Royal Bank of Canada
Fourth Quarter Results

November 30, 2022

All amounts are in Canadian dollars and are based on our audited Annual and unaudited Interim Consolidated Financial Statements for the year and quarter ended October 31, 2022 and related notes prepared in accordance with International Financial Reporting Standards (IFRS). Our 2022 Annual Report (which includes our audited Annual Consolidated Financial Statements and accompanying Management's Discussion & Analysis), our 2022 Annual Information Form and our Supplementary Financial Information are available on our website at: http://www.rbc.com/investorrelations.

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 presentation, in other filings with Canadian regulators or the SEC, in 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 impact from rising interest rates, climate- and sustainability-related beliefs, targets and goals (including our net-zero and sustainable finance commitments), and the expected closing of the transaction involving HSBC Bank Canada. The forward-looking information contained in this presentation is presented for the purpose of assisting the holders of our securities and financial analysts in understanding our financial position and results of operations as at and for the periods ended on the dates presented, as well as our financial performance objectives, vision and strategic goals, and may not be appropriate for other purposes. Forward-looking statements are typically identified by words such as “believe”, “expect”, “foresee”, “forecast”, “anticipate”, “intend”, “estimate”, “goal”, “commit”, “target”, “objective”, “plan” and “project” and similar expressions of future or conditional verbs such as “will”, “may”, “might”, “should”, “could” or “would”.

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

We caution readers not to place undue reliance on these statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. These factors – many of which are beyond our control and the effects of which can be difficult to predict – include: credit, market, liquidity and funding, insurance, operational, regulatory compliance (which could lead to us being subject to various legal and regulatory proceedings, the potential outcome of which could include regulatory restrictions, penalties and fines), strategic, reputation, competitive, model, legal and regulatory environment, systemic risks, and other risks discussed in the risk sections of our annual report for the fiscal year ended October 31, 2022 (the 2022 Annual Report); including business and economic conditions in the geographic regions in which we operate, Canadian housing and household indebtedness, information technology and cyber risks, geopolitical uncertainty, environmental and social risk (including climate change), digital disruption and innovation, privacy, data and third party related risks, regulatory changes, culture and conduct risks, the effects of changes in government fiscal, monetary and other policies, tax risk and transparency, and the emergence of widespread health emergencies or public health crises such as pandemics and epidemics, including the COVID-19 pandemic and its impact on the global economy, financial market conditions and our business operations, and financial results, condition and objectives. Additional factors that could cause actual results to differ materially from the expectations in such forward-looking statements can be found in the risk section of our 2022 Annual Report.

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

Additional information about these and other factors can be found in the risk sections of our 2022 Annual Report.

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

Overview

Dave McKay

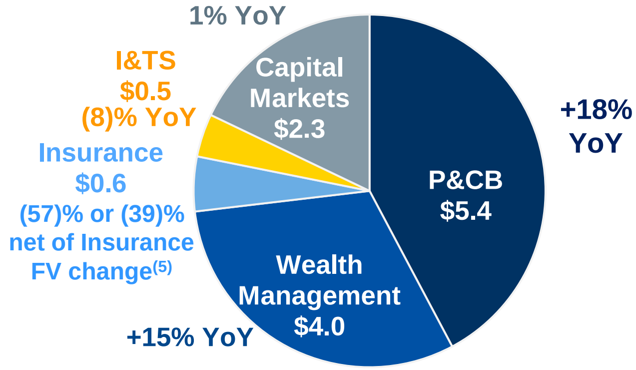
President and Chief Executive Officer

Q4/22: Performance underpinned by strong capital ratios and deposit franchise

Earnings

Net Income	$3.9BN	0% YoY
Pre-Provision, Pre-Tax Earnings[1]	$5.2BN	10% YoY
Reported Diluted EPS[2]	$2.74 per share	2% YoY
Adjusted Diluted EPS[3]	$2.78 per share	3% YoY

Diversified revenue streams[4] ($BN)



- Revenue of $12.6BN, up 2% YoY; up 3% net of Insurance fair value change[5]
- Higher net interest income across multiple segments offset by lower fee income

Expense growth (YoY)

Non-interest expense (NIE)	NIE excl. VC & SBC [6]
9.5%	8.5%
2.6% F2022	6.5% F2022

- Non-interest expense growth of 8%[6], excluding the impact of FX
- Higher staff-related costs, largely due to the timing of year-end true-ups related to Capital Markets variable compensation plans
- Brewin Dolphin added 1% to expense growth

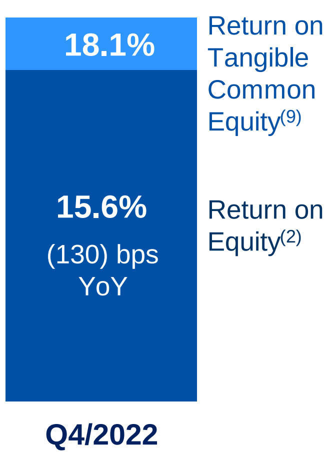
Strong credit performance

PCL on impaired loans
12 bps[7]
+4 bps QoQ

ACL on loans
$4.2 BN
0.50% of Loans & Acceptances

- $381MM total PCL, reflecting:
  - $126MM PCL on performing loans
  - $254MM PCL on impaired loans
- PCL on loans ratio[8] of 18 bps vs 17 bps last quarter
- Total ACL on loans ratio of 50 bps, up 1 bp QoQ

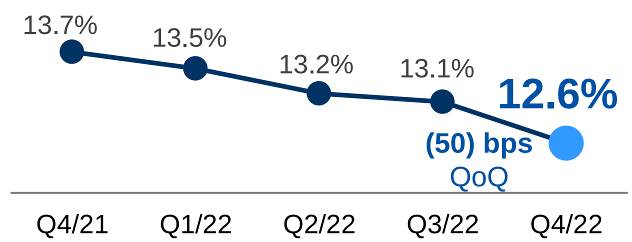
Premium return on equity



Tangible Book Value per Share[10]
+11% YoY

Book Value per Share[2]
+ 13% YoY

Strong capital ratio (CET1)[2]



- Brewin Dolphin acquisition (41 bps)
- 7.9MM share buybacks for $1BN (17 bps)
- Declared quarterly dividend of $1.32 per share, up $0.04 or 3% QoQ

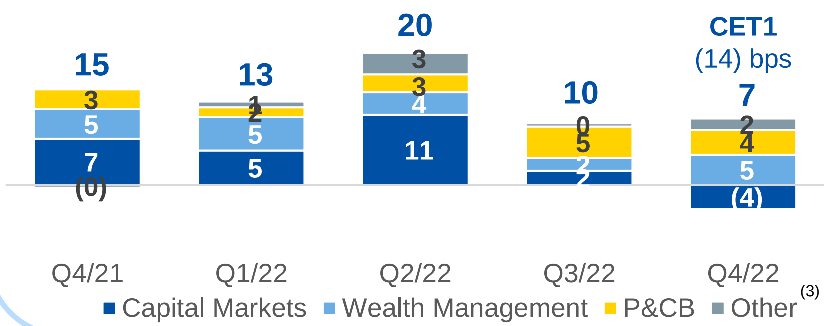
(1) This is a non-GAAP measure. See note 1 on Slide 44. (2) Refer to Glossary on slides 47-48 for explanation of composition of this measure. (3) This is a non-GAAP measure. See note 2 on Slide 44. (4) Amounts exclude Corporate Support. (5) This is a non-GAAP measure. See note 3 on Slide 44. (6) This is a non-GAAP measure. See note 4 on Slide 44. (7) Basis points (bps). (8) See note 5 on Slide 44. (9) This is a non-GAAP measure. See note 6 on Slide 44. (10) This is a non-GAAP measure. See note 7 on Slide 44.

Balanced capital deployment driving sustainable long-term shareholder value

16%+ ROE
Medium-term objective

Strong capital ratio

Diversified **organic growth**(1) (2) (RWA $BN)



Committed to sustainable **dividend growth** (Q4/22)

$1.8BN
Common share dividends
+15% YoY

47%
Dividend payout ratio(4)
Medium-term objective
40-50%

Q4/22
72% total payout ratio(4)
$2.8BN total shareholder distribution(4)

Excess capital creates **optionality**

Brewin Dolphin
£1.6BN
acquisition

HSBC Canada
$13.5BN
announced acquisition

Executing on **share repurchases**

7.9 million or $1.0BN
shares bought back in Q4/22

41 million or $5.4BN
shares bought back in 2022

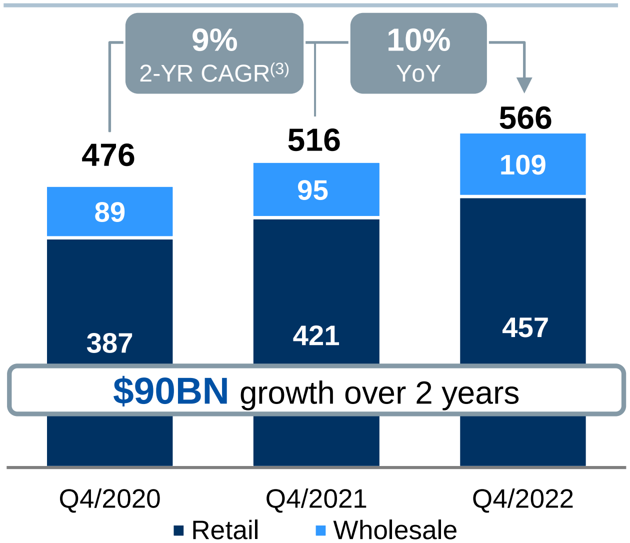
10%
3-Year BVPS(4) CAGR(5)

10%
3-year annualized TSR(4)

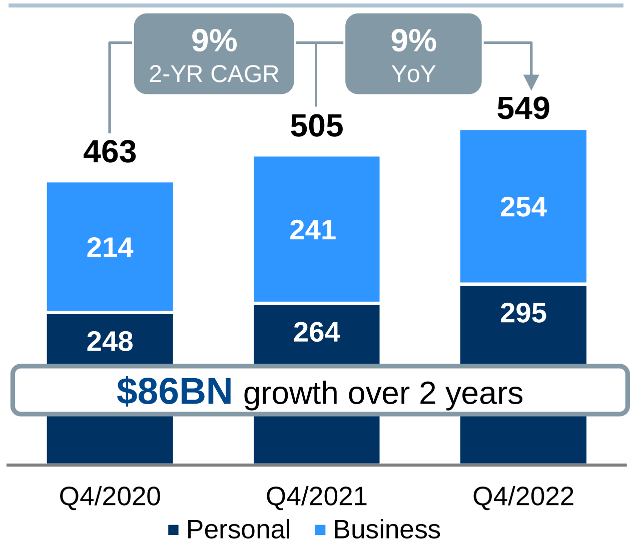
(1) Organic growth reflects growth in RWA excluding impacts of models & methodology updates, asset quality, acquisitions & disposals and FX. (2) Totals may not add due to rounding. (3) Includes I&TS, Insurance and Corporate Support. (4) Refer to Glossary on slides 47-48 for explanation of composition of this measure. (5) Compound Annual Growth Rate.

Strong volume growth across our largest segments

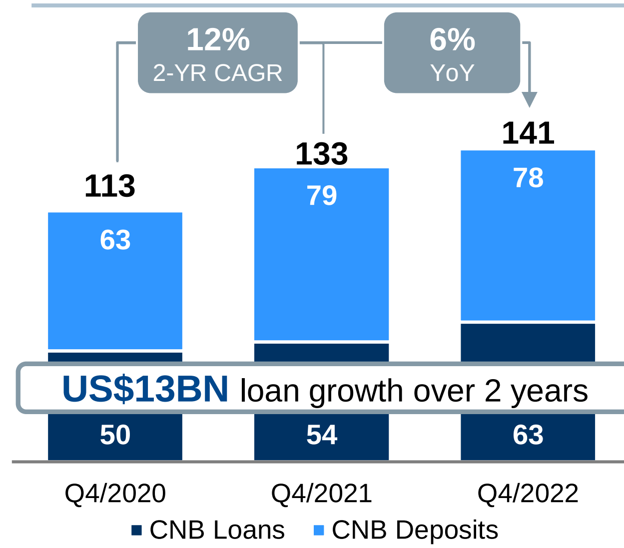
Canadian Banking average[1] loans and acceptances ($ billions)[2]



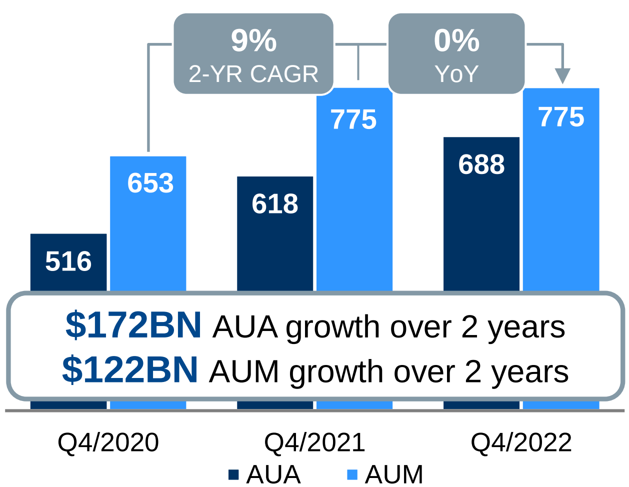
Canadian Banking average deposits ($ billions)[4]



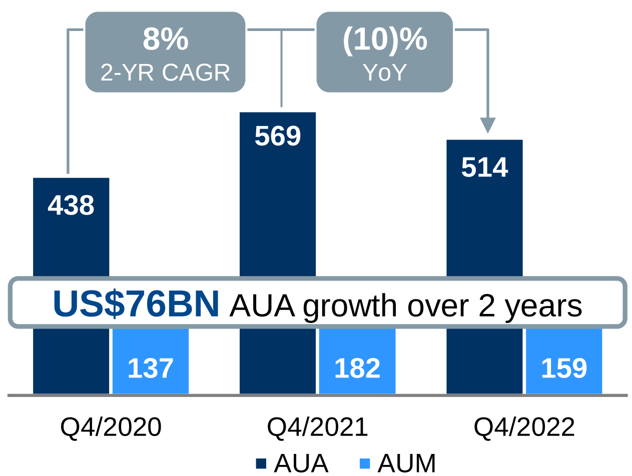
City National (CNB) average loans and deposits (US$ billions)



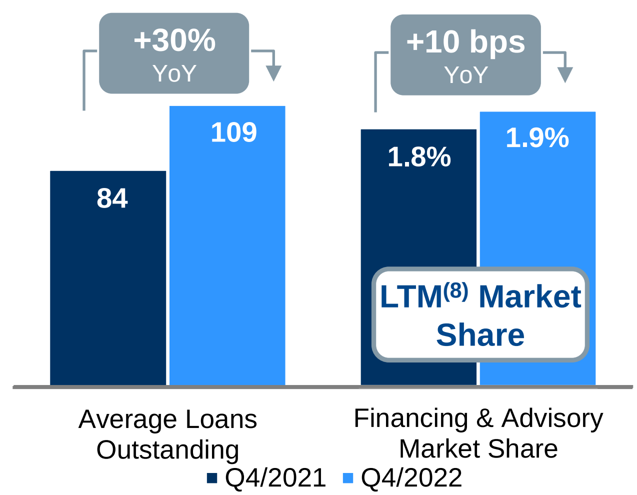
Wealth Management (non-U.S.) AUA[1] [5] and AUM[1] [5] ($ billions)



U.S. Wealth Management (incl. CNB) AUA and AUM (US$ billions)



Capital Markets Loans and Market Share ($ billions; %) [6] [7]

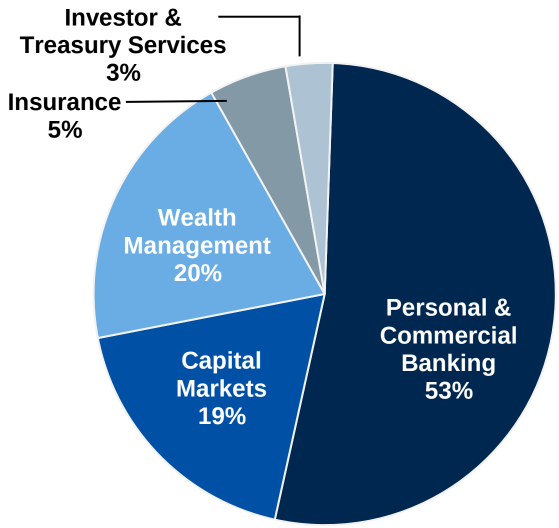


(1) Refer to Glossary on slides 47-48 for explanation of composition of this measure. (2) Wholesale includes small business. (3) Compound Annual Growth Rate (CAGR). (4) Totals may not add due to rounding. (5) AUA and AUM reflect the inclusion of $80 billion and $72 billion, respectively, related to our acquisition of Brewin Dolphin. (6) Dealogic market share for ECM, DCM, loan syndications, and Advisory. (7) Average loan book loans outstanding includes wholesale loans, acceptances, and off balance sheet letters of credit and guarantees for our Capital Markets portfolio, on a single name basis. Excludes mortgage investments, securitized mortgages and other non-core items. (8) Last twelve months.

2022 NIAT[1]: Benefit of higher rates offset impact of challenging market conditions

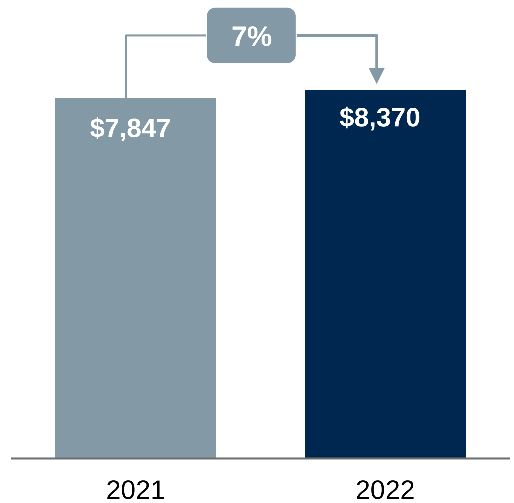
2022 Net Income[2]

Diversified business model



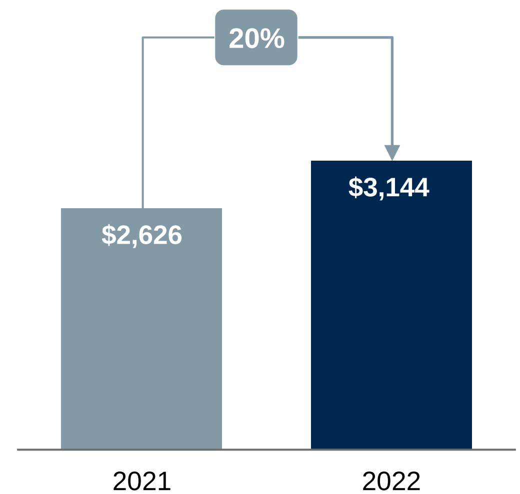
Personal & Commercial Banking

- Market share gains in Canadian personal and business deposits, and credit cards[3]
- ~400k net new clients in Canadian Banking



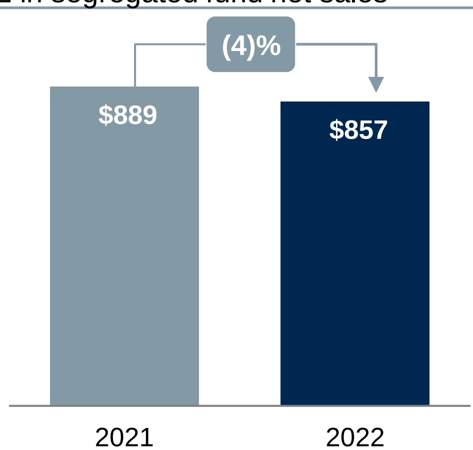
Wealth Management

- Largest retail mutual fund company in Canada capturing 32% market share amongst banks[4]



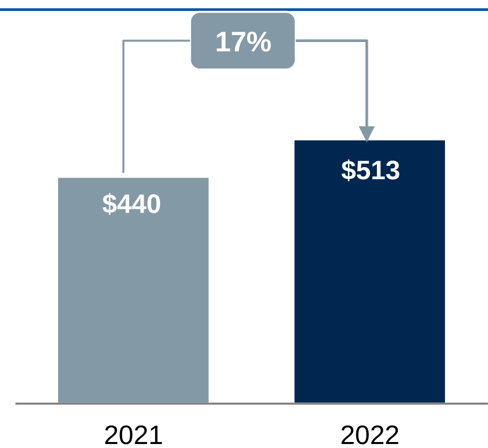
Insurance

- #1 in individual disability (sales and inforce business)[5]
- #2 in segregated fund net sales[6]



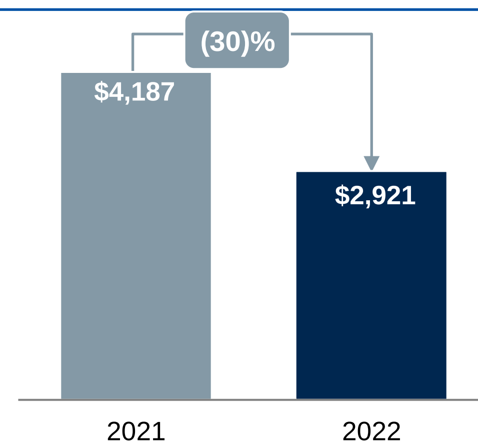
Investor & Treasury Services

- Higher net interest income on expanding margins from rising rates



Capital Markets

- 9th largest global investment bank by fees, up from 11th last year[7]



(1) Net Income After Taxes (NIAT). (2) Amounts exclude Corporate Support. (3) Market share is calculated using most current data available from OSFI (M4), Investment Funds Institute of Canada (IFIC) and Canadian Bankers Association (CBA), and is at August 2022 and June 2022 except where noted. Market share is of total Chartered Banks except where noted. Credit cards market share is based on Big-6 banks as at June 2022. (4) Investment Funds Institute of Canada (IFIC) in September 2022 and RBC reporting. (5) LIMRA Canadian Insurance Survey, 2nd Quarter CY 2022. (6) Strategic Insights, Insurance Advisory Service Report. (7) Dealogic market share.

Medium-term financial performance objectives and updates

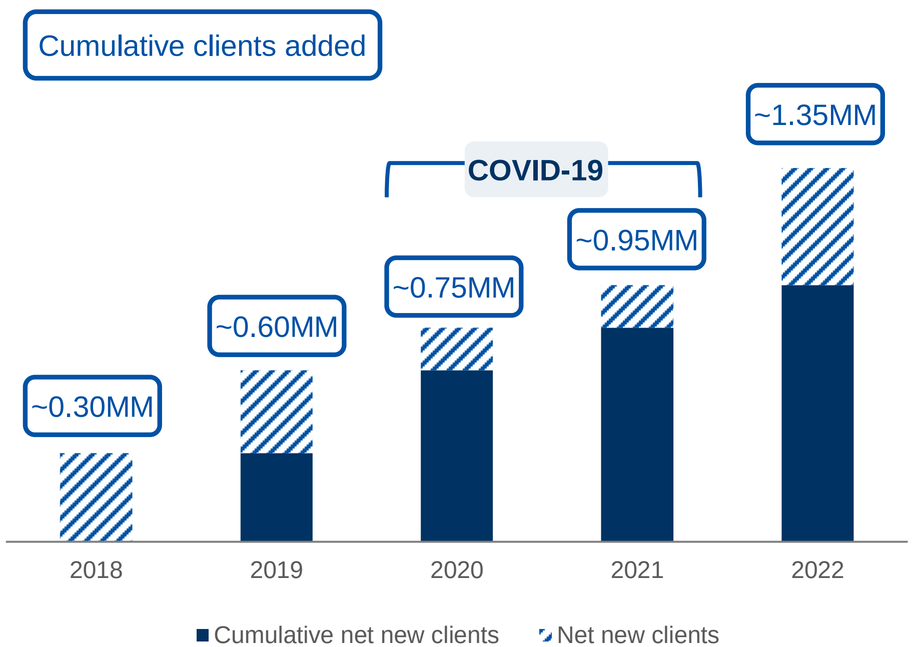
Medium-Term Objectives[1]				Average[2] 3-Year	Average[2] 5-Year
Profitability	Diluted EPS growth	7%+	✓	8%	8%
	ROE	16%+	✓	16.4%	16.7%
Capital Management	Capital ratios (CET1 ratio)	Strong	✓	12.9%	12.5%
	Dividend payout ratio	40% – 50%	✓	46%	46%

Canadian Banking client acquisition

14MM+

Canadian Banking clients

2018 Investor Day Target	2.5MM net new Canadian Banking clients by 2023



(1) A medium-term (3-5 year) objective is considered to be achieved when the performance goal is met in either a 3- or 5-year period. These objectives assume a normal business environment and our ability to achieve them in a period may be adversely affected by the macroeconomic backdrop.(2) For diluted EPS growth, average represents compound annual growth rate.

Diversified business model: Driving strong value creation through the cycle

Premium growth in **leading Canadian franchises**

#1 or #2 in key Canadian Banking product categories(1)

Largest retail mutual fund company based on AUM

#1 HNW & UHNW(2) market share

Largest Capital Markets franchise

Deepening **client relationships**

19% Canadian Banking clients with transaction accounts, investments, borrowing and credit card products(3)

45% Canadian HNW(2) retail client base has a relationship with both Canadian Banking and Canadian Wealth Management

Reimagining **innovation**

RBCX™ Ventures

ampli®

BOREALIS AI™

RBC PayEdge™

Aiden®

payplan by RBC™

NOMI®

Insight Edge™

Diversified strategy

- Diversified **City National** revenue
- **6th largest** U.S. full-service wealth advisory firm ranked by AUA(4)
- **9th largest** investment bank by fees globally(5)
- **Brewin Dolphin** acquisition

Strong balance sheet and disciplined risk management

12.6% CET1 ratio

50 bps ACL to loans ratio

125% Liquidity Coverage Ratio(6)

Aa1 Legacy senior long-term debt rating from Moody's

Premium ROE and disciplined expense management

16%+ Medium-term ROE objective

41% Canadian Banking efficiency ratio(6) over last 12 months

10% 3-Year BVPS CAGR

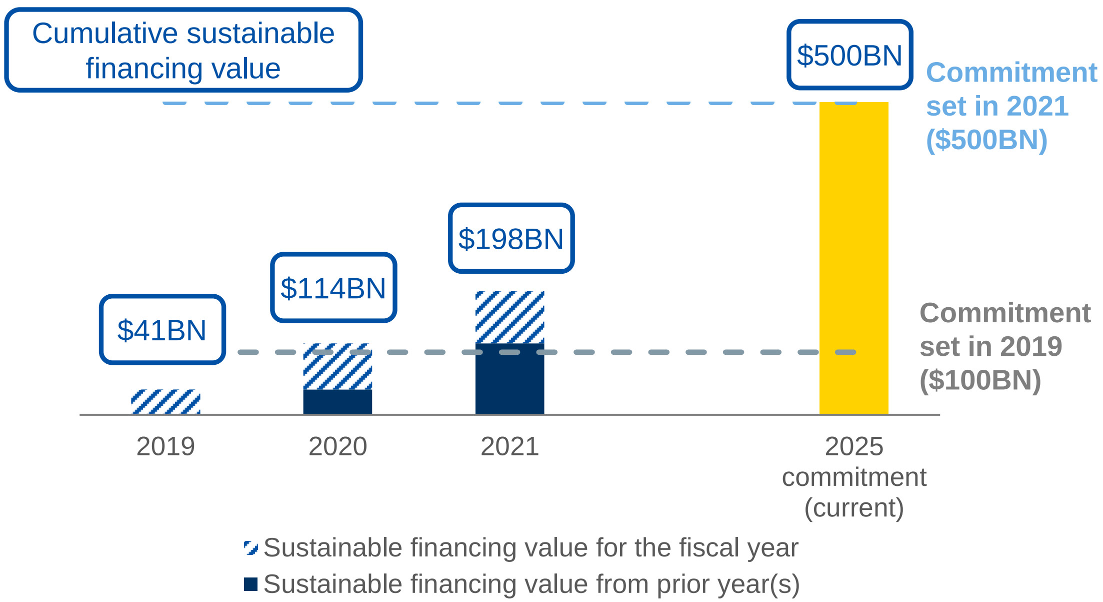
40-50% Medium-term dividend payout ratio objective

Living our Purpose: Helping clients thrive and communities prosper

(1) Market share is calculated using most current data available from OSFI (M4), Investment Funds Institute of Canada (IFIC) and Canadian Bankers Association (CBA), and is at August 2022 and June 2022 except where noted. Market share is of total Chartered Banks except where noted. (2) HNW: High Net Worth and UHNW: Ultra High Net Worth. (3) Canadian Financial Monitor by Ipsos – approx. 20,700 Canadian individuals – data based on Financial Group results for the 12-month period ending October 2022.TFSA is considered an investment. (4) Source: U.S. wealth advisory firms quarterly earnings releases (10-Q). (5) Based on market share (fiscal 2022), Dealogic. (6) Refer to Glossary on slides 47-48 for explanation of composition of this measure.

Climate: Supporting an orderly transition toward a more sustainable future

Sustainable Finance[1]



#10
Bloomberg's global Green, Social, Sustainability, and Sustainability-Linked (GSSS) bond league table in our core currencies[2]

#5
Dealogic's global Sustainability-Linked Loan (SLL) league table in our core currencies[2]

2030 interim emissions reduction targets[3][4]

	Emission Scope Inclusion	2030 Target (as % reduction from 2019 baseline)
Oil & Gas	Scopes 1, 2	**35% reduction**
	Scope 3	**11 - 27% reduction**
Power Generation	Scope 1	**54% reduction**
Automotive	Combined target for Scope 1, Scope 2 & Scope 3 tank-to-wheel	**47% reduction**

(1) See note 20 on slide 45. (2) FY2022. Core currencies reflect Canadian Dollar, United States Dollar, British Pound and Australian Dollar. (3) In 2022, RBC delivered a key milestone in its commitment to achieving net-zero in its lending portfolio by 2050 with the release of its initial set of 2030 interim emissions reduction targets for key high-emitting sectors. Please refer to our 2022 Net-Zero Report for more information. (4) See note 22 on slide 45.

Q4/2022 Financial Review

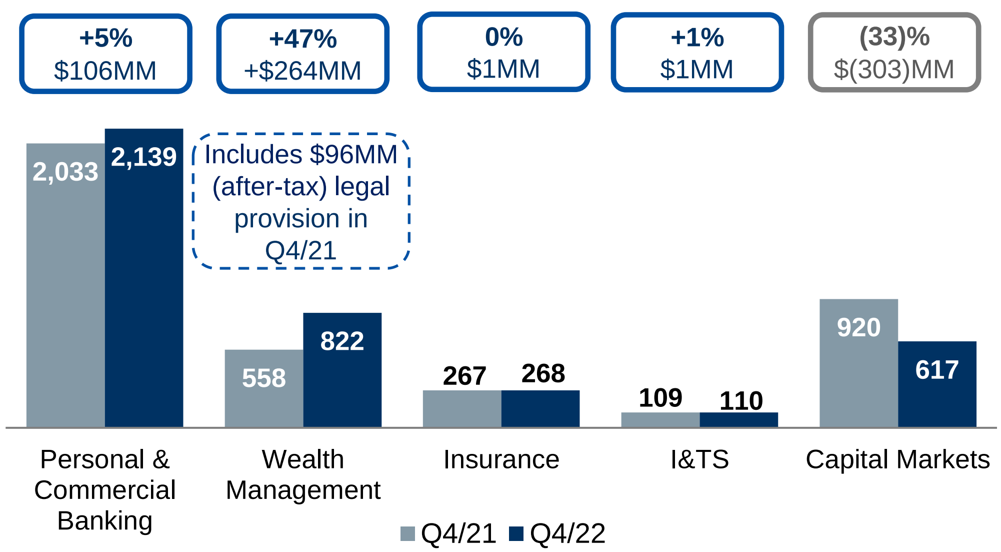
Nadine Ahn

Chief Financial Officer

Q4/22: Higher margins, strong volume growth offset challenging market conditions

($ millions, except for EPS and ROE)	Q4/2022	Reported	
		YoY	QoQ
Revenue	**12,567**	**2%**	**4%**
Revenue Net of Insurance FV Change[1]	13,007	3%	8%
Non-Interest Expense	7,209	10%	13%
Insurance PBCAE	116	(89)%	(86)%
Pre-Provision, Pre-Tax Earnings (PPPT)[2]	**5,242**	**10%**	**7%**
Provision for Credit Losses (PCL)	381	$608	$41
PCL on Performing Loans (Stage 1 & 2)	126	$481	($51)
PCL on Impaired Loans (Stage 3)	254	$117	$84
Income Before Income Taxes	**4,861**	**(3)%**	**7%**
Net Income	**3,882**	**0%**	**9%**
Diluted Earnings per Share (EPS)	**$2.74**	2%	9%
Adjusted Diluted EPS[3]	**$2.78**	**3%**	**9%**
Return on Common Equity (ROE)	**15.6%**	**(1.3) pts**	**1.0 pts**

Net Income ($ millions)



Earnings

- **Net income** flat YoY; **PPPT[2]** up 10% YoY

Revenue

- **Net interest income** (see slide 13) up 24% YoY
  - Net interest income (ex-trading) up 30% YoY[4]
  - Higher net interest margins and strong volume growth in Canadian Banking and Wealth Management
- **Non-interest income** (see slide 31) down 14% YoY
  - Down 10% YoY, net of Insurance fair value change[1] and U.S. WM WAP[5]
  - Reflects lower Investment Banking revenue driven by a decline in global fee pools and lower mutual fund revenue and Insurance revenue, slightly offset by higher Global Markets revenue and card service revenue

Non-Interest Expense (see slide 15)

- Brewin Dolphin added 1% to expense growth
- **Compensation[6]:** Up 10% as higher variable compensation and salaries was partially offset by lower share-based compensation
- **Non-compensation[7]:** Up 9% YoY due to higher technology investments, professional fees and other discretionary costs, including marketing and travel costs from lower levels last year

Provision for Credit Losses

- **PCL on loans[8]:** 18 bps, up 30 bps YoY; up 1 bp QoQ
  - **PCL on performing loans** (see slide 22): $126MM charge
  - **PCL on impaired loans** (see slide 24): 12 bps, up 5 bps YoY and 4 bps QoQ

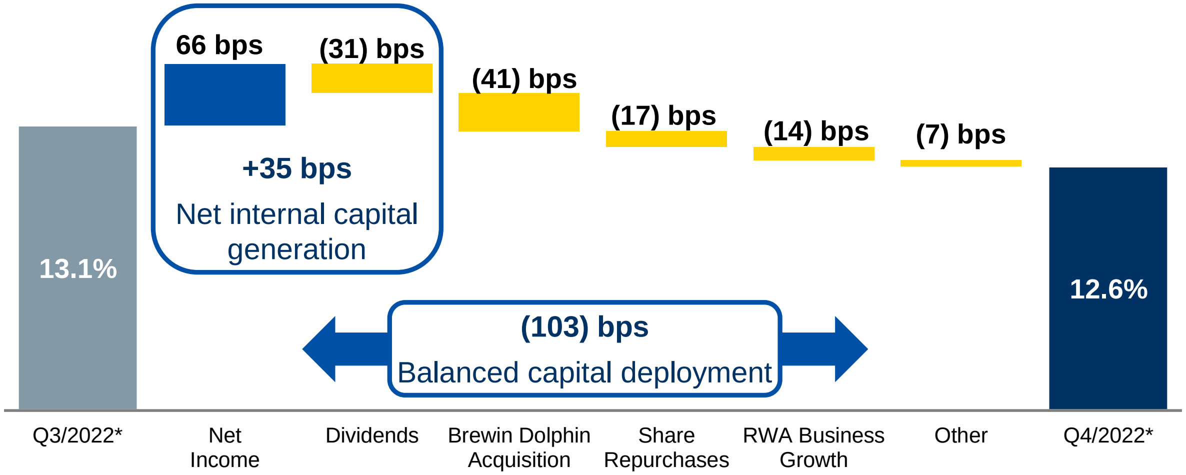
Tax Rate

- Effective tax rate of 20.1%, down 190 bps YoY
  - 22.4% (adjusted for TEB[9]), down 150 bps YoY

(1) This is a non-GAAP measure. See note 8 on Slide 44. (2) This is a non-GAAP measure. See note 1 on Slide 44. (3) This is a non-GAAP measure. See note 2 on Slide 44. (4) See note 11 on Slide 44. (5) This is a non-GAAP measure. See note 9 on Slide 44. (6) See note 12 on Slide 44. (7) See note 13 on Slide 44. (8) See note 5 on Slide 44. (9) This is a non-GAAP measure. See note 10 on Slide 44.

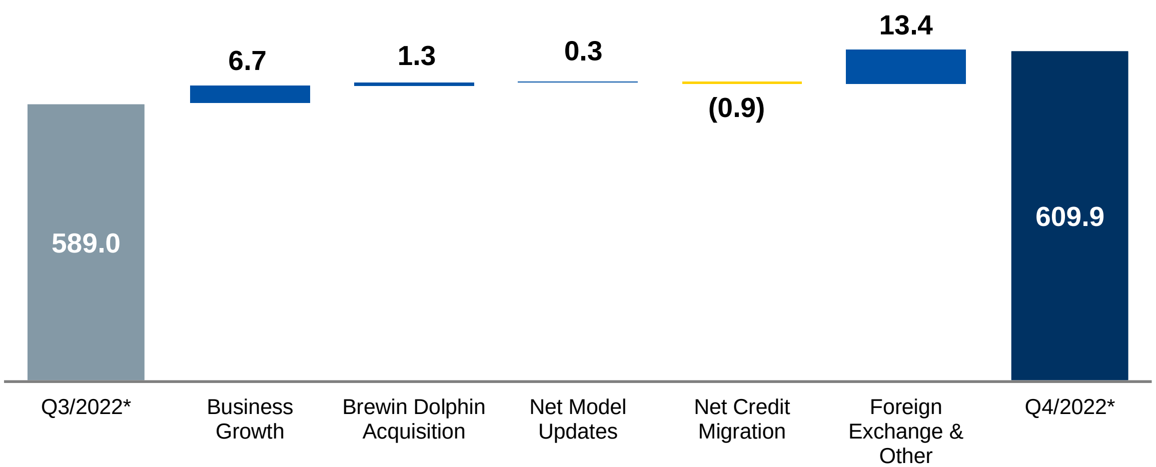
Capital: Strong capital position supporting business growth and shareholder returns

CET1 Movement



- CET1 ratio of 12.6%, down 50 bps QoQ, reflecting:
  - – Closing of Brewin Dolphin acquisition
  - – Repurchase of 7.9MM shares for $1.0BN
  - – Organic RWA growth supporting higher volumes
  - – Unrealized mark-to-market losses on OCI securities
  - + Partly offset by net internal capital generation of 35 bps (earnings net of dividends)
- Leverage ratio(1) of 4.4%, down 20 bps QoQ
- TLAC ratio(1) of 26.4%, down 120 bps QoQ
- Announced a $0.04 or 3% dividend increase to $1.32 per common share

RWA Movement ($ billions)



- RWA increased $20.8BN QoQ, mainly reflecting:
  - – Continued business growth, primarily in commercial and personal lending, and retail mortgages, partly offset by a reduction in loan underwriting commitment balances
  - – Acquisition of Brewin Dolphin
  - – Unfavourable FX translation
  - + Net credit migration, mainly in wholesale portfolios
    - ○ The remaining RWA impact from net credit downgrades in our vulnerable sectors is $4.8BN post-Q1/2020

**Represents rounded figures. For more information, refer to the Capital Management section of our Q4/2022 Report to Shareholders.*

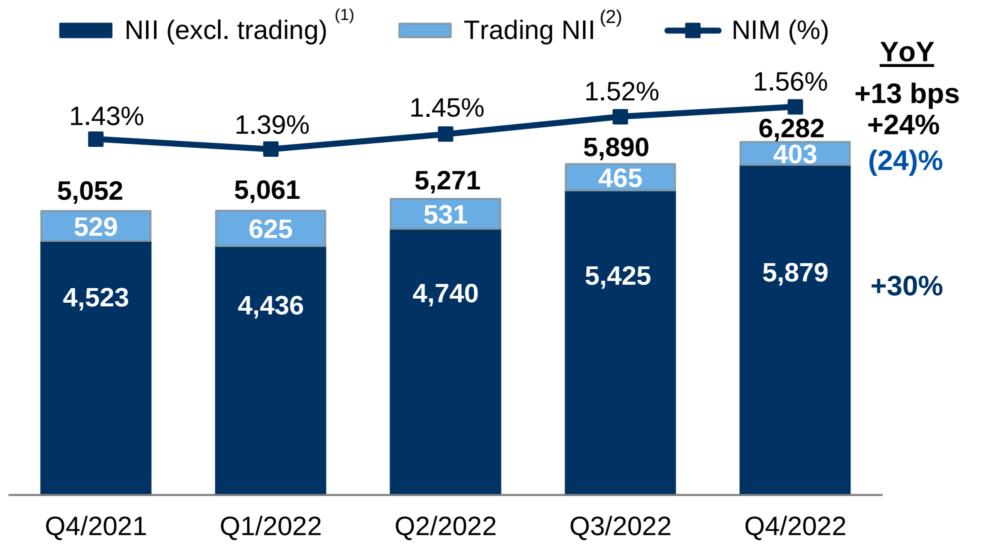
(1) Refer to Glossary on slides 47-48 for explanation of composition of this measure.

Net interest income: Margins continue to expand as benchmark rates rise

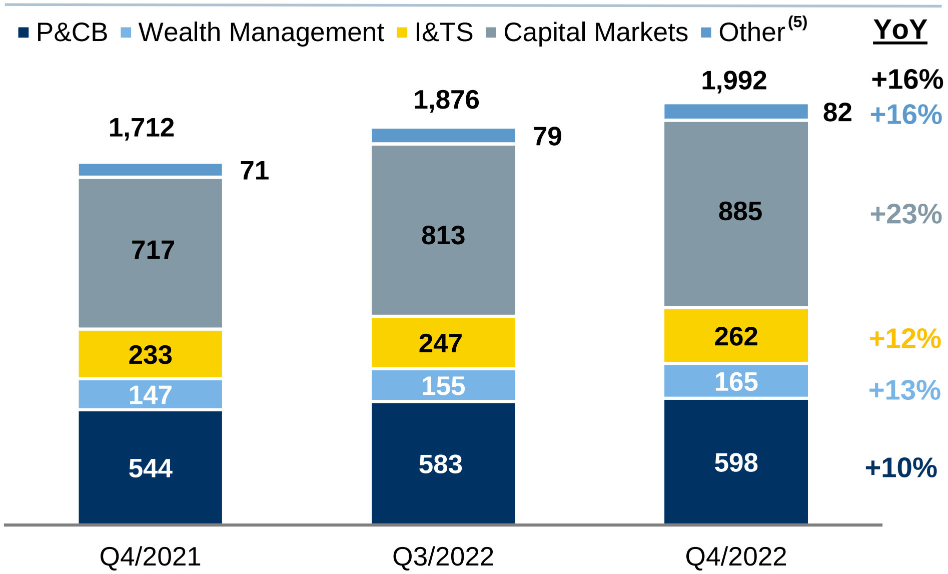
Summary

- Net interest income up 24% YoY due to higher spreads and strong volume growth in Canadian Banking and Wealth Management
  - Net interest income (ex-trading)[1] up 30% YoY
- All-bank NIM on average earning assets[2] was up 13 bps YoY (up 4 bps QoQ)
  - NIM (ex-Trading Assets, Trading net interest income and Insurance Assets) on total average assets[3] was up 25 bps YoY (up 8 bps QoQ)
  - Canadian Banking NIM up 28 bps YoY, up 10 bps QoQ (see slides 14 & 28)
  - CNB NIM up 81 bps YoY, up 30 bps QoQ (see slide 28)
  - The cost of funding of certain I&TS transactions is recorded in interest expense while related gains are recorded in Other revenue

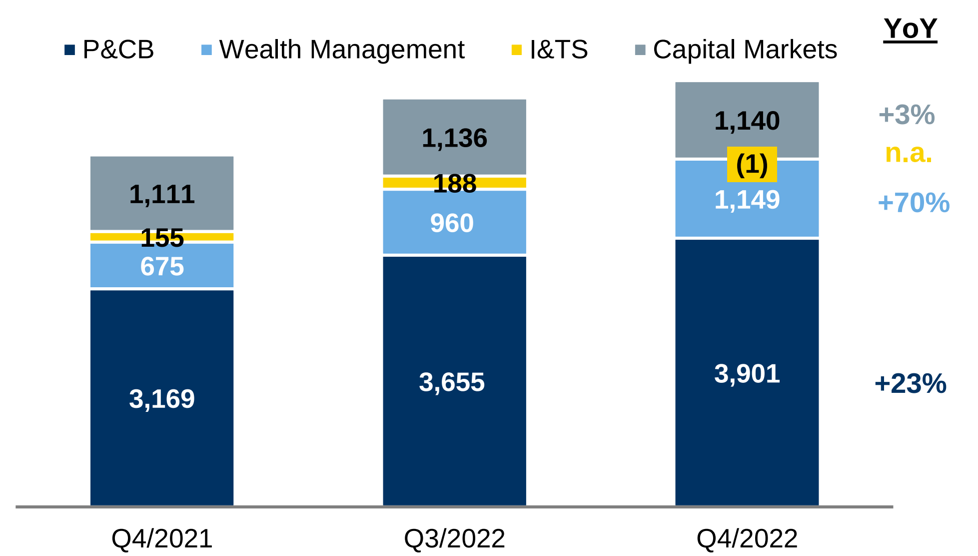
All-Bank Net Interest Income ($ millions)



Average Assets by Business Segments ($ billions)[4]



Net Interest Income by Business Segments ($ millions)[4]



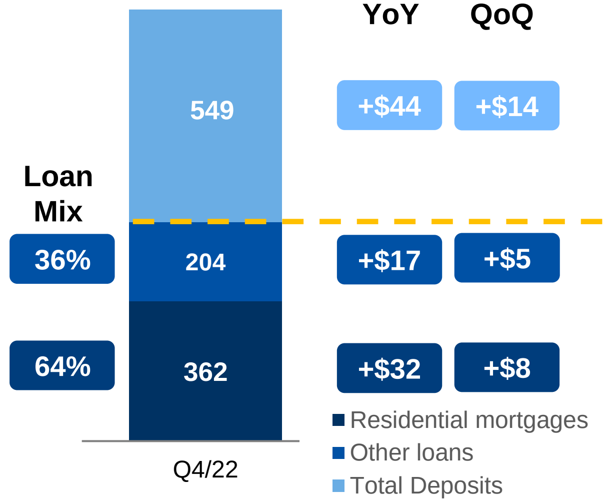
(1) See note 11 on slide 44. (2) Refer to Glossary on slides 47-48 for explanation of composition of this measure. (3) See note 14 on slide 44. (4) Totals may not add due to rounding. (5) Includes Insurance and Corporate Support.

Canadian Banking NIM: Higher deposit margins offsetting lower asset yields

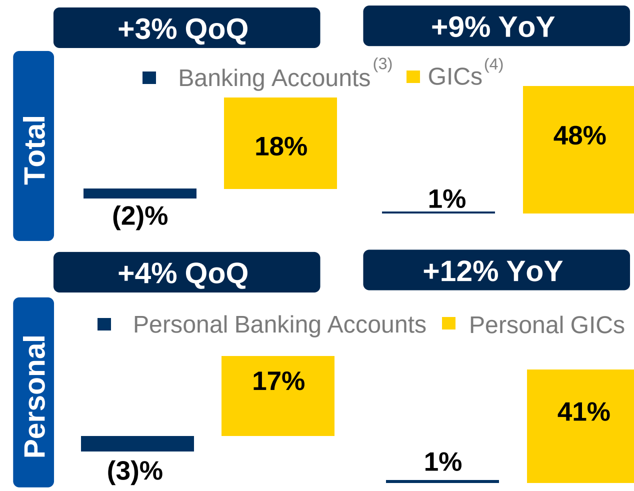
We are well-positioned for rising interest rates

- Well-positioned:
  - for rising interest rates given **~40%** of the deposit base is non-interest bearing or low-rate deposits[(1)]
  - to fund organic loan growth given a **103%** loan-to-deposit ratio[(2)]
- Actual results are also impacted by several other factors, including movements in interest rates and credit spreads, competitive pressures, balance sheet mix and volumes, management strategies and client behaviour

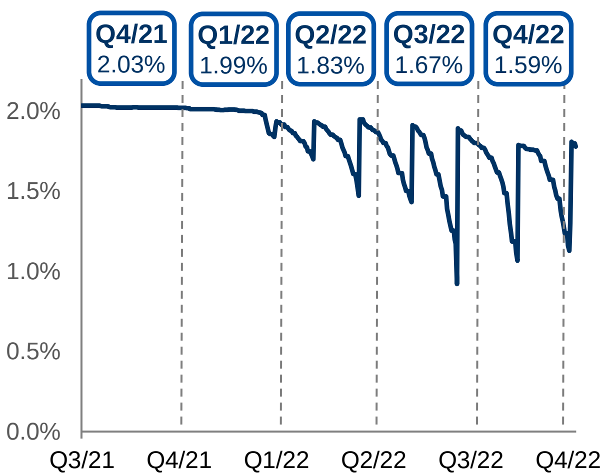
Loan growth largely funded through lower cost client deposits



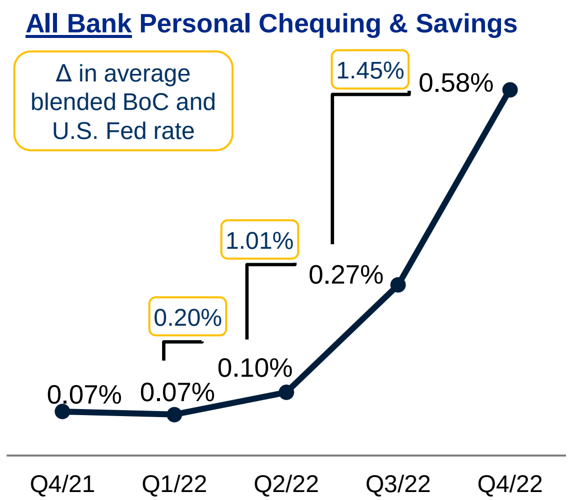
Client behaviour is driving a change in deposit mix



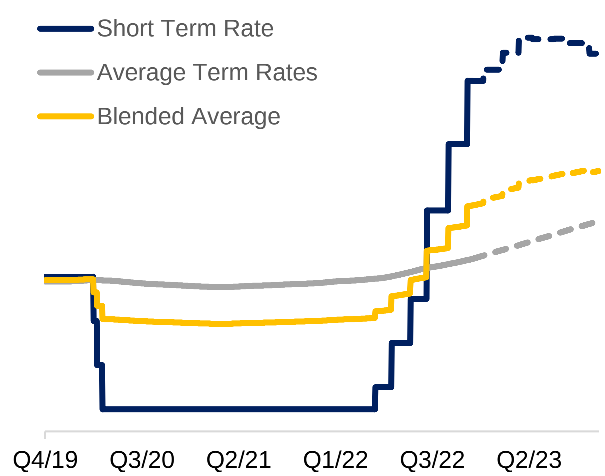
Volatility in the Prime-BA spread impacting asset spreads



Rising deposit costs buffered by non-interest bearing deposits



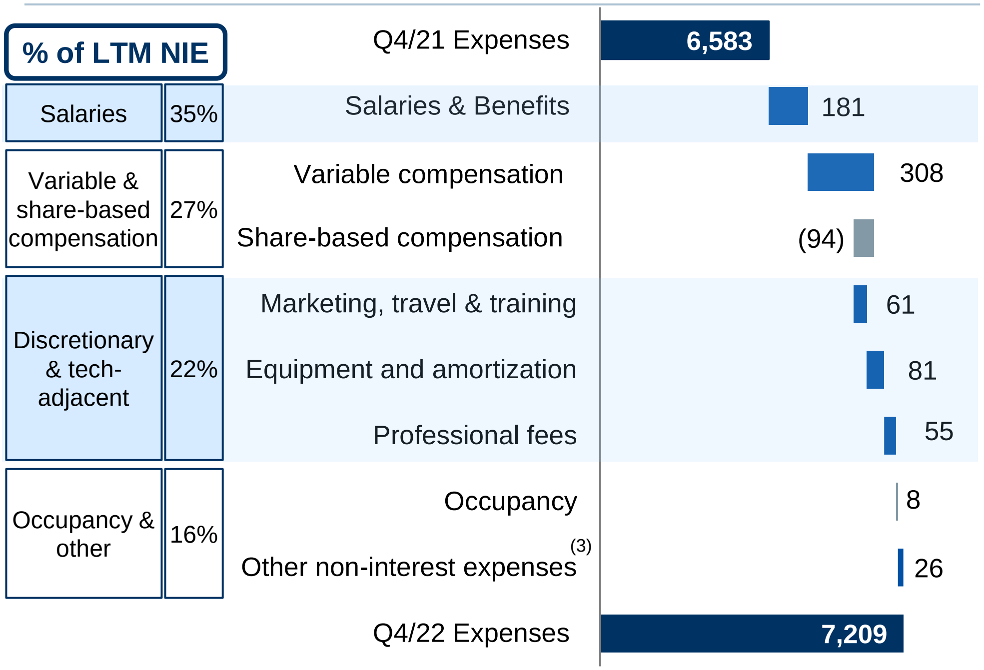
Tractors: An illustrative example of the latent benefit of rate hikes



(1) Reflects non-interest bearing deposits that are presented in Note 14 of our 2022 Annual Report to Shareholders, in addition to personal deposits with an interest rate between 0.1 basis point and 100 basis points. (2) Refer to Glossary on slides 47-48 for explanation of composition of this measure. This is a non-GAAP measure. (3) Reflects changes in personal banking accounts and business deposit accounts. (4) Reflects changes in personal GICs and business GICs.

Non-interest expense: Higher compensation costs

Non-Interest Expense (NIE, $ millions)



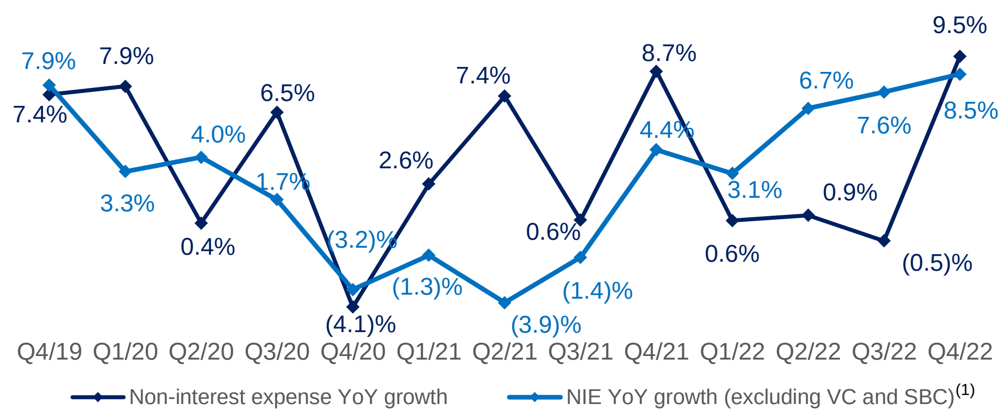
Q4/2022 Highlights

- **Non-interest expense up 10% YoY**
- Up 9% YoY excluding variable and share-based compensation[1] (which includes changes in U.S. WM WAP)
  – Higher variable compensation in Capital Markets results reflecting the timing of true-ups related to our variable compensation plans
  – Higher salary costs in Wealth Management (including higher staff costs reflecting the addition of Brewin Dolphin this quarter), Canadian Banking and Capital Markets, largely reflecting FTE growth to support business growth
  + Share-based compensation mainly reflects a decline in the U.S. Wealth Management (including CNB) Wealth Accumulation Plan (WAP)[2] (see slide 41)
  – Higher discretionary and tech-adjacent costs reflecting investments in technology and infrastructure to support clients and business growth
  – Overall, Brewin Dolphin added 1% to expense growth

Non-Interest Expense by Segment ($ millions)

$ millions (unless otherwise stated)	Q4/2022	Reported YoY	Reported QoQ
Personal & Commercial Banking	2,270	9%	7%
Canadian Banking	2,089	8%	6%
Wealth Management [4]	2,858	5%	9%
Capital Markets	1,616	40%	44%
Insurance	157	3%	13%
Investor & Treasury Services	377	(8)%	1%
Corporate Support (CS) [4]	(69)	n.m.[6]	n.m.
Corporate Support (Excl. U.S. WM WAP) [5]	12	(29)%	(29)%
U.S. WM WAP	(81)	n.m.	n.m.
Total	**7,209**	**10%**	**13%**

Non-Interest Expense Growth (YoY)

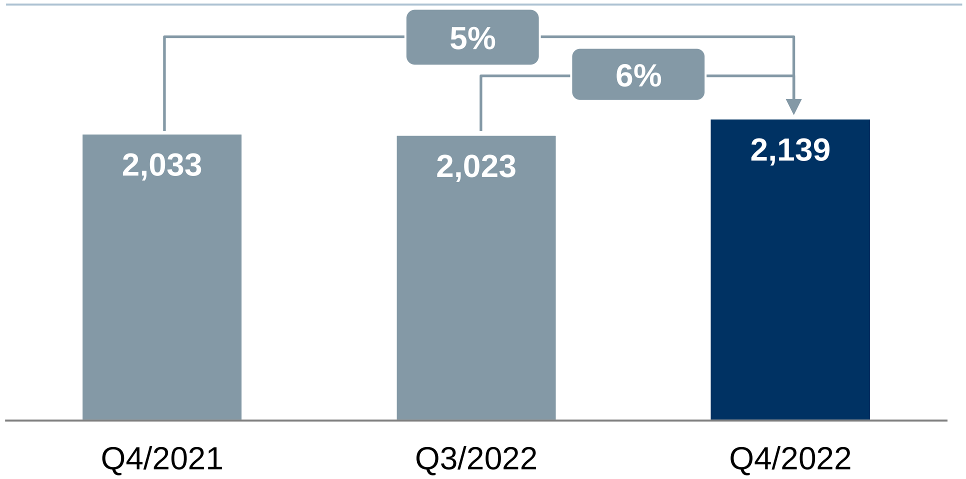


Q1/22 expenses included $80MM legal provision release
Q4/21 expenses included $116MM legal provision

(1) This is a non-GAAP measure. See note 4 on slide 44. (2) See note 15 on slide 44. (3) See note 16 on slide 44. (4) See note 17 on slide 44. (5) This is a non-GAAP measure. See note 18 on slide 44. (6) Not meaningful.

P&CB: Higher NIM and continued strong client-driven volume growth

Net Income ($ millions)



Canadian Banking $ millions (unless otherwise stated)	Q4/2022	Reported	
		YoY	QoQ
Revenue	**5,179**	**17%**	**4%**
Personal Banking	3,639	9%	2%
Business Banking	1,540	42%	9%
Non-Interest Expense	2,089	8%	6%
Pre-Provision, Pre-Tax Earnings[(1)]	**3,090**	**25%**	**3%**
Provision for Credit Losses (PCL)	386	$557	$55
Net Income	**1,999**	**1%**	**1%**
ROE	32.0%	(3.6) pts	0.2 pts
Net Interest Margin	2.70%	28 bps	10 bps
Efficiency Ratio	40.3%	(3.5) pts	0.6 pts
Average loans & acceptances, net ($BN)	563.3	10%	2%
Average deposits ($BN)	548.5	9%	3%
Assets Under Administration ($BN)[(2)]	329.9	(9)%	(3)%
Number of employees (full-time equivalent)	36,215	5%	2%
Number of banking branches	1,162	(2)%	(1)%

Q4/2022 Highlights

Canadian Banking

- **Net income up 1% YoY**
  - + Pre-provision, pre-tax earnings[(1)] up 25% YoY
- **Revenue up 17% YoY**
  - + **Net interest income up 22% YoY (see slide 28)**
    - + NIM of 2.70%, up 28 bps YoY, mainly due to the impact of the rising interest rate environment
      - + NIM up 10 bps QoQ (see slide 28)
    - + Strong volume growth of 9% with average YoY loan and deposit growth of 10% and 9%, respectively (see slide 32)
  - + **Non-interest income up 6% YoY**
    - + Increased client activity contributed to higher card service and foreign exchange revenue
    - – Lower average mutual fund balances driving lower distribution fees
- **Expenses up 8% YoY**
  - – Higher staff and technology related costs, including digital initiatives and higher marketing costs
  - + Operating leverage[(3)] of 9% (F2022: +4%)
- **Higher PCL YoY** (see slides 22 & 24)

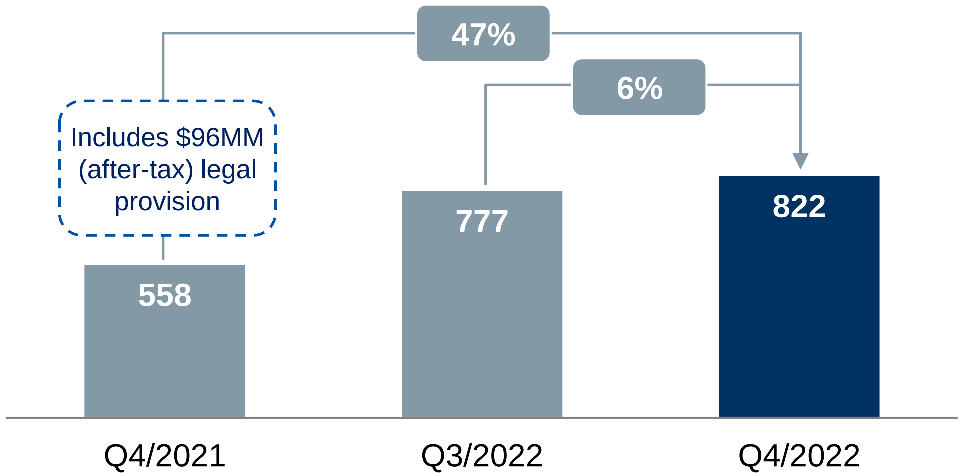
Caribbean & U.S. Banking

- Net income of $140MM, up $77MM YoY, primarily due to lower provisions, mainly related to COVID-19 overlay releases and higher net interest income

(1) This is a non-GAAP measure. See note 1 on slide 44. (2) Spot balances. (3) Refer to Glossary on slides 47-48 for explanation of composition of this measure.

Wealth Management: Higher NII more than offset impact of challenging markets

Net Income ($ millions)[1]



$ millions (unless otherwise stated)	Q4/2022	Reported[1] YoY	Reported[1] QoQ
Revenue	**3,976**	**15%**	**9%**
Net interest income	1,149	70%	20%
Non-interest income	2,827	2%	5%
Non-Interest Expense	2,858	5%	9%
Pre-Provision, Pre-Tax Earnings[2]	**1,118**	**54%**	**8%**
Provision for Credit Losses (PCL)	63	$58	$50
Net Income	**822**	**47%**	**6%**
U.S. Wealth Management (see slide 35)	303	n.m.	11%
ROE	15.6%	2.5 pts	(0.4) pts
Efficiency Ratio	71.9%	(7.0) pts	0.3 pts
Wealth Management (Non-U.S.)	63.4%	(0.4) pts	1.5 pts
Assets Under Administration ($BN)[3][4]	1,388	5%	7%
Assets Under Management ($BN)[3][4]	992	(1)%	7%
Average loans & acceptances, net ($BN)	109.2	26%	8%
Average deposits ($BN)	157.9	4%	1%

($ billions)	Q4/2022	Q4/2021	Q3/2022
RBC GAM long-term net sales (see slide 34)	(1.6)	9.1	(3.8)

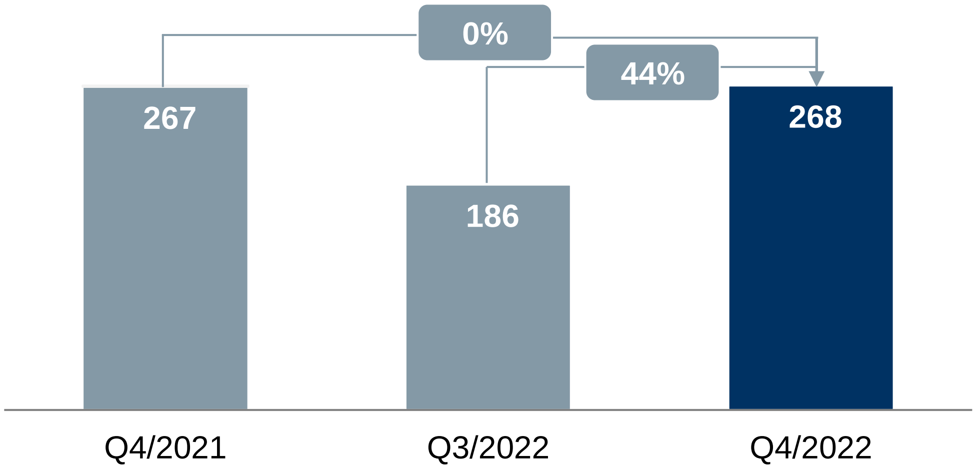
Q4/2022 Highlights

- **Net income up 47% YoY**
  - + Pre-provision, pre-tax earnings[2] up 54% YoY
- **Revenue increased 15% YoY**
  - + **Canadian Wealth Management revenue up 6% YoY**
    - + Higher net interest income reflecting higher interest rates
    - – Lower fee-based revenue, mainly driven by unfavourable market conditions
  - – **Global Asset Management revenue down 9% YoY**
    - – Lower fee-based revenue, mainly driven by unfavourable market conditions
  - + **U.S. Wealth Management (incl. CNB) revenue up 27% YoY**
    - + Higher net interest income reflecting higher interest rates and average volume growth (see slide 35)
    - + Impact of foreign exchange translation
    - + Higher revenue from sweep deposits
    - – Lower fee-based revenue mainly driven by unfavourable market conditions
  - + **International Wealth Management revenue up significantly**
    - + Higher net interest income reflecting higher interest rates
    - + Reflects the inclusion of acquisition of Brewin Dolphin
- **Expenses up 5% YoY**
  - – Impact of foreign exchange translation
  - – Brewin Dolphin added 3% to expense growth
  - – Higher staff and technology related costs
  - + Impact of a legal provision of $116MM taken in U.S. Wealth Management (including City National) in the prior year[5]
- **Higher PCL YoY** (see slides 22 & 24)

(1) See note 17 on slide 44. (2) This is a non-GAAP measure. See note 1 on slide 44. (3) Spot balances. (4) AUA and AUM reflect the inclusion of $80 billion and $72 billion, respectively, related to our acquisition of Brewin Dolphin. (5) The legal provision was partially released in Q1/2022.

Insurance: Stable earnings year over year

Net Income ($ millions)



$ millions (unless otherwise stated)	Q4/2022	Reported	
		YoY	QoQ
Revenue	644	(57)%	(48)%
Revenue Net of Insurance FV Change[(1)]	1,084	(39)%	(3)%
Non-Interest Expense	157	3%	13%
PBCAE	116	(89)%	(86)%
Pre-Provision, Pre-Tax Earnings[(2)]	**371**	**17%**	**52%**
Provision for Credit Losses (PCL)	-	$1	-
Net Income	**268**	**0%**	**44%**
ROE	46.7%	3.9 pts	14.4 pts
Net earned premiums	908	(42)%	(3)%
Premiums and deposits	**1,071**	**(40)%**	**(7)%**
Canadian Insurance	460	(60)%	(16)%
International Insurance	611	(6)%	1%

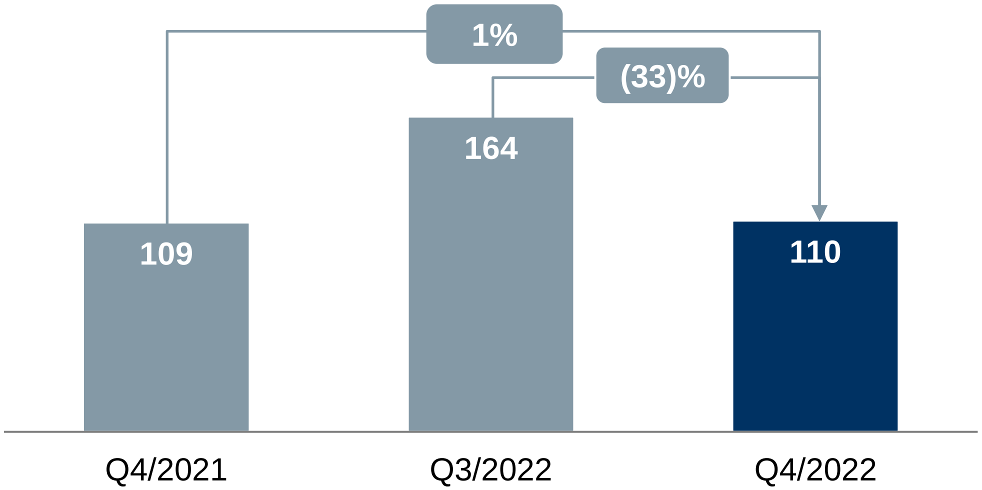
Q4/2022 Highlights

- **Net income flat YoY**
- **Revenue down 57% YoY (down 39% net of Insurance FV[(1)])**
  - – Lower group annuity sales, and the change in fair value of investments backing policyholder liabilities, both of which are largely offset in PBCAE
  - + Canadian business growth across most products
- **PBCAE down 89% YoY**
  - + Includes the impact of favourable annual actuarial assumption updates
- **Expenses up 3% YoY**
  - – Higher project spend and costs supporting sales growth
  - + Costs associated with ongoing efficiency initiatives

(1) This is a non-GAAP measure. See note 8 on slide 44. (2) This is a non-GAAP measure. See note 1 on slide 44.

Investor & Treasury Services: Higher rates drive margin expansion

Net Income ($ millions)



$ millions (unless otherwise stated)	Q4/2022	Reported	
		YoY	QoQ
Revenue	503	(8)%	(14)%
Non-Interest Expense	377	(8)%	1%
Pre-Provision, Pre-Tax Earnings[1]	**126**	**(7)%**	**(39)%**
Provision for Credit Losses (PCL)	-	$1	$3
Net Income	**110**	**1%**	**(33)%**
ROE	13.5%	(1.7) pts	(6.7) pts
Efficiency ratio	75.0%	(0.2) pts	10.7 pts
Assets Under Administration ($BN)[2]	3,907	(16)%	(4)%
Average deposits ($BN)	**253**	**8%**	**4%**
Client deposits	59	(10)%	(1)%
Wholesale funding deposits	193	15%	5%

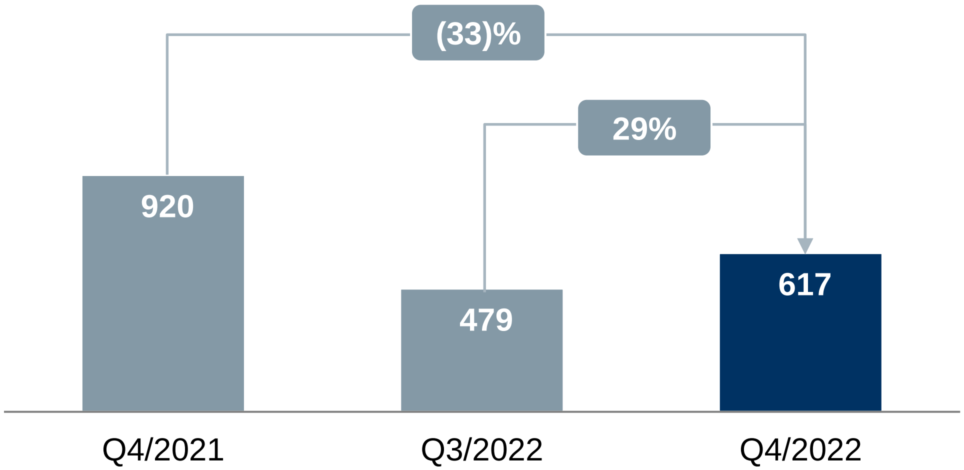
Q4/2022 Highlights

- **Net income up 1% YoY**
- **Revenue down 8% YoY**
  - – Lower funding and liquidity revenue[3] including the impact of a funding cost adjustment
  - – Lower revenue from asset services business
  - – Impact of repositioning initiatives and foreign exchange translation
  - + Higher revenue from client deposits reflecting improved margins
- **Expenses down 8% YoY**
  - + Impact of foreign exchange translation
  - + Lower costs associated with ongoing efficiency initiatives

(1) This is a non-GAAP measure. See note 1 on slide 44. (2) Spot balances. (3) Funding and liquidity revenue, as reflected in net interest income, includes funding costs, which were unfavourably impacted by increasing rates and offset by gains on related economic hedges in non-interest income.

Capital Markets: Challenging markets and higher expenses weigh on results

Net Income ($ millions)



$ millions (unless otherwise stated)	Q4/2022	Reported YoY	Reported QoQ
Revenue	**2,313**	**1%**	**40%**
Corporate and Investment Banking[2]	**1,168**	**(5)%**	**87%**
Investment Banking	493	(24)%	n.m.
Lending and Other	674	17%	3%
Global Markets[2]	**1,255**	**12%**	**10%**
Equities	318	8%	(1)%
FICC	622	11%	21%
Repo & Secured Financing	314	18%	2%
Non-Interest Expense	1,616	40%	44%
Pre-Provision, Pre-Tax Earnings[1]	**697**	**(39)%**	**33%**
Provision for Credit Losses (PCL)	32	$54	$26
Net Income	**617**	**(33)%**	**29%**
ROE	9.2%	(6.9) pts	2.1 pts
Efficiency ratio	69.9%	19.6 pts	1.8 pts
Average loans & acceptances, net ($BN)	130.8	23%	4%

Q4/2022 Highlights

- **Net income down 33% YoY**
  - – Pre-provision, pre-tax earnings[1] down 39% YoY
- **Revenue up 1% YoY**
  - – **Corporate and Investment Banking** revenue down 5% YoY
    - – Lower loan syndication, as well as debt and equity origination reflecting a substantial decline in global fee pools
    - + Record lending results, largely in the U.S. region, commensurate with increased average outstanding loan balances
    - + Higher M&A fees reflecting higher market share
    - + **QoQ:** Higher Investment Banking revenue as prior quarter included the impact of loan underwriting markdowns, as well as higher M&A fees
  - + **Global Markets** revenue up 12% YoY
    - + Higher fixed income trading results from increased client activity
    - + Record FX trading results
    - + Higher equity and commodities trading
    - – Lower debt and equity origination
    - + **QoQ**: Higher fixed income, commodities and FX trading
- **Expenses up 40% YoY**
  - – The timing of true-ups related to our variable compensation plans
    - – F2022 expenses up 2%
- **Higher PCL YoY** (see slides 22 & 24)

(1) This is a non-GAAP measure. See note 1 on slide 44. (2) Totals may not add up due to rounding.

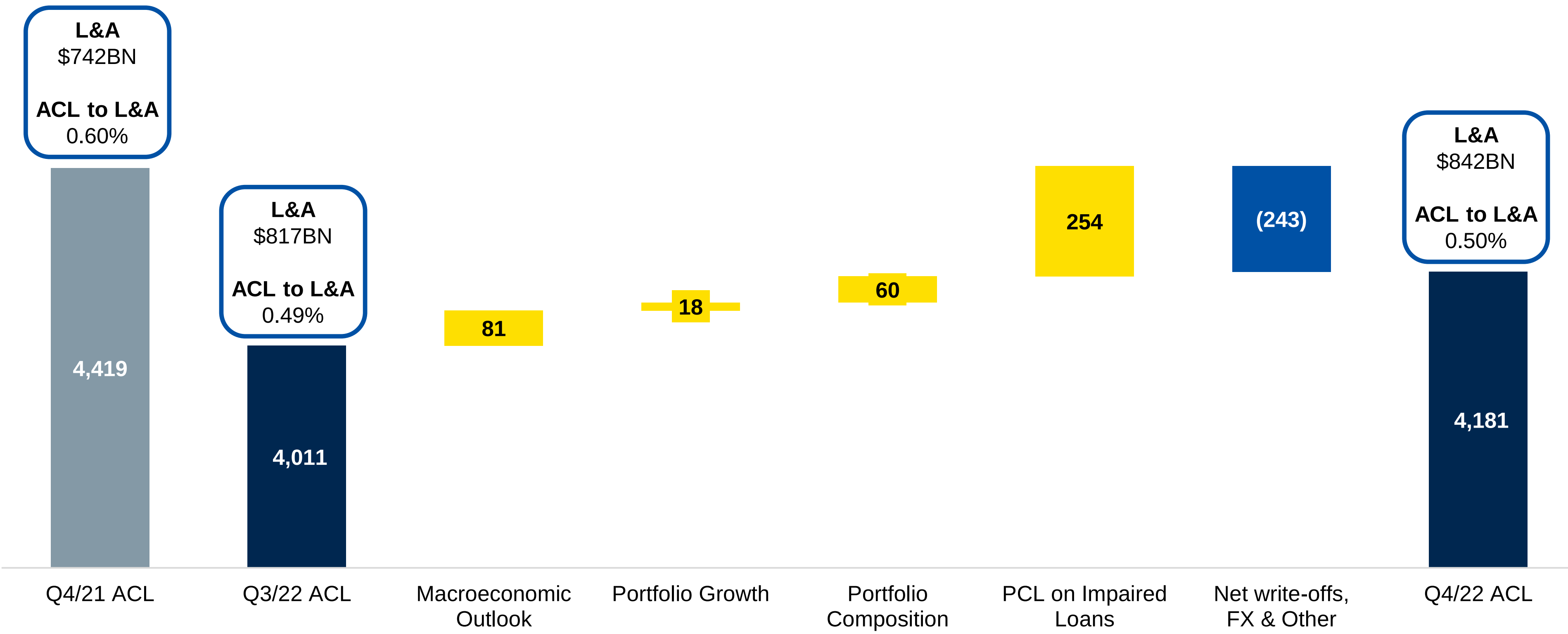
Risk Review

Graeme Hepworth

Chief Risk Officer

Allowance for Credit Losses: Prudent reserve increases on performing loans

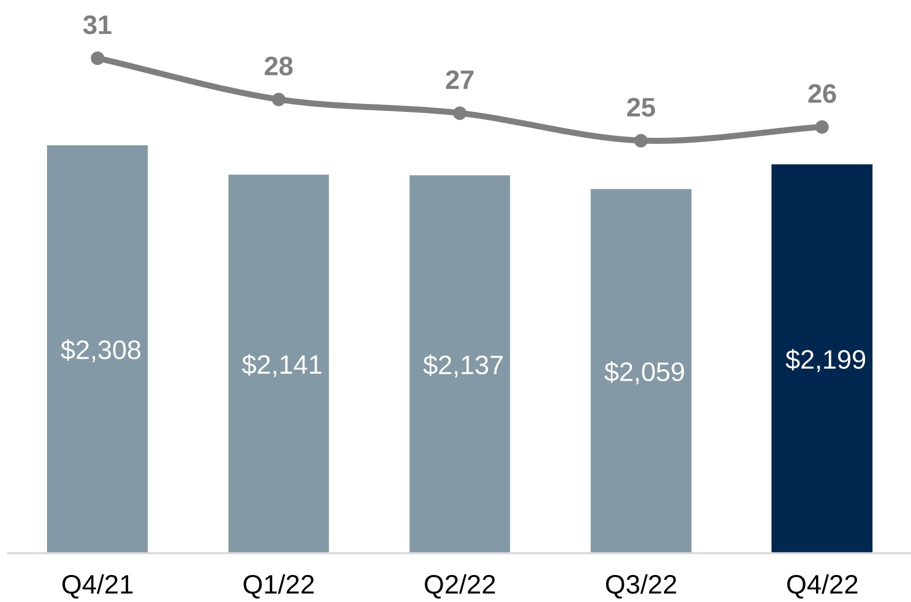
Movement in Allowance for Credit Losses (ACL) on Loans ($ millions)



- **2022:** ACL on loans decreased $238MM during the year, reflecting the recovery from the COVID-19 pandemic, partially offset by unfavorable changes in our macroeconomic outlook
- **Q4/22:** ACL on loans increased $170MM QoQ
  - ACL of 0.50% on loans and acceptances was up 1 bp QoQ
  - We prudently added reserves on performing loans this quarter to reflect: changes to our base case scenario to incorporate an earlier and more severe recession than previously expected; increases in delinquencies and credit downgrades; and ongoing portfolio growth
  - PCL on performing loans of $126MM was primarily in Canadian Banking and City National Bank, partially offset by reserve releases in Caribbean Banking

Gross Impaired Loans: Modest increase but well below pre-pandemic levels

Gross Impaired Loans (GIL) ($ millions, bps)



Key Drivers of GIL (QoQ)

- Total GIL increased $140MM (up 1 bp QoQ)

Canadian Banking

- GIL of $1,020MM increased $18MM QoQ, with increases in the retail portfolio partially offset by a reduction in the commercial portfolio
  - New formations increased across all portfolios, but remain below pre-pandemic levels
  - Write-offs increased QoQ, primarily in the commercial portfolio, driven by a previously impaired loan in the Other Services sector

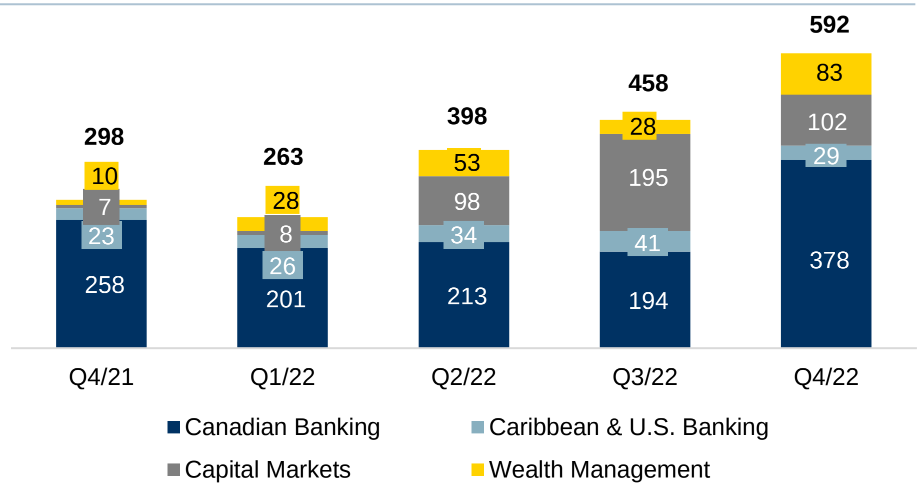
Capital Markets

- GIL of $559MM increased $74MM QoQ. During the quarter, new formations (primarily in the Other Services and Consumer Discretionary sectors) and the impact of FX translation were partially offset by repayments and loan sales (mostly in the Other Services sector)

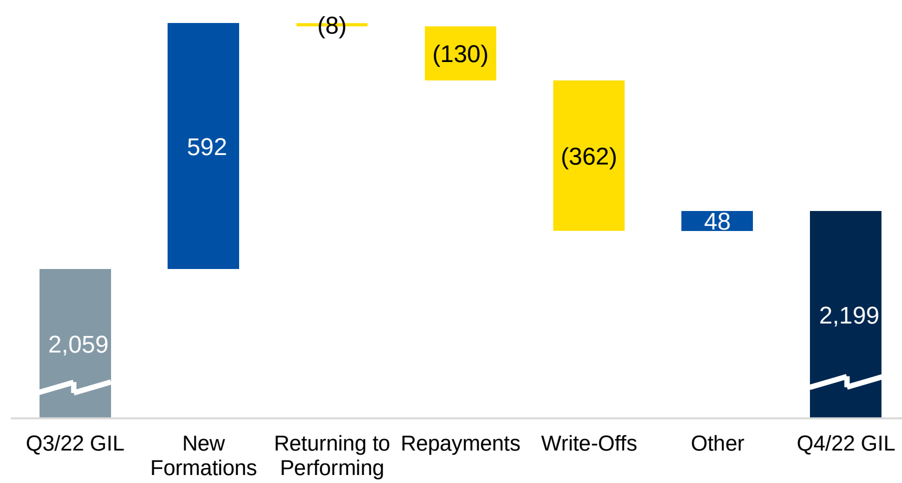
Wealth Management (including CNB)

- GIL of $278MM increased $56MM QoQ. Higher new formations in the Consumer Discretionary sector and the impact of FX translation was partially offset by higher repayments

New Formations ($ millions)[1]



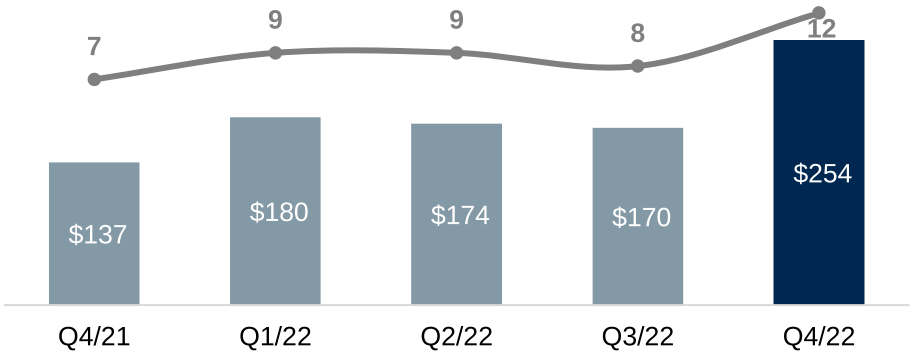
Net Formations ($ millions)



(1) See note 19 on slide 45.

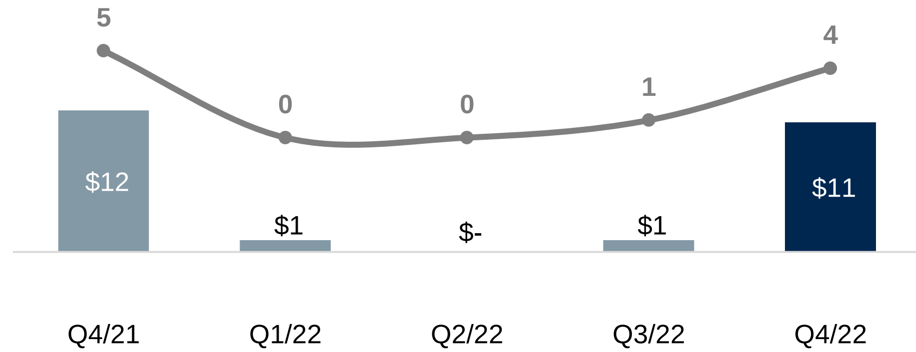
PCL on impaired loans: Remain below pre-pandemic and long-term averages

Total RBC ($ millions, bps)



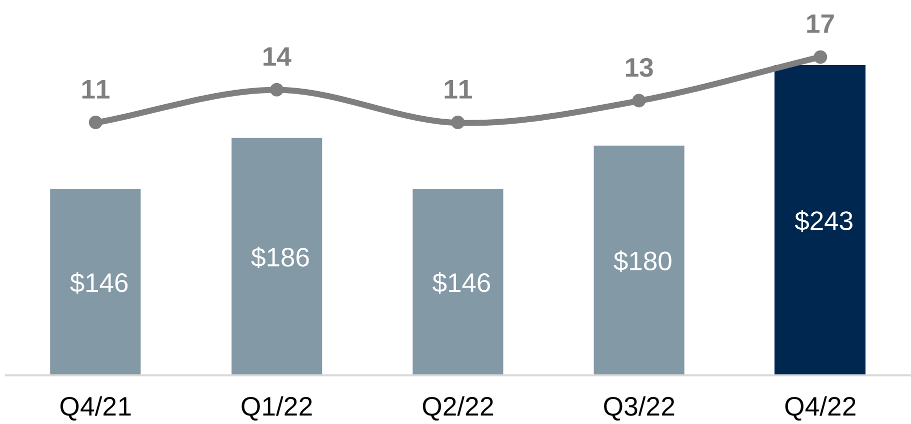
- Provisions were up $84MM QoQ, with higher provisions in Canadian Banking, Capital Markets and Wealth Management
- PCL ratio of 12 bps remains less than half of the pre-pandemic 2019 PCL ratio of 27 bps

Wealth Management ($ millions, bps)



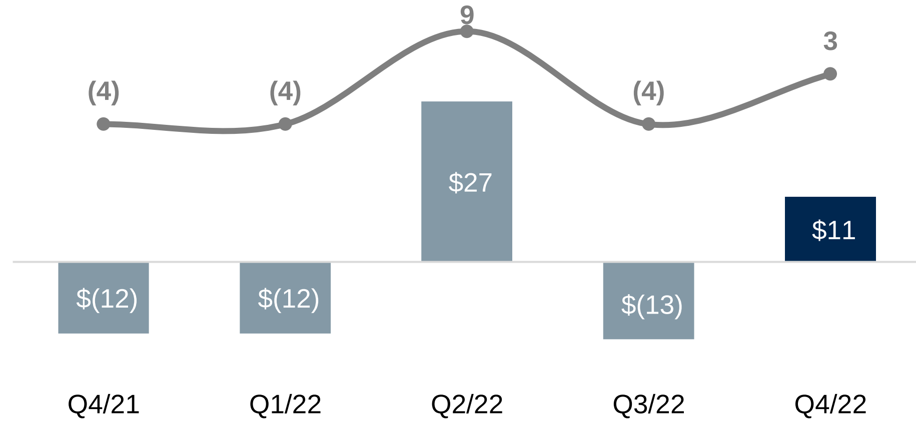
- Higher provisions QoQ, due to provisions on a number of loans in the Consumer Discretionary sector at CNB this quarter

Canadian Banking ($ millions, bps)



- **Retail:** Provisions of $208MM were up $44MM QoQ, due primarily to the Personal Lending and Residential Mortgage portfolios
- **Commercial:** Provisions of $35MM were up $19MM QoQ with modest increases across a number of sectors

Capital Markets ($ millions, bps)



- Provisions up $24MM QoQ, due in part to net recoveries in Q3/22
- In Q4/22, a majority of provisions were taken on two loans in the Other Services sector, partially offset by net recoveries on a loan in the industrial products sector

Appendices

ESG: Putting our Purpose into practice

Royal Bank of Canada is a **purpose-driven**, **principles-led** organization

How we deliver value

Building & attracting talent and driving a diverse & inclusive culture

- Women represented: **51%** of hires[1]; **43%** of new executive appointments[2]
- Black, Indigenous and People of Colour (BIPOC) represented: **43%** of hires[1]; **31%** of new executive appointments, surpassing our goal of 30% for the year[2]
- Employees under 30 globally: **20%** young people[3]
- Welcomed **1,500+** summer students across the globe, **52%** were BIPOC[4]
- Among Canada's **Top 100** Employers, Canada's Best Diversity Employers and Best Workplaces in 2022[5][6]

Sustainable finance[7] and responsible investment

- RBC published its Sustainable Finance Framework[8], which outlines the approach the bank takes to measure progress against its commitment to provide **$500 billion** in sustainable financing by **2025**
- Through a risk-sharing, pilot solution with Export Development Canada, RBC will provide up to **US$1 billion** in financing over the next three years to support Canadian businesses in their transition towards greener business operations

Committed to net-zero emissions and accelerating clean economic growth

- In October 2022, we published our initial interim emissions reduction targets for key sectors: oil & gas, power generation and automotive[9][10]
- Signed our second long-term renewable energy Power Purchase Agreement, advancing our goals to reduce emissions from our global operations by **70%** and to source **100%** of our electricity from renewable and non-emitting sources, both by **2025**
- RBC GAM is a founding signatory to the **Canadian Investor Statement on Climate Change**, which demonstrates the collective ambition and action of Canadian investors in recognizing the need to accelerate the transition towards a net-zero economy[11]

Preparing youth for the future of work

- **$331+ million** provided through RBC Future Launch®, reaching **5.3 million** Canadian youth through **840+** partner programs since **2017**
- Through our **$1.6 million** investment in RBC Future Launch® scholarships this year, **500+** young Canadians will have the opportunity to pursue their business and academic passions
- In 2022, **37,000+** participants in the annual RBC Race for the Kids raised **$9+ million** for **22** youth focused charities across **10** countries

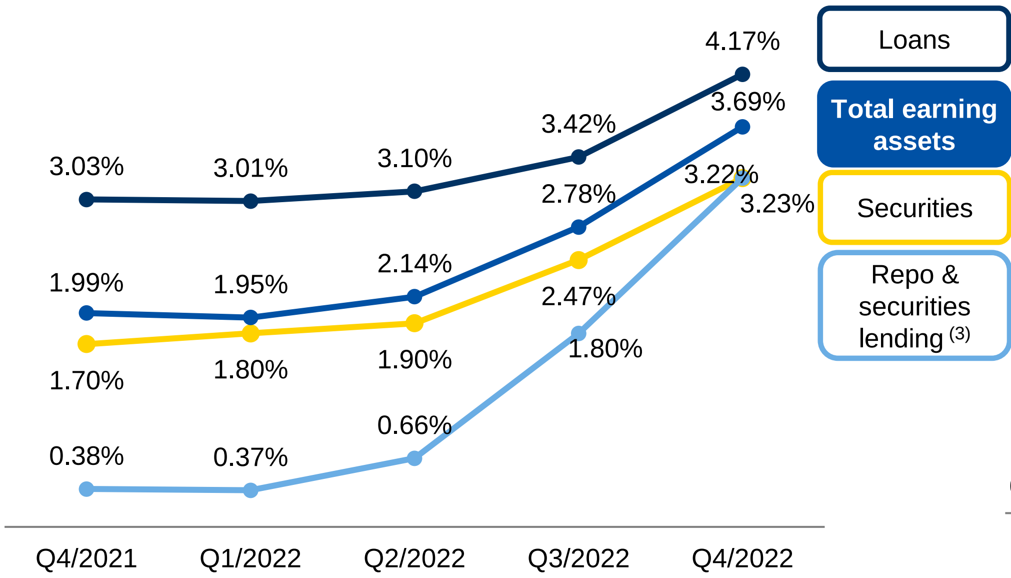
Strong performance in ESG rankings and ratings[12]

FTSE4Good	MSCI	SAM Now a Part of S&P Global
Banking industry ranking in 80th percentile	**"AA" Rating**	**Overall score 71, 94th percentile**

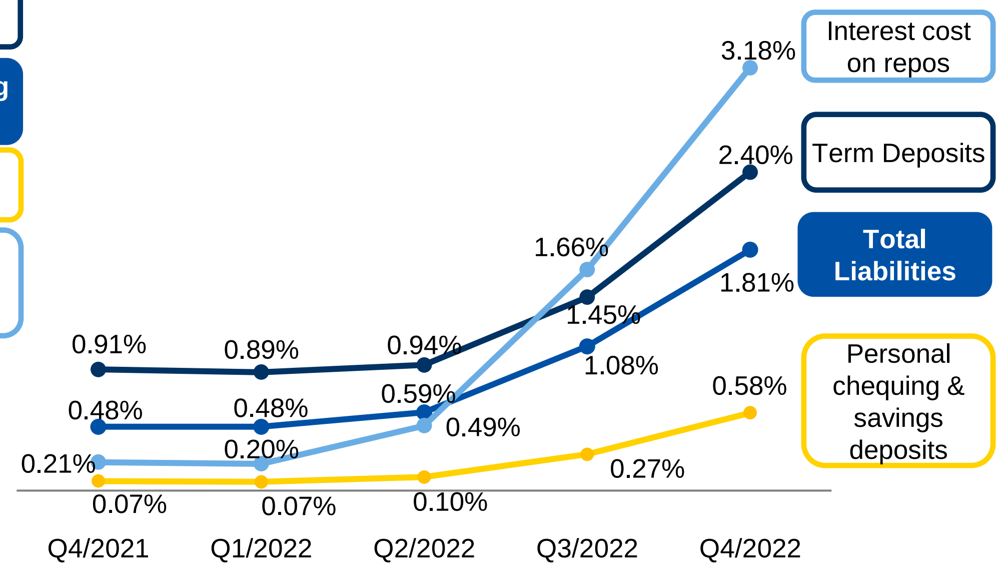
(1) Hires includes new external hires and rehires excluding City National Bank, BlueBay Asset Management and Brewin Dolphin; based on self-identification; excludes summer interns, students and co-ops. BIPOC hires includes Canada and U.S. only. Women hires is global. (2) Represents data for our businesses in Canada governed by the Employment Equity Act. A new executive appointment is the appointment of an internal employee or external hire as a first-time Vice President, Senior Vice President or Executive Vice President. (3) Employees under 30 globally, excluding City National, BlueBay Asset Management and Brewin Dolphin employees. (4) Based on self-identification. (5) MediaCorp Canada Inc. (6) Great Place to Work Institute. (7) See note 20 on slide 45. (8) See note 21 on slide 45. (9) Please refer to our 2022 Net-Zero Report for more information. (10) See note 22 on slide 45. (11) Joined in 2021. (12) See note 23 on slide 45.

Net Interest Income: Average rates and balance sheet

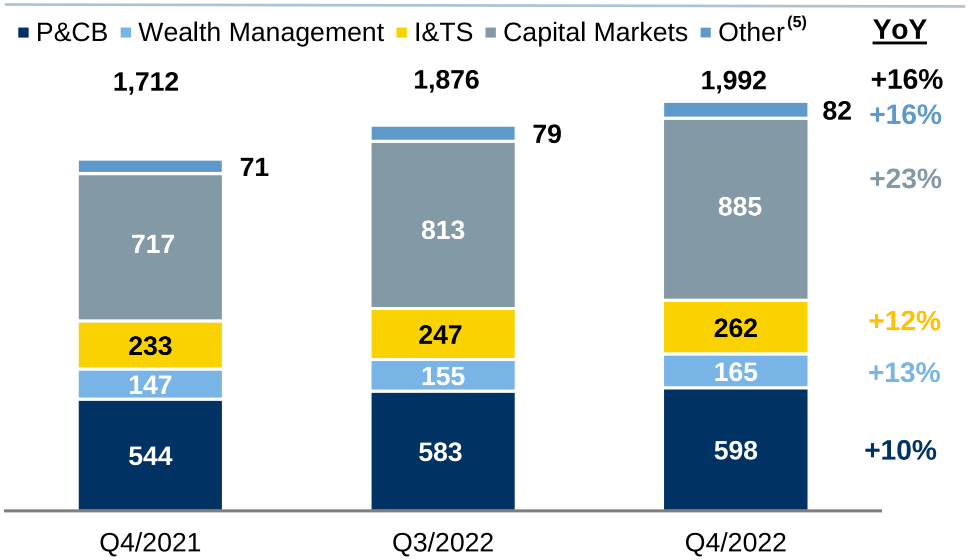
Interest-Earning Asset Yields [1]



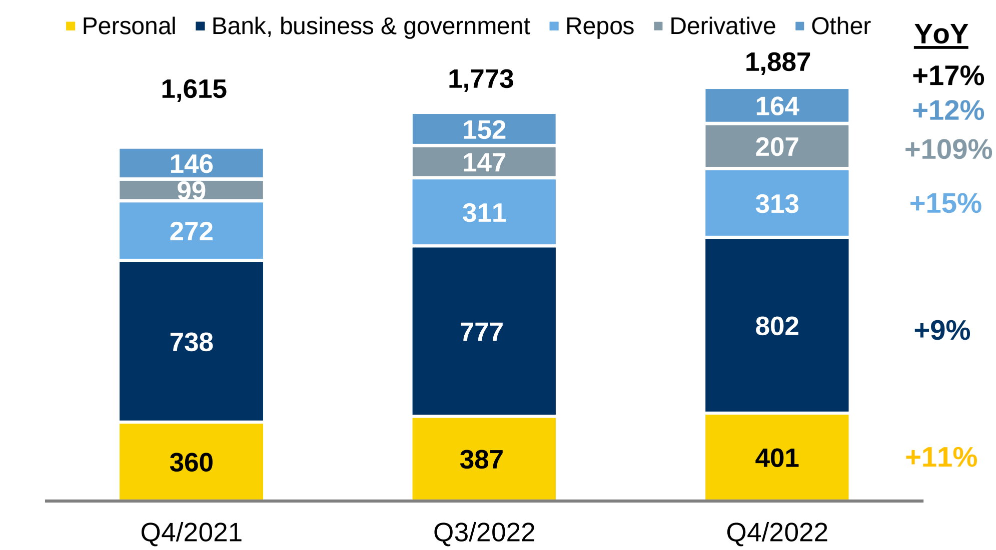
Interest-Bearing Liability Costs[2]



Average Assets by Business Segments ($ billions)[4]



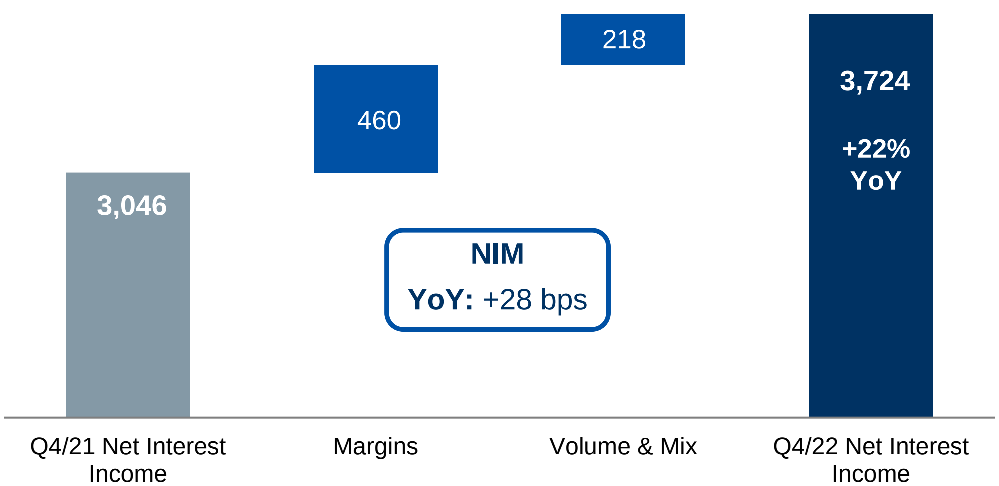
Average Liabilities by Type ($ billions)[4]



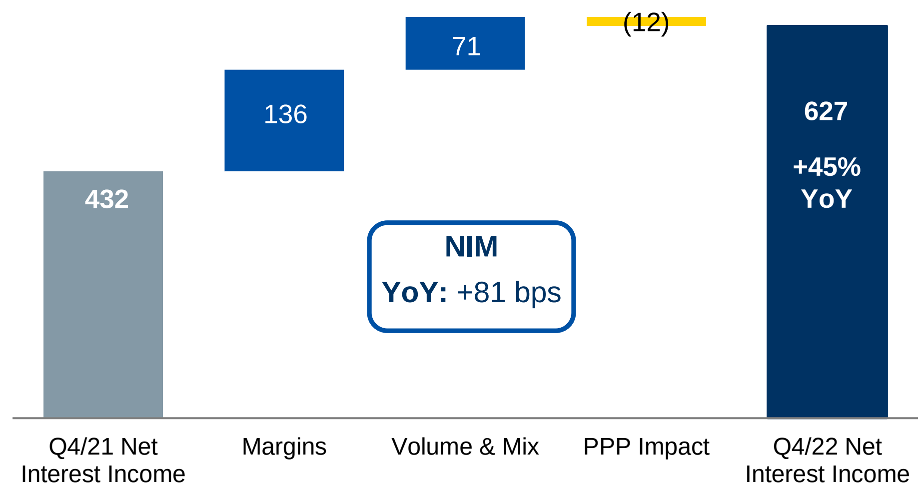
(1) See note 24 on slide 45. (2) See note 25 on slide 45. (3) Repos are assets purchased under reverse repurchase agreements and securities borrowed. (4) Totals may not add due to rounding. (5) Includes Insurance and Corporate Support.

Net Interest Income: Higher interest rates continue to benefit net interest margin

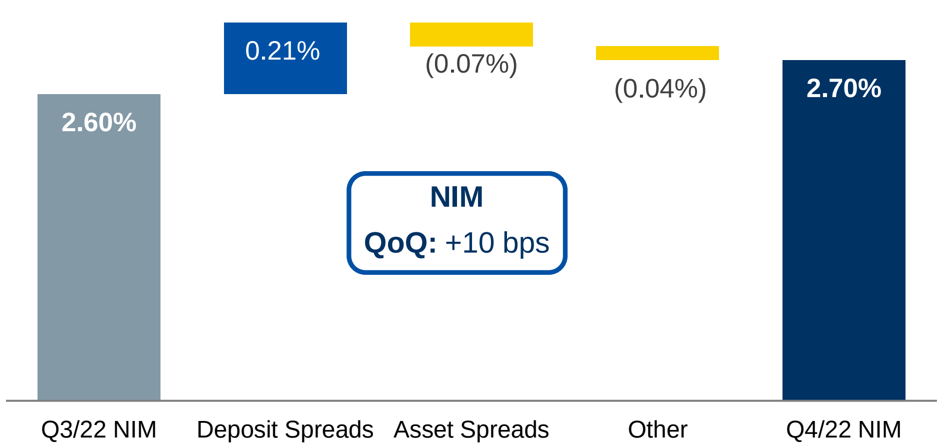
Canadian Banking Net Interest Income ($ millions)



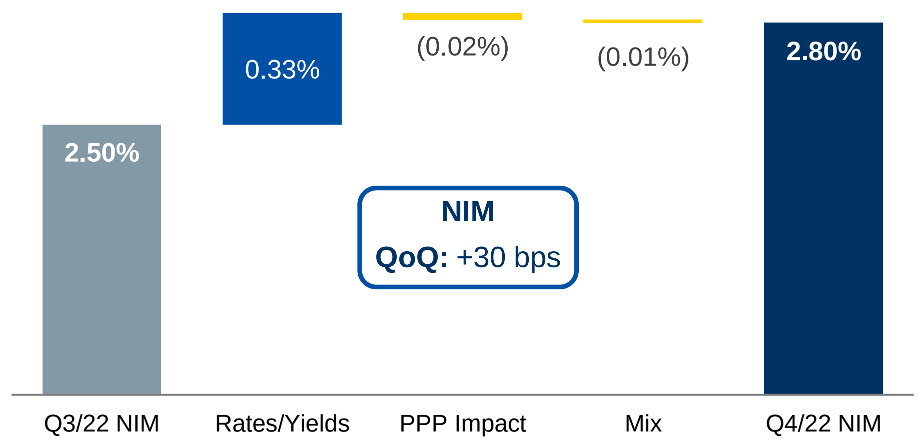
CNB Net Interest Income (US$ millions)



Canadian Banking NIM on Average Earning Assets



CNB NIM on Average Earning Assets

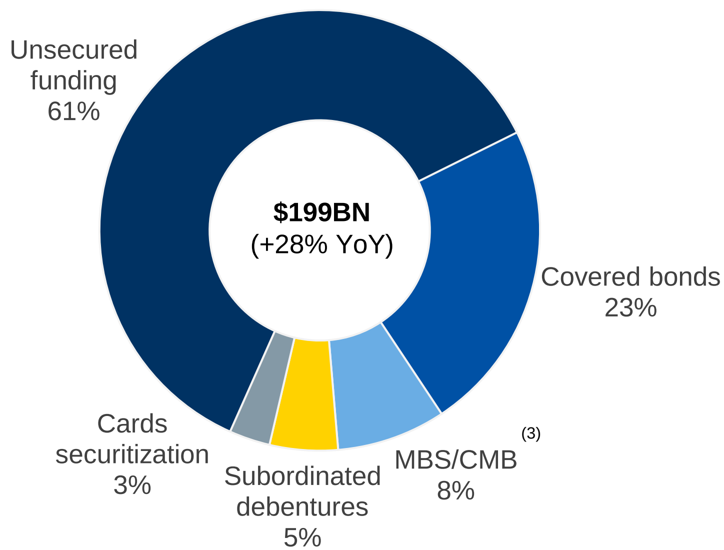


Funding: Well-diversified

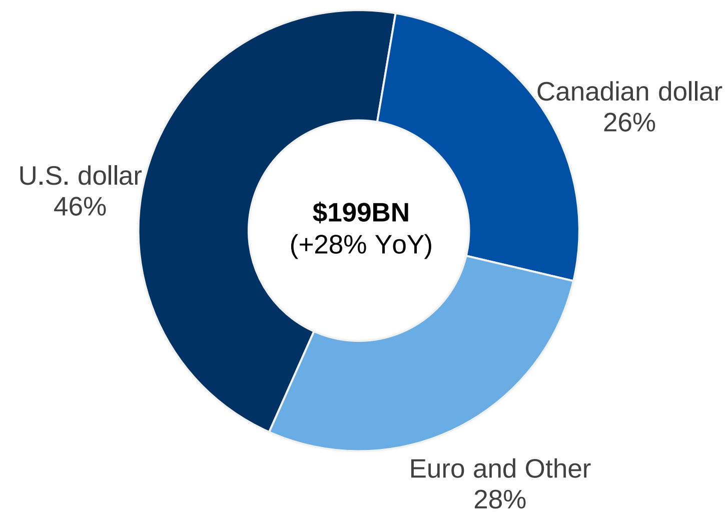
- As at October 31, 2022, relationship-based deposits, which are the primary source of funding for retail and commercial lending, were **$819 billion or 54% of our total funding**
- **Short and long-term wholesale funding comprises 33% of the total liabilities & capital** in both unsecured and secured formats
- Wholesale funding generally supports capital markets activity
- Wholesale funding is well-diversified across products, currencies, investor segments and geographic regions

125% Liquidity Coverage Ratio	**112%** Net Stable Funding Ratio(1)
26.4% Total Loss Absorbing Capacity	**Aa1** Legacy senior long-term debt rating from Moody's

Long-term debt (2) – funding mix by product



Long-term debt (2) – funding mix by currency of issuance



(1) Refer to Glossary on slides 47-48 for explanation of composition of this measure. (2) Includes unsecured and secured long-term funding and subordinated debentures with an original term to maturity greater than 1 year. (3) Mortgage-backed securities and Canada Mortgage Bonds.

Interest rate sensitivity: Remain well-positioned for rising interest rates

All-Bank

Net interest income ($MM)	100 bps increase in rates across the curve(1)
Canada	$550 million
U.S.	$230 million
Total	**$780 million**

Canadian Banking

Net interest income ($MM)	25 bps increase in rates
Short-term rates (flattening curve)(2)	$65 million
Across the curve(2)	$140 million

U.S. Wealth Management

Revenue(3) (US$MM)	25 bps increase in rates
Short-term rates (flattening curve)(2)	US$35 million
Across the curve(2)	US$45 million

Canadian Wealth Management

Deposit base

$19BN

$20 million(2)

Investor & Treasury Services

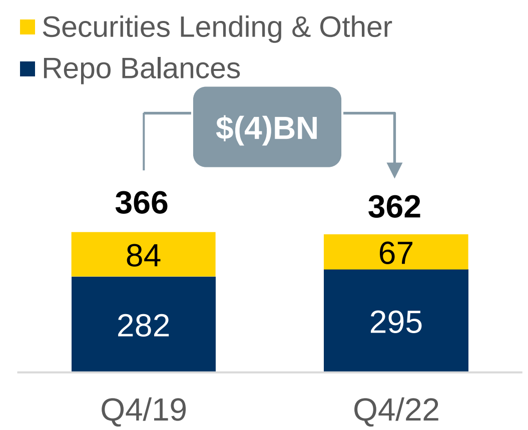
Client deposits

$59BN

$10 million(2)

Wholesale

Average Repo & Securities Lending ($BN)

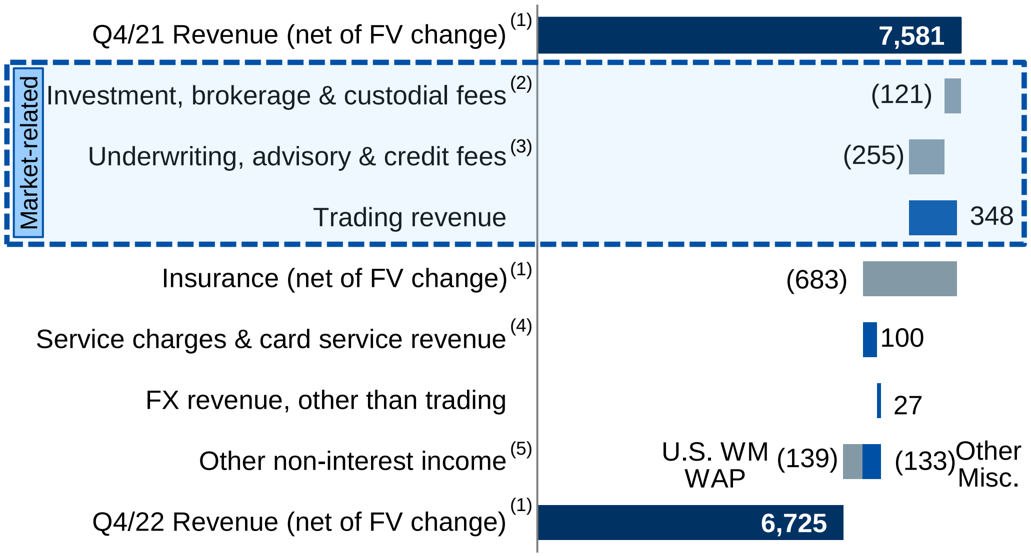


	Q4/19	Q4/22
Net yield(4)	0.24%	0.16%

(1) Represents the 12-month revenue exposure (before-tax) to a 100bps immediate and sustained shift in interest rates. (2) Represents the 12-month revenue exposure (before-tax) to a 25bps immediate and sustained shift in interest rates. (3) Includes benefits from our sweep deposits. (4) Represents balances and net yield in the Capital Markets core fixed income repo business.

Non-interest income: Lower market-related revenue amidst challenging backdrop

Non-Interest Income ($ millions)



Non-Interest Income by Segment ($ millions)

$ millions (unless otherwise stated)	Q4/2022	Reported	
		YoY	QoQ
Personal & Commercial Banking	1,518	6%	(1)%
Canadian Banking	1,455	6%	(1)%
Wealth Management [7]	2,827	2%	5%
Capital Markets	1,173	(1)%	129%
Insurance (Net of FV change) [1]	1,084	(39)%	(3)%
Investor & Treasury Services	504	28%	28%
Corporate Support (CS) [7]	(381)	n.m.	n.m.
CS (Excl. U.S. WM WAP) [8]	(283)	n.m.	n.m.
U.S. WM WAP	(98)	n.m.	n.m.
Total (net of FV chg.) [1]	**6,725**	**(11)%**	**10%**
Total (net of FV chg. & Excl. U.S. WM WAP) [1][6]	6,805	(10)%	11%

Q4/2022 Highlights

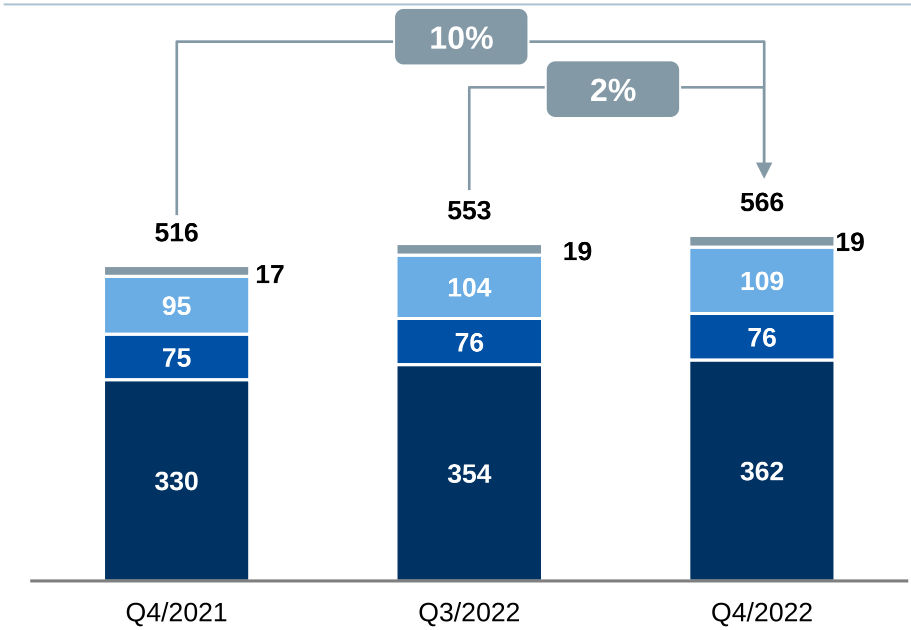
- **Non-interest income was down 14% YoY; down 11% net of Insurance FV change[1]**

+ Higher Global Markets revenue driven by robust client activities in macro trading, partly offset by credit trading and reduced origination activities
– Lower Investment Banking revenue driven by a decline in global fee pools, partly offset by higher market share
– Lower mutual fund revenue, largely in Wealth Management and Canadian Banking, mainly reflecting market impacts on AUM
– Lower insurance revenue (net of FV change)[1] reflecting lower group annuity sales
+ Higher card service revenue and service charges, primarily in Canadian Banking, mainly reflecting increased client activity
– Other non-interest income:
  – Unfavourable change in the fair value of hedges related to our U.S. share-based compensation plans in our Corporate Support segment (U.S. WM WAP gains / losses), which was largely offset in expenses (see slide 41)

(1) This is a non-GAAP measure. See note 8 on slide 44. (2) Comprised of Investment management & custodial fees, Securities brokerage commissions and Mutual fund revenue. (3) Comprised of Underwriting and other advisory fees and Credit fees. (4) Comprised of Service charges and Card service revenue. (5) See note 26 on slide 45. (6) This is a non-GAAP measure. See note 9 on slide 44. (7) See note 17 on slide 44. (8) This is a non-GAAP measure. See note 27 on slide 45.

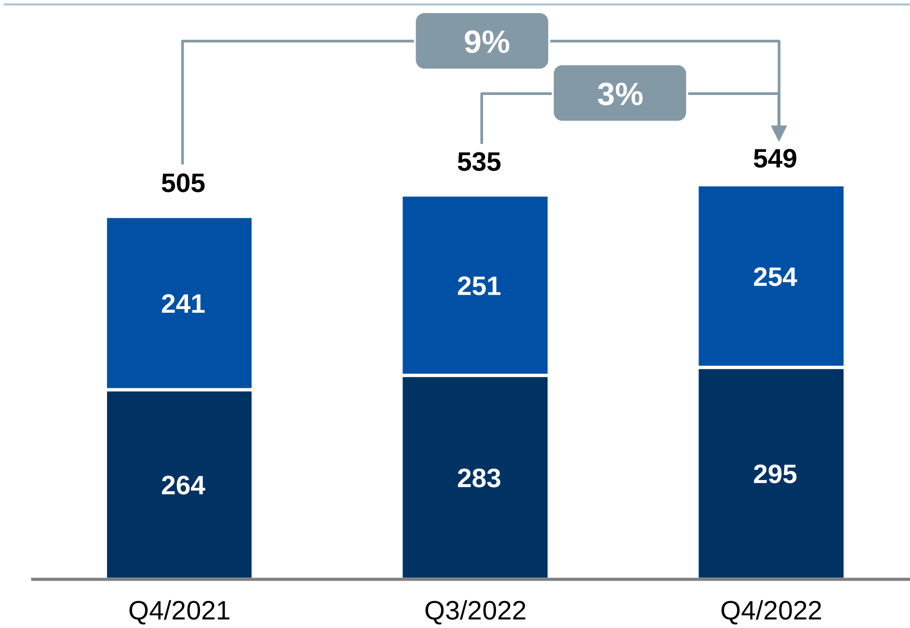
Canadian Banking: Strong volume growth across our largest portfolios

Average Gross Loans & Acceptances[1] ($ billions)



Percentage Change[1]	YoY		QoQ	
Residential Mortgages	9.8%	RESL[2] 9.2%	2.3%	RESL[2] 2.1%
HELOC[3]	3.1%		0.3%	
Other Personal	0.5%		0.3%	
Credit Cards	12.9%		3.2%	
Business (Including Small Business)	14.7%		4.4%	

Average Deposits[1] ($ billions)

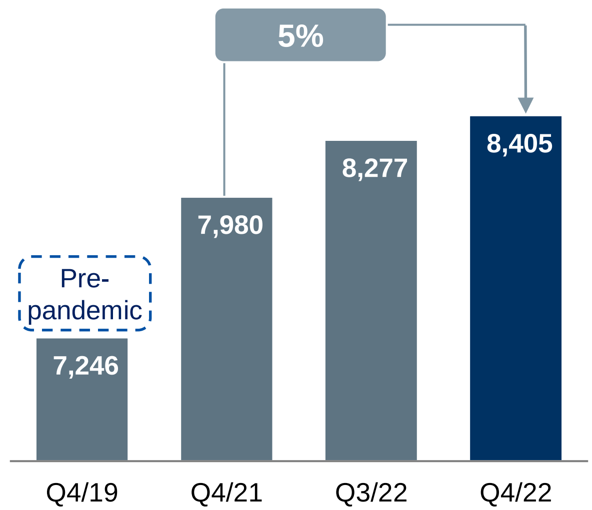


Percentage Change[1]	YoY	QoQ
Personal Deposits	11.8%	4.0%
Business Deposits	5.1%	1.1%

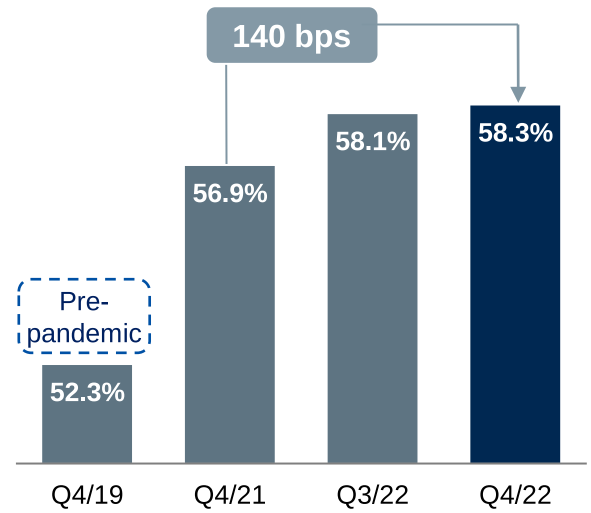
(1) Totals may not add and percentage change may not reflect actual change due to rounding. (2) RESL includes residential mortgages and HELOC. (3) Home Equity Line of Credit.

Canadian Banking: Our 14MM+ clients continue to adopt our digital channels

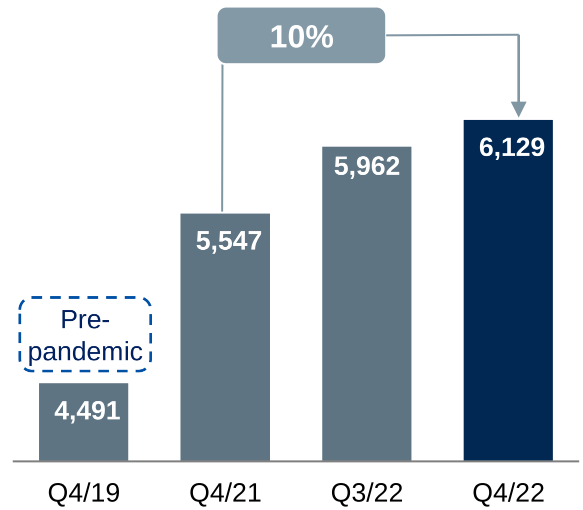
Active Digital Users (000s)[1]



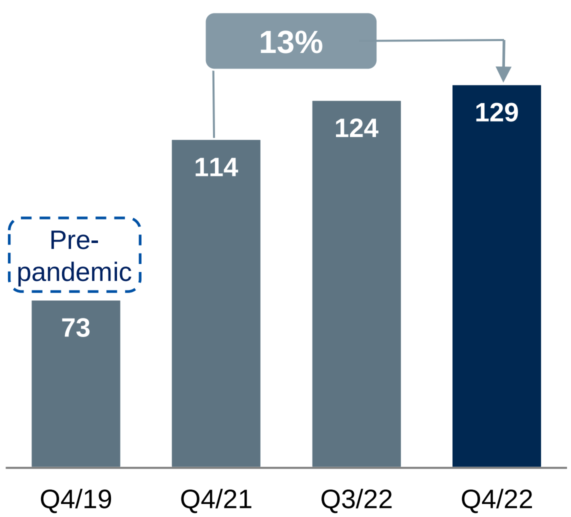
Digital Adoption Rate[2]



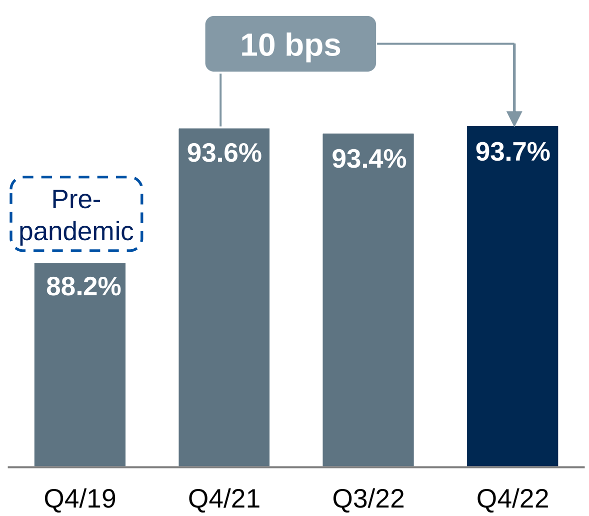
Active Mobile Users (000s)[1]



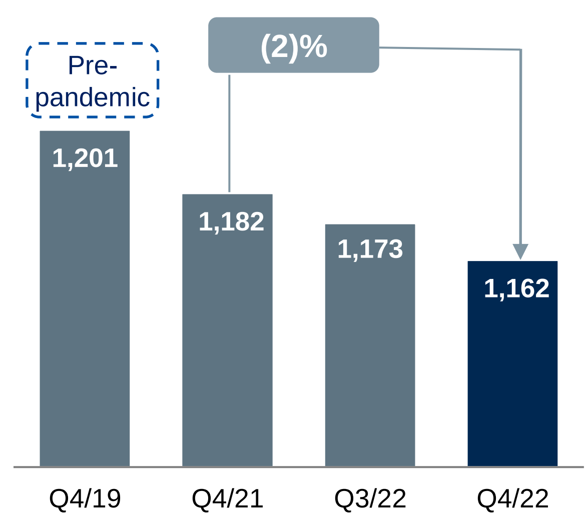
Mobile Sessions (millions)[3]



Self-Serve Transactions[4]



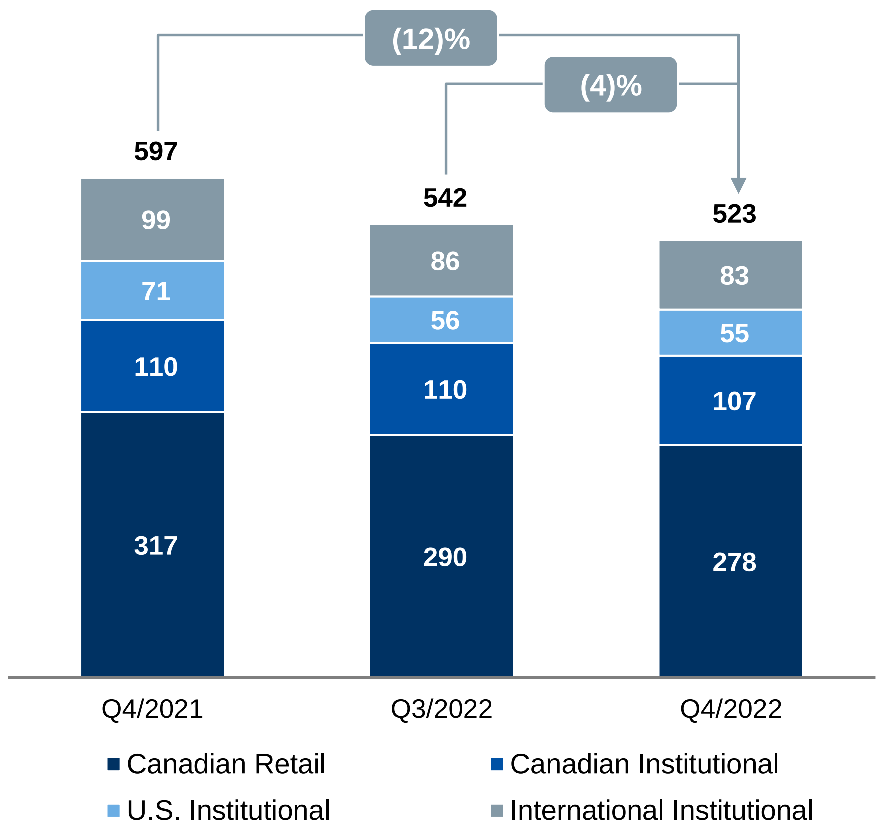
Branches



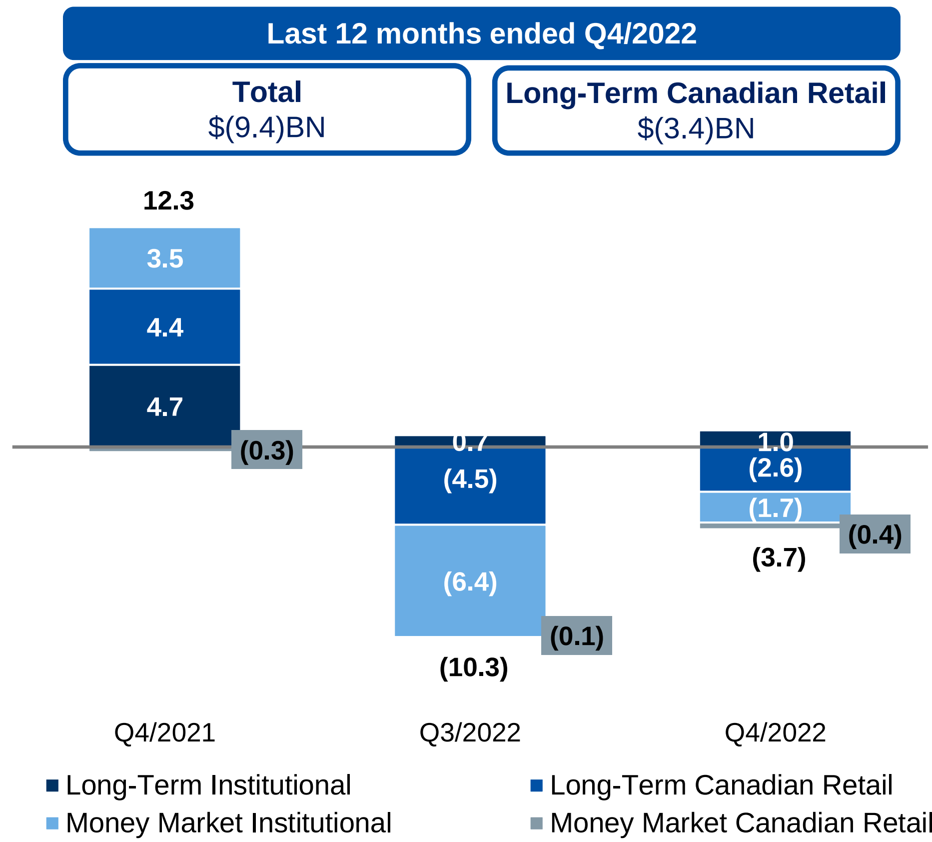
(1) These figures (in 000s) represent the 90-Day Active customers in Canadian Banking only and are spot values. (2) Digital Adoption rate calculated using 90-day active users. (3) These figures represent the total number of application logins using a mobile device. (4) Financial transactions only.

Wealth Management: Lower assets impacted by unfavourable market conditions

RBC Global Asset Management AUM[1] ($ billions)



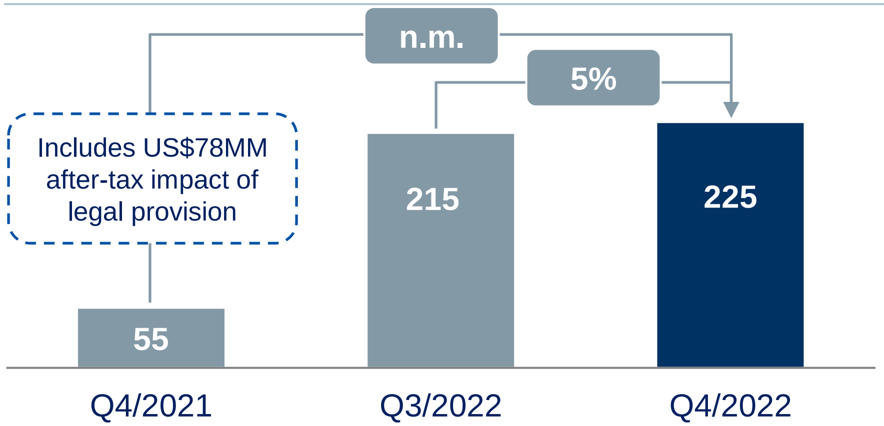
RBC Global Asset Management Net Sales ($ billions)



(1) Spot balances.

U.S. Wealth Management (incl. CNB): Higher margins and volumes

Net Income (US$ millions)(1)



US$ millions (unless otherwise stated)(2)	Q4/2022	YoY(1)	QoQ(1)
Revenue	**1,529**	**18%**	**4%**
Expenses	1,218	(2)%	3%
Pre-Provision, Pre-Tax Earnings(3)	**311**	**n.m.**	**10%**
Adjusted Pre-Provision, Pre-Tax Earnings(3)(4)	346	n.m.	9%
Provision For Credit Losses	44	$42	$34
Net Income	**225**	**n.m.**	**5%**
Adjusted Net Income(4)	251	n.m.	4%
Assets Under Administration (AUA) $BN	514	(10)%	(4)%
Assets Under Management (AUM) $BN	159	(13)%	(2)%
CNB Net Interest Income	**627**	**45%**	**13%**
CNB NIM	2.80%	81 bps	30 bps
CNB Average Wholesale Loans ($BN)	39.7	12%	2%
CNB Average Retail Loans ($BN)	23.0	24%	5%
CNB Average Deposits ($BN)	77.6	(2)%	(2)%
CNB Net Income	**61**	**n.m.**	**(40)%**
CNB Adjusted Net Income(4)	87	n.m.	(32)%

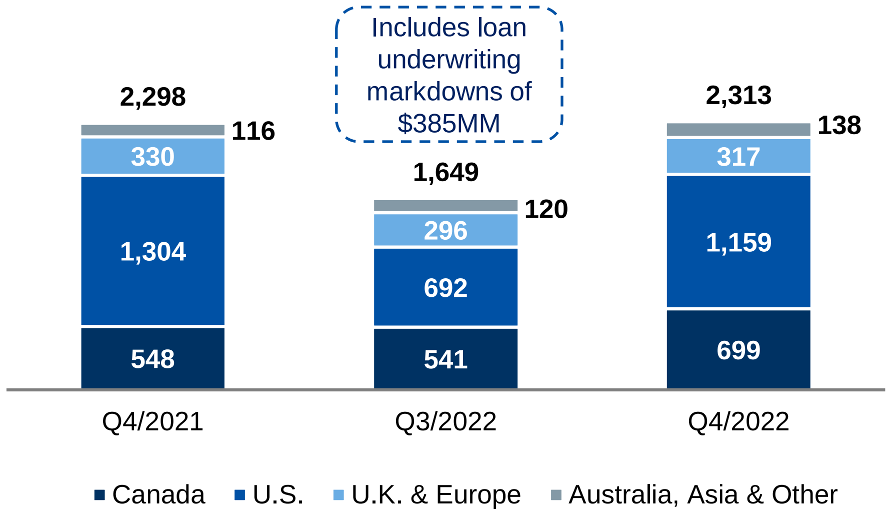
Q4/2022 Highlights (US$)

- **Net income up $170MM YoY**
  - + Pre-provision, pre-tax earnings(3) up $259MM
- **Revenue up 18% YoY**
  - + Net interest income at CNB up 45% YoY (see slide 28)
    - + CNB NIM up 81 bps YoY and 30 bps QoQ (see slide 28)
    - + CNB Wholesale loans up 12% YoY; excluding PPP loans, up 18% YoY(5)
    - + CNB Retail loans up 24% YoY, largely in residential mortgages
    - – CNB Deposits down 2% YoY
  - + Higher revenue from sweep deposits driven by higher interest rates
  - – Lower fee-based revenue mainly driven by unfavourable market conditions
- **Expenses down 2% YoY**
  - + Impact of a legal provision of US$93MM taken in the prior year
  - – Higher staff, technology-related and risk management costs to support underlying business growth
- **Higher PCL YoY** (see slides 22 & 24)

(1) See note 17 on slide 44. (2) All balance sheet figures (except for AUA and AUM) represent average balances. (3) This is a non-GAAP measure. See note 1 on slide 44 for more information. (4) This is a non-GAAP measure. See note 28 on slide 45 for more information. (5) This is a non-GAAP measure. See note 29 on slide 45 for more information.

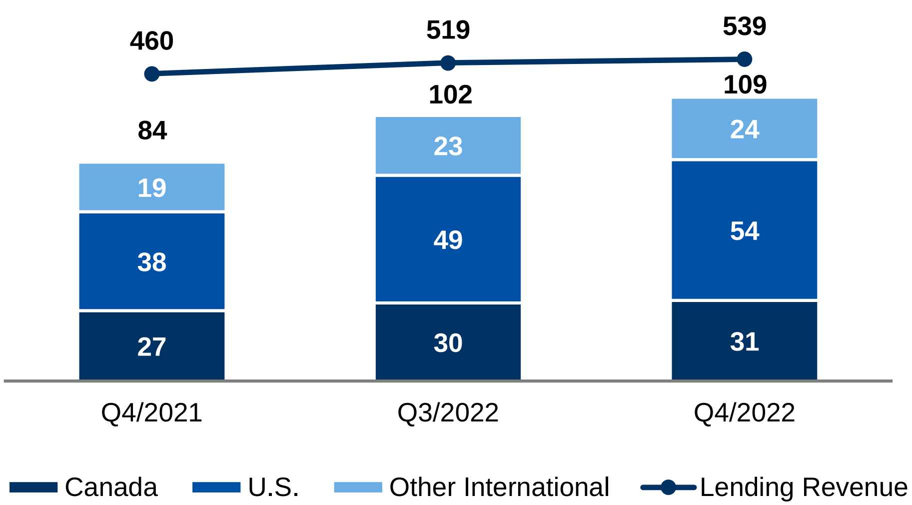
Capital Markets: Revenue and loan breakdown by geography

Capital Markets Revenue Breakdown by Geography ($ millions)



- **Canada:** Up YoY, mainly driven by increased trading revenue across all products, as well as higher M&A activity; partially offset by lower lending and equity origination
- **U.S.:** Down YoY, due to a decline in fees across all Investment Banking products; partially offset by strong results in lending and equity trading
- **U.K. & Europe:** Down YoY, mainly due to lower equity trading, as well as softer debt and equity origination fees; partially offset by higher fixed income and foreign exchange trading, and strong lending results
- **Australia, Asia & Other:** Up YoY, driven by increased trading revenue across all products, and higher equity origination fees

Capital Markets Lending Revenue ($ millions) & Average Loans Outstanding by Region[1] ($ billions)



- We continue to deepen relationships with our clients, including financing to support their strategic objectives
- Diversification driven by strict limits on a single name basis, country, industry, and product levels across all businesses, portfolios, transactions, and products
- Record Lending revenues are underpinned by higher average loans outstanding
- 60% of our total Capital Markets exposure[2] is investment grade

(1) Average loans outstanding includes wholesale loans, acceptances, and off balance sheet letters of credit and guarantees for our Capital Markets portfolio, on a single name basis. Excludes mortgage investments, securitized mortgages and other non-core items. (2) Total exposure represents exposure at default (EAD) which is the expected gross exposure upon the default of an obligor.

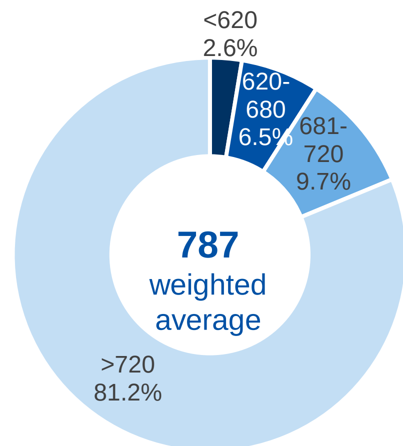
Canadian Banking: Seeing signs of credit normalization

- 30-89 day delinquency rates increased QoQ across all portfolios; delinquency rates remain below pre-pandemic levels, with the exception of the Small Business portfolio, where delinquencies are being driven in part by government guaranteed facilities originated during COVID-19
- PCL and GIL ratios also increased QoQ, but remain below pre-pandemic and historical averages
- Credit quality remains high with 2.6% of the portfolio with a FICO score below 620

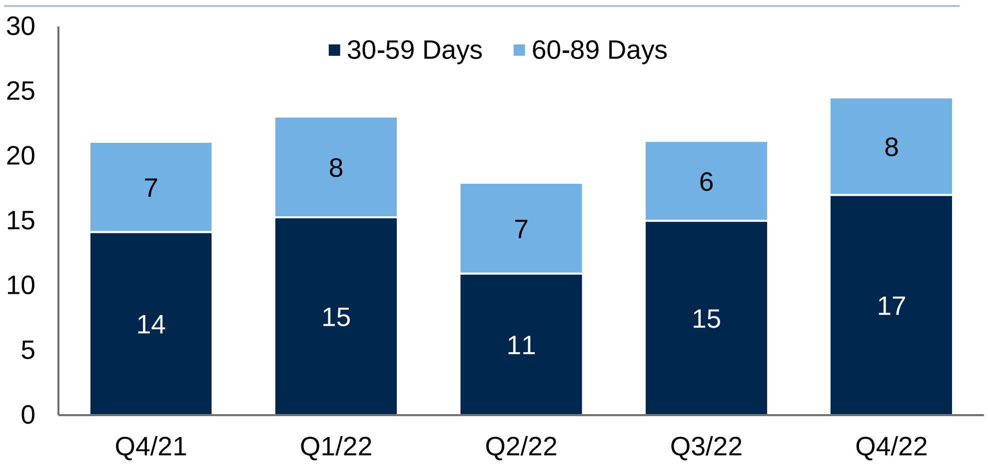
Canadian Banking (CB) PCL on Impaired Loans and Gross Impaired Loans

	Q4/22 Avg Loan Balances ($BN)	PCL on Impaired Loans (bps) (1)			Gross Impaired Loans (bps)			Avg FICO Score (Q4/22)
		Q4/21	Q3/22	Q4/22	Q4/21	Q3/22	Q4/22	
Residential Mortgages (2)	**361.8**	-	-	**1**	13	10	**10**	**791**
Personal Lending(6)	**76.1**	26	32	**45**	21	18	**22**	**778**
Credit Cards	**19.3**	150	185	**182**	61 (3)	68 (3)	**72 (3)**	**745**
Small Business	**12.6**	33	39	**52**	91	95	**109**	**n.a.**
Commercial	**96.1**	11	7	**15**	64	43	**37**	**n.a.**
Total	**565.9**	**11**	**13**	**17**	**24**	**18**	**18**	**787 (4)**

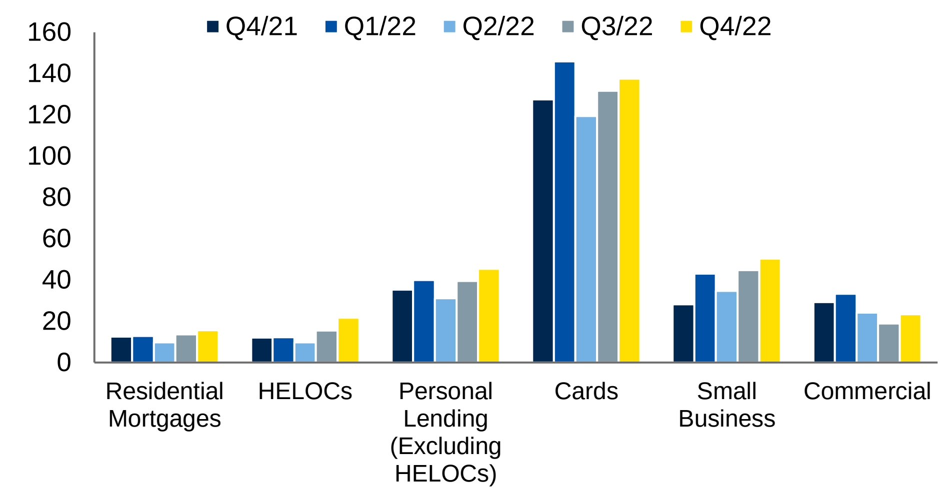
CB Retail FICO Score Distribution (Q4/22)



CB Delinquencies by Days Past Due (bps) (5)



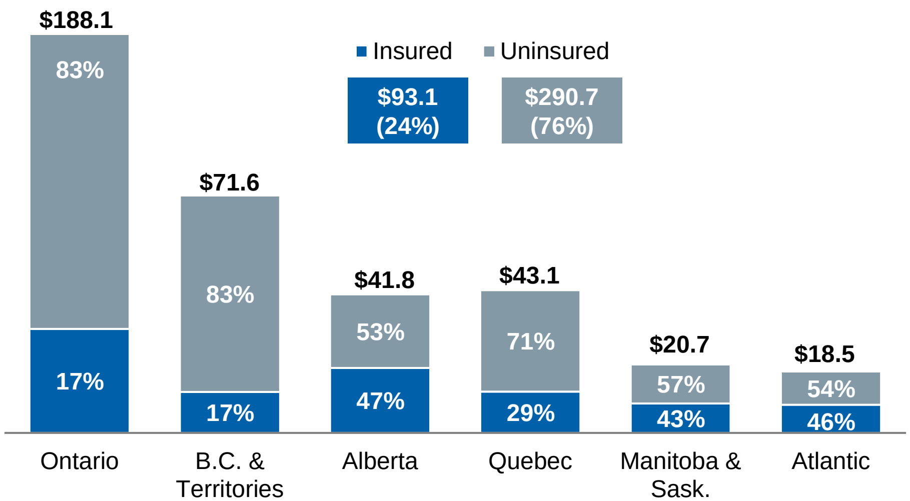
CB 30-89 Day Delinquencies by Product (bps) (5)



(1) See note 30 on slide 45. (2) Includes $11.6BN of mortgages on multi-unit residential buildings originated in P&CB Business Banking. (3) Represents 90+ Days Past Due, as there are no GIL balances for Credit Cards. (4) Average FICO is balance weighted for all retail products. (5) See note 31 on slide 45. (6) Personal Lending includes Indirect Lending, Overdraft, Personal Loans and HELOC.

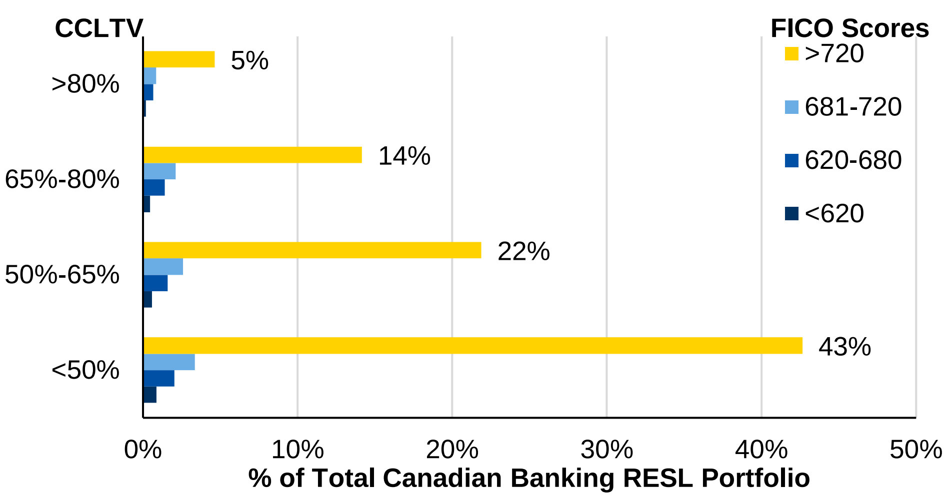
Canadian residential portfolio: Strong underlying credit quality

Canadian Residential Mortgage Portfolio[1] ($ billions)



CCLTV – Canadian Banking Residential Lending Portfolio only[2]					
47%	46%	54%	49%	51%	50%

Canadian Banking RESL Portfolio[2]



Canadian Banking RESL Portfolio[2]

	Total $388BN	Uninsured $321BN
Mortgage Balance	**$352BN**	**$285BN**
HELOC Balance	$36BN	$36BN
LTV at Origination	**72%**	**69%**
CCLTV	**48%**	**48%**
GVA	46%	45%
GTA	47%	48%
Average FICO Score	**801**	**805**
FICO > 800	51%	52%
CCLTV > 80% & FICO < 680	0.83%	0.31%
90+ Days Past Due[3]	**11 bps**	**8 bps**
GVA	7 bps	6 bps
GTA	5 bps	4 bps
Average Duration		
Remaining Mortgage Amortization	20 years	21 years
Original Term	45 months	44 months
Remaining Term	31 months	32 months
Portfolio Mix		
Variable Rate Mortgage	34%	38%
Fixed Rate Mortgage	66%	62%
Owner Occupied[4]	87%	84%
Non-Owner Occupied[4]	13%	16%
Detached	73%	74%
Condo	12%	12%

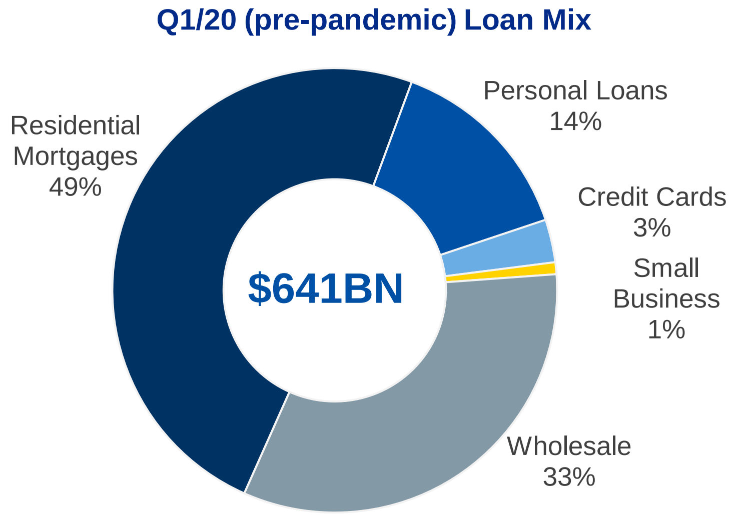
(1) See note 32 on slide 46. (2) Real estate secured lending includes residential mortgages and HELOCs. See note 33 on slide 46. (3) The 90+ day past due rate includes all accounts that are either 90 days or more past due or are in impaired status. (4) Denominator excluding balance with missing occupancy information.

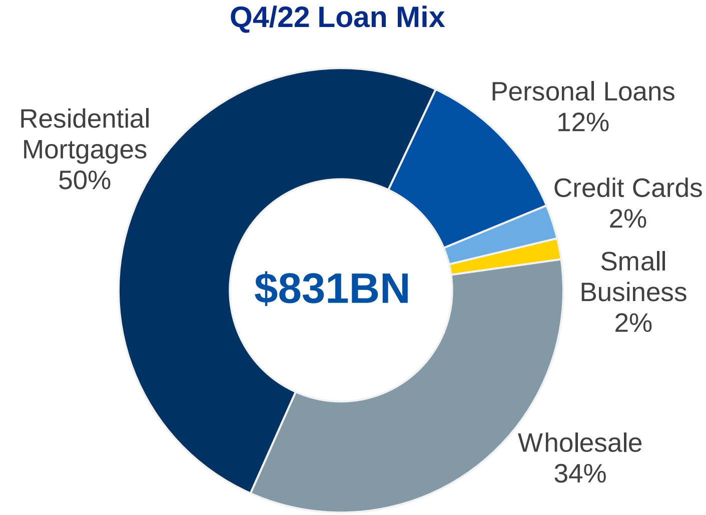
Allowance for Credit Losses: Prudently reserved

Allocation of ACL by Product as a % of Loans & Acceptances

Product	Pre-Pandemic Q1/20	Peak Total ACL Ratio Q4/20	Q4/21	Q1/22	Q2/22	Q3/22	Q4/22
Residential mortgages [1]	**0.12%**	**0.15%**	**0.11%**	**0.10%**	**0.10%**	**0.10%**	**0.10%**
Other Retail	**1.61%**	**2.34%**	**1.73%**	**1.68%**	**1.51%**	**1.57%**	**1.63%**
Personal	1.03%	1.42%	1.15%	1.10%	0.98%	1.03%	1.07%
Credit cards	4.35%	7.07%	4.91%	5.02%	4.26%	4.28%	4.34%
Small business [2]	1.19%	2.44%	1.47%	1.50%	1.48%	1.51%	1.53%
Retail	**0.52%**	**0.70%**	**0.51%**	**0.49%**	**0.44%**	**0.45%**	**0.47%**
Wholesale [1,2]	**0.58%**	**1.33%**	**0.83%**	**0.80%**	**0.61%**	**0.59%**	**0.57%**
Total ACL	**0.53%**	**0.89%**	**0.60%**	**0.58%**	**0.49%**	**0.49%**	**0.50%**

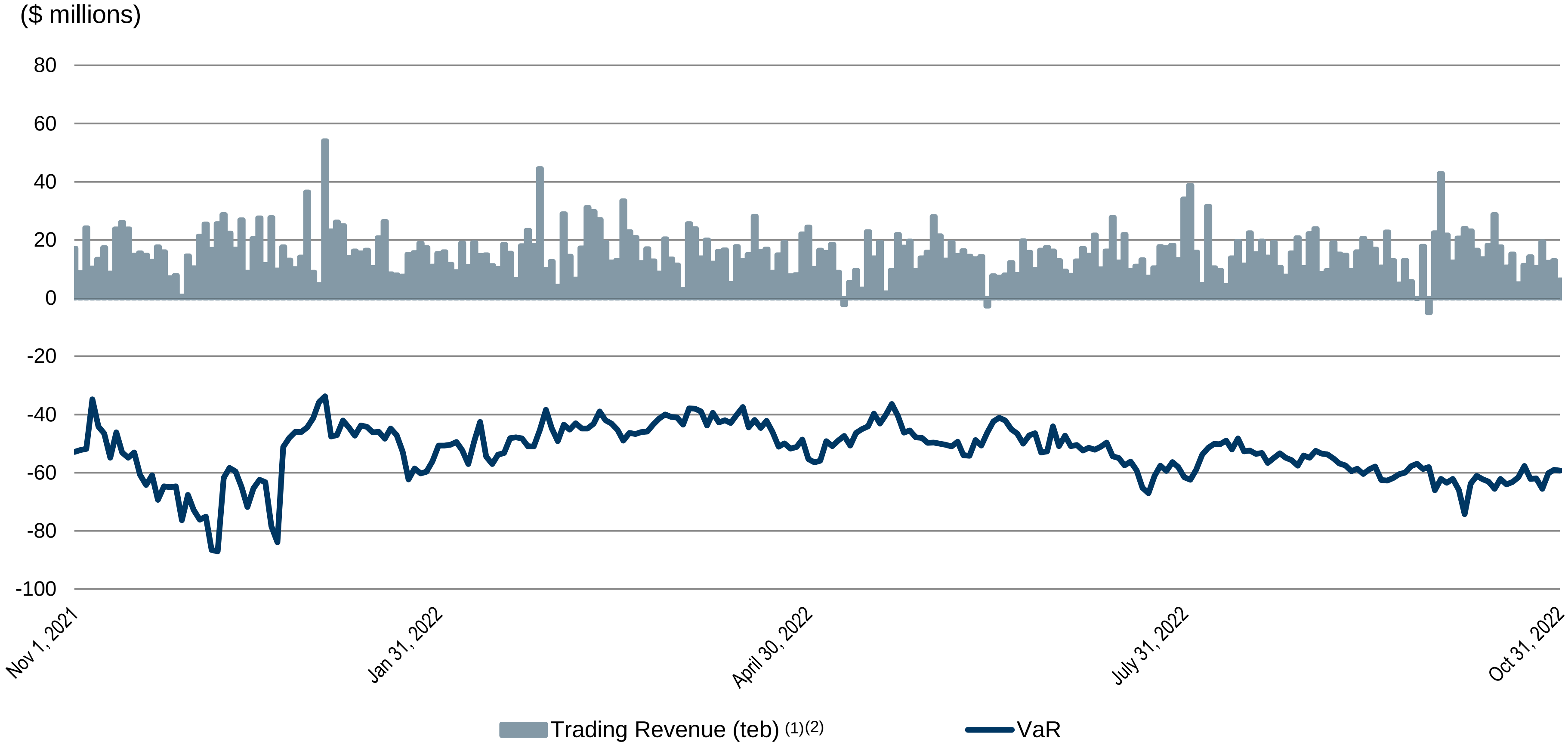
Loans & Acceptances by Product[3,4]





(1) See note 34 on slide 46. (2) In Q2/21, ~$5BN of loans previously classified as Commercial was reclassified as Small Business loans. (3) Excludes loans not subject to impairment (loans held at FVTPL).(4) Totals may not add due to rounding.

Market risk trading revenue and VaR



- During the quarter, RBC experienced 2 days with net trading losses, neither of which exceeded VaR. Both were the result of elevated market volatility driven by the U.K. government's Growth Plan 2022 announcements.
- Average VaR increased moderately from last quarter, primarily due to heightened market volatility during the current quarter.

(1) Trading revenue (teb) amounts in the chart above have been revised from those previously presented. (2) Trading revenue (teb) amounts in the chart above excludes the impact of loan underwriting commitments.

Corporate Support: Market volatility leading to swings in U.S. WM WAP gains (losses)

$(139)MM impact to YoY revenue growth

	Q4/20	Q1/21	Q2/21	Q3/21	Q4/21	Q1/22	Q2/22	Q3/22	Q4/22
U.S. WM WAP revenue gains/(losses)	7	168	134	51	41	(89)	(154)	(22)	(98)
U.S. WM WAP expense (gains)/losses	8	157	124	59	42	(71)	(122)	(15)	(81)
Pre-Provision, Pre-Tax Earnings Impact (1)	**(1)**	**11**	**10**	**(8)**	**(1)**	**(18)**	**(32)**	**(7)**	**(17)**

Associated market indicators driving gains (losses) value of economic hedges:

QoQ Price Change									
RY Shares (NYSE)	1.3%	15.5%	18.0%	6.0%	2.8%	9.6%	(11.4)%	(3.5)%	(5.2)%
S&P 500 Index	- %	13.6%	12.6%	5.1%	4.8%	(2.0)%	(8.5)%	- %	(6.3)%

- **Wealth Accumulation Plan (WAP) revenue** includes gains (losses) on economic hedges of our U.S. Wealth Management (including City National) share-based compensation plans
- **Wealth Accumulation Plan (WAP) expense** is a share-based compensation expense that includes related variability driven by changes in the fair value of liabilities relating to these plans

(1) This is a non-GAAP measure. See note 1 on slide 44 for more information

Impact of foreign currency translation

Estimated impact of foreign currency translation on key income statement items

(Millions of Canadian dollars, except per share amounts)	For the three months ended Q4/22 vs. Q4/21	Q4/22 vs. Q3/22
Increase (decrease):		
Total revenue	209	214
PCL	5	4
Non-interest expense	118	137
Income taxes	8	8
Net income	78	65
Impact on EPS		
Basic	0.06	0.05
Diluted	0.06	0.05

Relevant average exchange rates that impact our business

(Average foreign currency equivalent of C$1.00) [1]	For the three months ended				
	Q4/21	Q3/22	Q4/22	YoY	QoQ
U.S. dollar	0.796	0.783	0.739	(7)%	(6)%
British pound	0.584	0.636	0.648	11%	2%
Euro	0.684	0.747	0.746	9%	(0)%

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

Items impacting results

2022 ($ millions, except for EPS)	Segments	Before-Tax	After-Tax	Diluted EPS
Q2/2022				
Gains on the sale of certain non-core affiliates	Wealth Management	$84	$58	$0.04
Q1/2022				
Partial release of legal provision taken in U.S. Wealth Management (including City National) in Q4/21	Wealth Management	$80	$69	$0.05

2021 ($ millions, except for EPS)	Segments	Before-Tax	After-Tax	Diluted EPS
Q4/2021				
Legal provision in U.S. Wealth Management (including City National)	Wealth Management	$(116)	$(96)	$(0.07)

Additional Notes (slides 3 to 15)

Slide 3

1. Pre-provision, pre-tax earnings is calculated as income before income taxes and PCL. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
2. Adjusted for (i) after-tax effect of amortization of other intangibles (Q4/22: $52MM; Q3/22: $46MM; Q4/21: $46MM) and (ii) dilutive impact of exchangeable shares (Q4/22: $nil; Q3/22: $nil; Q4/21: $nil). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
3. Revenue net of Insurance fair value change of investments backing policyholder liabilities (Q4/22: $(440)MM; Q4/21: $(266)MM). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
4. Non-interest expense YoY growth excluding variable and share-based compensation. Non-interest expense YoY growth excluding the impact of FX These are non-GAAP measures. For reconciliation, see slide 49-52. For more information, see slide 53.
5. PCL on loans ratio is calculated using PCL on loans as a percentage of average net loans and acceptances.
6. Return on average Tangible Common Shareholders' Equity (ROTCE) does not have a standardized meaning under GAAP and may not be comparable to similar measures disclosed by other financial institutions. ROTCE is calculated as net income available to shareholders excluding the after-tax impact of amortization and write down of other intangibles (excluding software) and goodwill divided by average tangible common equity. ROTCE is based on actual balances of average tangible common equity before rounding. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
7. Tangible book value per share is calculated as common equity excluding goodwill and other intangibles (excluding software) net of deferred tax on a spot basis divided by total outstanding shares. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.

Slide 11

8. Revenue and non-interest income net of Insurance fair value change of investments backing policyholder liabilities (Q4/22: $(440)MM; Q3/22: $115MM; Q4/21: $(266)MM). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
9. Revenue and non-interest income net of U.S. Wealth Accumulation Plans (WAP) gains/(losses), which was $(98)MM in Q4/22, $(22)MM in Q3/22 and $41MM in Q4/21. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
10. Effective tax rate adjusted for TEB (Q4/22: $142MM, Q3/22: $143MM, Q4/21: $125MM). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
11. Net interest income (ex-trading) is calculated as net interest income less trading net interest income.
12. Compensation expense is calculated as the sum of salaries, variable compensation, benefits and retention compensation, and share-based compensation.
13. Non-compensation expense is calculated as total non-interest expense less salaries, variable compensation, benefits and retention compensation, and share-based compensation.

Slide 13

14. NIM (ex-Trading Assets, Trading net interest income and Insurance Assets) on total average assets is calculated as net interest income ex trading divided by total average assets less trading assets and insurance assets.

Slide 15

15. Variable & share-based comp YoY growth includes changes in U.S. Wealth Management Wealth Accumulation Plans (WAP Q4/22: $(81)MM; Q4/21: $42MM).
16. Other non-interest expenses include YoY change in non-interest expense from the following line items: Telecommunications, Postage and courier, Stationery and printing, Business and capital taxes, Donations, Outsourced item processing, Impairment of other intangibles, Impairment of investments in joint ventures and associates and Other.
17. 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.
18. Corporate Support (ex-U.S. WM WAP) excludes impact of U.S. Wealth Management Wealth Accumulation Plans (WAP Q4/22: $(81)MM; Q3/22: $(15)MM; Q4/21: $42MM). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.

Additional Notes (slides 23 to 37)

Slide 23

19. New formations for collectively assessed portfolios in Canadian Banking and Caribbean Banking are net of amounts returned to performing, repayments, sales, FX, and other movements, as amounts are not reasonably determinable.

Slide 26

20. Sustainable finance refers to financial activities that take into account environmental, social and governance factors.
21. The Sustainable Finance Framework excludes the practices of RBC GAM. RBC Wealth Management, City National Bank and Brewin Dolphin Holdings PLC and its subsidiaries, are also not included in scope, but may be included in future versions of the Framework.
22. Our 2030 interim emissions reduction target methodology excludes the practices of: (a) RBC Global Asset Management (RBC GAM), the asset management division of Royal Bank of Canada (the "Bank"), and RBC Wealth Management (RBC WM). RBC GAM includes the following wholly owned indirect subsidiaries of the Bank: RBC Global Asset Management Inc. (including Phillips, Hager & North Investment Management), RBC Global Asset Management (U.S.) Inc., RBC Global Asset Management (UK) Limited, RBC Global Asset Management (Asia) Limited and BlueBay Asset Management LLP. RBC WM includes the following affiliates: RBC Dominion Securities Inc. (Member–Canadian Investor Protection Fund), RBC Direct Investing Inc. (Member–Canadian Investor Protection Fund), Royal Mutual Funds Inc., RBC Wealth Management Financial Services Inc., Royal Trust Corporation of Canada and The Royal Trust Company, which are separate but affiliated subsidiaries of the Bank; and (b) Brewin Dolphin Holdings PLC and its subsidiaries.
23. Based on our 80.25 average percentile ranking and rating compiled from our priority ESG rating agencies and indices: Sustainalytics, MSCI ESG Rating, FTSE4Good and S&P Global's Corporate Sustainability Assessment (informing the DJSI) – FTSE4Good and MSCI ratings reflect 2021 scores. The ESG rankings and ratings market is evolving and is not currently regulated in Canada or the U.S. ESG rating agencies and indices may use different data, metrics, models and/or methodologies. ESG ranking and ratings are not necessarily comparable, and those given to RBC are for information only. Investors and other stakeholders should carefully consider the foregoing factors and other uncertainties when reviewing these rankings and ratings.

Slide 27

24. Loan yield is calculated as interest income on loans as a percentage of average total net loans. Total earning asset yield is calculated as interest income on assets as a percentage of average total earning assets. Securities yield is calculated as interest and dividend income on securities as a percentage of average securities, net of applicable allowance. Repo & securities lending yield is calculated as interest and dividend income on repo & securities lending as a percentage of average repo & securities lending balances, net of applicable allowance. These metrics do not have a standardized meaning and may not be comparable to similar measures disclosed by other financial institutions. For more information, see slide 53.
25. Total deposit costs is calculated as interest expense on deposits and other as a percentage of average deposits. Term-deposit costs is calculated as interest expense on term-deposits as a percentage of average term-deposits. Personal chequing & savings deposit costs is calculated as interest expense on personal chequing & savings deposits as a percentage of average personal chequing & savings deposits. Interest cost on repos is calculated as interest expense on repos as a percentage of average repo liabilities. These metrics do not have a standardized meaning and may not be comparable to similar measures disclosed by other financial institutions. For more information, see slide 53.

Slide 31

26. Comprised of Net gain on investment securities, Share of profit (loss) in joint ventures and associates and Other, including U.S. WM WAP gains/(losses).
27. Corporate Support (ex-U.S. WM WAP) excludes impact of U.S. Wealth Management Wealth Accumulation Plans (WAP Q4/22: $(98)MM; Q3/22: $(22)MM Q4/21: $41MM). This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.

Slide 35

28. Adjusted net income and adjusted pre-provision, pre-tax earnings for every quarter excludes CNB's amortization of intangibles, which was US$26MM/ C$35MM after-tax (US$35MM/ C$47MM before-tax) in Q4/2022, US$26MM/ C$33MM after-tax (US$35MM/ C$45MM before-tax) in Q3/2022, and US$26MM/C$33MM after-tax (US$36MM/C$46MM before-tax) in Q4/2021. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.
29. Excludes PPP loans. This is a non-GAAP measure. For reconciliation, see slide 49-52. For more information, see slide 53.

Slide 37

30. Calculated using average loans and acceptances, net of allowance.
31. Includes restrained accounts, where loans 30-59 days past due resulting from administrative processes, such as mortgage loans, where payments have been restricted pending payout due to sale or refinancing.

Additional Notes (slides 38 to 39)

Slide 38

32. Canadian residential mortgage portfolio of $384BN comprised of $352BN of residential mortgages in Canadian Banking, $3BN in other Canadian business platforms, $12BN of mortgages with commercial clients ($9BN insured) and $17BN of residential mortgages in Capital Markets held for securitization purposes (all insured).
33. Based on $352BN in residential mortgages with non-commercial clients and $36BN in HELOC in Canadian Banking. Based on spot balances. Totals may not add due to rounding. Weighted by mortgage balances and adjusted for property values based on the Teranet – National Bank National Composite House Price Index.

Slide 39

34. Excludes any loans held at FVTPL, which are not subject to impairment: Residential mortgages (Q4/22:$448MM; Q3/22: $340MM; Q2/22: $298MM; Q1/22: $240MM, Q4/21: $241MM, Q4/20: $253MM, Q1/20: $534MM); Wholesale (Q4/22:$10.1BN; Q3/22:$10.9BN, Q2/22:$11.4BN, Q1/22:$13.2BN, Q4/21:$11.2BN, Q4/20: $8.6BN, Q1/20: $10.7BN).

Glossary (1/2)

Assets under administration (AUA):

- Assets administered by us, which are beneficially owned by clients. 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. 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.

Average balances (assets, loans and acceptances, deposits, risk capital etc.):

- Calculated using methods intended to approximate the average of the daily balances for the period, as applicable.

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.

Book value per share (BVPS):

- Calculated as common equity divided by the number of common shares outstanding at the end of the period.

Common equity tier 1 (CET1) ratio:

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

Dividend payout ratio:

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

Efficiency ratio:

- Non-interest expense divided by total revenue.

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. 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.

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-Deposit Ratio:

- Average Canadian Banking loans as a percentage of average Canadian Banking deposits.

Glossary (2/2)

Net interest margin (NIM) (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.

Net yield:

- Net yield is calculated as total repo revenue as a percentage of average reverse repo balances.

Operating leverage:

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

Reported diluted earnings per share (EPS):

- 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.

Return on common equity (ROE):

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

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.

Total loss absorbing capacity (TLAC):

- The aggregate of Tier 1 capital, Tier 2 capital, and external TLAC instruments, allow conversion in whole or in part into common shares under the Canada Deposit Insurance Corporation Act and meet all of the eligibility criteria under the guideline. The risk-based TLAC ratio is defined as TLAC divided by total risk-weighted assets.

Total payout ratio:

- Total shareholder distributions (common dividends + share repurchases) as a percentage of net income available to common shareholders.

Total shareholder distribution:

- Calculated as the total dollar value of common dividends plus total shares repurchased.

Total shareholder return (TSR):

- TSR is a concept used to compare the performance of our common shares over a period of time, reflecting share price appreciation and dividends paid to common shareholders.

Trading net interest income (Trading NII):

- Trading net interest income 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).

Reconciliation for non-GAAP financial measures (1/4)

Calculation of ROTCE $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Net income available to common shareholders	3,819	3,517	3,809
Add: After-tax effect of amortization of other intangibles	46	46	52
Net income available to common shareholders excluding the after-tax effect of amortization of other intangibles	3,865	3,563	3,861
Average common equity	89,500	95,750	97,150
Less: Goodwill and Intangibles net of tax	11,800	11,600	12,500
Tangible common equity	77,700	84,150	84,650
ROTCE	19.7%	16.8%	18.1%

Calculation of Tangible Book Value Per Share $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Tangible common equity - end of period	80,319	84,963	86,727
Common shares outstanding (000s) - end of period	1,424,525	1,390,629	1,382,911
Tangible Book Value Per Share	$ 56.38	$ 61.10	$ 62.71

Calculation of adjusted diluted EPS $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Net income available to common shareholders	3,819	3,517	3,809
Adjustments			
Add: After-tax effect of amortization of other intangibles	46	46	52
Net income available to common shareholders excluding the after-tax effect of amortization of other intangibles	3,865	3,563	3,861
Add: Dilutive impact of exchangeable shares	-	-	-
Net income available to common shareholders including dilutive impact of exchangeable shares	3,865	3,563	3,861
Common shares outstanding (000s) - average (diluted)	1,427,225	1,398,667	1,388,548
Adjusted diluted EPS	$ 2.71	$ 2.55	$ 2.78

Reconciliation for non-GAAP financial measures (2/4)

Calculation of Effective Tax Rate (teb) $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Income Taxes (teb)			
Income Taxes	1,096	979	979
Taxable equivalent basis (teb) adjustment	125	143	142
Income Taxes (teb)	1,221	1,122	1,121
Net Income before taxes (teb)			
Net Income before taxes	4,988	4,556	4,861
Taxable equivalent basis (teb) adjustment	125	143	142
Net Income before taxes (teb)	5,113	4,699	5,003
Effective tax rate	22.0%	21.5%	20.1%
Effective tax rate (teb)	23.9%	23.9%	22.4%

Calculation of Revenue Net of Insurance FV Change $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
All-Bank			
Revenue	12,376	12,132	12,567
Less: Insurance FV Change	(266)	115	(440)
Revenue Net of Insurance FV Change	12,642	12,017	13,007
Insurance			
Revenue	1,501	1,233	644
Less: Insurance FV Change	(266)	115	(440)
Revenue Net of Insurance FV Change	1,767	1,118	1,084

Calculation of Non-Interest Income net of FV chg. & Excl. U.S. WM WAP $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Non-Interest Income	7,315	6,242	6,285
Less: Insurance FV Change	(266)	115	(440)
Non-Interest Income net of FV chg.	7,581	6,127	6,725
Less: U.S. WM WAP	41	(22)	(98)
Non-Interest Income net of FV chg. & Excl. WAP	7,540	6,149	6,823

Calculation of NIE excl. VC & SBC $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
Expenses	6,583	6,386	7,209
Less: Variable compensation	1,651	1,473	1,959
Less: Share-based compensation	97	68	3
NIE excl. VC & SBC	4,835	4,845	5,247

Calculation of NIE excl. FX impact $ millions (unless otherwise stated)	Q4/21	Q4/22	YoY Change
Expenses	6,583	7,209	626
Less: FX impact			118
Change in NIE excl. FX impact			508

Calculation of Corp. Support Non-Interest Expense Excl. U.S. WM WAP $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
CS Non-Interest Expense	59	2	(69)
Less: U.S. WM WAP	42	(15)	(81)
CS Non-Interest Expense Excl. U.S. WM WAP	17	17	12

Reconciliation for non-GAAP financial measures (3/4)

Calculation of PPPT $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
All-Bank			
Net income	3,892	3,577	3,882
Income taxes	1,096	979	979
Provision for credit losses	(227)	340	381
PPPT	4,761	4,896	5,242
Canadian Banking			
Net income	1,970	1,971	1,999
Income taxes	682	695	705
Provision for credit losses	(171)	331	386
PPPT	2,481	2,997	3,090
Wealth Management[(1)]			
Net income	558	777	822
Income taxes	163	247	233
Provision for credit losses	5	13	63
PPPT	726	1,037	1,118
Insurance			
Net income	267	186	268
Income taxes	51	58	103
Provision for credit losses	(1)	-	-
PPPT	317	244	371
Investor & Treasury Services			
Net income	109	164	110
Income taxes	28	47	16
Provision for credit losses	(1)	(3)	-
PPPT	136	208	126
Capital Markets			
Net income	920	479	617
Income taxes	245	41	48
Provision for credit losses	(22)	6	32
PPPT	1,143	526	697

Calculation of PPPT $ millions (unless otherwise stated)	Q4/21	Q3/22	Q4/22
U.S. Wealth Management (incl. City National) (US$)[(1)]			
Net income	55	215	225
Income taxes	(5)	58	42
Provision for credit losses	2	10	44
PPPT	52	283	311

Calculation of Wholesale Loans excl. PPP Loans $ Billions	Q4/21	Q3/22	Q4/22
CNB (US$)			
Average Wholesale Loans	35.5	38.9	39.7
Less: PPP Loans	2.1	0.4	0.2
Wholesale Loans excl. PPP Loans	33.4	38.5	39.5

(1) See note 17 on slide 44.

Reconciliation for non-GAAP financial measures (4/4)

Calculation of Adjusted PPPT **$ millions (unless otherwise stated)**	**Q4/21**	**Q3/22**	**Q4/22**
U.S. Wealth Management (incl. City National) (US$)[1]			
PPPT	52	283	311
Add: CNB's amortization of intangibles	36	35	35
Adjusted PPPT	88	318	346

Calculation of Adjusted Net Income **$ millions (unless otherwise stated)**	**Q4/21**	**Q3/22**	**Q4/22**
U.S. Wealth Management (incl. City National) (US$)[1]			
Net Income	55	215	225
Add: CNB's amortization of intangibles	26	26	26
Adjusted Net Income	81	241	251
City National (US$)[1]			
Net Income	(9)	102	61
Add: CNB's amortization of intangibles	26	26	26
Adjusted Net Income	17	128	87

(1) See note 17 on slide 44.

Note to users

We use a variety of financial measures to evaluate our performance. In addition to generally accepted accounting principles (GAAP) prescribed measures, we use certain key performance and non-GAAP measures we believe provide useful information to investors regarding our financial condition and result of operations:

- EPS excluding the dilutive impact of exchangeable shares enhances comparability as some institutions do not utilize such structures.
- Measures which exclude the impact of the amortization or impairment of intangibles (excluding software) and goodwill enhances comparability as transaction specific intangible assets and/or goodwill can differ widely between organizations and impairments can give rise to volatility in a particular period.
- Measures which exclude insurance fair value change of investments backing policy holder liabilities, U.S. WM WAP gains/(losses), trading net interest income, impact of FX and variable and share-based compensation enhance comparability as these excluded items can lead to volatility that could obscure trends in underlying business performance and reduce comparability with prior periods.
- Pre-provision, pre-tax earnings is used to assess our ability to generate sustained earnings growth outside of credit losses, which are impacted by the cyclical nature of the credit cycle.
- TEB adjusted amounts are useful to illustrate the impact of tax-advantaged revenue sources in our Capital Markets business on our effective tax rate.
- Investment Banking revenue excluding the impact of loan underwriting markdowns enhances comparability as markdowns can give rise to volatility in a particular period.

Readers are cautioned that key performance measures, such as ROE and non-GAAP measures, including ROTCE, adjusted earnings per share, pre-provision, pre-tax earnings, adjusted pre-provision and pre-tax earnings, revenue and non-interest income net of insurance fair value change of investments backing policy holder liabilities, non-interest expense excluding variable and share-based compensation, tangible book value per share, revenue and non-interest income net of U.S. WM WAP gains/losses, TEB adjusted measures, loan yields, total deposit costs, and revenue, expenses, non-interest income and non-interest expense excluding various items, do not have any standardized meanings prescribed by GAAP, and therefore are unlikely to be comparable to similar measures disclosed by other financial institutions.

Additional information about key performance and non-GAAP measures can be found under the “Key performance and non-GAAP measures” sections of our 2022 Annual Report.

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