121	88	403	331
Capital Markets	479	795	1,129	2,304	3,267
Corporate Support (1)	(52)	147	(12)	76	56
Net income	$ 3,577	$ 4,253	$ 4,296	$ 11,925	$ 12,158
Selected information					
Earnings per share (EPS) – basic	$ 2.52	$ 2.97	$ 2.97	$ 8.33	$ 8.40
– diluted	2.51	2.96	2.97	8.31	8.39
Return on common equity (ROE) (2)	14.6%	18.4%	19.6%	16.7%	19.2%
Average common equity (2)	$ 95,750	$ 93,300	$ 85,800	$ 93,850	$ 83,300
Net interest margin (NIM) – on average earning assets, net (3)	1.52%	1.45%	1.51%	1.46%	1.50%
PCL on loans as a % of average net loans and acceptances	0.17%	(0.18)%	(0.28)%	0.02%	(0.09)%
PCL on performing loans as a % of average net loans and acceptances	0.09%	(0.27)%	(0.36)%	(0.07)%	(0.19)%
PCL on impaired loans as a % of average net loans and acceptances	0.08%	0.09%	0.08%	0.09%	0.10%
Gross impaired loans (GIL) as a % of loans and acceptances	0.25%	0.27%	0.35%	0.25%	0.35%
Liquidity coverage ratio (LCR) (4)	123%	121%	125%	123%	125%
Net stable funding ratio (NSFR) (4)	113%	113%	116%	113%	116%
Capital, Leverage and Total loss absorbing capacity (TLAC) ratios (5)					
Common Equity Tier 1 (CET1) ratio	13.1%	13.2%	13.6%	13.1%	13.6%
Tier 1 capital ratio	14.3%	14.4%	15.0%	14.3%	15.0%
Total capital ratio	15.9%	16.0%	16.7%	15.9%	16.7%
Leverage ratio	4.6%	4.7%	5.0%	4.6%	5.0%
TLAC ratio (6)	27.6%	27.0%	n.a.	27.6%	n.a.
TLAC leverage ratio (6)	8.8%	8.7%	n.a.	8.8%	n.a.
Selected balance sheet and other information (7)					
Total assets	$ 1,842,092	$ 1,848,572	$ 1,693,540	$ 1,842,092	$ 1,693,540
Securities, net of applicable allowance	298,795	298,315	271,950	298,795	271,950
Loans, net of allowance for loan losses	796,314	774,464	698,041	796,314	698,041
Derivative related assets	122,058	156,204	102,033	122,058	102,033
Deposits	1,178,604	1,151,597	1,084,878	1,178,604	1,084,878
Common equity	96,570	97,006	88,803	96,570	88,803
Total risk-weighted assets (RWA)	589,050	585,839	543,047	589,050	543,047
Assets under management (AUM) (3)	937,700	958,200	983,500	937,700	983,500
Assets under administration (AUA) (3), (8)	5,748,900	6,118,900	6,369,400	5,748,900	6,369,400
Common share information					
Shares outstanding (000s) – average basic	1,396,381	1,409,702	1,424,614	1,409,292	1,424,278
– average diluted	1,398,667	1,412,552	1,427,198	1,411,934	1,426,548
– end of period	1,390,629	1,401,800	1,424,463	1,390,629	1,424,463
Dividends declared per common share	$ 1.28	$ 1.20	$ 1.08	$ 3.68	$ 3.24
Dividend yield (3)	3.9%	3.5%	3.5%	3.7%	3.9%
Dividend payout ratio (3)	51%	40%	36%	44%	39%
Common share price (RY on TSX) (9)	$ 124.86	$ 129.75	$ 126.18	$ 124.86	$ 126.18
Market capitalization (TSX) (9)	173,634	181,884	179,739	173,634	179,739
Business information (number of)					
Employees (full-time equivalent) (FTE)	88,541	86,007	85,887	88,541	85,887
Bank branches	1,283	1,290	1,303	1,283	1,303
Automated teller machines (ATMs)	4,364	4,377	4,374	4,364	4,374
Period average US$ equivalent of C$1.00 (10)	0.783	0.789	0.812	0.786	0.796
Period-end US$ equivalent of C$1.00	0.781	0.778	0.801	0.781	0.801

(1) Effective Q4 2021, gains (losses) on economic hedges of our U.S. share-based compensation plans, which are reflected in revenue, and related variability in share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. share-based compensation plans have been reclassified from our Wealth Management segment to Corporate Support. Comparative amounts have been reclassified to conform with this presentation.
(2) 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.
(3) See Glossary for composition of this measure.
(4) 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.
(5) 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.
(6) Effective Q1 2022, OSFI requires Canadian Domestic Systemically Important Banks (D-SIBs) to meet minimum risk-based TLAC ratio and TLAC leverage ratio requirements which are calculated using OSFI's TLAC guideline. For further details, refer to the Capital management section.
(7) Represents period-end spot balances.
(8) AUA includes $14 billion and $5 billion (April 30, 2022 – $14 billion and $4 billion; July 31, 2021 – $15 billion and $3 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.
n.a. not applicable

Economic, market and regulatory review and outlook – data as at August 23, 2022

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

The near-term macroeconomic backdrop is strong with unemployment at low levels across many advanced economies. However, global supply chain disruptions and labour shortages are limiting further increases in production, and the aggressive pace of central bank interest rate increases to address surging inflation pressures are adding to growing headwinds. We expect unemployment levels to rise in Canada, the U.S. and the Euro area and for each of these regions to undergo moderate recessions in the next year. Despite some easing of global supply chain pressures, including declines in shipping costs and some commodity prices in the first half of calendar 2022, the conflict between Russia and Ukraine has effectively put a floor under global energy and food prices. Consumer demand has continued to outpace available supply, and labour shortages have driven wages higher, adding to potentially longer-lasting price pressures. Central banks are responding by increasing interest rates more quickly than previously expected. Higher interest rates, elevated inflation and a decline in the value of equities are reducing household confidence and purchasing power.

Canada

Canadian GDP is expected to have risen 4.5%[1] in the second calendar quarter of 2022 after rising 3.1%[1] in the first calendar quarter of 2022. Near-term growth has been supported by the recovery from the COVID-19 pandemic-related downturn in the travel and hospitality sectors and increased activity in the oil and gas and mining sectors reflecting higher global commodity prices. However, growth is expected to moderate substantially over the second half of calendar 2022 with a moderate recession expected in calendar 2023. Headline inflation growth rates are expected to begin to moderate as global supply chain disruptions have shown signs of easing in recent months, and housing prices have already begun to decline in response to Bank of Canada (BoC) interest rate increases. However, price pressures and accelerating wage growth are contributing to higher long-run inflation expectations. The current levels of unemployment and inflation are not expected to persist, as year-over-year Canadian consumer price index (CPI) growth reached its highest level since 1983 at 8.1% in June 2022 and remained high at 7.6% in July 2022. The BoC is responding to persistent upside inflation surprises with aggressive interest rate increases. The BoC's overnight rate increased by 225 bps to a 2.5% rate from March 2022 to July 2022 and we expect further increases to 3.5% by the end of calendar 2022. Rising household debt servicing costs, high price growth, and declining housing prices are expected to increasingly weaken household confidence and purchasing power over the next calendar year.

U.S.

The U.S. economy slowed in calendar 2022 with a 0.9%[1] contraction in GDP in the second calendar quarter of 2022 after a 1.6%[1] contraction in the first calendar quarter of 2022. Labour markets have remained strong with the unemployment rate dropping close to pre-pandemic levels during the first half of calendar 2022, however the unemployment rate is projected to rise from current low levels during the second half of calendar 2022, with further increases expected in calendar 2023. Domestic production capacity is being limited by widespread labour shortages and global supply chain disruptions. While supply chain disruptions have shown signs of easing, U.S. inflation, as measured by year-over-year U.S. CPI growth, was at its highest level observed since 1981 at 9.1% in June 2022 and remained high at 8.5% in July 2022. There are signs that broad-based inflation pressures are feeding into higher long-run inflation expectations. The Federal Reserve (Fed) is responding with aggressive interest rate increases, including increases of 75 bps in each of June and July 2022. We expect further increases to a 3.5% to 3.75% range before the end of calendar 2022. Higher interest rates and inflation are reducing household purchasing power, and we expect consumer spending growth to slow with a moderate recession expected in the first half of calendar 2023.

Europe

Euro area GDP grew 0.6% in the second calendar quarter of 2022 following an increase of 0.5% in the first calendar quarter of 2022. Euro area inflation has surged higher over the first half of 2022, while labour shortages and global supply chain disruptions are limiting output growth. The conflict between Russia and Ukraine is having a more direct impact on economies in the Euro area due to stronger direct trade linkages. Despite a slowing growth outlook, surging inflation is pushing the European Central Bank (ECB) to raise interest rates from exceptionally low negative rates. The ECB increased interest rates by 50 bps in July 2022 to 0.0% and we expect further increases to 1.25% by the end of calendar 2022. We expect the Euro area economy to undergo a moderate recession with GDP expected to contract in the fourth calendar quarter of 2022 and first calendar quarter of 2023. The United Kingdom (U.K.) GDP is expected to have contracted by 0.3% in the second calendar quarter of 2022 after rising 0.8% in the first calendar quarter of 2022, largely due to the winding down of government COVID-19 test and trace services which contributed positively to GDP. Inflation in the U.K. has continued to surge higher and the Bank of England (BoE) is increasing interest rates aggressively in response. We expect the BoE to raise interest rates to 2.5% by the end of calendar 2022.

Financial markets

Government bond yields have increased substantially from the first calendar quarter of 2022 as central banks respond aggressively to high inflation. The spread between longer- and shorter-duration bond yields, which is a commonly used recession indicator, has narrowed sharply with the spread between 10-year and 2-year yields inverting to negative values in the U.S. and Canada. Equity markets have declined sharply from the beginning of calendar 2022 on a worsening global growth

1 Annualized rate

outlook. Global inflation pressures have shown signs of easing with headline inflation rates expected to be close to peak levels in some regions like the U.S. and Canada. However, underlying price pressures are not expected to ease to central bank target rates until the economy weakens substantially.

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 2021 Annual Report and updates are listed below. A summary of the additional regulatory changes and relief instituted by governments globally and by the Office of the Superintendent of Financial Institutions (OSFI) in response to the COVID-19 pandemic is included in the Impact of COVID-19 pandemic and Capital management sections of our 2021 Annual Report, with updates provided in the Capital management section of this Q3 2022 Report to Shareholders.

Global uncertainty

Significant uncertainty about supply chain disruptions, geopolitical tensions and inflationary and trade policy pressures all pose risks to the global economic outlook. In July 2022, the International Monetary Fund (IMF) projected global growth of 3.2% in calendar 2022, down 0.4% from its April forecast. The downward revision to the forecast reflects the economic effects of inflationary pressures and tightening monetary policy, a worse-than-anticipated slowdown in China resulting from COVID-19 containment measures, and the ongoing conflict between Russia and Ukraine. While the outcome of the conflict between Russia and Ukraine remains uncertain, our exposure to Russia and Ukraine is extremely limited, as we do not have operations in these countries, consistent with our strategy and risk appetite. Our diversified business model, as well as our product and geographic diversification, continue to help mitigate the risks posed by global uncertainty.

Government of Canada Budget 2022

On April 7, 2022, the Government of Canada presented its 2022 budget, which included measures focused on ensuring banking and life insurers' groups help pay a portion of the costs of the Canadian federal government's COVID-19 pandemic response. On August 9, 2022, the Government of Canada proposed through draft legislation a Canada Recovery Dividend (CRD) and a permanent increase in the corporate income tax rate. 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 permanent increase in the corporate income tax rate is 1.5% on taxable income above $100 million and would apply to taxation years that end after April 7, 2022.

The draft legislation is open for public comment until September 30, 2022 and is therefore subject to change; timing of enactment remains uncertain. While the ultimate impact will depend on the final legislation, the CRD is expected to reduce our net income when substantively enacted. The CRD is also expected to reduce our CET1 ratio.

Canadian Housing Market and Consumer Debt

In June 2022, OSFI released a new Advisory - Clarification on the Treatment of Innovative Real Estate Secured Lending Products under Guideline B-20 (the Advisory). The Advisory complements existing expectations under Guideline B-20 – Residential Mortgage Underwriting Practices and Procedures, which articulates OSFI's expectations regarding underwriting practices and procedures for reverse residential mortgages, residential mortgages with shared equity features and combined loan plans (CLPs). We do not originate reverse residential mortgages or residential mortgages with shared equity features, but we do originate CLPs through our RBC Homeline Plan® products. The Advisory is not expected to have an effect on how most borrowers with CLPs use their products.

The Advisory will come into effect for us on October 31, 2023. New CLPs originated after this date will need to meet the new requirements. CLPs originated before October 31, 2023 are not subject to the new requirements unless certain contractual changes are made that would trigger application of the requirements. We have assessed the requirements and initiated a project to meet the requirements by the effective date.

Technology and cyber risk management

In July 2022, OSFI released final Guideline B-13 – Technology and Cyber Risk Management, which sets out expectations for the sound management of technology and cyber risk for federally regulated financial institutions (FRFIs).

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

Privacy

In June 2022, the Canadian government released Bill C-27, the Digital Charter Implementation Act, 2022, with principles focused on strengthening consumer privacy protection in Canada. The Bill introduced three new federal Acts: the Consumer Privacy Protection Act, the Personal Information and Data Protection Tribunal Act, and the Artificial Intelligence and Data Act. These new Acts aim to strengthen Canada's data privacy framework and create new regulations for responsible development and use of artificial intelligence.

The Consumer Privacy Protection Act is a private sector law that will repeal and replace the current Personal Information Protection and Electronic Documents Act (PIPEDA). The Personal Information and Data Protection Tribunal Act will establish an administrative tribunal to review decisions and impose penalties, and the Artificial Intelligence and Data Act will create a risk-based approach to regulating artificial intelligence systems.

While it remains uncertain when and if Bill C-27 will be enacted, this new legislation could result in significant reforms that may impact our processes and privacy risk management practices. Our Global Privacy Program is responsible for overseeing the implementation of these evolving privacy principles in our organization.

For a discussion on risk factors, including our framework and activities to manage risks and other regulatory developments which may affect our business and financial results, refer to the Impact of COVID-19 pandemic section, including the Impact of pandemic risk factor, and the Risk management – Top and emerging risks and Legal and regulatory environment risk sections of our 2021 Annual Report and the Risk and Capital management sections of this Q3 2022 Report to Shareholders.

Key corporate events of 2022

Brewin Dolphin Holdings PLC

On March 31, 2022, we announced our intention via our subsidiary, RBC Wealth Management (Jersey) Holdings Limited, to acquire Brewin Dolphin Holdings PLC (Brewin Dolphin) by way of a recommended cash offer of 515 pence per share for the entire issued and to be issued share capital of Brewin Dolphin, which values Brewin Dolphin at approximately £1.6 billion ($2.6 billion) on a fully diluted basis as at March 30, 2022. Brewin Dolphin provides discretionary wealth management services in the U.K. and Ireland. The transaction is expected to close by the end of the third calendar quarter of 2022, subject to regulatory approvals and other customary closing conditions. For further details, refer to Note 6 of our Condensed Financial Statements.

Financial performance

Overview

Q3 2022 vs. Q3 2021
Net income of $3,577 million was down $719 million or 17% from a year ago. Diluted EPS of $2.51 was down $0.46 or 15% and ROE of 14.6% was down from 19.6% last year. Our CET1 ratio of 13.1% was down 50 bps from a year ago.

Our earnings reflect lower results in Capital Markets, Personal & Commercial Banking and Insurance, partially offset by higher earnings in Investor & Treasury Services and Wealth Management. The current quarter includes the impact to PCL of provisions taken on loans in the current quarter as compared to releases of provisions in the prior year.

Q3 2022 vs. Q2 2022
Net income of $3,577 million was down $676 million or 16% from last quarter. Diluted EPS of $2.51 was down $0.45 or 15% and ROE of 14.6% was down from 18.4% in the prior quarter. Our CET1 ratio of 13.1% was down 10 bps from last quarter.

Our earnings reflect lower results in Capital Markets, Personal & Commercial Banking, Corporate Support and Insurance, partially offset by higher earnings in Investor & Treasury Services and Wealth Management. The current quarter includes the impact to PCL of provisions taken on loans in the current quarter as compared to releases of provisions last quarter.

Q3 2022 vs. Q3 2021 (Nine months ended)
Net income of $11,925 million was down $233 million or 2% from the same period last year. Diluted EPS of $8.31 was down $0.08 or 1% and ROE of 16.7% was down from 19.2% in the prior year.

Our earnings reflect lower results in Capital Markets and Insurance, partially offset by higher earnings in Personal & Commercial Banking, Wealth Management and Investor & Treasury Services.

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

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 nine months ended
(Millions of Canadian dollars, except per share amounts)	**Q3 2022 vs. Q3 2021**	**Q3 2022 vs. Q2 2022**	**Q3 2022 vs. Q3 2021**
Increase (decrease):			
Total revenue	$ 38	$ (12)	$ (44)
PCL	1	–	(2)
Non-interest expense	25	(11)	(46)
Income taxes	–	(1)	(1)
Net income	12	–	5
Impact on EPS			
Basic	$ 0.01	$ –	$ –
Diluted	0.01	–	–

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

	For the three months ended			For the nine months ended	
(Average foreign currency equivalent of C$1.00) (1)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
U.S. dollar	**0.783**	0.789	0.812	**0.786**	0.796
British pound	**0.636**	0.605	0.581	**0.608**	0.577
Euro	**0.747**	0.721	0.678	**0.721**	0.663

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

Total revenue

	For the three months ended			For the nine months ended	
(Millions of Canadian dollars, except percentage amounts)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Interest and dividend income	**$ 10,737**	$ 7,758	$ 6,997	**$ 25,873**	$ 21,131
Interest expense	**4,847**	2,484	1,945	**9,438**	6,190
Net interest income	**$ 5,890**	$ 5,274	$ 5,052	**$ 16,435**	$ 14,941
NIM	**1.52%**	1.45%	1.51%	**1.46%**	1.50%
Insurance premiums, investment and fee income	**$ 1,233**	$ 234	$ 1,754	**$ 2,866**	$ 4,099
Trading revenue	**(128)**	289	179	**475**	1,080
Investment management and custodial fees	**1,857**	1,892	1,830	**5,710**	5,244
Mutual fund revenue	**1,028**	1,086	1,095	**3,279**	3,109
Securities brokerage commissions	**344**	389	356	**1,132**	1,188
Service charges	**499**	480	465	**1,464**	1,383
Underwriting and other advisory fees	**369**	507	700	**1,577**	2,037
Foreign exchange revenue, other than trading	**250**	251	246	**772**	827
Card service revenue	**314**	288	278	**893**	831
Credit fees	**301**	398	412	**1,175**	1,112
Net gains on investment securities	**28**	23	8	**66**	125
Share of profit in joint ventures and associates	**33**	24	47	**86**	96
Other	**114**	85	334	**488**	1,245
Non-interest income	**6,242**	5,946	7,704	**19,983**	22,376
Total revenue	**$ 12,132**	$ 11,220	$ 12,756	**$ 36,418**	$ 37,317
Additional trading information					
Net interest income (1)	**$ 608**	$ 642	$ 623	**$ 1,970**	$ 2,005
Non-interest income	**(128)**	289	179	**475**	1,080
Total trading revenue	**$ 480**	$ 931	$ 802	**$ 2,445**	$ 3,085

(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).

Q3 2022 vs. Q3 2021

Total revenue decreased $624 million or 5% from a year ago, largely due to lower insurance premiums, investment and fee income (Insurance revenue) and underwriting and other advisory fees. Lower trading revenue, other revenue and credit fees also contributed to the decrease. These factors were partially offset by higher net interest income.

Net interest income increased $838 million or 17%, primarily due to volume growth and higher spreads in Canadian Banking and U.S. Wealth Management (including City National).

NIM was up 1 bp compared to last year, as the benefit to our Canadian Banking and Wealth Management segments from rising interest rates was mostly offset by spread compression in repo products.

Insurance revenue decreased $521 million or 30%, largely due to the change in fair value of investments backing policyholder liabilities, and lower sales in group annuity and longevity reinsurance, all of which are largely offset in PBCAE.

Trading revenue decreased $307 million, mainly due to lower fixed income trading revenue, including the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions. This was partially offset by higher equity trading revenue, largely in the U.S., and higher foreign exchange trading revenue across all regions.

Credit fees decreased $111 million or 27%, primarily due to lower loan syndication activity across most regions.

Underwriting and other advisory fees decreased $331 million or 47%, largely driven by lower debt origination, primarily in the U.S., and lower equity origination in North America.

Other revenue decreased $220 million or 66%, mainly attributable to the impact of rising interest rates on certain non-trading instruments. Changes in the fair value of hedges related to our U.S. share-based compensation plans, which was largely offset in Non-interest expense also contributed to the decrease.

Q3 2022 vs. Q2 2022

Total revenue increased $912 million or 8% from last quarter, largely due to higher insurance revenue and net interest income. These factors were partially offset by lower trading revenue and underwriting and other advisory fees.

Net interest income increased $616 million or 12%, primarily due to higher spreads, the impact of three more days in the current quarter and volume growth in Canadian Banking and U.S. Wealth Management (including City National).

Insurance revenue increased $999 million, largely due to the change in fair value of investments backing policyholder liabilities, which is largely offset in PBCAE. This was partially offset by lower group annuity sales.

Trading revenue decreased $417 million, mainly due to lower fixed income trading revenue, including the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions. Lower commodities trading revenue across all regions also contributed to the decrease.

Underwriting and other advisory fees decreased $138 million or 27%, mainly attributable to lower debt origination and M&A activity across all regions.

Q3 2022 vs. Q3 2021 (Nine months ended)

Total revenue decreased $899 million or 2% from the same period last year, largely due to lower insurance revenue and other revenue. Lower trading revenue and underwriting and other advisory fees also contributed to the decrease. These factors were partially offset by higher net interest income and investment management and custodial fees.

Net interest income increased $1,494 million or 10%, largely due to volume growth in Canadian Banking and U.S. Wealth management (including City National). Higher lending revenue in Capital Markets also contributed to the increase.

Investment management and custodial fees increased $466 million or 9%, primarily driven by higher average fee-based client assets reflecting net sales and market appreciation.

Insurance revenue decreased $1,233 million or 30%, mainly due to the change in fair value of investments backing policyholder liabilities, which is largely offset in PBCAE. This was partially offset by higher group annuity sales and business growth across all products.

Trading revenue decreased $605 million or 56%, mainly due to lower fixed income trading revenue, including the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions.

Underwriting and other advisory fees decreased $460 million or 23%, mainly attributable to lower debt origination primarily in the U.S. and equity origination across most regions.

Other revenue decreased $757 million or 61%, primarily attributable to changes in the fair value of hedges related to our U.S. share-based compensation plans, which was largely offset in Non-interest expense.

Provision for credit losses (1)

	For the three months ended			For the nine months ended	
(Millions of Canadian dollars, except percentage amounts)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Personal & Commercial Banking	**$ 145**	$ (419)	$ (335)	**$ (337)**	$ (558)
Wealth Management	**12**	(30)	(19)	**(31)**	(25)
Capital Markets	**20**	(56)	(284)	**(40)**	(408)
Corporate Support and other (2)	**–**	1	–	**1**	(4)
PCL on performing loans	**177**	(504)	(638)	**(407)**	(995)
Personal & Commercial Banking	**$ 185**	$ 147	$ 164	**$ 523**	$ 594
Wealth Management	**1**	–	(2)	**2**	(26)
Capital Markets	**(13)**	27	(16)	**2**	(27)
Corporate Support and other (2)	**(3)**	–	–	**(3)**	–
PCL on impaired loans	**170**	174	146	**524**	541
PCL – Loans	**347**	(330)	(492)	**117**	(454)
PCL – Other financial assets (3)	**(7)**	(12)	(48)	**(14)**	(72)
Total PCL	**$ 340**	$ (342)	$ (540)	**$ 103**	$ (526)
PCL on loans is comprised of:					
Retail	**$ 133**	$ (188)	$ (307)	**$ (113)**	$ (474)
Wholesale	**44**	(316)	(331)	**(294)**	(521)
PCL on performing loans	**177**	(504)	(638)	**(407)**	(995)
Retail	**163**	146	139	**447**	485
Wholesale	**7**	28	7	**77**	56
PCL on impaired loans	**170**	174	146	**524**	541
PCL – Loans	**$ 347**	$ (330)	$ (492)	**$ 117**	$ (454)
PCL on loans as a % of average net loans and acceptances	**0.17%**	(0.18)%	(0.28)%	**0.02%**	(0.09)%
PCL on impaired loans as a % of average net loans and acceptances	**0.08%**	0.09%	0.08%	**0.09%**	0.10%

(1) Information on loans represents loans, acceptance and commitments.
(2) Includes PCL recorded in Corporate Support, Insurance and Investor & Treasury Services.
(3) PCL on other financial assets mainly represents provisions on debt securities measured at fair value through other comprehensive income (FVOCI) and amortized cost, accounts receivable and financial guarantees.

Q3 2022 vs. Q3 2021

Total PCL was $340 million compared to $(540) million last year, reflecting provisions taken on loans in the current quarter as compared to releases of provisions on loans in the prior year, primarily in Personal & Commercial Banking and Capital Markets. The PCL on loans ratio increased 45 bps.

PCL on performing loans was $177 million compared to $(638) million last year, primarily attributable to provisions taken in the current quarter driven by unfavourable changes in our macroeconomic outlook, as compared to releases of provisions in the prior year that reflected improvements in our macroeconomic and credit quality outlook, primarily in Personal & Commercial Banking and Capital Markets.

Q3 2022 vs. Q2 2022

Total PCL was $340 million compared to $(342) million last quarter, reflecting provisions taken on loans in the current quarter as compared to releases of provisions on loans last quarter in Personal & Commercial Banking, Wealth Management and Capital Markets. The PCL on loans ratio increased 35 bps.

PCL on performing loans was $177 million compared to $(504) million last quarter, primarily attributable to provisions in the current quarter driven by unfavourable changes in our macroeconomic outlook as compared to releases of provisions last quarter that mainly reflected reduced uncertainty relating to the COVID-19 pandemic, primarily in Personal & Commercial Banking, largely in our Canadian Banking portfolios, and Capital Markets.

PCL on impaired loans decreased $4 million or 2%, largely reflecting recoveries in Capital Markets in the current quarter as compared to provisions taken in the prior quarter, in the oil and gas and utilities sectors. This was largely offset by higher provisions taken in Personal & Commercial Banking, mainly in our Canadian Banking portfolios.

Q3 2022 vs. Q3 2021 (Nine months ended)

Total PCL was $103 million compared to $(526) million in the same period last year, primarily reflecting lower releases of provisions on loans in Capital Markets in the current period and higher provisions on loans in Personal & Commercial Banking. The PCL on loans ratio increased 11 bps.

PCL on performing loans was $(407) million compared to $(995) million in the same period last year, reflecting the recovery from the COVID-19 pandemic across both periods, partially offset by unfavourable changes in our macroeconomic outlook in the current period, primarily in Capital Markets and Personal & Commercial Banking.

PCL on impaired loans decreased $17 million or 3% reflecting lower provisions in Personal & Commercial Banking, primarily in our Canadian Banking portfolios, largely offset by provisions taken in the current period as compared to recoveries in the same period last year in Capital Markets and Wealth Management.

Insurance policyholder benefits, claims and acquisition expense (PBCAE)

Q3 2022 vs. Q3 2021

PBCAE decreased $454 million or 35% from a year ago, primarily reflecting the change in fair value of investments backing policyholder liabilities, and lower sales in group annuity and longevity reinsurance, all of which are largely offset in revenue. These factors were partially offset by the impact of new longevity reinsurance contracts in the prior year.

Q3 2022 vs. Q2 2022

PBCAE increased $1,030 million from last quarter, primarily reflecting the change in fair value of investments backing policyholder liabilities, which is largely offset in revenue. Investment-related experience and less favourable claims experience also contributed to the increase. These factors were partially offset by lower group annuity sales and lower business volumes.

Q3 2022 vs. Q3 2021 (Nine months ended)

PBCAE decreased $1,192 million or 42% from the same period last year, mainly reflecting the change in fair value of investments backing policyholder liabilities, which is largely offset in revenue. Higher favourable investment-related experience also contributed to the decrease. These factors were partially offset by higher group annuity sales, business growth, as well as the impact of lower new longevity reinsurance contracts.

Non-interest expense

	For the three months ended			For the nine months ended	
(Millions of Canadian dollars, except percentage amounts)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Salaries	**$ 1,820**	$ 1,748	$ 1,684	**$ 5,316**	$ 4,980
Variable compensation	**1,473**	1,754	1,816	**5,168**	5,494
Benefits and retention compensation	**497**	483	511	**1,529**	1,557
Share-based compensation	**68**	17	100	**132**	520
Human resources	**3,858**	4,002	4,111	**12,145**	12,551
Equipment	**514**	513	492	**1,528**	1,472
Occupancy	**381**	386	387	**1,153**	1,191
Communications	**277**	258	227	**763**	652
Professional fees	**373**	347	329	**1,039**	934
Amortization of other intangibles	**342**	336	320	**1,015**	957
Other	**641**	592	554	**1,757**	1,584
Non-interest expense	**$ 6,386**	$ 6,434	$ 6,420	**$ 19,400**	$ 19,341
Efficiency ratio (1)	**52.6%**	57.3%	50.3%	**53.3%**	51.8%
Efficiency ratio adjusted (2)	**53.1%**	52.1%	52.3%	**51.2%**	52.2%

(1) Efficiency ratio is calculated as Non-interest expense divided by Total revenue.
(2) This is a non-GAAP ratio. This measure has been adjusted by excluding the change in fair value of investments backing policyholder liabilities from total revenue. For further details, refer to the Key performance and non-GAAP measures section.

Q3 2022 vs. Q3 2021

Non-interest expense decreased $34 million or 1% from a year ago, primarily due to lower variable compensation on decreased results. The change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue, also contributed to the decrease. These factors were partially offset by higher staff and technology related costs, higher marketing and other discretionary spend as well as the impact of foreign exchange translation.

Our efficiency ratio of 52.6% increased 230 bps from 50.3% last year. Excluding the change in fair value of investments backing policyholder liabilities, our efficiency ratio of 53.1% increased 80 bps from 52.3% last year.

Q3 2022 vs. Q2 2022
Non-interest expense decreased $48 million or 1% from last quarter, primarily due to lower variable compensation on decreased results. This factor was partially offset by the change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue, higher staff and technology related costs, as well as higher marketing and other discretionary spend.

Our efficiency ratio of 52.6% decreased 470 bps from 57.3% last quarter. Excluding the change in fair value of investments backing policyholder liabilities, our efficiency ratio of 53.1% increased 100 bps from 52.1% last quarter.

Q3 2022 vs. Q3 2021 (Nine months ended)
Non-interest expense remained relatively flat as higher staff and technology related costs, and higher marketing and other discretionary spend were offset by the change in the fair value of our U.S. share-based compensation plans, which was largely offset in Other revenue, and lower variable compensation on decreased results.

Our efficiency ratio of 53.3% increased 150 bps from 51.8% last year. Excluding the change in fair value of investments backing policyholder liabilities, our efficiency ratio of 51.2% decreased 100 bps from 52.2% last year.

Efficiency ratio excluding the change in fair value of investments backing policyholder liabilities is a non-GAAP ratio. For further details, including a reconciliation, refer to the Key performance and non-GAAP measures section.

Income taxes

	For the three months ended			For the nine months ended	
(Millions of Canadian dollars, except percentage amounts)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Income taxes	**$ 979**	$ 1,055	$ 1,276	**$ 3,323**	$ 3,485
Income before income taxes	**4,556**	5,308	5,572	**15,248**	15,643
Effective income tax rate	**21.5%**	19.9%	22.9%	**21.8%**	22.3%

Q3 2022 vs. Q3 2021
Income tax expense decreased $297 million or 23% from a year ago, primarily due to lower income before income taxes in the current quarter.

The effective income tax rate of 21.5% decreased 140 bps, primarily due to the impact of changes in earnings mix.

Q3 2022 vs. Q2 2022
Income tax expense decreased $76 million or 7% from last quarter, primarily due to lower income before income taxes, partially offset by the impact of net favourable tax adjustments in the prior quarter.

The effective income tax rate of 21.5% increased 160 bps, mainly due to the impact of the tax adjustments noted above, partially offset by changes in earnings mix.

Q3 2022 vs. Q3 2021 (Nine months ended)
Income tax expense decreased $162 million or 5% from the same period last year, primarily due to lower income before income taxes and the impact of changes in earnings mix.

The effective income tax rate of 21.8% decreased 50 bps, primarily due to the impact of changes in earnings mix.

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. They remain unchanged from October 31, 2021. 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 2021 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:

	For the three months ended								
	July 31 2022							April 30 2022	July 31 2021
(Millions of Canadian dollars, except percentage amounts)	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets	Corporate Support	Total	Total	Total
Net income available to common shareholders	$ 2,005	$ 765	$ 185	$ 162	$ 463	$ (63)	$ 3,517	$ 4,182	$ 4,237
Total average common equity (1), (2)	27,250	18,950	2,250	3,200	25,850	18,250	95,750	93,300	85,800
ROE (3)	29.2%	16.0%	32.3%	20.2%	7.1%	n.m.	14.6%	18.4%	19.6%

	For the nine months ended							
	July 31 2022							July 31 2021
(Millions of Canadian dollars, except percentage amounts)	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets	Corporate Support	Total	Total
Net income available to common shareholders	$ 6,173	$ 2,287	$ 585	$ 397	$ 2,256	$ 40	$11,738	$ 11,962
Total average common equity (1), (2)	26,600	18,200	2,350	3,050	25,150	18,500	93,850	83,300
ROE (3)	31.0%	16.8%	33.1%	17.4%	12.0%	n.m.	16.7%	19.2%

(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 described below 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 nine months ended July 31, 2022 with the corresponding periods in the prior year and the three months ended April 30, 2022. Non-GAAP measures (including non-GAAP ratios) 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 efficiency ratio

Our efficiency ratio is impacted by the change in fair value of investments backing policyholder liabilities, which is reported in revenue and largely offset in PBCAE. The adjusted efficiency ratio is a non-GAAP ratio and is calculated using adjusted total revenue, which is a non-GAAP measure as it excludes the impact from the change in fair value of investments backing policyholder liabilities. We believe the adjusted efficiency ratio is a useful measure as changes in the fair value of investments backing policyholder liabilities can lead to volatility in total revenue that could obscure trends in underlying business performance and reduce comparability with prior periods.

The following table provides calculations of our consolidated efficiency ratio excluding the change in fair value of investments backing policyholder liabilities:

	For the three months ended								
	July 31 2022			April 30 2022			July 31 2021		
		Item excluded			Item excluded			Item excluded	
(Millions of Canadian dollars, except percentage amounts)	**As reported**	**Change in fair value of investments backing policyholder liabilities**	**Adjusted**	As reported	Change in fair value of investments backing policyholder liabilities	Adjusted	As reported	Change in fair value of investments backing policyholder liabilities	Adjusted
Total revenue	**$ 12,132**	**$ (115)**	**$ 12,017**	$ 11,220	$ 1,133	$ 12,353	$ 12,756	$ (475)	$ 12,281
Non-interest expense	**6,386**	**–**	**6,386**	6,434	–	6,434	6,420	–	6,420
Efficiency ratio	**52.6%**		**53.1%**	57.3%		52.1%	50.3%		52.3%

	For the nine months ended					
	July 31 2022			July 31 2021		
		Item excluded			Item excluded	
(Millions of Canadian dollars, except percentage amounts)	**As reported**	**Change in fair value of investments backing policyholder liabilities**	**Adjusted**	As reported	Change in fair value of investments backing policyholder liabilities	Adjusted
Total revenue	**$ 36,418**	**$ 1,448**	**$ 37,866**	$ 37,317	$ (253)	$ 37,064
Non-interest expense	**19,400**	**–**	**19,400**	19,341	–	19,341
Efficiency ratio	**53.3%**		**51.2%**	51.8%		52.2%

Personal & Commercial Banking

	As at or for the three months ended			As at or for the nine months ended	
(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Net interest income	**$ 3,655**	$ 3,234	$ 3,206	**$ 10,118**	$ 9,452
Non-interest income	**1,527**	1,505	1,445	**4,606**	4,289
Total revenue	**5,182**	4,739	4,651	**14,724**	13,741
PCL on performing assets	**141**	(420)	(341)	**(339)**	(567)
PCL on impaired assets	**183**	144	162	**516**	588
PCL	**324**	(276)	(179)	**177**	21
Non-interest expense	**2,130**	2,015	1,998	**6,167**	5,891
Income before income taxes	**2,728**	3,000	2,832	**8,380**	7,829
Net income	**$ 2,023**	$ 2,234	$ 2,113	**$ 6,231**	$ 5,814
Revenue by business					
Canadian Banking	**$ 4,974**	$ 4,531	$ 4,463	**$ 14,103**	$ 13,156
Caribbean & U.S. Banking	**208**	208	188	**621**	585
Selected balance sheet and other information					
ROE	**29.2%**	34.4%	33.6%	**31.0%**	31.9%
NIM	**2.61%**	2.46%	2.52%	**2.50%**	2.55%
Efficiency ratio	**41.1%**	42.5%	43.0%	**41.9%**	42.9%
Operating leverage (1)	**4.8%**	(0.5)%	6.3%	**2.5%**	3.3%
Average total earning assets, net	**$ 555,400**	$ 540,100	$ 505,600	**$ 542,100**	$ 496,300
Average loans and acceptances, net	**560,300**	544,000	509,300	**546,300**	500,100
Average deposits	**555,300**	543,400	507,600	**546,000**	497,600
AUA (2)	**346,500**	355,800	356,100	**346,500**	356,100
Average AUA	**343,500**	368,400	349,100	**361,400**	333,100
PCL on impaired loans as a % of average net loans and acceptances	**0.13%**	0.11%	0.13%	**0.13%**	0.16%
Other selected information – Canadian Banking					
Net income	**$ 1,971**	$ 2,140	$ 2,024	**$ 6,025**	$ 5,650
NIM	**2.60%**	2.45%	2.51%	**2.49%**	2.53%
Efficiency ratio	**39.7%**	41.2%	41.4%	**40.6%**	41.4%
Operating leverage	**4.5%**	(1.2)%	6.1%	**2.1%**	3.0%

(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 July 31, 2022 of $14 billion and $5 billion, respectively (April 30, 2022 – $14 billion and $4 billion; July 31, 2021 – $15 billion and $3 billion).

Financial performance

Q3 2022 vs. Q3 2021

Net income decreased $90 million or 4% from a year ago, primarily attributable to provisions taken on performing loans in the current quarter as compared to releases of provisions on performing loans in the prior year. Higher staff-related costs also contributed to the decrease. These factors were partially offset by higher net interest income, driven by average volume growth of 10% in Canadian Banking and higher spreads.

Total revenue increased $531 million or 11%.

Canadian Banking revenue increased $511 million or 11%, primarily due to higher net interest income reflecting average volume growth of 10% in loans and 9% in deposits, and improved spreads. Increased client activity contributed to higher foreign exchange revenue and service charges.

Caribbean & U.S. Banking revenue increased $20 million or 11%, mainly due to higher net interest income reflecting improved spreads and average volume growth.

NIM was up 9 bps, mainly due to the impact of the rising interest rate environment, partially offset by lower prepayment revenue in our mortgage portfolios and changes in product mix.

PCL was $324 million compared to $(179) million last year, primarily attributable to provisions taken in the current quarter on performing loans in our Canadian Banking portfolios driven by unfavourable changes in our macroeconomic outlook, as compared to releases of provisions in the prior year that reflected improvements in our macroeconomic and credit quality outlook.

Non-interest expense increased $132 million or 7%, mainly attributable to higher staff and technology related costs, including digital initiatives, as well as higher marketing costs.

Q3 2022 vs. Q2 2022

Net income decreased $211 million or 9% from last quarter, primarily attributable to provisions taken on performing loans in the current quarter reflecting unfavourable changes in our macroeconomic outlook as compared to releases of provisions in the prior quarter mainly reflecting reduced uncertainty relating to the COVID-19 pandemic. Higher staff-related costs also contributed to the decrease. These factors were partially offset by higher net interest income driven by higher spreads, the impact of three more days in the current quarter and average volume growth of 3% in Canadian Banking.

NIM was up 15 bps, primarily due to the impact of the rising interest rate environment.

Q3 2022 vs. Q3 2021 (Nine months ended)
Net income increased $417 million or 7% from the same period last year, primarily attributable to higher net interest income driven by average volume growth of 9% in Canadian Banking that more than offset the impact of lower spreads. Higher non-interest income also contributed to the increase. These factors were partially offset by higher PCL, as well as higher staff and technology related costs, including digital initiatives.

Total revenue increased $983 million or 7%, largely due to higher net interest income reflecting average volume growth in Canadian Banking of 10% in deposits and 9% in loans that more than offset the impact of lower spreads. Higher average mutual fund balances driving higher distribution fees, and higher foreign exchange revenue and service charges reflecting increased client activity also contributed to the increase. These factors were partially offset by lower securities brokerage commissions.

PCL increased $156 million, mainly attributable to larger releases of provisions on performing loans in the same period last year reflecting the recovery from the COVID-19 pandemic across both periods, partially offset by unfavourable changes in our macroeconomic outlook in the current period. This was partially offset by lower provisions on impaired loans in the majority of our Canadian Banking portfolios, resulting in a decrease of 3 bps in the PCL on impaired loans ratio.

Non-interest expense increased $276 million or 5%, 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 nine months ended	
	July 31 2022	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Net interest income	**$ 960**	$ 780	$ 682	**$ 2,485**	$ 2,014
Non-interest income (1)	**2,695**	2,825	2,691	**8,388**	7,838
Total revenue (1)	**3,655**	3,605	3,373	**10,873**	9,852
PCL on performing assets	**12**	(30)	(19)	**(31)**	(26)
PCL on impaired assets	**1**	–	(2)	**2**	(26)
PCL	**13**	(30)	(21)	**(29)**	(52)
Non-interest expense (1)	**2,618**	2,644	2,434	**7,843**	7,211
Income before income taxes (1)	**1,024**	991	960	**3,059**	2,693
Net income (1)	**$ 777**	$ 750	$ 744	**$ 2,322**	$ 2,068
Revenue by business					
Canadian Wealth Management	**$ 1,070**	$ 1,071	$ 1,012	**$ 3,213**	$ 2,876
U.S. Wealth Management (including City National) (1)	**1,878**	1,775	1,592	**5,380**	4,692
U.S. Wealth Management (including City National) (US$ millions) (1)	**1,470**	1,399	1,293	**4,228**	3,739
Global Asset Management	**609**	678	692	**2,023**	2,015
International Wealth Management	**98**	81	77	**257**	269
Selected balance sheet and other information					
ROE	**16.0%**	16.7%	18.3%	**16.8%**	16.9%
NIM	**2.75%**	2.32%	2.25%	**2.39%**	2.32%
Pre-tax margin (1), (2)	**28.0%**	27.5%	28.5%	**28.1%**	27.3%
Number of advisors (3)	**5,622**	5,623	5,522	**5,622**	5,522
Average total earning assets, net	**$ 138,700**	$ 137,900	$ 120,200	**$ 138,900**	$ 116,000
Average loans and acceptances, net	**101,100**	95,700	83,800	**96,600**	82,900
Average deposits	**156,800**	158,800	142,800	**159,100**	140,100
AUA (4)	**1,295,100**	1,301,900	1,292,800	**1,295,100**	1,292,800
U.S. Wealth Management (including City National) (4)	**683,400**	681,600	690,400	**683,400**	690,400
U.S. Wealth Management (including City National) (US$ millions) (4)	**533,600**	530,400	553,300	**533,600**	553,300
AUM (4)	**929,600**	949,800	975,600	**929,600**	975,600
Average AUA	**1,278,700**	1,326,100	1,265,200	**1,318,600**	1,218,200
Average AUM	**922,000**	980,300	956,300	**974,400**	916,900
PCL on impaired loans as a % of average net loans and acceptances	**0.01%**	0.00%	(0.01)%	**0.00%**	(0.04)%

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 nine months ended
	Q3 2022 vs. Q3 2021	**Q3 2022 vs. Q2 2022**	**Q3 2022 vs. Q3 2021**
Increase (decrease):			
Total revenue	**$ 49**	**$ 5**	**$ 37**
PCL	**–**	**–**	**(1)**
Non-interest expense	**41**	**5**	**30**
Net income	**6**	**–**	**5**
Percentage change in average U.S. dollar equivalent of C$1.00	**(4)%**	**(1)%**	**(1)%**
Percentage change in average British pound equivalent of C$1.00	**9%**	**5%**	**5%**
Percentage change in average Euro equivalent of C$1.00	**10%**	**4%**	**9%**

(1) Effective Q4 2021, gains (losses) on economic hedges of our U.S. share-based compensation plans, which are reflected in revenue, and related variability in share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. share-based compensation plans have been reclassified from our Wealth Management segment to Corporate Support. Comparative amounts have been reclassified to conform with this presentation.
(2) Pre-tax margin is defined as Income before income taxes divided by Total revenue.
(3) Represents client-facing advisors across all of our Wealth Management businesses.
(4) Represents period-end spot balances.

Financial performance

Q3 2022 vs. Q3 2021

Net income increased $33 million or 4% from a year ago, mainly due to higher net interest income. This was partially offset by higher non-interest expenses, including staff and technology related costs, as well as higher PCL. Non-Interest income was impacted by challenging market conditions.

Total revenue increased $282 million or 8%.

Canadian Wealth Management revenue increased $58 million or 6%, largely due to higher net interest income from higher interest rates. Higher average fee-based client assets reflecting net sales also contributed to the increase. These factors were partially offset by lower transactional revenue, mainly driven by lower client activity.

U.S. Wealth Management (including City National) revenue increased $286 million or 18%. In U.S. dollars, revenue increased $177 million or 14%, mainly due to higher net interest income driven by average volume growth of 16% in loans and 6% in deposits as well as higher interest rates, which also drove higher revenue from sweep deposits.

Global Asset Management revenue decreased $83 million or 12%, primarily due to unfavourable changes in the fair value of seed capital investments and lower average fee-based client assets largely resulting from unfavourable market conditions. The impact of foreign exchange translation also contributed to the decrease.

International Wealth Management revenue increased $21 million or 27%, primarily due to higher net interest income reflecting higher interest rates. This was partially offset by the impact of foreign exchange translation and lower transactional revenue, mainly driven by lower client activity.

PCL increased $34 million, primarily in U.S. Wealth Management (including City National), largely reflecting provisions taken in the current quarter on performing loans due to unfavourable changes in our macroeconomic outlook as compared to releases of provisions in the prior year that reflected improvements in our macroeconomic and credit quality outlook. Provisions taken on impaired loans in the current quarter as compared to recoveries in the prior year also contributed to the increase, resulting in an increase of 2 bps in the PCL on impaired loans ratio.

Non-interest expense increased $184 million or 8%, mainly due to higher staff and technology related costs. The impact of foreign exchange translation also contributed to the increase.

Q3 2022 vs. Q2 2022

Net income increased $27 million or 4% from last quarter, primarily due to higher net interest income reflecting higher interest rates, partially offset by gains on the sale of certain non-core affiliates in the prior quarter and lower average fee-based client assets largely driven by unfavourable market conditions.

Q3 2022 vs. Q3 2021 (Nine months ended)

Net income increased $254 million or 12% from the same period last year, primarily due to higher average fee-based client assets and higher net interest income. These factors were partially offset by higher variable compensation, higher staff-related costs, as well as lower transactional revenue.

Total revenue increased $1,021 million or 10%, primarily due to higher average fee-based client assets reflecting net sales and market appreciation. Higher net interest income driven by average volume growth of 17% in loans and 14% in deposits and higher interest rates also contributed to the increase. These factors were partially offset by lower transactional revenue, mainly driven by lower client activity.

PCL increased $23 million or 44%, primarily in U.S. Wealth Management (including City National), largely reflecting recoveries on impaired loans in the same period last year in a few sectors, including the consumer discretionary sector, as compared to provisions taken in the current period, resulting in an increase of 4 bps in the PCL on impaired loans ratio. This was partially offset by higher releases of provisions on performing loans in the current period.

Non-interest expense increased $632 million or 9%, primarily due to higher variable compensation commensurate with increased results. Higher staff and technology related costs 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 July 31 2022	April 30 2022	July 31 2021	As at or the nine months ended July 31 2022	July 31 2021
Non-interest income					
Net earned premiums	$ 936	$ 1,210	$ 1,094	$ 3,745	$ 3,271
Investment income, gains/(losses) on assets supporting insurance policyholder liabilities (1)	245	(1,022)	613	(1,029)	705
Fee income	52	46	47	150	123
Total revenue	1,233	234	1,754	2,866	4,099
Insurance policyholder benefits and claims (1)	773	(261)	1,218	1,426	2,608
Insurance policyholder acquisition expense	77	81	86	241	251
Non-interest expense	139	145	155	431	444
Income before income taxes	244	269	295	768	796
Net income	$ 186	$ 206	$ 234	$ 589	$ 622
Revenue by business					
Canadian Insurance	$ 597	$ (507)	$ 1,136	$ 783	$ 2,121
International Insurance	636	741	618	2,083	1,978
Selected balances and other information					
ROE	32.3%	34.6%	39.5%	33.1%	35.4%
Premiums and deposits (2)	$ 1,155	$ 1,458	$ 1,321	$ 4,427	$ 3,926
Fair value changes on investments backing policyholder liabilities (1)	115	(1,133)	475	(1,448)	253

(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

Q3 2022 vs. Q3 2021

Net income decreased $48 million or 21% from a year ago, primarily due to the impact of new longevity reinsurance contracts in the prior year.

Total revenue decreased $521 million or 30%.

Canadian Insurance revenue decreased $539 million or 47%, primarily due to the change in fair value of investments backing policyholder liabilities and lower group annuity sales, both of which are largely offset in PBCAE as indicated below.

International Insurance revenue increased $18 million or 3%, mainly due to the change in fair value of investments backing policyholder liabilities, partially offset by lower revenue in longevity reinsurance, both of which are largely offset in PBCAE as indicated below.

PBCAE decreased $454 million or 35%, primarily reflecting the change in fair value of investments backing policyholder liabilities, and lower sales in group annuity and longevity reinsurance, all of which are largely offset in revenue. These factors were partially offset by the impact of new longevity reinsurance contracts in the prior year.

Non-interest expense decreased $16 million or 10%, mainly due to lower legal costs and lower costs associated with ongoing efficiency initiatives.

Q3 2022 vs. Q2 2022

Net income decreased $20 million or 10% from last quarter, primarily due to less favourable claims experience.

Q3 2022 vs. Q3 2021 (Nine months ended)

Net income decreased $33 million or 5% from the same period last year, largely due to the impact of lower new longevity reinsurance contracts, partially offset by higher favourable investment-related experience.

Total revenue decreased $1,233 million or 30%, mainly due to the change in fair value of investments backing policyholder liabilities, which is largely offset in PBCAE as indicated below. This was partially offset by higher group annuity sales and business growth across most products.

PBCAE decreased $1,192 million or 42%, mainly reflecting the change in fair value of investments backing policyholder liabilities, which is largely offset in revenue. Higher favourable investment-related experience also contributed to the decrease. These factors were partially offset by higher group annuity sales, business growth, as well as the impact of lower new longevity reinsurance contracts.

Non-interest expense decreased $13 million or 3%, mainly due to lower costs associated with ongoing efficiency initiatives and lower legal costs. These factors were partially offset by increased costs in support of sales and client service activities.

Investor & Treasury Services

(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	As at or for the three months ended July 31 2022	April 30 2022	July 31 2021	As at or for the nine months ended July 31 2022	July 31 2021
Net interest income	$ 188	$ 148	$ 127	$ 499	$ 305
Non-interest income	394	403	390	1,221	1,311
Total revenue	582	551	517	1,720	1,616
PCL on performing assets	1	–	(3)	1	(7)
PCL on impaired assets	(4)	–	–	(4)	–
PCL	(3)	–	(3)	(3)	(7)
Non-interest expense	374	398	401	1,192	1,177
Income before income taxes	211	153	119	531	446
Net income	$ 164	$ 121	$ 88	$ 403	$ 331
Selected balance sheet and other information					
ROE	20.2%	16.1%	11.1%	17.4%	13.6%
Average deposits	$ 243,800	$ 239,100	$ 221,100	$ 242,300	$ 215,200
Average client deposits	59,900	61,400	64,600	62,600	63,900
Average wholesale funding deposits	183,900	177,700	156,500	179,700	151,300
AUA (1)	4,089,900	4,443,800	4,704,400	4,089,900	4,704,400
Average AUA	4,262,100	4,515,400	4,584,300	4,478,500	4,597,700

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 Q3 2022 vs. Q3 2021	Q3 2022 vs. Q2 2022	For the nine months ended Q3 2022 vs. Q3 2021
Increase (decrease):			
Total revenue	$ (23)	$ (10)	$ (55)
PCL	–	–	–
Non-interest expense	(19)	(8)	(50)
Net income	(3)	(2)	(4)
Percentage change in average U.S. dollar equivalent of C$1.00	(4)%	(1)%	(1)%
Percentage change in average British pound equivalent of C$1.00	9%	5%	5%
Percentage change in average Euro equivalent of C$1.00	10%	4%	9%

(1) Represents period-end spot balances

Financial performance

Q3 2022 vs. Q3 2021

Net income increased $76 million or 86% from a year ago, primarily driven by higher revenue from client deposits and funding and liquidity.

Total revenue increased $65 million or 13%, primarily due to higher client deposit revenue reflecting improved client margins and higher funding and liquidity revenue resulting largely from increased market opportunities. These factors were partially offset by the impact of foreign exchange translation.

Non-interest expense decreased $27 million or 7%, mainly due to the impact of foreign exchange translation and benefits from ongoing efficiency initiatives.

Q3 2022 vs. Q2 2022

Net income increased $43 million or 36% from last quarter, mainly driven by higher client deposit revenue reflecting improved client margins and higher funding and liquidity revenue reflecting favourable interest rate movements.

Q3 2022 vs. Q3 2021 (Nine months ended)

Net income increased $72 million or 22% from the same period last year, primarily due to higher revenue from client deposits and funding and liquidity, partially offset by higher technology-related costs.

Total revenue increased $104 million or 6%, primarily due to higher client deposit revenue reflecting improved client margins. Higher funding and liquidity revenue also contributed to the increase, resulting largely from a heightened impact from elevated enterprise liquidity in the prior year. These factors were partially offset by the impact of foreign exchange translation.

Non-interest expense increased $15 million or 1%, largely attributable to higher technology-related costs. Higher legal costs and a favourable sales tax adjustment in the prior period, as well as changes in the fair value of our share-based compensation plans also contributed to the increase. These factors were partially offset by the impact of foreign exchange translation and benefits from ongoing efficiency initiatives.

Capital Markets

(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	As at or for the three months ended July 31 2022	April 30 2022	July 31 2021	As at or for the nine months ended July 31 2022	July 31 2021
Net interest income (1)	$ 1,136	$ 1,181	$ 1,122	$ 3,558	$ 3,442
Non-interest income (1)	513	1,167	1,341	3,249	4,447
Total revenue (1)	1,649	2,348	2,463	6,807	7,889
PCL on performing assets	19	(66)	(326)	(53)	(465)
PCL on impaired assets	(13)	29	(11)	10	(22)
PCL	6	(37)	(337)	(43)	(487)
Non-interest expense	1,123	1,350	1,363	3,945	4,272
Income before income taxes	520	1,035	1,437	2,905	4,104
Net income	$ 479	$ 795	$ 1,129	$ 2,304	$ 3,267
Revenue by business					
Corporate and Investment Banking	$ 625	$ 1,123	$ 1,289	$ 3,141	$ 3,598
Global Markets	1,142	1,350	1,232	3,990	4,420
Other	(118)	(125)	(58)	(324)	(129)
Selected balance sheet and other information					
ROE	7.1%	12.8%	19.7%	12.0%	19.0%
Average total assets	$ 812,700	$ 794,600	$ 685,600	$ 804,700	$ 707,900
Average trading securities	128,400	137,300	120,100	135,100	122,100
Average loans and acceptances, net	126,000	118,800	98,200	118,600	97,900
Average deposits	75,700	83,200	74,100	78,200	73,500
PCL on impaired loans as a % of average net loans and acceptances	(0.04)%	0.09%	(0.07)%	0.00%	(0.04)%

(1) The taxable equivalent basis (teb) adjustment for the three months ended July 31, 2022 was $143 million (April 30, 2022 – $145 million; July 31, 2021 – $130 million) and for the nine months ended July 31, 2022 was $430 million (July 31, 2021 – $393 million). For further discussion, refer to the How we measure and report our business segments section of our 2021 Annual Report.

Financial performance

Q3 2022 vs. Q3 2021

Net income decreased $650 million or 58% from a year ago, largely driven by lower revenue in Corporate and Investment Banking and releases of provisions on performing loans in the prior year. These factors were partially offset by lower compensation.

Total revenue decreased $814 million or 33%.

Corporate and Investment Banking revenue decreased $664 million or 52%, mainly due to the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions. Lower loan syndication activity across most regions as well as lower debt origination, primarily in the U.S., and lower equity origination in North America also contributed to the decrease. These factors were partially offset by higher lending revenue largely in the U.S. and Europe.

Global Markets revenue decreased $90 million or 7%, primarily due to lower debt origination across all regions and lower fixed income trading revenue largely in the U.S. Lower equity origination across all regions also contributed to the decrease. These factors were partially offset by higher equity trading revenue, largely in the U.S., and higher foreign exchange trading revenue across all regions.

Other revenue decreased $60 million, mainly reflecting higher residual funding costs.

PCL was $6 million compared to $(337) million last year, primarily attributable to releases of provisions on performing loans in the prior year driven by improvements in our macroeconomic and credit quality outlook as compared to provisions in the current quarter largely reflecting unfavourable changes in our macroeconomic outlook.

Non-interest expense decreased $240 million or 18%, primarily driven by lower compensation on decreased results.

Q3 2022 vs. Q2 2022

Net income decreased $316 million or 40% from last quarter, mainly due to lower fixed income trading revenue, including the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions. Lower loan syndication activity in the U.S. and Europe and lower debt origination, M&A activity and commodities trading revenue across all regions also contributed to the decrease. These factors were partially offset by lower compensation on decreased results and lower taxes reflecting changes in earnings mix.

Q3 2022 vs. Q3 2021 (Nine months ended)

Net income decreased $963 million or 29% from the same period last year, primarily driven by larger releases of provisions on performing loans last year, as well as lower revenue in Corporate and Investment Banking and Global Markets. These factors were partially offset by lower compensation on decreased results.

Total revenue decreased $1,082 million or 14%, mainly due to lower fixed income trading revenue, including the impact from loan underwriting markdowns, primarily in the U.S., largely driven by challenging market conditions. Lower debt origination, primarily in the U.S., and equity origination across most regions also contributed to the decrease. These factors were partially offset by higher lending revenue mainly in the U.S. and Europe.

PCL was $(43) million compared to $(487) million in the same period last year, primarily reflecting the recovery from the COVID-19 pandemic across both periods, partially offset by unfavourable changes in our macroeconomic outlook in the current period. Provisions taken on impaired loans in the current period as compared to recoveries in the same period last year, also contributed to the increase, resulting in an increase of 4 bps in the PCL on impaired loan ratio.

Non-interest expense decreased $327 million or 8%, primarily driven by lower compensation on decreased results.

Corporate Support

	For the three months ended			For the nine months ended	
(Millions of Canadian dollars)	**July 31 2022**	April 30 2022	July 31 2021	**July 31 2022**	July 31 2021
Net interest income (loss) (1)	**$ (49)**	$ (69)	$ (85)	**$ (225)**	$ (272)
Non-interest income (loss) (1), (2)	**(120)**	(188)	83	**(347)**	392
Total revenue (1), (2)	**(169)**	(257)	(2)	**(572)**	120
PCL	**–**	1	–	**1**	(1)
Non-interest expense (2)	**2**	(118)	69	**(178)**	346
Income (loss) before income taxes (1), (2)	**(171)**	(140)	(71)	**(395)**	(225)
Income taxes (recoveries) (1), (2)	**(119)**	(287)	(59)	**(471)**	(281)
Net income (loss) (2)	**$ (52)**	$ 147	$ (12)	**$ 76**	$ 56

(1) Teb adjusted.
(2) Effective Q4 2021, gains (losses) on economic hedges of our U.S. share-based compensation plans, which are reflected in revenue, and related variability in share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. share-based compensation plans have been reclassified from our Wealth Management segment to Corporate Support. Comparative amounts have been reclassified to conform with this presentation.

Due to the nature of activities and consolidation adjustments reported in this segment, we believe that a comparative period analysis is not relevant. The following identifies material items affecting the reported results in each period.

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 July 31, 2022 was $143 million, compared to $145 million in the prior quarter and $130 million in the same quarter last year. The teb amount for the nine months ended July 31, 2022 was $430 million, compared to $393 million in the same period last year.

Revenue for the three months ended July 31, 2022 included losses of $22 million (April 30, 2022 and July 31, 2021 – losses of $154 million and gains of $51 million, respectively) on economic hedges of our U.S. Wealth Management (including City National) share-based compensation plans, and non-interest expense included $(15) million (April 30, 2022 and July 31, 2021 – $(122) million and $59 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 nine months ended July 31, 2022 included losses of $265 million (July 31, 2021 – gains of $353 million) on economic hedges of our U.S. Wealth Management (including City National) share-based compensation plans, and non-interest expense included $(208) million (July 31, 2021 – $340 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.

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

Q3 2022
Net loss was $52 million, primarily due to residual unallocated items and unfavourable tax adjustments.

Q2 2022
Net income was $147 million, primarily due to net favourable tax adjustments.

Q3 2021
Net loss was $12 million, primarily due to net unfavourable tax adjustments, largely offset by asset/liability management activities and residual unallocated items.

Q3 2022 (Nine months ended)
Net income was $76 million, mainly due to net favourable tax adjustments.

Q3 2021 (Nine months ended)
Net income was $56 million, mainly due to asset/liability management activities and residual unallocated items, partially offset by net unfavourable 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)	2022 Q3	2022 Q2	2022 Q1	2021 Q4	2021 Q3	2021 Q2	2021 Q1	2020 Q4
Personal & Commercial Banking	$ 5,182	$ 4,739	$ 4,803	$ 4,605	$ 4,651	$ 4,527	$ 4,563	$ 4,373
Wealth Management (2)	3,655	3,605	3,613	3,444	3,373	3,260	3,219	3,061
Insurance	1,233	234	1,399	1,501	1,754	536	1,809	958
Investor & Treasury Services	582	551	587	548	517	534	565	521
Capital Markets (3)	1,649	2,348	2,810	2,298	2,463	2,718	2,708	2,275
Corporate Support (2), (3)	(169)	(257)	(146)	(20)	(2)	43	79	(96)
Total revenue	12,132	11,220	13,066	12,376	12,756	11,618	12,943	11,092
PCL	340	(342)	105	(227)	(540)	(96)	110	427
PBCAE	850	(180)	997	1,032	1,304	149	1,406	461
Non-interest expense	6,386	6,434	6,580	6,583	6,420	6,379	6,542	6,058
Income before income taxes	4,556	5,308	5,384	4,988	5,572	5,186	4,885	4,146
Income taxes	979	1,055	1,289	1,096	1,276	1,171	1,038	900
Net income	$ 3,577	$ 4,253	$ 4,095	$ 3,892	$ 4,296	$ 4,015	$ 3,847	$ 3,246
EPS – basic	$ 2.52	$ 2.97	$ 2.84	$ 2.68	$ 2.97	$ 2.76	$ 2.66	$ 2.23
– diluted	2.51	2.96	2.84	2.68	2.97	2.76	2.66	2.23
Effective income tax rate	21.5%	19.9%	23.9%	22.0%	22.9%	22.6%	21.2%	21.7%
Period average US$ equivalent of C$1.00	$ 0.783	$ 0.789	$ 0.787	$ 0.796	$ 0.812	$ 0.798	$ 0.779	$ 0.756

(1) Fluctuations in the Canadian dollar relative to other foreign currencies have affected our consolidated results over the period.
(2) Effective Q4 2021, gains (losses) on economic hedges of our U.S. share-based compensation plans, which are reflected in revenue, and related variability in share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. share-based compensation plans have been reclassified from our Wealth Management segment to Corporate Support. Comparative amounts have been reclassified to conform with this presentation.
(3) Teb adjusted. For further discussion, refer to the How we measure and report our business segments section of our 2021 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 have generally trended upward over the period and have been impacted by the factors noted below. Quarterly earnings are affected by the impact of foreign exchange translation.

Personal & Commercial Banking revenue has benefitted from solid volume growth over the period. NIM has been negatively impacted by margin compression over the period from the lower interest rate environment, however the last two quarters benefitted from rate increases.

Wealth Management revenue has benefitted from volume growth over the period. Average fee-based client assets have also contributed to fluctuations over the period and are impacted by market conditions. The low interest rate environment has negatively impacted revenue over the majority of the period, however the last two quarters benefitted from rate increases.

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 and fourth quarters.

Investor & Treasury Services revenue has been impacted by interest rate movements, market volatility and client activity over the period.

Capital Markets revenue is influenced, to a large extent, by market conditions that impact client activity, with first quarter results generally stronger than those in the remaining quarters. Trading revenue across the first half of the period benefitted from increased client activity. For most of the latter half of the period, trading results were impacted by market normalization. Beginning in the second quarter of 2022, there was a decline in global fee pools. Trading results were further impacted in the third quarter of 2022 amidst challenging market conditions, driving lower fixed income trading revenue, including the impact from loan underwriting markdowns.

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 macroeconomic conditions, exposures and credit quality. Provisions on performing assets in the last quarter of 2020 continued to reflect the impact of the COVID-19 pandemic. 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 third quarter of 2022, unfavourable changes in our macroeconomic outlook resulted in an increase in provisions. PCL on impaired assets trended lower over the period, generally reflecting the impact of the recovery since the sharp drop of economic activity in calendar 2020 as well as the impact of the COVID-19 related government support programs, largely in our Canadian Banking retail portfolios. Provisions on impaired loans in Capital Markets trended lower throughout 2021 and 2022, largely due to recoveries.

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 include 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.

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 quarter of 2022 reflected the impact of net favourable tax adjustments.

Financial condition

Condensed balance sheets

	As at	
(Millions of Canadian dollars)	July 31 2022	October 31 2021
Assets		
Cash and due from banks	$ 89,110	$ 113,846
Interest-bearing deposits with banks	98,145	79,638
Securities, net of applicable allowance (1)	298,795	284,724
Assets purchased under reverse repurchase agreements and securities borrowed	318,565	307,903
Loans		
Retail	538,389	503,598
Wholesale	261,592	218,066
Allowance for loan losses	(3,667)	(4,089)
Other – Derivatives	122,058	95,541
– Other (2)	119,105	107,096
Total assets	$ 1,842,092	$ 1,706,323
Liabilities		
Deposits	$ 1,178,604	$ 1,100,831
Other – Derivatives	119,868	91,439
– Other (2)	429,511	405,698
Subordinated debentures	10,111	9,593
Total liabilities	1,738,094	1,607,561
Equity attributable to shareholders	103,898	98,667
Non-controlling interests	100	95
Total equity	103,998	98,762
Total liabilities and equity	$ 1,842,092	$ 1,706,323

(1) Securities are comprised of trading and investment securities.
(2) Other – Other assets and liabilities include Segregated fund net assets and liabilities, respectively.

Q3 2022 vs. Q4 2021

Total assets increased $136 billion or 8% from October 31, 2021. Foreign exchange translation increased total assets by $60 billion.

Cash and due from banks was down $25 billion or 22%, primarily due to lower deposits with central banks, reflecting our liquidity and short-term cash management activities.

Interest-bearing deposits with banks increased $19 billion or 23%, primarily due to higher deposits with central banks, reflecting our cash and liquidity management activities.

Securities, net of applicable allowance, were up $14 billion or 5%, mainly due to higher government and corporate debt securities reflecting short-term market opportunities and the impact of foreign exchange translation. These factors were partially offset by lower equity trading securities.

Assets purchased under reverse repurchase agreements (reverse repos) and securities borrowed increased $11 billion or 3%, primarily due to increased client demand and the impact of foreign exchange translation.

Loans (net of Allowance for loan losses) were up $79 billion or 11%, primarily due to volume growth in wholesale loans and residential mortgages.

Derivative assets were up $27 billion or 28%, mainly attributable to the impact of foreign exchange translation, partially offset by lower fair values on foreign exchange contracts.

Other assets were up $12 billion or 11%, primarily reflecting higher cash collateral and margin deposits.

Total liabilities increased $131 billion or 8%. Foreign exchange translation increased total liabilities by $60 billion.

Deposits increased $78 billion or 7%, mainly from issuances of long-term and short-term notes due to funding requirements and higher retail deposits. The impact of foreign exchange translation also contributed to the increase.

Derivative liabilities were up $28 billion or 31%, mainly attributable to the impact of foreign exchange translation, partially offset by lower fair values on foreign exchange contracts.

Other liabilities were up $24 billion or 6%, mainly attributable to higher obligations related to repurchase agreements (repos) reflecting increased client activity, and higher cash collateral.

Total equity increased $5 billion or 5%, mainly reflecting earnings, net of dividends, and other comprehensive income (OCI). These factors were partially offset by share repurchases.

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 issuance of guarantees. These transactions give rise to, among other risks, varying degrees of market, credit, and liquidity and funding risk, which are discussed in the Risk management section of this Q3 2022 Report to Shareholders.

The following provides an update to our significant off-balance sheet transactions, which are described on pages 50 to 52 of our 2021 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 July 31, 2022, the total assets of the multi-seller conduits were $45 billion (October 31, 2021 – $40 billion) and our maximum exposure to loss was $45 billion (October 31, 2021 – $41 billion). The increase reflects higher securitization activities since October 31, 2021, mainly in the residential mortgage and student loan asset classes. The impact of foreign exchange translation also contributed to the increase.

As at July 31, 2022, the total asset-backed commercial paper (ABCP) issued by the conduits amounted to $29 billion (October 31, 2021 – $25 billion). The rating agencies that rate the ABCP rated 100% (October 31, 2021 – 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 2021 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 July 31, 2022					Home equity lines of credit (3)
	Residential mortgages					
	Insured (2)		Uninsured		Total	Total
Region (4)						
Canada						
Atlantic provinces	$ 8,430	46%	$ 9,792	54%	$ 18,222	$ 1,638
Quebec	12,545	29	30,262	71	42,807	3,244
Ontario	31,590	17	152,599	83	184,189	16,894
Alberta	19,917	48	21,958	52	41,875	5,046
Saskatchewan and Manitoba	8,922	43	11,670	57	20,592	1,955
B.C. and territories	12,473	18	58,121	82	70,594	7,535
Total Canada (5)	93,877	25	284,402	75	378,279	36,312
U.S.	–	–	29,066	100	29,066	1,525
Other International	–	–	2,839	100	2,839	1,607
Total International	–	–	31,905	100	31,905	3,132
Total	$ 93,877	23%	$ 316,307	77%	$ 410,184	$ 39,444

(Millions of Canadian dollars, except percentage amounts)	As at April 30, 2022					Home equity lines of credit (3)
	Residential mortgages					
	Insured (2)		Uninsured		Total	Total
Region (4)						
Canada						
Atlantic provinces	$ 8,324	47%	$ 9,458	53%	$ 17,782	$ 1,610
Quebec	12,539	30	29,177	70	41,716	3,175
Ontario	32,174	18	146,554	82	178,728	16,473
Alberta	20,083	48	21,394	52	41,477	5,159
Saskatchewan and Manitoba	8,962	45	10,913	55	19,875	1,939
B.C. and territories	12,694	18	56,011	82	68,705	7,490
Total Canada (5)	94,776	26	273,507	74	368,283	35,846
U.S.	–	–	27,245	100	27,245	1,437
Other International	–	–	2,842	100	2,842	1,558
Total International	–	–	30,087	100	30,087	2,995
Total	$ 94,776	24%	$ 303,594	76%	$ 398,370	$ 38,841

(1) Disclosure is provided in accordance with the requirements of OSFI's Guideline B-20 (Residential Mortgage Underwriting Practices and Procedures).
(2) 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.
(3) Includes $39,419 million and $25 million of uninsured and insured home equity lines of credit, respectively (April 30, 2022 – $38,815 million and $26 million, respectively), reported within the personal loan category. The amounts in the U.S. and Other International include term loans collateralized by residential properties.
(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 $378 billion (April 30, 2022 – $368 billion) includes $11 billion (April 30, 2022 – $11 billion) of mortgages with commercial clients in Canadian Banking, of which $8 billion (April 30, 2022 – $8 billion) are insured, and $17 billion (April 30, 2022 – $17 billion) of residential mortgages held for securitization purposes in Capital Markets. All of the residential mortgages held for securitization purposes are insured (April 30, 2022 – 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					
	July 31 2022			April 30 2022		
	Canada (2)	U.S. and other International	Total	Canada (2)	U.S. and other International	Total
Amortization period						
≤ 25 years	60%	25%	57%	66%	26%	63%
> 25 years ≤ 30 years	16	75	21	22	74	26
> 30 years ≤ 35 years	4	–	4	12	–	11
> 35 years	20	–	18	–	–	–
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.

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 nine months ended	
	July 31 2022		April 30 2022		**July 31 2022**	
	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	**72%**	**73%**	73%	74%	**73%**	**73%**
Quebec	**72**	**73**	72	72	**72**	**73**
Ontario	**70**	**66**	70	66	**70**	**67**
Alberta	**73**	**73**	73	73	**73**	**73**
Saskatchewan and Manitoba	**74**	**75**	74	75	**74**	**75**
B.C. and territories	**69**	**65**	68	66	**68**	**66**
U.S.	**75**	**n.m.**	73	n.m.	**75**	**n.m.**
Other International	**72**	**n.m.**	73	n.m.	**72**	**n.m.**
Average of newly originated and acquired for the period (5), (6)	**71%**	**68%**	71%	68%	**71%**	**68%**
Total Canadian Banking residential mortgages portfolio (7)	**49%**	**44%**	50%	45%	**49%**	**44%**

(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 Composite 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.

	As at								
	July 31 2022								April 30 2022
	Asset type				**Client type**				
(Millions of Canadian dollars)	**Loans Outstanding**	**Securities** (3)	**Repo-style transactions**	**Derivatives**	**Financials**	**Sovereign**	**Corporate**	**Total**	Total
Europe (excluding U.K.)	**$ 15,452**	**$ 33,352**	**$ 2,066**	**$ 2,500**	**$ 18,579**	**$ 22,125**	**$ 12,666**	**$ 53,370**	$ 54,645
U.K.	**8,658**	**30,894**	**1,037**	**2,133**	**16,247**	**17,750**	**8,725**	**42,722**	41,108
Latin America and the Caribbean	**8,665**	**11,429**	**388**	**163**	**7,442**	**5,324**	**7,879**	**20,645**	20,499
Asia-Pacific	**6,327**	**28,948**	**995**	**622**	**10,143**	**21,867**	**4,882**	**36,892**	42,715
Other (4)	**223**	**95**	**507**	**4**	**576**	**11**	**242**	**829**	673
Net International exposure (5), (6)	**$ 39,325**	**$ 104,718**	**$ 4,993**	**$ 5,422**	**$ 52,987**	**$ 67,077**	**$ 34,394**	**$ 154,458**	$ 159,640

(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 $357 billion against repo-style transactions (April 30, 2022 – $376 billion) and $12 billion against derivatives (April 30, 2022 – $13 billion).
(3) Securities include $13 billion of trading securities (April 30, 2022 – $16 billion), $60 billion of deposits (April 30, 2022 – $57 billion), and $32 billion of investment securities (April 30, 2022 – $35 billion).
(4) Includes exposures in the Middle East and Africa.
(5) Excludes $3,158 million (April 30, 2022 – $3,685 million) of exposures to supranational agencies.
(6) Reflects $2,351 million of mitigation through credit default swaps, which are largely used to hedge single name exposures and market risk (April 30, 2022 – $2,137 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 July 31 2022	April 30 2022	October 31 2021
Personal & Commercial Banking	$ **1,352**	$ 1,449	$ 1,590
Wealth Management	**222**	226	233
Capital Markets	**485**	462	485
Total GIL	$ **2,059**	$ 2,137	$ 2,308
Impaired loans, beginning balance	$ **2,137**	$ 2,141	$ 2,561
Classified as impaired during the period (new impaired) (1)	**458**	398	298
Net repayments (1)	**(92)**	(103)	(106)
Amounts written off	**(290)**	(260)	(286)
Other (2)	**(154)**	(39)	(159)
Impaired loans, balance at end of period	$ **2,059**	$ 2,137	$ 2,308
GIL as a % of related loans and acceptances			
Total GIL as a % of related loans and acceptances	**0.25%**	0.27%	0.31%
Personal & Commercial Banking	**0.24%**	0.26%	0.30%
Canadian Banking	**0.18%**	0.20%	0.24%
Caribbean Banking	**4.36%**	4.43%	4.65%
Wealth Management	**0.22%**	0.22%	0.26%
Capital Markets	**0.38%**	0.37%	0.45%

(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.

Q3 2022 vs. Q2 2022

Total GIL decreased $78 million or 4% from last quarter, and the total GIL ratio decreased 2 bps, due to lower impaired loans in Personal & Commercial Banking, partially offset by higher impaired loans in Capital Markets.

GIL in Personal & Commercial Banking decreased $97 million or 7%, largely due to lower impaired loans in our Canadian Banking retail portfolios. Lower impaired loans in a few sectors in our Canadian Banking commercial portfolios, including the consumer discretionary sector, also contributed to the decrease.

GIL in Capital Markets increased $23 million or 5%, due to higher impaired loans in a few sectors including the real estate and related, industrial products and consumer staples sectors, partially offset by lower impaired loans in the transportation and oil and gas sectors.

Allowance for credit losses (ACL)

(Millions of Canadian dollars)	As at July 31 2022	April 30 2022	October 31 2021
Personal & Commercial Banking	$ **3,174**	$ 3,029	$ 3,478
Wealth Management	**303**	299	320
Capital Markets	**532**	557	620
Corporate Support and other (1)	**2**	2	1
ACL on loans	**4,011**	3,887	4,419
ACL on other financial assets (2)	**32**	39	52
Total ACL	$ **4,043**	$ 3,926	$ 4,471
ACL on loans is comprised of:			
Retail	$ **2,190**	$ 2,053	$ 2,287
Wholesale	**1,149**	1,114	1,435
ACL on performing loans	$ **3,339**	$ 3,167	$ 3,722
ACL on impaired loans	**672**	720	697

(1) Includes ACL recorded in Corporate Support, Insurance and Investor & Treasury Services.
(2) ACL on other financial assets mainly represents allowances on debt securities measured at FVOCI and amortized cost, accounts receivable and financial guarantees.

Q3 2022 vs. Q2 2022

Total ACL increased $117 million or 3% from last quarter, primarily reflecting an increase of $124 million in ACL on loans.

ACL on performing loans increased $172 million or 5%, primarily due to higher ACL in Personal & Commercial Banking and Capital Markets, largely driven by unfavourable changes in our macroeconomic outlook.

ACL on impaired loans decreased $48 million or 7%, due to lower ACL in Capital Markets and Wealth Management.

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

Market risk

Market risk is defined to be the impact of market prices upon our financial condition. This includes potential 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 2021 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 2021 Annual Report. For further details of our approach to the management of market risk, refer to the Market risk section of our 2021 Annual Report.

Market risk measures – FVTPL positions

VaR and SVaR

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

	July 31, 2022				April 30, 2022		July 31, 2021	
		For the three months ended				For the three months ended		For the three months ended
(Millions of Canadian dollars)	As at	Average	High	Low	As at	Average	As at	Average
Equity	$ 38	$ 36	$ 47	$ 29	$ 46	$ 33	$ 20	$ 19
Foreign exchange	4	3	4	2	3	4	4	5
Commodities	5	5	6	4	4	4	4	3
Interest rate (1)	42	31	46	18	22	22	39	49
Credit specific (2)	7	7	8	6	7	8	7	9
Diversification (3)	(34)	(32)	n.m.	n.m.	(27)	(25)	(30)	(41)
Market risk VaR (4)	$ 62	$ 50	$ 67	$ 36	$ 55	$ 46	$ 44	$ 44
Market risk Stressed VaR (5)	$ 150	$ 102	$ 161	$ 49	$ 101	$ 80	$ 50	$ 50

	July 31, 2022				July 31, 2021	
		For the nine months ended				For the nine months ended
(Millions of Canadian dollars)	As at	Average	High	Low	As at	Average
Equity	$ 38	$ 34	$ 48	$ 21	$ 20	$ 18
Foreign exchange	4	4	7	2	4	4
Commodities	5	4	6	3	4	3
Interest rate (1)	42	31	62	17	39	44
Credit specific (2)	7	8	10	6	7	8
Diversification (3)	(34)	(30)	n.m.	n.m.	(30)	(35)
Market risk VaR (4)	$ 62	$ 51	$ 87	$ 34	$ 44	$ 42
Market risk Stressed VaR (5)	$ 150	$ 84	$ 161	$ 47	$ 50	$ 52

(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 July 31, 2022 includes $7 million and $32 million, respectively (April 30, 2022 - $3 million and $21 million; July 31, 2021 - $16 million and $17 million), related to loan underwriting commitments.
(5) The average market risk VaR and average SVaR for the nine months ended July 31, 2022 includes $6 million and $21 million, respectively (July 31, 2021 - $14 million and $16 million), related to loan underwriting commitments.
n.m. not meaningful

Q3 2022 vs. Q3 2021

Average market risk VaR of $50 million increased $6 million from a year ago. This was driven by the impact of heightened market volatility in the current quarter on our equity derivatives portfolio and a reduced benefit from diversification, partially offset by the impact of the Q2 2020 period of significant market volatility no longer being reflected in our two-year historical VaR period.

Average SVaR of $102 million increased $52 million, largely driven by unfavourable market conditions in the current quarter which impacted loan underwriting commitments, increased exposures in our fixed income and interest rate derivative portfolios, and the impact of heightened market volatility in the current quarter on our equity derivatives portfolio.

Q3 2022 vs. Q2 2022

Average market risk VaR of $50 million increased $4 million from last quarter. This was driven by unfavourable market conditions in the current quarter which impacted loan underwriting commitments, and the impact of heightened market volatility in the current quarter on our equity derivatives and fixed income portfolios, partially offset by a higher benefit from diversification.

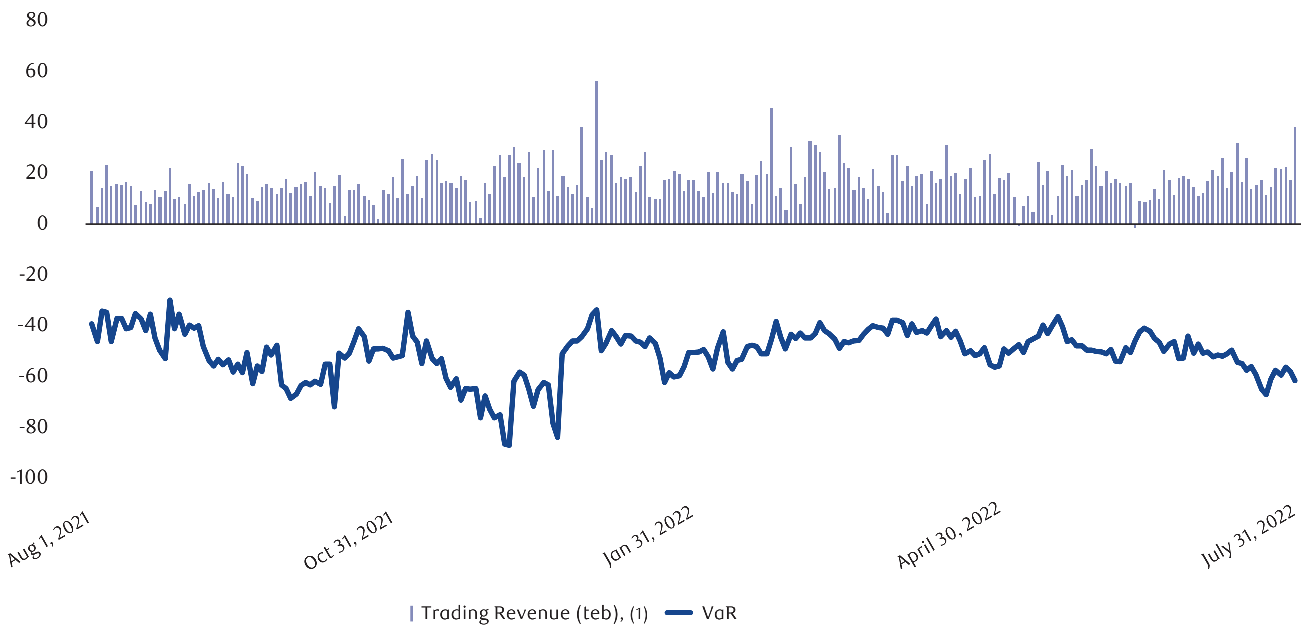
Average SVaR of $102 million increased $22 million, mainly driven by unfavourable market conditions in the current quarter which impacted loan underwriting commitments, and the impact of heightened market volatility in the current quarter on our equity derivatives portfolio.

Q3 2022 vs. Q3 2021 (Nine months ended)
Average market risk VaR of $51 million increased $9 million from the same period last year. This was driven by the impact of heightened market volatility in the current period on our equity derivatives portfolio and a reduced benefit from diversification, partially offset by the impact of the Q2 2020 period of significant market volatility no longer being reflected in our two-year historical VaR period.

Average SVaR of $84 million increased $32 million, largely driven by increased exposures in our fixed income and interest rate derivative portfolios, and unfavourable market conditions in the current period which impacted loan underwriting commitments.

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 2 days with net trading losses, excluding the impact of loan underwriting commitments, in the three months ended July 31, 2022 totalling $2 million, and no net trading losses in the three months ended April 30, 2022.

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



(1) Effective Q3 2022, Trading revenue (teb) in the chart above excludes the impact of loan underwriting commitments. Comparative amounts have been revised to conform with this presentation.

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 Insurance policyholder benefits, claims and acquisition expense. As at July 31, 2022, we held assets in support of $12 billion of liabilities with respect to insurance obligations (April 30, 2022 – $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.

	July 31 2022						April 30 2022		July 31 2021	
	EVE risk			NII risk (1)						
(Millions of Canadian dollars)	Canadian dollar impact	U.S. dollar impact	Total	Canadian dollar impact	U.S. dollar impact	Total	EVE risk	NII risk (1)	EVE risk	NII risk (1)
Before-tax impact of:										
100 bps increase in rates	$ (1,297)	$ (114)	$ (1,411)	$ 802	$ 289	$ 1,091	$ (2,054)	$ 1,087	$ (1,935)	$ 1,002
100 bps decrease in rates	1,218	(304)	914	(858)	(331)	(1,189)	1,728	(1,214)	1,534	(852)

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

As at July 31, 2022, an immediate and sustained -100 bps shock would have had a negative impact to our NII of $1,189 million, down from $1,214 million last quarter and an immediate and sustained +100bps shock would have had a positive impact to our NII of $1,091 million, up from $1,087 million last quarter. An immediate and sustained +100 bps shock as at July 31, 2022 would have had a negative impact to the bank's EVE of $1,411 million, down from $2,054 million last quarter. Quarter-over-quarter NII sensitivity remained relatively stable, while quarter-over-quarter EVE sensitivity decreased primarily in response to a marginal reduction in the term of fixed rate assets. During the third quarter of 2022, 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:

	As at July 31, 2022			
		Market risk measure		
(Millions of Canadian dollars)	Balance sheet amount	Traded risk (1)	Non-traded risk (2)	Non-traded risk primary risk sensitivity
Assets subject to market risk				
Cash and due from banks	$ 89,110	$ –	$ 89,110	Interest rate
Interest-bearing deposits with banks	98,145	86,863	11,282	Interest rate
Securities				
Trading	141,986	130,373	11,613	Interest rate, credit spread
Investment, net of applicable allowance	156,809	–	156,809	Interest rate, credit spread, equity
Assets purchased under reverse repurchase agreements and securities borrowed	318,565	268,448	50,117	Interest rate
Loans				
Retail	538,389	4,694	533,695	Interest rate
Wholesale	261,592	9,268	252,324	Interest rate
Allowance for loan losses	(3,667)	–	(3,667)	Interest rate
Segregated fund net assets	2,690	–	2,690	Interest rate
Other				
Derivatives	122,058	119,543	2,515	Interest rate, foreign exchange
Other assets	102,929	8,797	94,132	Interest rate
Assets not subject to market risk (3)	13,486			
Total assets	$ 1,842,092	$ 627,986	$ 1,200,620	
Liabilities subject to market risk				
Deposits	$ 1,178,604	$ 138,005	$ 1,040,599	Interest rate
Segregated fund liabilities	2,690	–	2,690	Interest rate
Other				
Obligations related to securities sold short	38,504	38,504	–	
Obligations related to assets sold under repurchase agreements and securities loaned	281,149	259,108	22,041	Interest rate
Derivatives	119,868	111,471	8,397	Interest rate, foreign exchange
Other liabilities	87,252	10,648	76,604	Interest rate
Subordinated debentures	10,111	–	10,111	Interest rate
Liabilities not subject to market risk (4)	19,916			
Total liabilities	$ 1,738,094	$ 557,736	$ 1,160,442	
Total equity	103,998			
Total liabilities and equity	$ 1,842,092			

(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) Assets not subject to market risk include physical and other assets.
(4) Liabilities not subject to market risk include payroll related and other liabilities.

	As at April 30, 2022			
		Market risk measure		
(Millions of Canadian dollars)	Balance sheet amount	Traded risk (1)	Non-traded risk (2)	Non-traded risk primary risk sensitivity
Assets subject to market risk				
Cash and due from banks	$ 115,929	$ –	$ 115,929	Interest rate
Interest-bearing deposits with banks	68,829	58,319	10,510	Interest rate
Securities				
Trading	143,766	132,464	11,302	Interest rate, credit spread
Investment, net of applicable allowance	154,549	–	154,549	Interest rate, credit spread, equity
Assets purchased under reverse repurchase agreements and securities borrowed	316,698	271,184	45,514	Interest rate
Loans				
Retail	525,183	5,382	519,801	Interest rate
Wholesale	252,847	9,839	243,008	Interest rate
Allowance for loan losses	(3,566)	–	(3,566)	Interest rate
Segregated fund net assets	2,659	–	2,659	Interest rate
Other				
Derivatives	156,204	152,811	3,393	Interest rate, foreign exchange
Other assets	101,282	9,076	92,206	Interest rate
Assets not subject to market risk (3)	14,192			
Total assets	$ 1,848,572	$ 639,075	$ 1,195,305	
Liabilities subject to market risk				
Deposits	$ 1,151,597	$ 132,342	$ 1,019,255	Interest rate
Segregated fund liabilities	2,659	–	2,659	Interest rate
Other				
Obligations related to securities sold short	39,464	39,464	–	
Obligations related to assets sold under repurchase agreements and securities loaned	279,338	252,307	27,031	Interest rate
Derivatives	151,541	143,679	7,862	Interest rate, foreign exchange
Other liabilities	91,069	10,424	80,645	Interest rate
Subordinated debentures	10,276	–	10,276	Interest rate
Liabilities not subject to market risk (4)	18,223			
Total liabilities	$ 1,744,167	$ 578,216	$ 1,147,728	
Total equity	104,405			
Total liabilities and equity	$ 1,848,572			

(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) Assets not subject to market risk include physical and other assets.
(4) 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 2021 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 July 31, 2022				
(Millions of Canadian dollars)	Bank-owned liquid assets	Securities received as collateral from securities financing and derivative transactions	Total liquid assets	Encumbered liquid assets	Unencumbered liquid assets
Cash and due from banks	$ 89,110	$ –	$ 89,110	$ 3,740	$ 85,370
Interest-bearing deposits with banks	98,145	–	98,145	–	98,145
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks (1)	231,807	336,895	568,702	393,647	175,055
Other securities	109,860	120,045	229,905	135,470	94,435
Other liquid assets (2)	39,305	–	39,305	36,816	2,489
Total liquid assets	**$ 568,227**	**$ 456,940**	**$ 1,025,167**	**$ 569,673**	**$ 455,494**

	As at April 30, 2022				
(Millions of Canadian dollars)	Bank-owned liquid assets	Securities received as collateral from securities financing and derivative transactions	Total liquid assets	Encumbered liquid assets	Unencumbered liquid assets
Cash and due from banks	$ 115,929	$ –	$ 115,929	$ 3,612	$ 112,317
Interest-bearing deposits with banks	68,829	–	68,829	–	68,829
Securities issued or guaranteed by sovereigns, central banks or multilateral development banks (1)	224,391	329,058	553,449	376,291	177,158
Other securities	117,767	124,085	241,852	141,199	100,653
Other liquid assets (2)	37,950	–	37,950	35,338	2,612
Total liquid assets	$ 564,866	$ 453,143	$ 1,018,009	$ 556,440	$ 461,569

	As at	
(Millions of Canadian dollars)	July 31 2022	April 30 2022
Royal Bank of Canada	$ 183,131	$ 204,567
Foreign branches	105,349	85,933
Subsidiaries	167,014	171,069
Total unencumbered liquid assets	**$ 455,494**	$ 461,569

(1) 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).
(2) Encumbered liquid assets amount represents cash collateral and margin deposit amounts pledged related to over-the-counter (OTC) and exchange-traded derivative transactions.

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

Q3 2022 vs. Q2 2022

Total unencumbered liquid assets decreased $6 billion or 1% from last quarter, mainly due to a reduction in unencumbered securities, including the impact from collateral pledged under repurchase agreements. This was partially offset by an increase in deposits with central banks.

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 and those that are 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 July 31, 2022, our unencumbered assets available as collateral comprised 24% of total assets (April 30, 2022 – 24%).

	As at									
	July 31 2022					April 30 2022				
	Encumbered		Unencumbered			Encumbered		Unencumbered		
(Millions of Canadian dollars)	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 due from banks	$ –	$ 3,740	$ 85,370	$ –	$ 89,110	$ –	$ 3,612	$ 112,317	$ –	$ 115,929
Interest-bearing deposits with banks	–	–	98,145	–	98,145	–	–	68,829	–	68,829
Securities										
Trading	66,786	–	82,956	3,223	152,965	63,774	–	85,663	3,156	152,593
Investment, net of applicable allowance	9,545	–	147,264	–	156,809	11,305	–	143,244	–	154,549
Assets purchased under reverse repurchase agreements and securities borrowed (4)	471,442	20,590	6,635	3,894	502,561	462,771	22,688	4,506	3,873	493,838
Loans										
Retail										
Mortgage securities	28,032	–	26,973	–	55,005	28,484	–	28,702	–	57,186
Mortgage loans	52,964	–	34,209	268,006	355,179	52,261	–	32,863	256,060	341,184
Non-mortgage loans	4,676	–	7,763	115,766	128,205	4,082	–	8,483	114,248	126,813
Wholesale	–	–	–	261,592	261,592	–	–	–	252,847	252,847
Allowance for loan losses	–	–	–	(3,667)	(3,667)	–	–	–	(3,566)	(3,566)
Segregated fund net assets	–	–	–	2,690	2,690	–	–	–	2,659	2,659
Other										
Derivatives	–	–	–	122,058	122,058	–	–	–	156,204	156,204
Others (5)	36,816	–	2,489	77,110	116,415	35,338	–	2,612	77,524	115,474
Total assets	$ 670,261	$24,330	$ 491,804	$850,672	$2,037,067	$658,015	$26,300	$ 487,219	$863,005	$2,034,539

(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 NHA MBS, our unencumbered mortgage loans that qualify as eligible collateral at FHLB, as well as loans that qualify as eligible collateral for the 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 bank-owned liquid assets and securities received as collateral from off-balance sheet securities financing, derivative transactions, and margin lending. Includes $21 billion (April 30, 2022 – $23 billion) of collateral received through reverse repurchase transactions that cannot be rehypothecated in its current legal form.
(5) 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 July 31, 2022, relationship-based deposits, which are the primary source of funding for retail loans and mortgages, were $801 billion or 53% of our total funding (April 30, 2022 – $793 billion or 54%). 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 July 31, 2022, the notional value of issued and outstanding long-term debt subject to conversion under the Bail-in regime was $75 billion (April 30, 2022 – $68 billion).

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

Long-term debt issuance

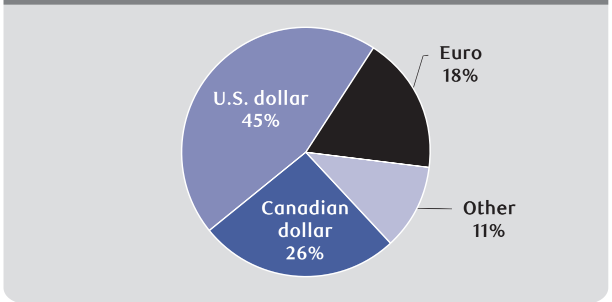
Our wholesale funding activities are well-diversified by geography, investor segment, instrument, currency, structure and maturity. We maintain an ongoing presence in different funding markets, which allows us to continuously monitor market developments and trends, identify opportunities and risks, and 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
• Canadian Shelf Program – $25 billion	• U.S. Shelf Program – US$50 billion	• European Debt Issuance Program – US$40 billion • Global Covered Bond Program – €75 billion • Japanese Issuance Programs – ¥1 trillion

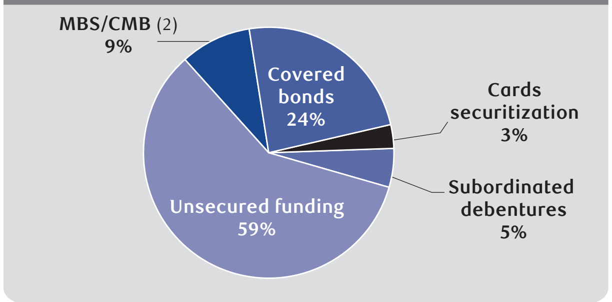
We also raise long-term funding using Canadian Senior Notes, Canadian National Housing Act MBS, Canada Mortgage Bonds, credit card receivable-backed securities, Kangaroo Bonds (issued in the Australian domestic market by foreign firms) and Yankee Certificates of Deposit (issued in the U.S. domestic market 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)

	As at July 31, 2022							
(Millions of Canadian dollars)	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)	$ 5,682	$ 90	$ 179	$ 1,444	$ 7,395	$ –	$ –	$ 7,395
Certificates of deposit and commercial paper	10,706	18,698	22,983	31,200	83,587	493	–	84,080
Asset-backed commercial paper (3)	2,987	4,384	2,277	1,890	11,538	–	–	11,538
Senior unsecured medium-term notes (4)	3,284	1,200	8,774	6,619	19,877	22,295	41,880	84,052
Senior unsecured structured notes (5)	21	374	1,147	2,692	4,234	2,828	9,074	16,136
Mortgage securitization	–	431	1,238	1,036	2,705	3,957	9,380	16,042
Covered bonds/asset-backed securities (6)	–	1,921	1,013	3,975	6,909	3,674	39,300	49,883
Subordinated liabilities	–	–	56	110	166	1,456	8,853	10,475
Other (7)	5,722	1,228	1,823	2,173	10,946	11,271	18	22,235
Total	$ 28,402	$ 28,326	$ 39,490	$ 51,139	$ 147,357	$ 45,974	$ 108,505	$ 301,836
Of which:								
– Secured	$ 8,097	$ 6,949	$ 4,832	$ 6,917	$ 26,795	$ 7,631	$ 48,680	$ 83,106
– Unsecured	20,305	21,377	34,658	44,222	120,562	38,343	59,825	218,730

	As at April 30, 2022							
(Millions of Canadian dollars)	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)	$ 5,923	$ 8	$ 90	$ 344	$ 6,365	$ –	$ –	$ 6,365
Certificates of deposit and commercial paper	7,321	19,306	29,054	24,362	80,043	771	–	80,814
Asset-backed commercial paper (3)	3,167	3,400	4,422	1,152	12,141	–	–	12,141
Senior unsecured medium-term notes (4)	38	68	2,465	8,510	11,081	15,483	46,795	73,359
Senior unsecured structured notes (5)	165	396	319	1,617	2,497	2,781	8,035	13,313
Mortgage securitization	–	482	432	1,662	2,576	3,516	9,935	16,027
Covered bonds/asset-backed securities (6)	–	3,280	1,928	3,093	8,301	5,796	32,679	46,776
Subordinated liabilities	–	194	–	57	251	110	10,333	10,694
Other (7)	6,416	1,295	617	3,093	11,421	10,353	436	22,210
Total	$ 23,030	$ 28,429	$ 39,327	$ 43,890	$ 134,676	$ 38,810	$ 108,213	$ 281,699
Of which:								
– Secured	$ 9,047	$ 7,409	$ 7,008	$ 5,907	$ 29,371	$ 9,312	$ 43,030	$ 81,713
– Unsecured	13,983	21,020	32,319	37,983	105,305	29,498	65,183	199,986

(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 $5,643 million (April 30, 2022 – $6,771 million), bearer deposit notes (unsecured) of $5,271 million (April 30, 2022 – $4,174 million), other long-term structured deposits (unsecured) of $11,321 million (April 30, 2022 – $11,265 million).

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 2021 Annual Report.

Credit ratings (1)

	As at August 23, 2022			
	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 inasmuch 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) On January 27, 2022, Moody's upgraded our long-term debt ratings and assessments, as well as affirmed our short-term debt ratings. Following this rating action, our outlook is stable. This rating action concludes the review for upgrade initiated by Moody's on October 7, 2021.
(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 13, 2022, 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					
	July 31 2022			April 30 2022		
(Millions of Canadian dollars)	One-notch downgrade	Two-notch downgrade	Three-notch downgrade	One-notch downgrade	Two-notch downgrade	Three-notch downgrade
Contractual derivatives funding or margin requirements	$ 95	$ 128	$ 188	$ 101	$ 148	$ 181
Other contractual funding or margin requirements (1)	31	9	20	164	14	23

(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 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	
	July 31 2022	
(Millions of Canadian dollars, except percentage amounts)	Total unweighted value (average) (2)	Total weighted value (average)
High-quality liquid assets		
Total high-quality liquid assets (HQLA)		$ 353,406
Cash outflows		
Retail deposits and deposits from small business customers, of which:	$ 383,093	$ 35,570
Stable deposits (3)	131,401	3,942
Less stable deposits	251,692	31,628
Unsecured wholesale funding, of which:	439,436	203,374
Operational deposits (all counterparties) and deposits in networks of cooperative banks (4)	188,703	45,127
Non-operational deposits	222,662	130,176
Unsecured debt	28,071	28,071
Secured wholesale funding		30,119
Additional requirements, of which:	311,438	74,014
Outflows related to derivative exposures and other collateral requirements	67,182	20,663
Outflows related to loss of funding on debt products	9,897	9,897
Credit and liquidity facilities	234,359	43,454
Other contractual funding obligations (5)	25,390	25,390
Other contingent funding obligations (6)	685,889	11,121
Total cash outflows		$ 379,588
Cash inflows		
Secured lending (e.g., reverse repos)	$ 297,585	$ 49,631
Inflows from fully performing exposures	16,019	10,317
Other cash inflows	31,769	31,769
Total cash inflows		$ 91,717
		Total adjusted value
Total HQLA		$ 353,406
Total net cash outflows		287,871
Liquidity coverage ratio		123%

	April 30 2022
(Millions of Canadian dollars, except percentage amounts)	Total adjusted value
Total HQLA	$ 362,827
Total net cash outflows	299,130
Liquidity coverage ratio	121%

(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 July 31, 2022 is calculated as an average of 63 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.

Q3 2022 vs. Q2 2022

The average LCR for the quarter ended July 31, 2022 was 123%, which translates into a surplus of approximately $66 billion, compared to 121% and a surplus of approximately $64 billion last quarter. LCR levels remained relatively stable compared to last quarter as loan growth was offset by an increase in client deposits and issuances of term funding.

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 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)

	As at July 31, 2022				
	Unweighted value by residual maturity (2)				
(Millions of Canadian dollars, except percentage amounts)	No maturity	< 6 months	6 months to < 1 year	≥ 1 year	Weighted value
Available Stable Funding (ASF) Item					
Capital:	$103,879	$ –	$ –	$ 9,650	$113,529
Regulatory Capital	103,879	–	–	9,650	113,529
Other Capital Instruments	–	–	–	–	–
Retail deposits and deposits from small business customers:	344,899	59,454	30,752	27,746	427,843
Stable deposits (3)	111,626	29,127	17,458	12,640	162,941
Less stable deposits	233,273	30,327	13,294	15,106	264,902
Wholesale funding:	315,921	444,337	58,954	120,329	329,476
Operational deposits (4)	186,587	–	–	–	93,293
Other wholesale funding	129,334	444,337	58,954	120,329	236,183
Liabilities with matching interdependent assets (5)	–	3,330	2,053	23,768	–
Other liabilities:	37,810		200,559		14,039
NSFR derivative liabilities			21,707		
All other liabilities and equity not included in the above categories	37,810	164,646	334	13,872	14,039
Total ASF					$884,887
Required Stable Funding (RSF) Item					
Total NSFR high-quality liquid assets (HQLA)					$ 38,439
Deposits held at other financial institutions for operational purposes	–	1,580	–	–	790
Performing loans and securities:	188,384	295,998	107,897	491,897	640,785
Performing loans to financial institutions secured by Level 1 HQLA	–	124,024	20,460	2	17,693
Performing loans to financial institutions secured by non-Level 1 HQLA and unsecured performing loans to financial institutions	3,848	90,009	28,730	24,062	52,385
Performing loans to non-financial corporate clients, loans to retail and small business customers, and loans to sovereigns, central banks and PSEs, of which:	111,704	63,555	30,121	150,515	267,649
With a risk weight of less than or equal to 35% under the Basel II standardized approach for credit risk	–	923	645	3,106	2,803
Performing residential mortgages, of which:	38,367	15,718	27,851	298,670	256,203
With a risk weight of less than or equal to 35% under the Basel II standardized approach for credit risk	38,367	15,700	27,829	297,742	255,395
Securities that are not in default and do not qualify as HQLA, including exchange-traded equities	34,465	2,692	735	18,648	46,855
Assets with matching interdependent liabilities (5)	–	3,330	2,053	23,768	–
Other assets:	2,489		268,659		78,844
Physical traded commodities, including gold	2,489				2,116
Assets posted as initial margin for derivative contracts and contributions to default funds of CCPs			26,302		22,356
NSFR derivative assets			19,845		–
NSFR derivative liabilities before deduction of variation margin posted			50,384		2,519
All other assets not included in the above categories	–	122,368	264	49,496	51,853
Off-balance sheet items			685,762		25,679
Total RSF					$784,537
Net Stable Funding Ratio (%)					113%

	As at April 30, 2022
(Millions of Canadian dollars, except percentage amounts)	Weighted value
Total ASF	$ 866,085
Total RSF	768,610
Net Stable Funding Ratio (%)	113%

(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 National Housing Act Mortgage-Backed Securities (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.

Q3 2022 vs. Q2 2022

The NSFR as at July 31, 2022 was 113%, which translates into a surplus of approximately $100 billion, compared to 113% and a surplus of approximately $97 billion last quarter. NSFR remained flat compared to last quarter as loan growth was offset by an increase in client deposits and issuances of term funding.

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 2021 Annual Report.

	As at July 31, 2022									
(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	$ 184,920	$ 3	$ 9	$ –	$ –	$ –	$ –	$ –	$ 2,323	$ 187,255
Securities										
Trading (1)	80,285	102	68	18	8	69	185	9,268	51,983	141,986
Investment, net of applicable allowance	1,624	6,985	4,902	6,853	4,310	12,313	45,487	73,799	536	156,809
Assets purchased under reverse repurchase agreements and securities borrowed (2)	138,711	82,468	36,173	23,756	15,078	2	–	–	22,377	318,565
Loans, net of applicable allowance	28,267	21,266	28,130	29,644	39,585	141,718	348,311	71,092	88,301	796,314
Other										
Customers' liability under acceptances	9,668	7,715	2	5	–	–	–	–	(30)	17,360
Derivatives	8,939	11,860	11,780	5,202	4,316	15,087	27,113	37,750	11	122,058
Other financial assets	46,260	1,708	978	488	533	231	221	2,086	3,052	55,557
Total financial assets	498,674	132,107	82,042	65,966	63,830	169,420	421,317	193,995	168,553	1,795,904
Other non-financial assets	6,490	1,562	284	(225)	147	2,384	2,312	5,576	27,658	46,188
Total assets	$ 505,164	$ 133,669	$ 82,326	$ 65,741	$ 63,977	$ 171,804	$ 423,629	$ 199,571	$ 196,211	$ 1,842,092
Liabilities and equity										
Deposits (3)										
Unsecured borrowing	$ 97,789	$ 42,826	$ 52,368	$ 45,635	$ 71,656	$ 40,892	$ 54,300	$ 19,861	$ 658,331	$ 1,083,658
Secured borrowing	4,323	5,607	5,525	2,670	1,268	9,696	14,925	7,065	–	51,079
Covered bonds	–	1,918	1,013	2,013	1,950	2,256	28,679	6,038	–	43,867
Other										
Acceptances	9,668	7,714	2	5	–	–	–	–	1	17,390
Obligations related to securities sold short	38,504	–	–	–	–	–	–	–	–	38,504
Obligations related to assets sold under repurchase agreements and securities loaned (2)	225,617	29,082	1,653	955	1,052	909	–	–	21,881	281,149
Derivatives	8,922	15,635	10,493	6,094	4,754	13,645	25,543	34,782	–	119,868
Other financial liabilities	41,558	1,101	1,267	538	782	916	2,458	12,063	1,138	61,821
Subordinated debentures	–	–	–	–	110	–	1,857	8,144	–	10,111
Total financial liabilities	426,381	103,883	72,321	57,910	81,572	68,314	127,762	87,953	681,351	1,707,447
Other non-financial liabilities	1,036	925	4,521	279	230	989	929	12,590	9,148	30,647
Equity	–	–	–	–	–	–	–	–	103,998	103,998
Total liabilities and equity	$ 427,417	$ 104,808	$ 76,842	$ 58,189	$ 81,802	$ 69,303	$ 128,691	$ 100,543	$ 794,497	$ 1,842,092
Off-balance sheet items										
Financial guarantees	$ 604	$ 1,841	$ 2,971	$ 3,602	$ 3,391	$ 1,310	$ 4,902	$ 702	$ 31	$ 19,354
Commitments to extend credit	3,046	5,374	12,109	15,715	22,704	49,821	182,039	20,222	4,549	315,579
Other credit-related commitments	1,613	887	1,575	1,670	1,463	476	473	36	104,034	112,227
Other commitments	15	11	24	15	16	63	137	202	812	1,295
Total off-balance sheet items	$ 5,278	$ 8,113	$ 16,679	$ 21,002	$ 27,574	$ 51,670	$ 187,551	$ 21,162	$ 109,426	$ 448,455

(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 April 30, 2022									
(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	$ 182,555	$ 1	$ –	$ 10	$ –	$ –	$ –	$ –	$ 2,192	$ 184,758
Securities										
Trading (1)	75,935	594	102	18	18	50	205	9,119	57,725	143,766
Investment, net of applicable allowance	1,736	8,339	5,535	5,543	9,497	15,256	36,216	71,854	573	154,549
Assets purchased under reverse repurchase agreements and securities borrowed (2)	143,064	78,531	43,186	15,378	16,937	935	–	–	18,667	316,698
Loans, net of applicable allowance	31,177	21,822	26,059	28,668	29,276	145,911	338,180	67,381	85,990	774,464
Other										
Customers' liability under acceptances	9,541	7,022	–	2	5	–	–	–	(41)	16,529
Derivatives	17,191	16,374	8,931	11,857	6,573	17,265	33,768	44,235	10	156,204
Other financial assets	44,463	1,986	1,172	197	482	222	204	2,113	3,204	54,043
Total financial assets	505,662	134,669	84,985	61,673	62,788	179,639	408,573	194,702	168,320	1,801,011
Other non-financial assets	6,929	1,601	402	(183)	542	2,133	2,296	5,391	28,450	47,561
Total assets	$ 512,591	$ 136,270	$ 85,387	$ 61,490	$ 63,330	$ 181,772	$ 410,869	$ 200,093	$ 196,770	$ 1,848,572
Liabilities and equity										
Deposits (3)										
Unsecured borrowing	$ 89,041	$ 47,195	$ 51,344	$ 42,657	$ 52,637	$ 31,955	$ 54,428	$ 18,741	$ 670,475	$ 1,058,473
Secured borrowing	4,561	5,282	6,165	3,703	950	8,771	15,786	6,730	–	51,948
Covered bonds	–	2,608	1,927	1,050	2,041	4,370	24,298	4,882	–	41,176
Other										
Acceptances	9,541	7,021	–	2	5	–	–	–	1	16,570
Obligations related to securities sold short	39,464	–	–	–	–	–	–	–	–	39,464
Obligations related to assets sold under repurchase agreements and securities loaned (2)	224,827	33,129	1,856	129	381	932	–	–	18,084	279,338
Derivatives	16,413	18,114	8,439	9,674	6,231	17,192	32,923	42,555	–	151,541
Other financial liabilities	44,766	1,042	1,708	425	602	857	2,385	11,913	1,033	64,731
Subordinated debentures	–	194	–	–	–	110	1,847	8,125	–	10,276
Total financial liabilities	428,613	114,585	71,439	57,640	62,847	64,187	131,667	92,946	689,593	1,713,517
Other non-financial liabilities	1,075	1,042	185	4,071	264	1,010	923	12,610	9,470	30,650
Equity	–	–	–	–	–	–	–	–	104,405	104,405
Total liabilities and equity	$ 429,688	$ 115,627	$ 71,624	$ 61,711	$ 63,111	$ 65,197	$ 132,590	$ 105,556	$ 803,468	$ 1,848,572
Off-balance sheet items										
Financial guarantees	$ 594	$ 2,250	$ 2,433	$ 2,864	$ 3,523	$ 1,778	$ 4,357	$ 879	$ 33	$ 18,711
Commitments to extend credit	5,454	8,622	8,922	14,748	19,057	48,839	175,832	18,664	3,930	304,068
Other credit-related commitments	2,083	1,056	1,353	1,602	1,722	250	736	36	102,046	110,884
Other commitments	32	15	17	26	17	71	148	214	658	1,198
Total off-balance sheet items	$ 8,163	$ 11,943	$ 12,725	$ 19,240	$ 24,319	$ 50,938	$ 181,073	$ 19,793	$ 106,667	$ 434,861

(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 2021 Annual Report. In addition, we continue to monitor for new regulatory capital developments, including OSFI guidance relating to the BCBS Basel III reforms and guidance issued in response to the COVID-19 pandemic, in order to ensure timely and accurate compliance with these requirements as disclosed in the Capital management section in our 2021 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.

Effective November 1, 2021, 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 other 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.

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. While some measures and guidance issued in response to the COVID-19 pandemic have been unwound, certain measures and guidance continue to remain in place, such as:

- Modifications for increases in expected credit loss provisions on CET1 capital by applying a 25% after-tax exclusion rate for growth in Stage 1 and Stage 2 allowances between Q1 2020 and the respective quarters of fiscal 2022. The exclusion rate was reduced to the current 25% in fiscal 2022 from 50% in fiscal 2021, and will cease to apply beginning in fiscal 2023. These modifications are not available for a financial institution's IRB portfolio in any quarter in which the financial institution has a shortfall in allowances.
- Exclusion of central bank reserves that qualify as HQLA from leverage ratio exposure amounts.
- Reduction in the current regulatory capital floor for financial institutions using the IRB approach to 70% of RWA under the SA. The reduced floor factor will remain in place until the adoption of the Basel III reforms in Q2 2023.
- Clarification of the applicable capital and leverage ratio treatment of certain government relief programs.

For further details, refer to the Capital management section of our 2021 Annual Report. OSFI has assessed and will continue to assess the need for these measures. 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 July 31, 2022	Domestic Stability Buffer (3)	Minimum including Capital Buffers, D-SIB/G-SIB surcharge and Domestic Stability Buffer as at July 31, 2022
	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%	13.1%	2.5%	10.5%
Tier 1 capital	6.0%	2.5%	8.5%	1.0%	9.5%	14.3%	2.5%	12.0%
Total capital	8.0%	2.5%	10.5%	1.0%	11.5%	15.9%	2.5%	14.0%
Leverage ratio	3.0%	n.a.	3.0%	n.a.	3.0%	4.6%	n.a.	3.0%
TLAC ratio (4)	21.5%	n.a.	21.5%	n.a.	21.5%	27.6%	2.5%	24.0%
TLAC leverage ratio (4)	6.75%	n.a.	6.75%	n.a.	6.75%	8.8%	n.a.	6.75%

(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 Domestic Stability Buffer can range from 0% to 2.5% of total RWA and is currently set at 2.5%, reaffirmed by OSFI on June 22, 2022.
(4) Effective November 1, 2021, OSFI requires D-SIBs to meet minimum risk-based TLAC ratio and TLAC leverage ratio requirements which are calculated using OSFI's TLAC guideline.
n.a. not applicable

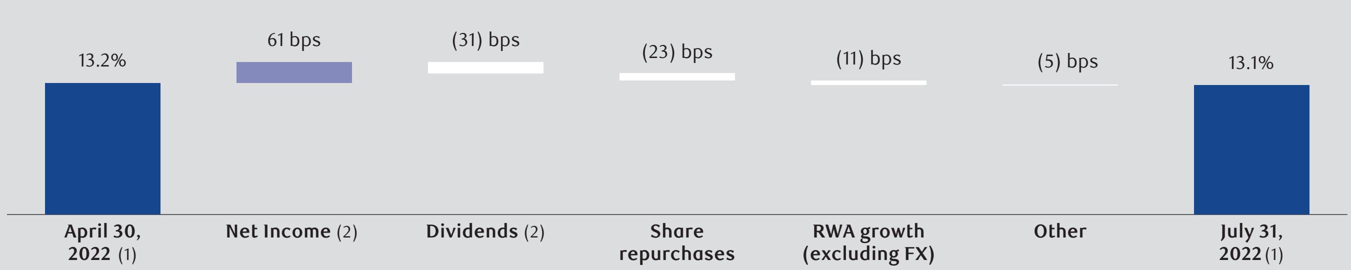
The following table provides details on our regulatory capital and RWA, and on ratios for capital, leverage and TLAC. Our capital position remains strong and our capital, leverage and TLAC ratios remain well above OSFI regulatory targets.

	As at		
(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	**July 31 2022**	April 30 2022	October 31 2021
Capital (1)			
CET1 capital	**$ 76,907**	$ 77,069	$ 75,583
Tier 1 capital	**84,207**	84,345	82,246
Total capital	**93,857**	93,871	92,026
RWA used in calculation of capital ratios (1)			
Credit risk	**$ 478,686**	$ 472,516	$ 444,142
Market risk	**34,551**	37,851	34,806
Operational risk	**75,813**	75,472	73,593
Total RWA	**$ 589,050**	$ 585,839	$ 552,541
Capital ratios and Leverage ratio (1)			
CET1 ratio	**13.1%**	13.2%	13.7%
Tier 1 capital ratio	**14.3%**	14.4%	14.9%
Total capital ratio	**15.9%**	16.0%	16.7%
Leverage ratio	**4.6%**	4.7%	4.9%
Leverage ratio exposure (billions)	**$ 1,840**	$ 1,812	$ 1,662
TLAC available and ratios (2), (3)			
TLAC available	**$ 162,284**	$ 158,140	n.a.
TLAC ratio	**27.6%**	27.0%	n.a.
TLAC leverage ratio	**8.8%**	8.7%	n.a.

(1) Capital, RWA, and capital ratios are calculated using OSFI's CAR guideline and the Leverage ratio is calculated using OSFI's LR guideline as updated in accordance with the regulatory guidance issued by OSFI in response to the COVID-19 pandemic. Both the CAR guideline and LR guideline are based on the Basel III framework.
(2) Effective November 1, 2021, OSFI requires D-SIBs to meet minimum risk-based TLAC ratio and TLAC leverage ratio requirements which are calculated using OSFI's TLAC guideline.
(3) 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. Both the TLAC ratio and TLAC leverage ratio are calculated using the TLAC available as a percentage of total RWA and leverage exposure, respectively.
n.a. not applicable

Q3 2022 vs. Q2 2022

Continuity of CET1 ratio (Basel III)



(1) Represents rounded figures.
(2) Represents net internal capital generation of $1.7 billion or 30 bps consisting of Net income available to shareholders, less common and preferred share dividends and distributions on other equity instruments.

Our CET1 ratio was 13.1%, down 10 bps from last quarter, mainly reflecting share repurchases and RWA growth (excluding FX), partially offset by net internal capital generation.

RWA increased by $3 billion, mainly reflecting business growth in wholesale loans, residential mortgages and personal lending. These factors were partially offset by a reduction in loan underwriting commitment balances and trading activities. Net model updates, mainly due to the impact of the Q2 2020 period of significant market volatility no longer being reflected in our two-year historical VaR period, the impact of foreign exchange translation and net credit migration also contributed to a reduction in RWA. The impact of foreign exchange translation on RWA is largely mitigated with economic hedges in our CET1 ratio.

Our Tier 1 capital ratio of 14.3% was down 10 bps and our Total capital ratio of 15.9% was down 10 bps, mainly reflecting the factors noted above under the CET1 ratio.

Our Leverage ratio of 4.6% was down 10 bps, mainly due to business-driven growth in leverage exposures and share repurchases, partially offset by net internal capital generation.

Leverage exposures increased by $28 billion, mainly driven by business growth in residential mortgages, wholesale loans, undrawn commitments and repo-style transactions, partially offset by the impact of foreign exchange translation.

Our TLAC ratio of 27.6% was up 60 bps, reflecting a favourable impact from the net issuance of other TLAC instruments, partially offset by the factors noted above under the Total capital ratio.

Our TLAC leverage ratio of 8.8% was up 10 bps, reflecting a favourable impact from the net issuance of other TLAC instruments, partially offset by the factors noted above under the Leverage ratio.

Other 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 July 31, 2022			For the nine months ended July 31, 2022	
(Millions of Canadian dollars, except number of shares)	Issuance or redemption date	Number of shares (000s)	Amount	Number of shares (000s)	Amount
Tier 1 capital					
Common shares activity					
Issued in connection with share-based compensation plans (1)		**100**	**$ 8**	**612**	**$ 50**
Purchased for cancellation (2)		**(10,445)**	**(129)**	**(33,016)**	**(411)**
Issuance of preferred shares, Series BT (2), (3)	**November 5, 2021**	**–**	**–**	**750**	**750**
Redemption of preferred shares, Series BJ (2), (3)	**February 24, 2022**	**–**	**–**	**(6,000)**	**(150)**
Tier 2 capital					
Issuance of May 3, 2032 subordinated debentures (2), (3)	**January 25, 2022**		**$ –**		**$ 1,000**

(1) Amounts include cash received for stock options exercised during the period and fair value adjustments to stock options.
(2) For further details, refer to Note 10 of our Condensed Financial Statements.
(3) Non-Viability Contingent Capital (NVCC) instruments.

On December 6, 2021, we announced a normal course issuer bid (NCIB) to purchase up to 45 million of our common shares, commencing on December 8, 2021 and continuing until December 7, 2022, or such earlier date as we complete the repurchase of all shares permitted under the bid. For the three-months ended July 31, 2022, the total number of common shares repurchased and cancelled under our NCIB program was approximately 10 million. The total cost of the shares repurchased was $1,338 million. Since the inception of this NCIB, the total number of common shares repurchased and cancelled was approximately 33 million, at a cost of approximately $4,444 million.

We determine the amount and timing of purchases under the NCIB, subject to prior consultation with OSFI. Purchases may be made through the TSX, the NYSE and other designated exchanges and alternative Canadian trading systems. The price paid for repurchased shares is the prevailing market price at the time of acquisition.

On November 5, 2021, we issued 750 thousand of Non-Cumulative 5-Year Fixed Rate Reset First Preferred Shares Series BT to certain institutional investors at a price of $1,000 per share.

On January 25, 2022, we issued $1,000 million of NVCC subordinated debentures. The notes bear interest at a fixed rate of 2.94% per annum until May 3, 2027, and at the three-month Canadian Dollar Offered Rate plus 0.76% thereafter until their maturity on May 3, 2032.

On February 24, 2022, we redeemed all 6 million of our issued and outstanding Non-Cumulative First Preferred Shares Series BJ at a price of $25.75 per share.

Selected share data (1)

(Millions of Canadian dollars, except number of shares and as otherwise noted)	As at July 31, 2022 Number of shares (000s)	Amount	Dividends declared per share
Common shares issued	1,392,784	$ 17,367	$ 1.28
Treasury shares – common shares (2)	(2,155)	(275)	
Common shares outstanding	1,390,629	$ 17,092	
Stock options and awards			
Outstanding	8,209		
Exercisable	3,576		
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)	11	5	
Preferred shares and other equity instruments outstanding	106,776	$ 7,328	
Dividends on common shares		$ 1,784	
Dividends on preferred shares and distributions on other equity instruments (9)		58	

(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 depositary shares relating to preferred shares Series C-2. Each depositary 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 19 of our 2021 Annual Consolidated Financial Statements.
(9) Excludes distributions to non-controlling interests.

As at August 19, 2022, the number of outstanding common shares was 1,391,712,298, net of treasury shares held of 1,678,089, and the number of stock options and awards was 7,590,048.

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 July 31, 2022, 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, and May 3, 2032 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 4,503 million common shares, in aggregate, which would represent a dilution impact of 76.41% based on the number of common shares outstanding as at July 31, 2022.

Global systemically important banks (G-SIBs) 13 assessment indicators (1)

The BCBS and FSB use 13 indicators in the assessment methodology for determining the systemic importance of large global banks. As noted previously, we are designated as a G-SIB. The following table provides the 13 indicators (2020: 12 indicators) used in the G-SIB assessment methodology:

(Millions of Canadian dollars)	October 31 2021	October 31 2020
Cross-jurisdictional activity (2)		
Cross-jurisdictional claims (3)	$ 864,580	$ 723,906
Cross-jurisdictional liabilities	682,547	570,311
Size (4)		
Total exposures as defined for use in the Basel III leverage ratio (5), (6)	1,921,807	1,774,946
Interconnectedness (7)		
Intra-financial system assets (5)	211,054	187,039
Intra-financial system liabilities (5)	175,554	163,705
Securities outstanding (5)	415,329	335,640
Substitutability/financial institution infrastructure (8)		
Payment activity	53,048,298	48,993,443
Assets under custody	4,909,994	4,473,237
Underwritten transactions in debt and equity markets	321,168	374,919
Trading volume (9)		
Fixed income	6,341,568	n.a.
Equities and other securities	5,187,311	n.a.
Complexity (10)		
Notional amount of over-the-counter derivatives (5)	22,271,423	22,713,363
Trading and investment securities	77,693	59,664
Level 3 assets (5)	3,594	2,857

(1) The G-SIBs indicators are prepared based on the methodology prescribed in BCBS guidelines published in July 2013 and updated in July 2018, and are disclosed in accordance with OSFI's Global Systemically Important Banks – Public Disclosure Requirements Advisory. The indicators are based on the regulatory scope of consolidation, which excludes RBC Insurance® subsidiaries, unless otherwise specified by the assessment methodology. For our 2021 standalone G-SIB disclosure, please refer to our Regulatory Disclosures at rbc.com/investor relations.
(2) Represents a bank's level of interaction outside its domestic jurisdiction.
(3) Effective for our 2021 G-SIB disclosure, Cross-jurisdictional claims includes foreign derivative claims on an ultimate risk basis. This change has been reflected prospectively.
(4) Represents the total on- and off- balance sheet exposures of the bank determined as per OSFI's Basel III leverage ratio rules before regulatory adjustments.
(5) Effective for our 2021 G-SIB disclosure, OSFI extended the scope of consolidation for these indicators to include insurance activities. This change has been reflected prospectively.
(6) 2021 amount has been revised from that previously presented.
(7) Represents transactions with other financial institutions.
(8) Represents the extent to which the bank's services could be substituted by other institutions.
(9) Effective for our 2021 G-SIB disclosure, the trading volume indicator has been added as a primary indicator.
(10) Includes the level of complexity and volume of a bank's trading activities represented through derivatives, trading securities, investment securities and level 3 assets.
n.a. not applicable

2021 vs. 2020

During 2021, notional amounts of over-the-counter derivatives decreased mainly in interest rate contracts due to lower trading activity and hedging requirements. Assets under custody increased primarily due to higher market returns. The increase in total exposures as defined for use in the Basel III leverage ratio was mainly driven by business growth in loans, interest-bearing deposits with banks, securities, undrawn commitments, repo-style transactions and derivatives, partially offset by the impact of foreign exchange translation. Other movements from the prior year primarily reflect normal changes in business activity as well as impacts from the COVID-19 pandemic, including additional payments related to government relief programs and increased liquidity levels driven by client deposit inflows resulting from industry-wide impacts of the pandemic and corresponding central bank actions.

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 2021 Annual Consolidated Financial Statements.

Application of critical accounting judgments, estimates and assumptions
The economic outlook remains subject to ongoing uncertainty with moderate recessions expected in Canada, the U.S. and the Euro area in calendar 2023 reflecting increased downside risks including higher inflation, supply chain disruptions, labour shortages and heightened geopolitical risks, which could impact our financial results. We continue to monitor and assess the impacts of these factors on our critical accounting judgments, estimates and assumptions, which are described in Note 2 of our audited 2021 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 2021 Annual Consolidated Financial Statements.

Controls and procedures

Disclosure controls and procedures
As of July 31, 2022, 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 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 July 31, 2022.

Internal control over financial reporting
No changes were made in our internal control over financial reporting during the quarter ended July 31, 2022 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 11 and 25 of our audited 2021 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.

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.

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 (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, note issuances and revolving underwriting facilities, securities lending indemnifications and indemnifications.

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

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

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

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 guidelines issued by OSFI. 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
Risk weights prescribed by OSFI are used to calculate risk-weighted assets for the credit risk exposures. Credit assessments by OSFI-recognized external credit rating agencies of Standard & Poor's, Moody's, Fitch, DBRS and Kroll Bond Rating Agency 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 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.

Total Loss Absorbing Capacity (TLAC)
The aggregate of Tier 1 capital, Tier 2 capital, and other TLAC instruments, which allows conversion in whole or in part into common shares under the Canada Deposit Insurance Corporation Act and meets 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.

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.

EDTF recommendations index

We aim to present transparent, high-quality risk disclosures by providing disclosures in our 2021 Annual Report, Q3 2022 Report to Shareholders (RTS), Supplementary Financial Information package (SFI), and Pillar 3 Report, in accordance with recommendations from the Financial Stability Board's (FSB) 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 Q3 2022 Report to Shareholders.

The following index summarizes our disclosure by EDTF recommendation:

			Location of disclosure		
Type of Risk	Recommendation	Disclosure	RTS page	Annual Report page	SFI page
General	1	Table of contents for EDTF risk disclosure	49	123	1
	2	Define risk terminology and measures		55-60, 121-122	–
	3	Top and emerging risks		52-54	–
	4	New regulatory ratios	41-42	100-105	–
Risk governance, risk management and business model	5	Risk management organization		55-60	–
	6	Risk culture		56-60	–
	7	Risk in the context of our business activities		108	–
	8	Stress testing		57-58, 73	–
Capital adequacy and risk-weighted assets (RWA)	9	Minimum Basel III capital ratios and Domestic systemically important bank surcharge	41	100-105	–
	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		–	20
	12	Capital strategic planning		100-105	–
	13	RWA by business segments		–	21
	14	Analysis of capital requirement, and related measurement model information		61-64	*
	15	RWA credit risk and related risk measurements		–	*
	16	Movement of RWA by risk type		–	21
	17	Basel back-testing		57, 61	32
Liquidity	18	Quantitative and qualitative analysis of our liquidity reserve	31-32	80-81, 85-86	–
Funding	19	Encumbered and unencumbered assets by balance sheet category, and contractual obligations for rating downgrades	32, 35	81, 84	–
	20	Maturity analysis of consolidated total assets, liabilities and off-balance sheet commitments analyzed by remaining contractual maturity at the balance sheet date	39-40	88-89	–
	21	Sources of funding and funding strategy	32-34	81-83	–
Market risk	22	Relationship between the market risk measures for trading and non-trading portfolios and the balance sheet	29-30	77-78	–
	23	Decomposition of market risk factors	27-29	72-76	–
	24	Market risk validation and back-testing		73	–
	25	Primary risk management techniques beyond reported risk measures and parameters		72-76	–
Credit risk	26	Bank's credit risk profile	23-26	60-72, 170-177	22-32,*
		Quantitative summary of aggregate credit risk exposures that reconciles to the balance sheet	67-73	115-120	*
	27	Policies for identifying impaired loans		62-65, 110, 143-146	–
	28	Reconciliation of the opening and closing balances of impaired loans and impairment allowances during the year		–	24, 29
	29	Quantification of gross notional exposure for over-the-counter derivatives or exchange-traded derivatives		66	33
	30	Credit risk mitigation, including collateral held for all sources of credit risk		64-65	*
Other	31	Other risk types		91-99	–
	32	Publicly known risk events		94-95, 215-216	–

* These disclosure requirements are satisfied or partially satisfied by disclosures provided in our Pillar 3 Report for the quarter ended July 31, 2022 and for the year ended October 31, 2021.

Interim Condensed Consolidated Financial Statements (unaudited)

Interim Condensed Consolidated Balance Sheets (unaudited)

(Millions of Canadian dollars)	As at July 31 2022	As at October 31 2021
Assets		
Cash and due from banks	$ 89,110	$ 113,846
Interest-bearing deposits with banks	98,145	79,638
Securities		
Trading	141,986	139,240
Investment, net of applicable allowance (Note 4)	156,809	145,484
	298,795	284,724
Assets purchased under reverse repurchase agreements and securities borrowed	318,565	307,903
Loans (Note 5)		
Retail	538,389	503,598
Wholesale	261,592	218,066
	799,981	721,664
Allowance for loan losses (Note 5)	(3,667)	(4,089)
	796,314	717,575
Segregated fund net assets	2,690	2,666
Other		
Customers' liability under acceptances	17,360	19,798
Derivatives	122,058	95,541
Premises and equipment	7,142	7,424
Goodwill	10,933	10,854
Other intangibles	4,383	4,471
Other assets	76,597	61,883
	238,473	199,971
Total assets	$ 1,842,092	$ 1,706,323
Liabilities and equity		
Deposits (Note 7)		
Personal	$ 392,267	$ 362,488
Business and government	739,467	696,353
Bank	46,870	41,990
	1,178,604	1,100,831
Segregated fund net liabilities	2,690	2,666
Other		
Acceptances	17,390	19,873
Obligations related to securities sold short	38,504	37,841
Obligations related to assets sold under repurchase agreements and securities loaned	281,149	262,201
Derivatives	119,868	91,439
Insurance claims and policy benefit liabilities	12,033	12,816
Other liabilities	77,745	70,301
	546,689	494,471
Subordinated debentures (Note 10)	10,111	9,593
Total liabilities	1,738,094	1,607,561
Equity attributable to shareholders		
Preferred shares and other equity instruments (Note 10)	7,328	6,684
Common shares (Note 10)	17,092	17,655
Retained earnings	76,466	71,795
Other components of equity	3,012	2,533
	103,898	98,667
Non-controlling interests	100	95
Total equity	103,998	98,762
Total liabilities and equity	$ 1,842,092	$ 1,706,323

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 July 31 2022	For the three months ended July 31 2021	For the nine months ended July 31 2022	For the nine months ended July 31 2021
Interest and dividend income (Note 3)				
Loans	$ 6,761	$ 5,439	$ 18,025	$ 16,242
Securities	1,822	1,184	4,597	3,677
Assets purchased under reverse repurchase agreements and securities borrowed	1,601	291	2,506	1,002
Deposits and other	553	83	745	210
	10,737	6,997	25,873	21,131
Interest expense (Note 3)				
Deposits and other	2,786	1,278	5,554	4,178
Other liabilities	1,984	625	3,707	1,875
Subordinated debentures	77	42	177	137
	4,847	1,945	9,438	6,190
Net interest income	5,890	5,052	16,435	14,941
Non-interest income				
Insurance premiums, investment and fee income	1,233	1,754	2,866	4,099
Trading revenue	(128)	179	475	1,080
Investment management and custodial fees	1,857	1,830	5,710	5,244
Mutual fund revenue	1,028	1,095	3,279	3,109
Securities brokerage commissions	344	356	1,132	1,188
Service charges	499	465	1,464	1,383
Underwriting and other advisory fees	369	700	1,577	2,037
Foreign exchange revenue, other than trading	250	246	772	827
Card service revenue	314	278	893	831
Credit fees	301	412	1,175	1,112
Net gains on investment securities	28	8	66	125
Share of profit in joint ventures and associates	33	47	86	96
Other	114	334	488	1,245
	6,242	7,704	19,983	22,376
Total revenue	12,132	12,756	36,418	37,317
Provision for credit losses (Notes 4 and 5)	340	(540)	103	(526)
Insurance policyholder benefits, claims and acquisition expense	850	1,304	1,667	2,859
Non-interest expense				
Human resources (Note 8)	3,858	4,111	12,145	12,551
Equipment	514	492	1,528	1,472
Occupancy	381	387	1,153	1,191
Communications	277	227	763	652
Professional fees	373	329	1,039	934
Amortization of other intangibles	342	320	1,015	957
Other	641	554	1,757	1,584
	6,386	6,420	19,400	19,341
Income before income taxes	4,556	5,572	15,248	15,643
Income taxes	979	1,276	3,323	3,485
Net income	$ 3,577	$ 4,296	$ 11,925	$ 12,158
Net income attributable to:				
Shareholders	$ 3,575	$ 4,292	$ 11,918	$ 12,151
Non-controlling interests	2	4	7	7
	$ 3,577	$ 4,296	$ 11,925	$ 12,158
Basic earnings per share (in dollars) (Note 11)	$ 2.52	$ 2.97	$ 8.33	$ 8.40
Diluted earnings per share (in dollars) (Note 11)	2.51	2.97	8.31	8.39
Dividends per common share (in dollars)	1.28	1.08	3.68	3.24

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

Interim Condensed Consolidated Statements of Comprehensive Income (unaudited)

	For the three months ended		For the nine months ended	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Net income	$ 3,577	$ 4,296	$ 11,925	$ 12,158
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	(247)	70	(1,392)	360
Provision for credit losses recognized in income	(2)	(21)	(13)	(8)
Reclassification of net losses (gains) on debt securities and loans at fair value through other comprehensive income to income	(5)	(4)	(34)	(106)
	(254)	45	(1,439)	246
Foreign currency translation adjustments				
Unrealized foreign currency translation gains (losses)	(459)	931	1,213	(3,703)
Net foreign currency translation gains (losses) from hedging activities	213	(367)	(157)	1,460
Reclassification of losses (gains) on foreign currency translation to income	–	2	(18)	(5)
Reclassification of losses (gains) on net investment hedging activities to income	–	(1)	17	(1)
	(246)	565	1,055	(2,249)
Net change in cash flow hedges				
Net gains (losses) on derivatives designated as cash flow hedges	(296)	(190)	671	606
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	46	95	194	173
	(250)	(95)	865	779
Items that will not be reclassified subsequently to income:				
Remeasurements of employee benefit plans (Note 8)	(319)	76	729	1,795
Net fair value change due to credit risk on financial liabilities designated at fair value through profit or loss	324	24	1,357	(12)
Net gains (losses) on equity securities designated at fair value through other comprehensive income	10	(1)	53	(2)
	15	99	2,139	1,781
Total other comprehensive income (loss), net of taxes	(735)	614	2,620	557
Total comprehensive income (loss)	$ 2,842	$ 4,910	$ 14,545	$ 12,715
Total comprehensive income attributable to:				
Shareholders	$ 2,841	$ 4,904	$ 14,536	$ 12,714
Non-controlling interests	1	6	9	1
	$ 2,842	$ 4,910	$ 14,545	$ 12,715

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

	For the three months ended		For the nine months ended	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Income taxes on other comprehensive income				
Net unrealized gains (losses) on debt securities and loans at fair value through other comprehensive income	$ (20)	$ 30	$ (388)	$ 28
Provision for credit losses recognized in income	–	(7)	(2)	(1)
Reclassification of net losses (gains) on debt securities and loans at fair value through other comprehensive income to income	(3)	(2)	(7)	(25)
Unrealized foreign currency translation gains (losses)	–	–	–	2
Net foreign currency translation gains (losses) from hedging activities	75	(126)	(43)	494
Reclassification of losses (gains) on net investment hedging activities to income	–	–	6	–
Net gains (losses) on derivatives designated as cash flow hedges	(112)	(66)	251	217
Reclassification of losses (gains) on derivatives designated as cash flow hedges to income	17	34	70	62
Remeasurements of employee benefit plans	(115)	29	252	637
Net fair value change due to credit risk on financial liabilities designated at fair value through profit or loss	114	9	480	(4)
Net gains (losses) on equity securities designated at fair value through other comprehensive income	(7)	3	(8)	2
Total income tax expenses (recoveries)	$ (51)	$ (96)	$ 611	$ 1,412

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

Interim Condensed Consolidated Statements of Changes in Equity (unaudited)

(Millions of Canadian dollars)	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
	For the three months ended July 31, 2022											
						Other components of equity						
Balance at beginning of period	$ 7,323	$ 17,488	$ (25)	$ (174)	$ 75,931	$ (1,273)	$ 3,353	$ 1,681	$ 3,761	$ 104,304	$ 101	$ 104,405
Changes in equity												
Issues of share capital and other equity instruments	–	8	–	–	–	–	–	–	–	8	–	8
Common shares purchased for cancellation	–	(129)	–	–	(1,209)	–	–	–	–	(1,338)	–	(1,338)
Redemption of preferred shares and other equity instruments	–	–	–	–	–	–	–	–	–	–	–	–
Sales of treasury shares and other equity instruments	–	–	194	1,181	–	–	–	–	–	1,375	–	1,375
Purchases of treasury shares and other equity instruments	–	–	(164)	(1,282)	–	–	–	–	–	(1,446)	–	(1,446)
Share-based compensation awards	–	–	–	–	–	–	–	–	–	–	–	–
Dividends on common shares	–	–	–	–	(1,784)	–	–	–	–	(1,784)	–	(1,784)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(58)	–	–	–	–	(58)	(2)	(60)
Other	–	–	–	–	(4)	–	–	–	–	(4)	–	(4)
Net income	–	–	–	–	3,575	–	–	–	–	3,575	2	3,577
Total other comprehensive income (loss), net of taxes	–	–	–	–	15	(254)	(245)	(250)	(749)	(734)	(1)	(735)
Balance at end of period	$ 7,323	$ 17,367	$ 5	$ (275)	$ 76,466	$ (1,527)	$ 3,108	$ 1,431	$ 3,012	$ 103,898	$ 100	$ 103,998

(Millions of Canadian dollars)	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
	For the three months ended July 31, 2021											
						Other components of equity						
Balance at beginning of period	$ 7,198	$ 17,689	$ (7)	$ 9	$ 66,163	$ 62	$ 1,826	$ (205)	$ 1,683	$ 92,735	$ 87	$ 92,822
Changes in equity												
Issues of share capital and other equity instruments	1,000	24	–	–	(2)	–	–	–	–	1,022	–	1,022
Common shares purchased for cancellation	–	–	–	–	–	–	–	–	–	–	–	–
Redemption of preferred shares and other equity instruments	(725)	–	–	–	–	–	–	–	–	(725)	–	(725)
Sales of treasury shares and other equity instruments	–	–	243	1,180	–	–	–	–	–	1,423	–	1,423
Purchases of treasury shares and other equity instruments	–	–	(293)	(1,246)	–	–	–	–	–	(1,539)	–	(1,539)
Share-based compensation awards	–	–	–	–	–	–	–	–	–	–	–	–
Dividends on common shares	–	–	–	–	(1,539)	–	–	–	–	(1,539)	–	(1,539)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(55)	–	–	–	–	(55)	(1)	(56)
Other	–	–	–	–	(7)	–	–	–	–	(7)	(1)	(8)
Net income	–	–	–	–	4,292	–	–	–	–	4,292	4	4,296
Total other comprehensive income (loss), net of taxes	–	–	–	–	99	45	563	(95)	513	612	2	614
Balance at end of period	$ 7,473	$ 17,713	$ (57)	$ (57)	$ 68,951	$ 107	$ 2,389	$ (300)	$ 2,196	$ 96,219	$ 91	$ 96,310

	For the nine months ended July 31, 2022											
						Other components of equity						
(Millions of Canadian dollars)	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	$ 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	50	–	–	(1)	–	–	–	–	799	–	799
Common shares purchased for cancellation	–	(411)	–	–	(4,033)	–	–	–	–	(4,444)	–	(4,444)
Redemption of preferred shares and other equity instruments	(150)	–	–	–	(5)	–	–	–	–	(155)	–	(155)
Sales of treasury shares and other equity instruments	–	–	502	3,888	–	–	–	–	–	4,390	–	4,390
Purchases of treasury shares and other equity instruments	–	–	(458)	(4,090)	–	–	–	–	–	(4,548)	–	(4,548)
Share-based compensation awards	–	–	–	–	2	–	–	–	–	2	–	2
Dividends on common shares	–	–	–	–	(5,172)	–	–	–	–	(5,172)	–	(5,172)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(180)	–	–	–	–	(180)	(4)	(184)
Other	–	–	–	–	3	–	–	–	–	3	–	3
Net income	–	–	–	–	11,918	–	–	–	–	11,918	7	11,925
Total other comprehensive income (loss), net of taxes	–	–	–	–	2,139	(1,439)	1,053	865	479	2,618	2	2,620
Balance at end of period	$ 7,323	$ 17,367	$ 5	$ (275)	$ 76,466	$ (1,527)	$ 3,108	$ 1,431	$ 3,012	$ 103,898	$ 100	$103,998

	For the nine months ended July 31, 2021											
						Other components of equity						
(Millions of Canadian dollars)	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	$ 5,948	$ 17,628	$ (3)	$ (129)	$ 59,806	$ (139)	$ 4,632	$ (1,079)	$ 3,414	$ 86,664	$ 103	$ 86,767
Changes in equity												
Issues of share capital and other equity instruments	2,250	85	–	–	(5)	–	–	–	–	2,330	–	2,330
Common shares purchased for cancellation	–	–	–	–	–	–	–	–	–	–	–	–
Redemption of preferred shares and other equity instruments	(725)	–	–	–	–	–	–	–	–	(725)	–	(725)
Sales of treasury shares and other equity instruments	–	–	442	3,122	–	–	–	–	–	3,564	–	3,564
Purchases of treasury shares and other equity instruments	–	–	(496)	(3,050)	–	–	–	–	–	(3,546)	–	(3,546)
Share-based compensation awards	–	–	–	–	(4)	–	–	–	–	(4)	–	(4)
Dividends on common shares	–	–	–	–	(4,618)	–	–	–	–	(4,618)	–	(4,618)
Dividends on preferred shares and distributions on other equity instruments	–	–	–	–	(189)	–	–	–	–	(189)	(3)	(192)
Other	–	–	–	–	29	–	–	–	–	29	(10)	19
Net income	–	–	–	–	12,151	–	–	–	–	12,151	7	12,158
Total other comprehensive income (loss), net of taxes	–	–	–	–	1,781	246	(2,243)	779	(1,218)	563	(6)	557
Balance at end of period	$ 7,473	$ 17,713	$ (57)	$ (57)	$ 68,951	$ 107	$ 2,389	$ (300)	$ 2,196	$ 96,219	$ 91	$ 96,310

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

Interim Condensed Consolidated Statements of Cash Flows (unaudited)

	For the three months ended		For the nine months ended	
(Millions of Canadian dollars)	**July 31 2022**	July 31 2021	**July 31 2022**	July 31 2021
Cash flows from operating activities				
Net income	**$ 3,577**	$ 4,296	**$ 11,925**	$ 12,158
Adjustments for non-cash items and others				
Provision for credit losses	**340**	(540)	**103**	(526)
Depreciation	**314**	323	**941**	955
Deferred income taxes	**(237)**	31	**408**	817
Amortization and impairment of other intangibles	**343**	333	**1,022**	972
Net changes in investments in joint ventures and associates	**(33)**	(45)	**(85)**	(93)
Losses (Gains) on investment securities	**(28)**	(8)	**(66)**	(131)
Losses (Gains) on disposition of businesses	**(11)**	–	**(100)**	(26)
Adjustments for net changes in operating assets and liabilities				
Insurance claims and policy benefit liabilities	**(40)**	387	**(783)**	281
Net change in accrued interest receivable and payable	**(167)**	(173)	**(246)**	(532)
Current income taxes	**29**	197	**(3,061)**	870
Derivative assets	**34,146**	(4,797)	**(26,517)**	11,455
Derivative liabilities	**(31,673)**	4,748	**28,429**	(12,777)
Trading securities	**1,810**	(8,161)	**(2,716)**	2,182
Loans, net of securitizations	**(21,959)**	(23,972)	**(78,916)**	(35,952)
Assets purchased under reverse repurchase agreements and securities borrowed	**(1,867)**	(11,865)	**(10,662)**	(6,881)
Obligations related to assets sold under repurchase agreements and securities loaned	**1,811**	14,116	**18,948**	(3,066)
Obligations related to securities sold short	**(960)**	2,943	**663**	5,475
Deposits, net of securitizations	**26,954**	51,555	**78,323**	72,923
Brokers and dealers receivable and payable	**3,032**	315	**4,131**	(383)
Other	**(2,261)**	(2,775)	**550**	3,445
Net cash from (used in) operating activities	**13,120**	26,908	**22,291**	51,166
Cash flows from investing activities				
Change in interest-bearing deposits with banks	**(29,316)**	(16,951)	**(18,507)**	(41,369)
Proceeds from sales and maturities of investment securities	**25,257**	23,799	**72,752**	87,109
Purchases of investment securities	**(30,653)**	(30,930)	**(86,876)**	(92,695)
Net acquisitions of premises and equipment and other intangibles	**(586)**	(614)	**(1,729)**	(1,539)
Proceeds from (cash transferred for) dispositions	**(408)**	–	**(313)**	78
Net cash from (used in) investing activities	**(35,706)**	(24,696)	**(34,673)**	(48,416)
Cash flows from financing activities				
Issuance of subordinated debentures	**–**	–	**1,000**	1,000
Repayment of subordinated debentures	**–**	–	**–**	(1,500)
Issue of common shares, net of issuance costs	**8**	23	**46**	76
Common shares purchased for cancellation	**(1,338)**	–	**(4,444)**	–
Issue of preferred shares and other equity instruments, net of issuance costs	**–**	998	**749**	2,245
Redemption of preferred shares and other equity instruments	**–**	(725)	**(155)**	(725)
Sales of treasury shares and other equity instruments	**1,375**	1,423	**4,390**	3,564
Purchases of treasury shares and other equity instruments	**(1,446)**	(1,539)	**(4,548)**	(3,546)
Dividends paid on shares and distributions paid on other equity instruments	**(1,754)**	(1,616)	**(5,118)**	(4,826)
Dividends/distributions paid to non-controlling interests	**(2)**	(1)	**(4)**	(3)
Change in short-term borrowings of subsidiaries	**128**	(6)	**129**	(14)
Repayment of lease liabilities	**(166)**	(160)	**(483)**	(458)
Net cash from (used in) financing activities	**(3,195)**	(1,603)	**(8,438)**	(4,187)
Effect of exchange rate changes on cash and due from banks	**(1,038)**	491	**(3,916)**	(2,044)
Net change in cash and due from banks	**(26,819)**	1,100	**(24,736)**	(3,481)
Cash and due from banks at beginning of period (1)	**115,929**	114,307	**113,846**	118,888
Cash and due from banks at end of period (1)	**$ 89,110**	$ 115,407	**$ 89,110**	$ 115,407
Cash flows from operating activities include:				
Amount of interest paid	**$ 3,705**	$ 1,826	**$ 7,233**	$ 6,121
Amount of interest received	**9,223**	6,581	**22,824**	20,052
Amount of dividends received	**746**	582	**2,291**	1,933
Amount of income taxes paid	**1,130**	927	**6,466**	3,201

(1) We are required to maintain balances with central banks and other regulatory authorities. The total balances were $2 billion as at July 31, 2022 (April 30, 2022 – $2 billion; October 31, 2021 – $2 billion; July 31, 2021 – $2 billion; October 31, 2020 – $3 billion).

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

Note 1 General information

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 2021 Annual Consolidated Financial Statements and the accompanying notes included on pages 133 to 225 in our 2021 Annual Report. Unless otherwise stated, monetary amounts are stated in Canadian dollars. Tabular information is stated in millions of dollars, except as noted. On August 23, 2022, 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 2021 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 2021 Annual Consolidated Financial Statements.

Interest Rate Benchmark Reform

On May 16, 2022, Refinitiv Benchmark Services (UK) Limited (RBSL), the administrator of the Canadian Dollar Offered Rate (CDOR), announced that the calculation and publication of all tenors of CDOR will permanently cease immediately following a final publication on June 28, 2024. The cessation announcement triggered fallback provisions related to our CDOR-linked products, including certain loans, bonds, and derivatives, and defined the dates of their transition to alternative benchmark rates. The fixed spreads to be used in the transition to the relevant alternative benchmark rate for each CDOR setting were also defined for certain of our CDOR-linked products as a result of the announcement.

Progress in and risks arising from the transition to alternative benchmark interest rates

Our transition from CDOR to alternative benchmark interest rates will be managed within our existing comprehensive enterprise-wide program and governance structure used as part of the ongoing interest rate benchmark reform. For further details related to our existing transition program, refer to Note 2 of our 2021 Annual Report.

Hedging relationships impacted by interest rate benchmark reform

The following table presents the notional amount of our hedging instruments which reference CDOR that will expire after June 28, 2024 as at November 1, 2021, which represent our opening balances for the annual period ending on October 31, 2022. Changes in our exposures during the period did not result in significant changes to the risks arising from transition since November 1, 2021. The notional amounts of our hedging instruments also approximates the extent of the risk exposure we manage through hedging relationships:

	As at November 1, 2021
(Millions of Canadian dollars)	Notional amounts
Interest rate contracts	
CDOR	$ 76,931
Total return swaps	
CDOR	390
	$ 77,321

Financial instruments referencing CDOR that have yet to transition to alternative benchmark interest rates

The following tables show our significant exposures to financial instruments referencing CDOR that have yet to transition to alternative benchmark interest rates and are maturing after June 28, 2024 as at November 1, 2021, which represent our opening balances for the annual period ending on October 31, 2022. Changes in our exposures during the period did not result in significant changes to the risks arising from transition since November 1, 2021. In the normal course of business, our derivative notional amounts may fluctuate with minimal impact to our CDOR transition plans.

	As at November 1, 2021		
(Millions of Canadian dollars)	Non-derivative financial assets (1)	Non-derivative financial liabilities (2)	Derivative notional
CDOR (3)	$ 9,226	$ 14,797	$1,460,770

(1) Non-derivative assets represent the drawn outstanding balance of Loans and Customers' liability under acceptances and the fair value of Securities.
(2) Non-derivative liabilities represent Subordinated debentures, Deposits and Acceptances.
(3) Includes our exposure to financial instruments referencing interest rates substantially similar to CDOR.

The following table presents the undrawn balances of loan commitments referencing CDOR.

(Millions of Canadian dollars)	As at November 1, 2021
Authorized and committed undrawn commitments	
CDOR (1), (2)	$ 15,644

(1) Includes our exposure to financial instruments referencing interest rates substantially similar to CDOR.
(2) Undrawn commitments exclude amounts related to drawn outstanding balances, which in certain cases may include extension options.

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 2021 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 July 31, 2022							
	Carrying value and fair value				Carrying value	Fair value		
(Millions of Canadian dollars)	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
Financial assets								
Interest-bearing deposits with banks	$ –	$ 86,863	$ –	$ –	$ 11,282	$ 11,282	$ 98,145	$ 98,145
Securities								
Trading	131,696	10,290	–	–	–	–	141,986	141,986
Investment, net of applicable allowance	–	–	82,069	536	74,204	70,565	156,809	153,170
	131,696	10,290	82,069	536	74,204	70,565	298,795	295,156
Assets purchased under reverse repurchase agreements and securities borrowed	268,448	–	–	–	50,117	50,117	318,565	318,565
Loans, net of applicable allowance								
Retail	66	274	207	–	535,600	510,000	536,147	510,547
Wholesale	7,697	3,186	592	–	248,692	243,385	260,167	254,860
	7,763	3,460	799	–	784,292	753,385	796,314	765,407
Other								
Derivatives	122,058	–	–	–	–	–	122,058	122,058
Other assets (1)	3,923	–	–	–	68,922	68,922	72,845	72,845
Financial liabilities								
Deposits								
Personal	$ 297	$ 18,667			$ 373,303	$ 371,179	$ 392,267	$ 390,143
Business and government (2)	539	147,842			591,086	589,726	739,467	738,107
Bank (3)	–	9,979			36,891	36,881	46,870	46,860
	836	176,488			1,001,280	997,786	1,178,604	1,175,110
Other								
Obligations related to securities sold short	38,504	–			–	–	38,504	38,504
Obligations related to assets sold under repurchase agreements and securities loaned	–	259,108			22,041	22,041	281,149	281,149
Derivatives	119,868	–			–	–	119,868	119,868
Other liabilities (4)	357	73			73,798	73,665	74,228	74,095
Subordinated debentures	–	–			10,111	9,850	10,111	9,850

Note 3 Fair value of financial instruments (continued)

	As at October 31, 2021							
	Carrying value and fair value				Carrying value	Fair value		
(Millions of Canadian dollars)	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
Financial assets								
Interest-bearing deposits with banks	$ –	$ 56,896	$ –	$ –	$ 22,742	$ 22,742	$ 79,638	$ 79,638
Securities								
Trading	125,801	13,439	–	–	–	–	139,240	139,240
Investment, net of applicable allowance	–	–	77,802	533	67,149	66,823	145,484	145,158
	125,801	13,439	77,802	533	67,149	66,823	284,724	284,398
Assets purchased under reverse repurchase agreements and securities borrowed	265,011	–	–	–	42,892	42,892	307,903	307,903
Loans, net of applicable allowance								
Retail	–	241	327	–	500,621	502,277	501,189	502,845
Wholesale	8,428	2,769	813	–	204,376	204,683	216,386	216,693
	8,428	3,010	1,140	–	704,997	706,960	717,575	719,538
Other								
Derivatives	95,541	–	–	–	–	–	95,541	95,541
Other assets (1)	4,109	–	–	–	58,483	58,483	62,592	62,592
Financial liabilities								
Deposits								
Personal	$ 321	$ 18,328			$ 343,839	$ 344,040	$ 362,488	$ 362,689
Business and government (2)	739	131,630			563,984	565,106	696,353	697,475
Bank (3)	–	17,251			24,739	24,743	41,990	41,994
	1,060	167,209			932,562	933,889	1,100,831	1,102,158
Other								
Obligations related to securities sold short	37,841	–			–	–	37,841	37,841
Obligations related to assets sold under repurchase agreements and securities loaned	–	236,147			26,054	26,054	262,201	262,201
Derivatives	91,439	–			–	–	91,439	91,439
Other liabilities (4)	654	171			64,746	64,749	65,571	65,574
Subordinated debentures	–	–			9,593	9,601	9,593	9,601

(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.

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

	As at									
	July 31, 2022					October 31, 2021				
	Fair value measurements using			Netting		Fair value measurements using			Netting	
(Millions of Canadian dollars)	Level 1	Level 2	Level 3	adjustments	Fair value	Level 1	Level 2	Level 3	adjustments	Fair value
Financial assets										
Interest-bearing deposits with banks	$ –	$ 86,863	$ –	$	$ 86,863	$ –	$ 56,896	$ –	$	$ 56,896
Securities										
Trading										
Debt issued or guaranteed by:										
Canadian government (1)										
Federal	8,076	3,468	–		11,544	8,977	2,380	–		11,357
Provincial and municipal	–	14,071	–		14,071	–	11,068	–		11,068
U.S. federal, state, municipal and agencies (1)	594	35,526	10		36,130	215	22,738	25		22,978
Other OECD government (2)	1,894	3,488	–		5,382	2,729	5,730	–		8,459
Mortgage-backed securities (1)	–	3	–		3	–	4	–		4
Asset-backed securities					–					
Non-CDO securities (3)	–	1,045	2		1,047	–	891	2		893
Corporate debt and other debt	–	21,814	12		21,826	–	23,085	25		23,110
Equities	46,741	3,423	1,819		51,983	56,826	3,015	1,530		61,371
	57,305	82,838	1,843		141,986	68,747	68,911	1,582		139,240
Investment										
Debt issued or guaranteed by:										
Canadian government (1)										
Federal	2,079	2,209	–		4,288	1,973	1,730	–		3,703
Provincial and municipal	–	3,197	–		3,197	–	3,132	–		3,132
U.S. federal, state, municipal and agencies (1)	10	34,934	–		34,944	12	34,815	–		34,827
Other OECD government	–	5,542	–		5,542	–	5,956	–		5,956
Mortgage-backed securities (1)	–	2,780	22		2,802	–	2,727	20		2,747
Asset-backed securities					–					
CDO	–	7,001	–		7,001	–	7,074	–		7,074
Non-CDO securities	–	502	–		502	–	586	–		586
Corporate debt and other debt	–	23,641	152		23,793	–	19,625	152		19,777
Equities	41	146	349		536	46	153	334		533
	2,130	79,952	523		82,605	2,031	75,798	506		78,335
Assets purchased under reverse repurchase agreements and securities borrowed	–	268,448	–		268,448	–	265,011	–		265,011
Loans	–	11,128	894		12,022	–	11,501	1,077		12,578
Other										
Derivatives										
Interest rate contracts	–	30,430	303		30,733	–	33,857	320		34,177
Foreign exchange contracts	–	73,181	65		73,246	–	41,224	74		41,298
Credit derivatives	–	357	–		357	–	34	–		34
Other contracts	2,803	17,903	188		20,894	3,175	17,955	26		21,156
Valuation adjustments	–	(1,901)	15		(1,886)	–	(819)	9		(810)
Total gross derivatives	2,803	119,970	571		123,344	3,175	92,251	429		95,855
Netting adjustments				(1,286)	(1,286)				(314)	(314)
Total derivatives					122,058					95,541
Other assets	1,242	2,666	15		3,923	1,474	2,635	–		4,109
	$ 63,480	$ 651,865	$ 3,846	$ (1,286)	$ 717,905	$ 75,427	$ 573,003	$ 3,594	$ (314)	$ 651,710
Financial liabilities										
Deposits										
Personal	$ –	$ 18,783	$ 181	$	$ 18,964	$ –	$ 18,498	$ 151	$	$ 18,649
Business and government	–	148,381	–		148,381	–	132,369	–		132,369
Bank	–	9,979	–		9,979	–	17,251	–		17,251
Other										
Obligations related to securities sold short	16,021	22,483	–		38,504	18,345	19,496	–		37,841
Obligations related to assets sold under repurchase agreements and securities loaned	–	259,108	–		259,108	–	236,147	–		236,147
Derivatives										
Interest rate contracts	–	27,600	958		28,558	–	28,566	955		29,521
Foreign exchange contracts	–	70,782	38		70,820	–	40,484	27		40,511
Credit derivatives	–	122	–		122	–	120	–		120
Other contracts	3,439	18,406	583		22,428	3,699	17,456	419		21,574
Valuation adjustments	–	(768)	(6)		(774)	–	38	(11)		27
Total gross derivatives	3,439	116,142	1,573		121,154	3,699	86,664	1,390		91,753
Netting adjustments				(1,286)	(1,286)				(314)	(314)
Total derivatives					119,868					91,439
Other liabilities	295	132	3		430	258	560	7		825
	$ 19,755	$ 575,008	$ 1,757	$ (1,286)	$ 595,234	$ 22,302	$ 510,985	$ 1,548	$ (314)	$ 534,521

(1) As at July 31, 2022, residential and commercial mortgage-backed securities (MBS) included in all fair value levels of trading securities were $12,168 million and $nil (October 31, 2021 – $13,124 million and $nil), respectively, and in all fair value levels of Investment securities were $14,571 million and $2,866 million (October 31, 2021 – $13,542 million and $2,592 million), respectively.

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

(3) Collateralized debt obligations (CDO).

Note 3 Fair value of financial instruments (continued)

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 July 31, 2022, 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 July 31, 2022, 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 2021 Annual Consolidated Financial Statements.

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

	For the three months ended July 31, 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	$ 16	$ –	$ –	$ –	$ (6)	$ –	$ –	$ 10	$ –
Asset-backed securities									
Non-CDO securities	2	–	–	–	–	–	–	2	–
Corporate debt and other debt	5	–	–	–	(2)	9	–	12	–
Equities	1,759	(4)	(4)	84	(16)	–	–	1,819	(5)
	1,782	(4)	(4)	84	(24)	9	–	1,843	(5)
Investment									
Mortgage-backed securities	21	–	1	–	–	–	–	22	n.a.
Corporate debt and other debt	149	–	3	–	–	–	–	152	n.a.
Equities	349	–	(2)	2	–	–	–	349	n.a.
	519	–	2	2	–	–	–	523	n.a.
Loans	782	4	(1)	136	(3)	9	(33)	894	7
Other									
Net derivative balances (3)									
Interest rate contracts	(663)	6	–	(7)	(8)	15	2	(655)	–
Foreign exchange contracts	24	(13)	(2)	1	(2)	9	10	27	(1)
Other contracts	(436)	10	2	(23)	–	10	42	(395)	16
Valuation adjustments	28	–	–	(7)	–	–	–	21	–
Other assets	15	–	–	–	–	–	–	15	–
	$ 2,051	$ 3	$ (3)	$ 186	$ (37)	$ 52	$ 21	$ 2,273	$ 17
Liabilities									
Deposits	$ (157)	$ 3	$ –	$ (7)	$ 6	$ (39)	$ 13	$ (181)	$ 5
Other									
Other liabilities	(3)	–	–	–	–	–	–	(3)	–
	$ (160)	$ 3	$ –	$ (7)	$ 6	$ (39)	$ 13	$ (184)	$ 5

(Millions of Canadian dollars)	For the three months ended July 31, 2021 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	$ 33	$ –	$ 1	$ –	$ (5)	$ –	$ –	$ 29	$ –
Asset-backed securities									
Non-CDO securities	2	–	–	–	–	–	–	2	–
Corporate debt and other debt	18	–	–	5	1	–	–	24	–
Equities	1,366	27	13	84	(32)	–	–	1,458	71
	1,419	27	14	89	(36)	–	–	1,513	71
Investment									
Mortgage-backed securities	20	–	1	–	–	–	–	21	n.a.
Corporate debt and other debt	146	–	7	–	1	–	–	154	n.a.
Equities	322	–	(3)	4	(4)	–	–	319	n.a.
	488	–	5	4	(3)	–	–	494	n.a.
Loans	1,145	13	11	44	(5)	–	(153)	1,055	(15)
Other									
Net derivative balances (3)									
Interest rate contracts	(666)	48	1	(6)	(4)	6	(2)	(623)	47
Foreign exchange contracts	46	5	–	(1)	(13)	–	(2)	35	5
Other contracts	(341)	2	(5)	–	–	(50)	10	(384)	(13)
Valuation adjustments	21	–	–	–	(6)	–	–	15	–
Other assets	2	–	–	–	(2)	–	–	–	–
	$ 2,114	$ 95	$ 26	$ 130	$ (69)	$ (44)	$ (147)	$ 2,105	$ 95
Liabilities									
Deposits	$ (70)	$ (7)	$ –	$ (37)	$ 3	$ (36)	$ 36	$ (111)	$ (5)
Other									
Other liabilities	(11)	–	–	–	4	–	–	(7)	–
	$ (81)	$ (7)	$ –	$ (37)	$ 7	$ (36)	$ 36	$ (118)	$ (5)

Note 3 Fair value of financial instruments (continued)

	For the nine months ended July 31, 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	$ –	$ (16)	$ –	$ –	$ 10	$ –
Asset-backed securities									
Non-CDO securities	2	–	–	–	–	–	–	2	–
Corporate debt and other debt	25	(2)	–	–	(7)	9	(13)	12	–
Equities	1,530	74	30	245	(61)	1	–	1,819	75
	1,582	72	31	245	(84)	10	(13)	1,843	75
Investment									
Mortgage-backed securities	20	–	2	–	–	–	–	22	n.a.
Corporate debt and other debt	152	–	–	–	–	–	–	152	n.a.
Equities	334	–	41	10	(1)	–	(35)	349	n.a.
	506	–	43	10	(1)	–	(35)	523	n.a.
Loans	1,077	(9)	(33)	353	(465)	25	(54)	894	(54)
Other									
Net derivative balances (3)									
Interest rate contracts	(635)	(151)	(2)	93	58	15	(33)	(655)	38
Foreign exchange contracts	47	(60)	(1)	22	10	9	–	27	(49)
Other contracts	(393)	194	(9)	(138)	48	(183)	86	(395)	218
Valuation adjustments	20	–	–	(7)	(11)	19	–	21	–
Other assets	–	–	–	15	–	–	–	15	–
	$ 2,204	$ 46	$ 29	$ 593	$ (445)	$ (105)	$ (49)	$ 2,273	$ 228
Liabilities									
Deposits	$ (151)	$ (6)	$ (1)	$ (86)	$ 23	$ (75)	$ 115	$ (181)	$ 10
Other									
Other liabilities	(7)	–	–	–	4	–	–	(3)	–
	$ (158)	$ (6)	$ (1)	$ (86)	$ 27	$ (75)	$ 115	$ (184)	$ 10

	For the nine months ended July 31, 2021								
(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	$ 44	$ –	$ (2)	$ –	$ (13)	$ –	$ –	$ 29	$ 1
Asset-backed securities									
Non-CDO securities	2	–	–	–	–	–	–	2	–
Corporate debt and other debt	30	(1)	–	8	(3)	14	(24)	24	–
Equities	1,261	75	(53)	248	(98)	25	–	1,458	79
	1,337	74	(55)	256	(114)	39	(24)	1,513	80
Investment									
Mortgage-backed securities	27	–	(6)	–	–	–	–	21	n.a.
Corporate debt and other debt	160	–	(9)	–	3	–	–	154	n.a.
Equities	335	–	(18)	4	(2)	–	–	319	n.a.
	522	–	(33)	4	1	–	–	494	n.a.
Loans	1,070	(10)	2	177	(5)	70	(249)	1,055	20
Other									
Net derivative balances (3)									
Interest rate contracts	(588)	17	(1)	6	(44)	(3)	(10)	(623)	(18)
Foreign exchange contracts	22	30	1	14	(27)	7	(12)	35	(29)
Other contracts	(301)	5	8	(56)	47	(274)	187	(384)	15
Valuation adjustments	40	–	–	–	(25)	–	–	15	–
Other assets	53	(39)	(2)	–	(12)	–	–	–	–
	$ 2,155	$ 77	$ (80)	$ 401	$ (179)	$ (161)	$ (108)	$ 2,105	$ 68
Liabilities									
Deposits	$ (139)	$ (62)	$ 5	$ (129)	$ 50	$ (113)	$ 277	$ (111)	$ 6
Other									
Other liabilities	(38)	22	1	–	8	–	–	(7)	23
	$ (177)	$ (40)	$ 6	$ (129)	$ 58	$ (113)	$ 277	$ (118)	$ 29

(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 $9 million for the three months ended July 31, 2022 (July 31, 2021 – gains of $1 million) and gains of $53 million for the nine months ended July 31, 2022 (July 31, 2021 – losses of $10 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 July 31, 2022 included derivative assets of $571 million (July 31, 2021 – $480 million) and derivative liabilities of $1,573 million (July 31, 2021 – $1,437 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 July 31, 2022, there were no significant transfers out of Level 1 to Level 2 or 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 July 31, 2022, there were no significant transfers out of Level 2 to Level 3 or out of Level 3 to Level 2.

Note 3 Fair value of financial instruments (continued)

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.

(Millions of Canadian dollars)	For the three months ended July 31 2022	For the three months ended July 31 2021	For the nine months ended July 31 2022	For the nine months ended July 31 2021
Interest and dividend income (1), (2)				
Financial instruments measured at fair value through profit or loss	$ 2,879	$ 1,125	$ 5,873	$ 3,377
Financial instruments measured at fair value through other comprehensive income	312	85	513	279
Financial instruments measured at amortized cost	7,546	5,787	19,487	17,475
	10,737	6,997	25,873	21,131
Interest expense (1)				
Financial instruments measured at fair value through profit or loss	2,346	706	4,292	2,145
Financial instruments measured at amortized cost	2,501	1,239	5,146	4,045
	4,847	1,945	9,438	6,190
Net interest income	$ 5,890	$ 5,052	$ 16,435	$ 14,941

(1) Excludes the following amounts related to our insurance operations and included in Insurance premiums, investment and fee income in the Interim Consolidated Statements of Income: for the three months ended July 31, 2022, Interest income of $143 million (July 31, 2021 – $146 million), and Interest expense of $1 million (July 31, 2021 – $1 million); for the nine months ended July 31, 2022, Interest income of $486 million (July 31, 2021 – $434 million), and Interest expense of $4 million (July 31, 2021 – $3 million).

(2) Includes dividend income for the three months ended July 31, 2022 of $730 million (July 31, 2021 – $606 million) and for the nine months ended July 31, 2022 of $2,170 million (July 31, 2021 – $1,823 million), which is presented in Interest and dividend income in the Interim Consolidated Statements of Income.

Note 4 Securities

Unrealized gains and losses on securities at FVOCI (1), (2)

(Millions of Canadian dollars)	July 31, 2022 Cost/ Amortized cost	July 31, 2022 Gross unrealized gains	July 31, 2022 Gross unrealized losses	July 31, 2022 Fair value	October 31, 2021 Cost/ Amortized cost	October 31, 2021 Gross unrealized gains	October 31, 2021 Gross unrealized losses	October 31, 2021 Fair value
Debt issued or guaranteed by:								
Canadian government								
Federal (3)	$ 4,531	$ 1	$ (244)	$ 4,288	$ 3,841	$ 1	$ (139)	$ 3,703
Provincial and municipal	3,650	4	(457)	3,197	3,328	3	(199)	3,132
U.S. federal, state, municipal and agencies (3)	35,814	299	(1,169)	34,944	34,678	353	(204)	34,827
Other OECD government	5,553	3	(14)	5,542	5,949	8	(1)	5,956
Mortgage-backed securities (3)	2,884	–	(82)	2,802	2,757	2	(12)	2,747
Asset-backed securities								
CDO	7,137	2	(138)	7,001	7,074	1	(1)	7,074
Non-CDO securities	518	1	(17)	502	580	6	–	586
Corporate debt and other debt	23,901	34	(142)	23,793	19,731	57	(11)	19,777
Equities	264	275	(3)	536	242	292	(1)	533
	$ 84,252	$ 619	$ (2,266)	$ 82,605	$ 78,180	$ 723	$ (568)	$ 78,335

(1) Excludes $74,204 million of held-to-collect securities as at July 31, 2022 that are carried at amortized cost, net of allowance for credit losses (October 31, 2021 – $67,149 million).

(2) Gross unrealized gains and losses includes $(16) million of allowance for credit losses on debt securities at FVOCI as at July 31, 2022 (October 31, 2021 – $(9) million) recognized in income and Other components of equity.

(3) The majority of the MBS are residential. Cost/Amortized cost, Gross unrealized gains, Gross unrealized losses and Fair value related to commercial MBS are $2,938 million, $9 million, $81 million and $2,866 million, respectively as at July 31, 2022 (October 31, 2021 – $2,603 million, $1 million, $12 million and $2,592 million, respectively).

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:

- Model changes, which generally comprise the impact of significant changes to the quantitative models used to estimate expected credit losses and any staging impacts that may arise.
- 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)

	For the three months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3 (2)	Total	Stage 1	Stage 2	Stage 3 (2)	Total
Balance at beginning of period	$ 2	$ 2	$ (17)	$ (13)	$ 7	$ 1	$ (7)	$ 1
Provision for credit losses								
Model changes	–	–	–	–	(4)	–	–	(4)
Transfers to stage 1	1	(1)	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	1	–	–	1	2	–	–	2
Sales and maturities	–	–	–	–	(1)	–	–	(1)
Changes in risk, parameters and exposures	(2)	–	(2)	(4)	(1)	–	(2)	(3)
Exchange rate and other	–	–	–	–	1	1	(1)	1
Balance at end of period	$ 2	$ 1	$ (19)	$ (16)	$ 4	$ 2	$ (10)	$ (4)

	For the nine months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3 (2)	Total	Stage 1	Stage 2	Stage 3 (2)	Total
Balance at beginning of period	$ 2	$ 1	$ (12)	$ (9)	$ 12	$ –	$ (4)	$ 8
Provision for credit losses								
Model changes	–	–	–	–	(4)	–	–	(4)
Transfers to stage 1	1	(1)	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	2	–	–	2	7	–	–	7
Sales and maturities	(1)	–	–	(1)	(8)	(1)	–	(9)
Changes in risk, parameters and exposures	(1)	–	(7)	(8)	(3)	3	(6)	(6)
Exchange rate and other	(1)	1	–	–	–	–	–	–
Balance at end of period	$ 2	$ 1	$ (19)	$ (16)	$ 4	$ 2	$ (10)	$ (4)

(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

	For the three months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Balance at beginning of period	$ 9	$ 16	$ –	$ 25	$ 11	$ 17	$ –	$ 28
Provision for credit losses								
Model changes	–	–	–	–	(4)	–	–	(4)
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	1	–	–	1	1	–	–	1
Sales and maturities	–	–	–	–	–	–	–	–
Changes in risk, parameters and exposures	(3)	(2)	–	(5)	–	–	–	–
Exchange rate and other	–	1	–	1	–	–	–	–
Balance at end of period	$ 7	$ 15	$ –	$ 22	$ 8	$ 17	$ –	$ 25

	For the nine months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Balance at beginning of period	$ 5	$ 18	$ –	$ 23	$ 10	$ 19	$ –	$ 29
Provision for credit losses								
Model changes	–	–	–	–	(4)	–	–	(4)
Transfers to stage 1	–	–	–	–	–	–	–	–
Transfers to stage 2	–	–	–	–	–	–	–	–
Transfers to stage 3	–	–	–	–	–	–	–	–
Purchases	9	–	–	9	8	–	–	8
Sales and maturities	(1)	–	–	(1)	(1)	–	–	(1)
Changes in risk, parameters and exposures	(6)	(4)	–	(10)	(5)	–	–	(5)
Exchange rate and other	–	1	–	1	–	(2)	–	(2)
Balance at end of period	$ 7	$ 15	$ –	$ 22	$ 8	$ 17	$ –	$ 25

Note 4 Securities (continued)

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 2021 Annual Report.

	As at							
	July 31, 2022				October 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3 (1)	Total	Stage 1	Stage 2	Stage 3 (1)	Total
Investment securities								
Securities at FVOCI								
Investment grade	$ 81,252	$ 56	$ –	$ 81,308	$ 77,147	$ 82	$ –	$ 77,229
Non-investment grade	611	–	–	611	423	–	–	423
Impaired	–	–	150	150	–	–	150	150
	81,863	56	150	82,069	77,570	82	150	77,802
Items not subject to impairment (2)				536				533
				$ 82,605				$ 78,335
Securities at amortized cost								
Investment grade	$ 73,137	$ –	$ –	$ 73,137	$ 66,033	$ –	$ –	$ 66,033
Non-investment grade	864	225	–	1,089	928	211	–	1,139
Impaired	–	–	–	–	–	–	–	–
	74,001	225	–	74,226	66,961	211	–	67,172
Allowance for credit losses	7	15	–	22	5	18	–	23
Amortized cost	$ 73,994	$ 210	$ –	$ 74,204	$ 66,956	$ 193	$ –	$ 67,149

(1) Reflects $150 million of purchased credit impaired securities (October 31, 2021 – $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

	For the three months ended									
	July 31, 2022					July 31, 2021				
(Millions of Canadian dollars)	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	$ 388	$ 51	$ (7)	$ (3)	$ 429	$ 495	$ (40)	$ (6)	$ –	$ 449
Personal	943	107	(60)	–	990	1,275	(33)	(57)	(2)	1,183
Credit cards	795	128	(89)	1	835	1,135	(94)	(80)	1	962
Small business	179	10	(5)	3	187	189	(1)	(5)	(2)	181
Wholesale	1,541	63	(39)	(25)	1,540	2,311	(273)	(16)	3	2,025
Customers' liability under acceptances	41	(12)	–	1	30	120	(51)	–	(2)	67
	$ 3,887	$ 347	$ (200)	$ (23)	$ 4,011	$ 5,525	$ (492)	$ (164)	$ (2)	$ 4,867
Presented as:										
Allowance for loan losses	$ 3,566				$ 3,667	$ 5,146				$ 4,588
Other liabilities – Provisions	275				309	227				203
Customers' liability under acceptances	41				30	120				67
Other components of equity	5				5	32				9

	For the nine months ended									
	July 31, 2022					July 31, 2021				
(Millions of Canadian dollars)	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	$ 416	$ 29	$ (19)	$ 3	$ 429	$ 518	$ (23)	$ (20)	$ (26)	$ 449
Personal	1,079	86	(172)	(3)	990	1,309	78	(195)	(9)	1,183
Credit cards	875	201	(243)	2	835	1,246	(52)	(230)	(2)	962
Small business	177	18	(15)	7	187	140	8	(15)	48	181
Wholesale	1,797	(171)	(60)	(26)	1,540	2,795	(427)	(138)	(205)	2,025
Customers' liability under acceptances	75	(46)	–	1	30	107	(38)	–	(2)	67
	$ 4,419	$ 117	$ (509)	$ (16)	$ 4,011	$ 6,115	$ (454)	$ (598)	$ (196)	$ 4,867
Presented as:										
Allowance for loan losses	$ 4,089				$ 3,667	$ 5,639				$ 4,588
Other liabilities – Provisions	241				309	363				203
Customers' liability under acceptances	75				30	107				67
Other components of equity	14				5	6				9

The following table reconciles the opening and closing 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:

- Model changes, which generally comprise the impact of significant changes to the quantitative models used to estimate expected credit losses and any staging impacts that may arise.
- 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

	For the three months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Residential mortgages								
Balance at beginning of period	$ 184	$ 71	$ 133	$ 388	$ 192	$ 148	$ 155	$ 495
Provision for credit losses								
Model changes	–	–	–	–	(6)	(5)	–	(11)
Transfers to stage 1	22	(17)	(5)	–	41	(36)	(5)	–
Transfers to stage 2	(2)	3	(1)	–	(2)	3	(1)	–
Transfers to stage 3	–	(5)	5	–	(1)	(11)	12	–
Originations	55	–	–	55	31	–	–	31
Maturities	(6)	(1)	–	(7)	(7)	(3)	–	(10)
Changes in risk, parameters and exposures	(21)	21	3	3	(64)	9	5	(50)
Write-offs	–	–	(9)	(9)	–	–	(9)	(9)
Recoveries	–	–	2	2	–	–	3	3
Exchange rate and other	(2)	–	(1)	(3)	2	2	(4)	–
Balance at end of period	$ 230	$ 72	$ 127	$ 429	$ 186	$ 107	$ 156	$ 449
Personal								
Balance at beginning of period	$ 310	$ 550	$ 83	$ 943	$ 491	$ 680	$ 104	$ 1,275
Provision for credit losses								
Model changes	–	–	–	–	(1)	–	–	(1)
Transfers to stage 1	132	(131)	(1)	–	204	(202)	(2)	–
Transfers to stage 2	(30)	30	–	–	(19)	19	–	–
Transfers to stage 3	–	(12)	12	–	(1)	(13)	14	–
Originations	30	–	–	30	35	–	–	35
Maturities	(16)	(24)	–	(40)	(22)	(34)	–	(56)
Changes in risk, parameters and exposures	(133)	200	50	117	(195)	151	33	(11)
Write-offs	–	–	(94)	(94)	–	–	(95)	(95)
Recoveries	–	–	34	34	–	–	38	38
Exchange rate and other	–	–	–	–	–	–	(2)	(2)
Balance at end of period	$ 293	$ 613	$ 84	$ 990	$ 492	$ 601	$ 90	$ 1,183
Credit cards								
Balance at beginning of period	$ 169	$ 626	$ –	$ 795	$ 326	$ 809	$ –	$ 1,135
Provision for credit losses								
Transfers to stage 1	99	(99)	–	–	197	(197)	–	–
Transfers to stage 2	(21)	21	–	–	(22)	22	–	–
Transfers to stage 3	(1)	(87)	88	–	(1)	(94)	95	–
Originations	1	–	–	1	1	–	–	1
Maturities	(1)	(8)	–	(9)	(1)	(9)	–	(10)
Changes in risk, parameters and exposures	(71)	207	–	136	(220)	151	(16)	(85)
Write-offs	–	–	(132)	(132)	–	–	(123)	(123)
Recoveries	–	–	43	43	–	–	43	43
Exchange rate and other	–	–	1	1	(1)	1	1	1
Balance at end of period	$ 175	$ 660	$ –	$ 835	$ 279	$ 683	$ –	$ 962
Small business								
Balance at beginning of period	$ 77	$ 66	$ 36	$ 179	$ 81	$ 71	$ 37	$ 189
Provision for credit losses								
Model changes	–	–	–	–	3	1	–	4
Transfers to stage 1	9	(9)	–	–	10	(10)	–	–
Transfers to stage 2	(4)	4	–	–	(1)	1	–	–
Transfers to stage 3	(1)	–	1	–	–	(1)	1	–
Originations	8	–	–	8	11	–	–	11
Maturities	(6)	(7)	–	(13)	(5)	(11)	–	(16)
Changes in risk, parameters and exposures	(8)	12	11	15	(8)	5	3	–
Write-offs	–	–	(7)	(7)	–	–	(7)	(7)
Recoveries	–	–	2	2	–	–	2	2
Exchange rate and other	3	3	(3)	3	–	–	(2)	(2)
Balance at end of period	$ 78	$ 69	$ 40	$ 187	$ 91	$ 56	$ 34	$ 181
Wholesale								
Balance at beginning of period	$ 483	$ 590	$ 468	$ 1,541	$ 764	$ 1,024	$ 523	$ 2,311
Provision for credit losses								
Model changes	–	–	–	–	1	24	–	25
Transfers to stage 1	66	(66)	–	–	194	(193)	(1)	–
Transfers to stage 2	(14)	15	(1)	–	(20)	21	(1)	–
Transfers to stage 3	–	(21)	21	–	(2)	(17)	19	–
Originations	165	–	–	165	129	–	–	129
Maturities	(103)	(68)	–	(171)	(116)	(129)	–	(245)
Changes in risk, parameters and exposures	(48)	130	(13)	69	(346)	174	(10)	(182)
Write-offs	–	–	(48)	(48)	–	–	(34)	(34)
Recoveries	–	–	9	9	–	–	18	18
Exchange rate and other	(5)	(5)	(15)	(25)	6	9	(12)	3
Balance at end of period	$ 544	$ 575	$ 421	$ 1,540	$ 610	$ 913	$ 502	$ 2,025

	For the nine months ended							
	July 31, 2022				July 31, 2021			
	Performing		Impaired		Performing		Impaired	
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Residential mortgages								
Balance at beginning of period	$ 186	$ 92	$ 138	$ 416	$ 206	$ 160	$ 152	$ 518
Provision for credit losses								
Model changes	–	–	–	–	(6)	(5)	–	(11)
Transfers to stage 1	82	(67)	(15)	–	161	(146)	(15)	–
Transfers to stage 2	(8)	10	(2)	–	(12)	15	(3)	–
Transfers to stage 3	(1)	(20)	21	–	(2)	(38)	40	–
Originations	114	–	–	114	84	–	–	84
Maturities	(18)	(5)	–	(23)	(23)	(21)	–	(44)
Changes in risk, parameters and exposures	(125)	60	3	(62)	(220)	150	18	(52)
Write-offs	–	–	(29)	(29)	–	–	(28)	(28)
Recoveries	–	–	10	10	–	–	8	8
Exchange rate and other	–	2	1	3	(2)	(8)	(16)	(26)
Balance at end of period	$ 230	$ 72	$ 127	$ 429	$ 186	$ 107	$ 156	$ 449
Personal								
Balance at beginning of period	$ 422	$ 569	$ 88	$ 1,079	$ 480	$ 733	$ 96	$ 1,309
Provision for credit losses								
Model changes	–	–	–	–	(1)	–	–	(1)
Transfers to stage 1	459	(457)	(2)	–	546	(542)	(4)	–
Transfers to stage 2	(91)	91	–	–	(71)	71	–	–
Transfers to stage 3	(1)	(37)	38	–	(2)	(45)	47	–
Originations	78	–	–	78	96	–	–	96
Maturities	(54)	(74)	–	(128)	(69)	(103)	–	(172)
Changes in risk, parameters and exposures	(520)	521	135	136	(485)	489	151	155
Write-offs	–	–	(269)	(269)	–	–	(301)	(301)
Recoveries	–	–	97	97	–	–	106	106
Exchange rate and other	–	–	(3)	(3)	(2)	(2)	(5)	(9)
Balance at end of period	$ 293	$ 613	$ 84	$ 990	$ 492	$ 601	$ 90	$ 1,183
Credit cards								
Balance at beginning of period	$ 233	$ 642	$ –	$ 875	$ 364	$ 882	$ –	$ 1,246
Provision for credit losses								
Transfers to stage 1	374	(374)	–	–	575	(575)	–	–
Transfers to stage 2	(72)	72	–	–	(80)	80	–	–
Transfers to stage 3	(2)	(238)	240	–	(3)	(230)	233	–
Originations	7	–	–	7	4	–	–	4
Maturities	(4)	(22)	–	(26)	(5)	(24)	–	(29)
Changes in risk, parameters and exposures	(362)	580	2	220	(574)	550	(3)	(27)
Write-offs	–	–	(370)	(370)	–	–	(350)	(350)
Recoveries	–	–	127	127	–	–	120	120
Exchange rate and other	1	–	1	2	(2)	–	–	(2)
Balance at end of period	$ 175	$ 660	$ –	$ 835	$ 279	$ 683	$ –	$ 962
Small business								
Balance at beginning of period	$ 88	$ 55	$ 34	$ 177	$ 78	$ 29	$ 33	$ 140
Provision for credit losses								
Model changes	–	–	–	–	3	1	–	4
Transfers to stage 1	18	(18)	–	–	49	(49)	–	–
Transfers to stage 2	(12)	12	–	–	(7)	7	–	–
Transfers to stage 3	(1)	(2)	3	–	–	(2)	2	–
Originations	25	–	–	25	28	–	–	28
Maturities	(17)	(19)	–	(36)	(16)	(17)	–	(33)
Changes in risk, parameters and exposures	(31)	36	24	29	(67)	57	19	9
Write-offs	–	–	(22)	(22)	–	–	(21)	(21)
Recoveries	–	–	7	7	–	–	6	6
Exchange rate and other	8	5	(6)	7	23	30	(5)	48
Balance at end of period	$ 78	$ 69	$ 40	$ 187	$ 91	$ 56	$ 34	$ 181
Wholesale								
Balance at beginning of period	$ 566	$ 794	$ 437	$ 1,797	$ 995	$ 1,132	$ 668	$ 2,795
Provision for credit losses								
Model changes	–	–	–	–	1	24	–	25
Transfers to stage 1	334	(331)	(3)	–	449	(445)	(4)	–
Transfers to stage 2	(55)	56	(1)	–	(107)	134	(27)	–
Transfers to stage 3	(2)	(48)	50	–	(4)	(54)	58	–
Originations	448	–	–	448	489	–	–	489
Maturities	(301)	(259)	–	(560)	(414)	(403)	–	(817)
Changes in risk, parameters and exposures	(444)	354	31	(59)	(747)	594	29	(124)
Write-offs	–	–	(97)	(97)	–	–	(183)	(183)
Recoveries	–	–	37	37	–	–	45	45
Exchange rate and other	(2)	9	(33)	(26)	(52)	(69)	(84)	(205)
Balance at end of period	$ 544	$ 575	$ 421	$ 1,540	$ 610	$ 913	$ 502	$ 2,025

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 2021 Annual Consolidated Financial Statements.

While the near-term macroeconomic backdrop is strong with unemployment at low levels across the regions we operate in, we expect unemployment levels to rise in Canada and the U.S. and for both regions to undergo moderate recessions in the next calendar year. Global supply chain disruptions and labour shortages are limiting increases in production, and the aggressive pace of central bank interest rate increases to address inflation pressures are adding to growing downside risks. Consumer demand has continued to outpace available supply, and labour shortages have driven wages higher, adding to potentially longer-lasting price pressures. Central banks are responding by increasing interest rates more quickly than previously expected.

To reflect relevant risk factors not captured in our modelled results, we applied expert credit judgment in determining significant increases in credit risk since origination as well as in measurement of our weighted allowance due to uncertainty related to the pace and level of deterioration in economic forecasts.

Production capacity limits, inflation, and rising interest rates that are expected to slow GDP growth have been reflected in our scenario design and weights.

Our base scenario reflects rising unemployment rates, high inflation, supply chain pressures, and increased expectations for central banks to continue increasing interest rates at an aggressive pace which results in moderate recessions expected in Canada and the U.S. in calendar 2023. We also reflect a significant decline in housing prices in Canada.

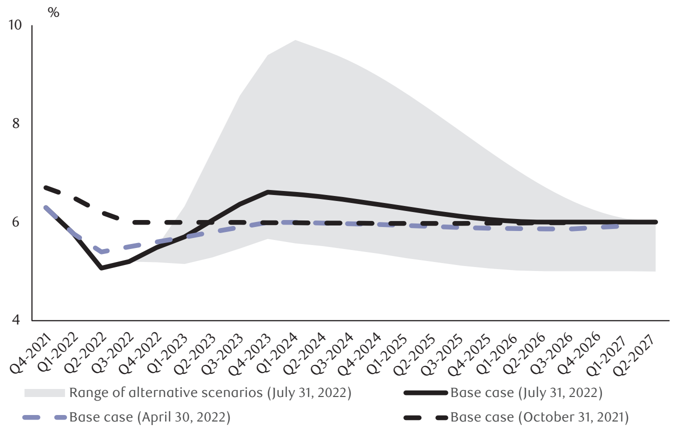
Downside scenarios, including two additional and more severe downside scenarios designed for the energy and real estate sectors, reflect the possibility of a macroeconomic shock beginning in calendar Q4 2022. Conditions are expected to deteriorate from Q3 2022 levels for up to 18 months, followed by 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 prolonged recovery period following the macroeconomic shock, including further monetary policy responses to elevated inflation rates which may increase credit risk as compared to our base scenario, 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.

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

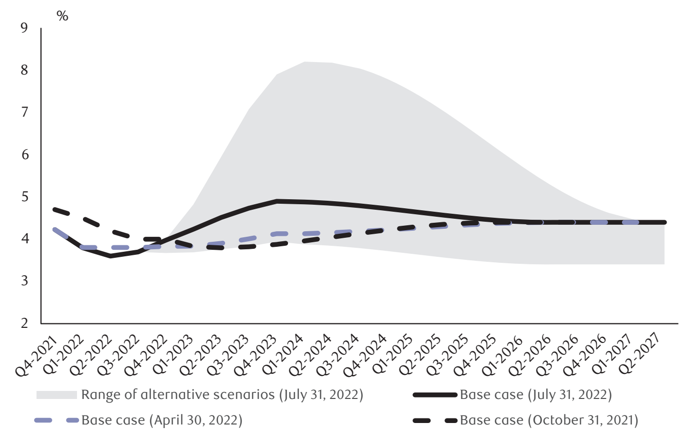
- ***Unemployment*** – In our base forecast, calendar Q3 2022 unemployment rates are expected to increase to 5.2% in Canada and to 3.7% in the U.S., peaking by Q4 2023 at 6.6% in Canada and 4.9% in the U.S., and returning to long run equilibrium towards the latter end of the forecast horizon.

Canada Unemployment Rate (1)



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

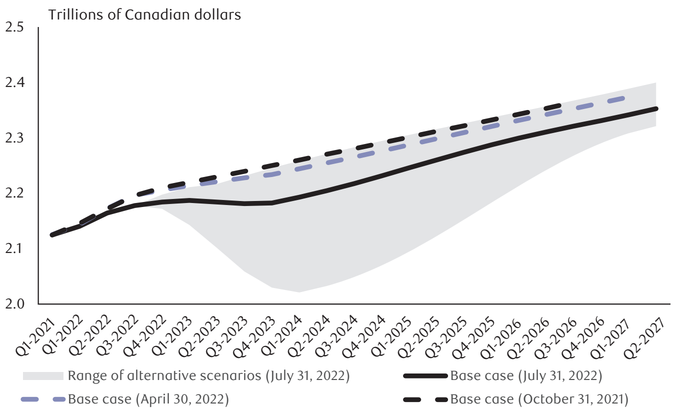
U.S. Unemployment Rate (1)



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

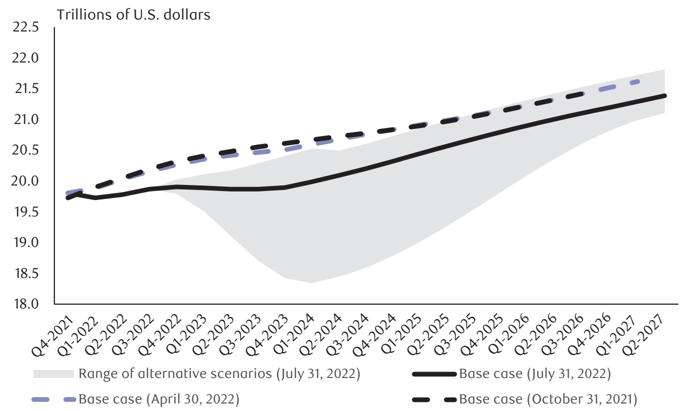
- ***Gross Domestic Product (GDP)*** – In our base forecast, we expect Canadian and U.S. GDP growth to slow significantly later this year and into calendar 2023, with moderate recessions expected in Canada and U.S. in the next year as unemployment rates rise in both regions. GDP in calendar Q4 2022 is expected to be 2.8% above Q4 2021 levels in Canada, and 0.5% above such levels in the U.S.

Canada Real GDP (1)



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

U.S. Real GDP (1)



(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 $104 per barrel over the next 12 months from calendar Q3 2022 and $74 per barrel in the following 2 to 5 years. The range of average prices in our alternative downside and upside scenarios is $31 to $132 per barrel for the next 12 months and $43 to $81 per barrel for the following 2 to 5 years. As at April 30, 2022, our base case forecast included an average price of $94 per barrel for the next 12 months and $75 per barrel for the following 2 to 5 years. As at October 31, 2021, our base case forecast included an average price of $71 per barrel for the next 12 months and $56 per barrel for the following 2 to 5 years.
- ***Canadian housing price index*** – In our base forecast, we expect housing prices to decrease by (5.6)% over the next 12 months from calendar Q3 2022, with a compound annual growth rate of 5.1% for the following 2 to 5 years. The range of annual housing price growth (contraction) in our alternative 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 April 30, 2022, our base case forecast included housing price growth (contraction) of (3.6)% for the next 12 months and 4.3% for the following 2 to 5 years. As at October 31, 2021, our base case forecast included housing price growth of 0.1% for the next 12 months and 4.1% for the following 2 to 5 years.

Note 5 Loans and allowance for credit losses (continued)

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 2021 Annual Report.

	As at							
	July 31, 2022				October 31, 2021			
(Millions of Canadian dollars)	Stage 1	Stage 2	Stage 3	Total	Stage 1	Stage 2	Stage 3	Total
Retail								
Loans outstanding – Residential mortgages								
Low risk	$ 334,597	$ 3,839	$ –	$ 338,436	$ 310,334	$ 1,507	$ –	$ 311,841
Medium risk	14,160	2,602	–	16,762	15,152	2,051	–	17,203
High risk	1,141	2,748	–	3,889	3,343	634	–	3,977
Not rated (1)	49,248	972	–	50,220	45,512	913	–	46,425
Impaired	–	–	537	537	–	–	645	645
	399,146	10,161	537	409,844	374,341	5,105	645	380,091
Items not subject to impairment (2)				340				241
Total				$ 410,184				$ 380,332
Loans outstanding – Personal								
Low risk	$ 73,815	$ 1,985	$ –	$ 75,800	$ 72,267	$ 698	$ –	$ 72,965
Medium risk	5,144	3,992	–	9,136	4,974	4,551	–	9,525
High risk	346	1,418	–	1,764	687	1,045	–	1,732
Not rated (1)	9,338	89	–	9,427	8,934	88	–	9,022
Impaired	–	–	176	176	–	–	197	197
Total	$ 88,643	$ 7,484	$ 176	$ 96,303	$ 86,862	$ 6,382	$ 197	$ 93,441
Loans outstanding – Credit cards								
Low risk	$ 14,484	$ 57	$ –	$ 14,541	$ 12,864	$ 24	$ –	$ 12,888
Medium risk	1,362	1,789	–	3,151	1,646	1,645	–	3,291
High risk	41	1,096	–	1,137	136	937	–	1,073
Not rated (1)	636	34	–	670	527	43	–	570
Total	$ 16,523	$ 2,976	$ –	$ 19,499	$ 15,173	$ 2,649	$ –	$ 17,822
Loans outstanding – Small business								
Low risk	$ 8,755	$ 484	$ –	$ 9,239	$ 8,609	$ 274	$ –	$ 8,883
Medium risk	1,468	1,124	–	2,592	1,583	979	–	2,562
High risk	126	319	–	445	227	218	–	445
Not rated (1)	9	–	–	9	4	–	–	4
Impaired	–	–	118	118	–	–	109	109
Total	$ 10,358	$ 1,927	$ 118	$ 12,403	$ 10,423	$ 1,471	$ 109	$ 12,003
Undrawn loan commitments – Retail								
Low risk	$ 243,614	$ 1,479	$ –	$ 245,093	$ 229,516	$ 574	$ –	$ 230,090
Medium risk	8,771	200	–	8,971	9,475	133	–	9,608
High risk	882	326	–	1,208	1,205	97	–	1,302
Not rated (1)	5,608	108	–	5,716	4,854	90	–	4,944
Total	$ 258,875	$ 2,113	$ –	$ 260,988	$ 245,050	$ 894	$ –	$ 245,944
Wholesale – Loans outstanding								
Investment grade	$ 82,191	$ 225	$ –	$ 82,416	$ 62,975	$ 226	$ –	$ 63,201
Non-investment grade	142,007	13,830	–	155,837	117,396	15,146	–	132,542
Not rated (1)	10,916	312	–	11,228	9,339	430	–	9,769
Impaired	–	–	1,228	1,228	–	–	1,357	1,357
	235,114	14,367	1,228	250,709	189,710	15,802	1,357	206,869
Items not subject to impairment (2)				10,883				11,197
Total				$ 261,592				$ 218,066
Undrawn loan commitments – Wholesale								
Investment grade	$ 267,452	$ 404	$ –	$ 267,856	$ 246,539	$ 1,122	$ –	$ 247,661
Non-investment grade	121,896	9,514	–	131,410	108,063	12,377	–	120,440
Not rated (1)	3,845	–	–	3,845	3,476	1	–	3,477
Total	$ 393,193	$ 9,918	$ –	$ 403,111	$ 358,078	$ 13,500	$ –	$ 371,578

(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.

Loans past due but not impaired (1), (2)

	As at					
	July 31, 2022			October 31, 2021		
(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total	30 to 89 days	90 days and greater	Total
Retail	$ 1,248	$ 150	$ 1,398	$ 1,105	$ 137	$ 1,242
Wholesale	1,857	12	1,869	1,230	–	1,230
	$ 3,105	$ 162	$ 3,267	$ 2,335	$ 137	$ 2,472

(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

Wealth Management

On March 31, 2022, we announced our intention via our subsidiary, RBC Wealth Management (Jersey) Holdings Limited, to acquire Brewin Dolphin Holdings PLC (Brewin Dolphin) by way of a recommended cash offer of 515 pence per share for the entire issued and to be issued share capital of Brewin Dolphin, which values Brewin Dolphin at approximately £1.6 billion ($2.6 billion) on a fully diluted basis as at March 30, 2022. Brewin Dolphin provides discretionary wealth management services in the U.K. and Ireland.

The transaction is expected to close by the end of the third calendar quarter of 2022, subject to regulatory approvals and other customary closing conditions. The results of the acquired business will be consolidated from the date of close.

Note 7 Deposits

	As at							
	July 31, 2022				October 31, 2021			
(Millions of Canadian dollars)	Demand (1)	Notice (2)	Term (3)	Total	Demand (1)	Notice (2)	Term (3)	Total
Personal	$ 212,348	$ 66,470	$ 113,449	$ 392,267	$ 207,493	$ 64,613	$ 90,382	$ 362,488
Business and government	349,919	16,751	372,797	739,467	356,020	20,800	319,533	696,353
Bank	12,358	485	34,027	46,870	12,549	449	28,992	41,990
	$ 574,625	$ 83,706	$ 520,273	$ 1,178,604	$ 576,062	$ 85,862	$ 438,907	$ 1,100,831
Non-interest-bearing (4)								
Canada	$ 155,873	$ 8,131	$ 499	$ 164,503	$ 151,475	$ 8,051	$ 713	$ 160,239
United States	53,378	–	–	53,378	54,021	–	–	54,021
Europe (5)	475	–	–	475	632	–	–	632
Other International	8,471	–	–	8,471	8,002	–	–	8,002
Interest-bearing (4)								
Canada	313,493	19,169	373,680	706,342	315,464	19,857	312,987	648,308
United States	9,534	56,012	82,644	148,190	6,978	57,260	77,597	141,835
Europe (5)	28,626	394	48,457	77,477	34,278	693	36,788	71,759
Other International	4,775	–	14,993	19,768	5,212	1	10,822	16,035
	$ 574,625	$ 83,706	$ 520,273	$ 1,178,604	$ 576,062	$ 85,862	$ 438,907	$ 1,100,831

(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 July 31, 2022, deposits denominated in U.S. dollars, British pounds, Euro and other foreign currencies were $448 billion, $34 billion, $47 billion and $30 billion, respectively (October 31, 2021 – $399 billion, $35 billion, $43 billion and $27 billion, respectively).
(5) Europe includes United Kingdom, Luxembourg, the Channel Islands, and France.

Contractual maturities of term deposits

	As at	
(Millions of Canadian dollars)	July 31 2022	October 31 2021
Within 1 year:		
less than 3 months	$ 152,461	$ 133,776
3 to 6 months	58,906	64,062
6 to 12 months	125,192	83,871
1 to 2 years	52,844	45,532
2 to 3 years	39,009	29,204
3 to 4 years	25,688	24,573
4 to 5 years	33,209	25,329
Over 5 years	32,964	32,560
	$ 520,273	$ 438,907
Aggregate amount of term deposits in denominations of one hundred thousand dollars or more	$ 484,000	$ 416,000

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

	For the three months ended			
	Pension plans		Other post-employment benefit plans	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Current service costs	$ 77	$ 90	$ 11	$ 11
Past service costs	–	–	–	–
Net interest expense (income)	(21)	2	16	15
Remeasurements of other long-term benefits	–	–	(10)	–
Administrative expense	3	3	–	–
Defined benefit pension expense	59	95	17	26
Defined contribution pension expense	58	56	–	–
	$ 117	$ 151	$ 17	$ 26

	For the nine months ended			
	Pension plans		Other post-employment benefit plans	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Current service costs	$ 232	$ 270	$ 28	$ 33
Past service costs	(1)	–	2	–
Net interest expense (income)	(63)	6	47	43
Remeasurements of other long-term benefits	–	–	(23)	(10)
Administrative expense	10	9	–	–
Defined benefit pension expense	178	285	54	66
Defined contribution pension expense	188	179	–	–
	$ 366	$ 464	$ 54	$ 66

Pension and other post-employment benefit remeasurements (1)

	For the three months ended			
	Defined benefit pension plans		Other post-employment benefit plans	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Actuarial (gains) losses:				
Changes in financial assumptions (2)	$ 81	$ 732	$ 16	$ 46
Experience adjustments	–	–	(1)	(1)
Return on plan assets (excluding interest based on discount rate)	338	(882)	–	–
	$ 419	$ (150)	$ 15	$ 45

	For the nine months ended			
	Defined benefit pension plans		Other post-employment benefit plans	
(Millions of Canadian dollars)	July 31 2022	July 31 2021	July 31 2022	July 31 2021
Actuarial (gains) losses:				
Changes in financial assumptions (2)	$ (2,917)	$ (660)	$ (241)	$ (89)
Experience adjustments	1	–	(4)	(4)
Return on plan assets (excluding interest based on discount rate)	2,180	(1,679)	–	–
	$ (736)	$ (2,339)	$ (245)	$ (93)

(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

Government of Canada Budget 2022

On April 7, 2022, the Government of Canada presented its 2022 Budget and on August 9, 2022, proposed through draft legislation a Canada Recovery Dividend (CRD) and a permanent increase in the corporate income tax rate. 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 permanent increase in the corporate income tax rate is 1.5% on taxable income above $100 million and would apply to taxation years that end after April 7, 2022. For our taxation year ending October 31, 2022, the additional 1.5% tax would be prorated based on the number of days in the taxation year that are after April 7, 2022.

The draft legislation is open for public comment until September 30, 2022 and is therefore subject to change; timing of enactment remains uncertain. While the ultimate impact will depend on the final legislation, the CRD is expected to reduce our net income when substantively enacted.

Tax examinations and assessments

During the third quarter of 2022, we received a reassessment from the Canada Revenue Agency (CRA), in respect of the 2017 taxation year, which suggests that Royal Bank of Canada owes additional taxes of approximately $237 million as they denied the deductibility of certain dividends. This amount represents the maximum additional taxes owing for that year. The reassessment is consistent with the previously received reassessments as described in Note 21 of our 2021 Annual Consolidated Financial Statements. It is possible that the CRA will reassess us for significant additional income taxes for subsequent years on the same basis. In all cases, we are confident that our tax filing position was appropriate and intend to defend ourselves vigorously.

Note 10 Significant capital and funding transactions

Preferred shares

On November 5, 2021, we issued 750 thousand Non-Cumulative 5-Year Fixed Rate Reset First Preferred Shares Series BT to certain institutional investors, at a price of $1,000 per share, for total gross proceeds of $750 million. For the initial five year period to the earliest redemption date of February 24, 2027, the shares pay semi-annual cash dividends, if declared, at a rate of 4.2% per annum. The dividend rate will reset on the earliest redemption date and every fifth year thereafter at a rate equal to the 5-year Government of Canada bond yield plus a premium of 2.71%. Subject to the consent of the Office of the Superintendent of Financial Institutions (OSFI) and the requirements of the *Bank Act* (Canada), we may redeem the Series BT Preferred Shares in whole or in part at a price per share of $1,000 on the earliest redemption date and every fifth year thereafter. The shares include non-viability contingency capital (NVCC) provisions necessary for them to qualify as Tier 1 regulatory capital under Basel III.

On February 24, 2022, we redeemed all 6 million Non-Cumulative First Preferred Shares Series BJ, at a price of $25.75 per share.

Subordinated debentures

On January 25, 2022, we issued $1,000 million of NVCC subordinated debentures. The notes bear interest at a fixed rate of 2.94% per annum until May 3, 2027, and at the three-month Canadian Dollar Offered Rate plus 0.76% thereafter until their maturity on May 3, 2032.

Common shares issued (1)

	For the three months ended			
	July 31, 2022		July 31, 2021	
(Millions of Canadian dollars, except number of shares)	Number of shares (thousands)	Amount	Number of shares (thousands)	Amount
Issued in connection with share-based compensation plans (2)	**100**	**$ 8**	311	$ 24
Purchased for cancellation (3)	**(10,445)**	**(129)**	–	–
	(10,345)	**$ (121)**	311	$ 24

	For the nine months ended			
	July 31, 2022		July 31, 2021	
(Millions of Canadian dollars, except number of shares)	Number of shares (thousands)	Amount	Number of shares (thousands)	Amount
Issued in connection with share-based compensation plans (2)	**612**	**$ 50**	1,131	$ 85
Purchased for cancellation (3)	**(33,016)**	**(411)**	–	–
	(32,404)	**$ (361)**	1,131	$ 85

(1) The requirements of our dividend reinvestment plan (DRIP) are satisfied through either open market share purchases or shares issued from treasury. During the three and nine months ended July 31, 2022 and July 31, 2021, our DRIP's requirements were satisfied through open market share purchases.
(2) Amounts include cash received for stock options exercised during the period and the fair value adjustment to stock options.
(3) During the three months ended July 31, 2022, we purchased for cancellation common shares at a total fair value of $1,338 million (average cost of $128.20 per share), with a book value of $129 million (book value of $12.47 per share). During the nine months ended July 31, 2022, we purchased for cancellation common shares at a total fair value of $4,444 million (average cost of $134.60 per share), with a book value of $411 million (book value of $12.46 per share). During the three and nine months ended July 31, 2021, we did not purchase for cancellation any common shares.

Note 11 Earnings per share

(Millions of Canadian dollars, except share and per share amounts)	For the three months ended July 31 2022	July 31 2021	For the nine months ended July 31 2022	July 31 2021
Basic earnings per share				
Net income	$ 3,577	$ 4,296	$ 11,925	$ 12,158
Dividends on preferred shares and distributions on other equity instruments	(58)	(55)	(180)	(189)
Net income attributable to non-controlling interests	(2)	(4)	(7)	(7)
Net income available to common shareholders	$ 3,517	$ 4,237	$ 11,738	$ 11,962
Weighted average number of common shares (in thousands)	1,396,381	1,424,614	1,409,292	1,424,278
Basic earnings per share (in dollars)	$ 2.52	$ 2.97	$ 8.33	$ 8.40
Diluted earnings per share				
Net income available to common shareholders	$ 3,517	$ 4,237	$ 11,738	$ 11,962
Weighted average number of common shares (in thousands)	1,396,381	1,424,614	1,409,292	1,424,278
Stock options (1)	1,680	1,987	2,039	1,596
Issuable under other share-based compensation plans	606	597	603	674
Average number of diluted common shares (in thousands)	1,398,667	1,427,198	1,411,934	1,426,548
Diluted earnings per share (in dollars)	$ 2.51	$ 2.97	$ 8.31	$ 8.39

(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 months ended July 31, 2022, an average of 1,181,140 outstanding options with an average exercise price of $129.99 were excluded from the calculation of diluted earnings per share. For the nine months ended July 31, 2022, no outstanding options were excluded from the calculation of diluted earnings per share. For the three and nine months ended July 31, 2021, 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. 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 accruals could be material to our results of operations in any particular period.

Our significant legal proceeding and regulatory matters are described in Note 24 of our audited 2021 Annual Consolidated Financial Statements and as updated below.

London Interbank Offered Rate litigation (LIBOR)

In respect of the consolidated class action in New York, on December 30, 2021, the United States Court of Appeals for the Second Circuit issued an opinion affirming in part and reversing in part certain district court rulings that had dismissed a substantial portion of the consolidated class action on jurisdictional grounds and lack of standing. The Second Circuit remanded the matter to the district court for further proceedings consistent with its decision. Based on the facts currently known, it is not possible at this time for us to predict the ultimate outcome of these proceedings or the timing of their resolution.

In respect of the New York class action relating to the setting of LIBOR after its administration was taken over by the Intercontinental Exchange, following the withdrawal of the named plaintiffs and the substitution of the plaintiff in 2021, the United States Court of Appeals for the Second Circuit dismissed the plaintiff's appeal on February 14, 2022 for lack of jurisdiction.

Interchange fees litigation

The courts in all five provinces have approved the global settlement of the Canadian banks, including RBC, and this resolves all pending Canadian class actions involving interchange fees.

Royal Bank of Canada Trust Company (Bahamas) Limited proceedings

The November 3, 2020 opinion issued by the Solicitor of Labor of the U.S. Department of Labor has been withdrawn. The October 28, 2016 exemption granted to Royal Bank of Canada and its current and future affiliates by the U.S. Department of Labor remains unaffected.

Note 13 Results by business segment

(Millions of Canadian dollars)	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1)	Total
	For the three months ended July 31, 2022						
Net interest income (2)	$ 3,655	$ 960	$ –	$ 188	$ 1,136	$ (49)	$ 5,890
Non-interest income	1,527	2,695	1,233	394	513	(120)	6,242
Total revenue	5,182	3,655	1,233	582	1,649	(169)	12,132
Provision for credit losses	324	13	–	(3)	6	–	340
Insurance policyholder benefits, claims and acquisition expense	–	–	850	–	–	–	850
Non-interest expense	2,130	2,618	139	374	1,123	2	6,386
Income (loss) before income taxes	2,728	1,024	244	211	520	(171)	4,556
Income taxes (recoveries)	705	247	58	47	41	(119)	979
Net income	$ 2,023	$ 777	$ 186	$ 164	$ 479	$ (52)	$ 3,577
Non-interest expense includes:							
Depreciation and amortization	$ 239	$ 227	$ 14	$ 47	$ 126	$ 3	$ 656

(Millions of Canadian dollars)	Personal & Commercial Banking	Wealth Management (3)	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1), (3)	Total
	For the three months ended July 31, 2021						
Net interest income (2)	$ 3,206	$ 682	$ –	$ 127	$ 1,122	$ (85)	$ 5,052
Non-interest income	1,445	2,691	1,754	390	1,341	83	7,704
Total revenue	4,651	3,373	1,754	517	2,463	(2)	12,756
Provision for credit losses	(179)	(21)	–	(3)	(337)	–	(540)
Insurance policyholder benefits, claims and acquisition expense	–	–	1,304	–	–	–	1,304
Non-interest expense	1,998	2,434	155	401	1,363	69	6,420
Income (loss) before income taxes	2,832	960	295	119	1,437	(71)	5,572
Income taxes (recoveries)	719	216	61	31	308	(59)	1,276
Net income	$ 2,113	$ 744	$ 234	$ 88	$ 1,129	$ (12)	$ 4,296
Non-interest expense includes:							
Depreciation and amortization	$ 236	$ 216	$ 15	$ 50	$ 125	$ 1	$ 643

(Millions of Canadian dollars)	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1)	Total
	For the nine months ended July 31, 2022						
Net interest income (2)	$ 10,118	$ 2,485	$ –	$ 499	$ 3,558	$ (225)	$ 16,435
Non-interest income	4,606	8,388	2,866	1,221	3,249	(347)	19,983
Total revenue	14,724	10,873	2,866	1,720	6,807	(572)	36,418
Provision for credit losses	177	(29)	–	(3)	(43)	1	103
Insurance policyholder benefits, claims and acquisition expense	–	–	1,667	–	–	–	1,667
Non-interest expense	6,167	7,843	431	1,192	3,945	(178)	19,400
Income (loss) before income taxes	8,380	3,059	768	531	2,905	(395)	15,248
Income taxes (recoveries)	2,149	737	179	128	601	(471)	3,323
Net income	$ 6,231	$ 2,322	$ 589	$ 403	$ 2,304	$ 76	$ 11,925
Non-interest expense includes:							
Depreciation and amortization	$ 704	$ 683	$ 43	$ 146	$ 373	$ 7	$ 1,956

Note 13 Results by business segment (continued)

(Millions of Canadian dollars)	For the nine months ended July 31, 2021						
	Personal & Commercial Banking	Wealth Management (3)	Insurance	Investor & Treasury Services	Capital Markets (1)	Corporate Support (1), (3)	Total
Net interest income (2)	$ 9,452	$ 2,014	$ –	$ 305	$ 3,442	$ (272)	$ 14,941
Non-interest income	4,289	7,838	4,099	1,311	4,447	392	22,376
Total revenue	13,741	9,852	4,099	1,616	7,889	120	37,317
Provision for credit losses	21	(52)	–	(7)	(487)	(1)	(526)
Insurance policyholder benefits, claims and acquisition expense	–	–	2,859	–	–	–	2,859
Non-interest expense	5,891	7,211	444	1,177	4,272	346	19,341
Income (loss) before income taxes	7,829	2,693	796	446	4,104	(225)	15,643
Income taxes (recoveries)	2,015	625	174	115	837	(281)	3,485
Net income	$ 5,814	$ 2,068	$ 622	$ 331	$ 3,267	$ 56	$ 12,158
Non-interest expense includes:							
Depreciation and amortization	$ 689	$ 654	$ 44	$ 146	$ 376	$ 3	$ 1,912

(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) Effective Q4 2021, gains (losses) on economic hedges of our U.S. share-based compensation plans, which are reflected in revenue, and related variability in share-based compensation expense driven by changes in the fair value of liabilities relating to our U.S. share-based compensation plans have been reclassified from our Wealth Management segment to Corporate Support. Comparative amounts have been reclassified to conform with this presentation.

Total assets and total liabilities by business segment

(Millions of Canadian dollars)	As at July 31, 2022						
	Personal & Commercial Banking	**Wealth Management**	**Insurance**	**Investor & Treasury Services**	**Capital Markets**	**Corporate Support**	**Total**
Total assets	**$ 590,955**	**$ 155,144**	**$ 22,342**	**$ 256,579**	**$ 759,763**	**$ 57,309**	**$ 1,842,092**
Total liabilities	**590,888**	**155,549**	**22,860**	**256,550**	**759,894**	**(47,647)**	**1,738,094**

(Millions of Canadian dollars)	As at October 31, 2021						
	Personal & Commercial Banking	Wealth Management	Insurance	Investor & Treasury Services	Capital Markets	Corporate Support	Total
Total assets	$ 549,702	$ 148,990	$ 22,724	$ 240,055	$ 692,278	$ 52,574	$ 1,706,323
Total liabilities	549,619	149,096	22,966	239,960	691,767	(45,847)	1,607,561

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 third quarter of 2022, we complied with all capital, leverage and TLAC requirements, including the Domestic Stability Buffer, imposed by OSFI.

	As at	
(Millions of Canadian dollars, except percentage amounts and as otherwise noted)	July 31 **2022**	October 31 2021
Capital (1)		
CET1 capital	**$ 76,907**	$ 75,583
Tier 1 capital	**84,207**	82,246
Total capital	**93,857**	92,026
Risk-weighted assets (RWA) used in calculation of capital ratios (1)		
Credit risk	**$ 478,686**	$ 444,142
Market risk	**34,551**	34,806
Operational risk	**75,813**	73,593
Total RWA	**$ 589,050**	$ 552,541
Capital ratios and Leverage ratio (1)		
CET1 ratio	**13.1%**	13.7%
Tier 1 capital ratio	**14.3%**	14.9%
Total capital ratio	**15.9%**	16.7%
Leverage ratio	**4.6%**	4.9%
Leverage ratio exposure (billions)	**$ 1,840**	$ 1,662
TLAC available and ratios (2), (3)		
TLAC available	**$ 162,284**	n.a.
TLAC ratio	**27.6%**	n.a.
TLAC leverage ratio	**8.8%**	n.a.

(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 as updated in accordance with the regulatory guidance issued by OSFI in response to the COVID-19 pandemic. Both the CAR guideline and LR guideline are based on the Basel III framework.
(2) Effective November 1, 2021, OSFI requires Canadian Domestic Systemically Important Banks to meet minimum risk-based TLAC ratio and TLAC leverage ratio requirements which are calculated using OSFI's TLAC guideline.
(3) 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. Both the TLAC ratio and TLAC leverage ratio are calculated using the TLAC available as percentage of total RWA and leverage exposure, respectively.
n.a. not applicable

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,
Bridgwater 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)
Switzerland – Swiss Exchange (SIX)

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.

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
We are engaged in a normal course issuer bid (NCIB) which allows us to repurchase for cancellation up to 45 million common shares during the period spanning from December 8, 2021 to December 7, 2022, when the bid expires, or such earlier date as we may complete the purchases pursuant to our Notice of Intention filed with the Toronto Stock Exchange.

We determine the amount and timing of purchases under the NCIB, subject to prior consultation with the Office of the Superintendent of Financial Institutions Canada. For further details, refer to the Capital management section.

A copy of our Notice of Intention to file a NCIB may be obtained, without charge, by contacting our Corporate Secretary at our Toronto mailing address.

2022 Quarterly earnings release dates

First quarter	February 24
Second quarter	May 26
Third quarter	August 24
Fourth quarter	November 30

2023 Annual Meeting
The Annual Meeting of Common Shareholders will be held on Wednesday, April 5, 2023.

Dividend dates for 2022
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 28 April 26 July 29 October 28	February 7 May 6 August 8 November 7
Preferred shares series BT	February 16 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.

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