Royal Bank of Canada

Pillar 3 Report

As at April 30, 2023

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Caution regarding forward-looking statements

From time to time, we make written or oral forward-looking statements within the meaning of certain securities laws, including the "safe harbour" provisions of the *United States Private Securities Litigation Reform Act of 1995* and any applicable Canadian securities legislation. We may make forward-looking statements in this Pillar 3 Report, our 2022 Annual Report, in other filings with Canadian regulators or the SEC, in reports to shareholders including our Q2 2023 Report to Shareholders, and in other communications. 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 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. Additional information about certain risk factors can be found in the Caution regarding forward-looking statements and risk sections of our 2022 Annual Report and the Risk management section of our Q2 2023 Report to Shareholders. When relying on our forward-looking statements to make decisions with respect to us, investors and others should carefully consider these risk factors as well as other uncertainties and potential events. 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.

About Royal Bank of Canada

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

Effective the first quarter of 2023, we simplified our reporting structure by eliminating the Investor & Treasury Services segment and moving its former businesses to existing segments. We moved our Investor Services business to our Wealth Management segment, and our Treasury Services and Transaction Banking businesses to our Capital Markets segment. From a reporting perspective, there were no changes to our Personal & Commercial Banking and Insurance segments. Our business segments are supported by Corporate Support, which consists of Technology & Operations and Functions. Technology & Operations provides the technological and operational foundation required to effectively deliver products and services to our clients, while Functions includes our finance, human resources, risk management, internal audit and other functional groups, as well as our corporate treasury function.

Capital framework

Our consolidated regulatory capital requirements are determined by guidelines issued by the Office of the Superintendent of the Financial Institutions (OSFI), which are based on the Basel III framework (inclusive of the 2017 Basel III reforms) adopted by the Basel Committee on Banking Supervision (BCBS).

The Basel III framework integrates three "Pillars" to establish a robust foundation for banking supervision and financial stability:

- Pillar 1 prescribes minimum capital requirements and addresses capital adequacy, including standards for calculating risk-weighted assets (RWA);
- Pillar 2 requires the establishment of internal assessment processes and supervisory review to evaluate the risk profile and capital adequacy of banks; and
- Pillar 3 enhances the consistency and comparability of risk and capital profiles between banks and across jurisdictions for market participants through meaningful disclosures.

Under Basel III, banks use defined approaches to calculate their minimum regulatory capital required to support various risks and exposure types including credit risk, counterparty credit risk, market risk, operational risk, and securitizations exposures. Refer to the "Capital management" section of our 2022 Annual Report for further information on calculation approaches. Refer to the following sections in this report for further information on:

- Capital
- Credit Risk
- Counterparty Credit Risk
- Market Risk
- Operational Risk
- Securitization Exposures

Capital framework (continued)

In December 2018, the BCBS issued its consolidated Pillar 3 disclosure requirements, *Pillar 3 disclosure requirements – updated framework.* The finalized requirements incorporated revisions and additions to the Pillar 3 framework arising from the finalization of the Basel III reforms in December 2017, such as additional disclosure requirements comparing RWA as determined by banks' internal models against results based on the Standardized Approach, and new disclosure requirements on operational risk. On January 31, 2022, OSFI finalized its revised Pillar 3 guideline with an implementation date requirement of April 30, 2023. Our Pillar 3 disclosures for Q2 2023 reflect the finalized OSFI disclosure guideline requirements. On November 11, 2021, BCBS finalized revisions to its market risk disclosures. On April 28, 2023, OSFI released for consultation a revised Pillar 3 guideline incorporating market risk and credit valuation adjustment risk (CVA) disclosure requirements. We will incorporate these updated disclosure requirements once finalized.

To address the economic disruption caused by the COVID-19 pandemic in Q2 2020, OSFI announced a series of regulatory capital modifications as described in the Capital management section of our 2020 Annual report and further updated as described in the Capital Management section of our 2021 and 2022 Annual Reports and Q2 2023 Report to Shareholders. Announced changes included the reduction of the domestic stability buffer to 1% of total RWA while also providing transitional expected credit loss (ECL) modifications over 3 years and risk-weight exclusions for certain exposures. Our reported figures reflect this guidance and further updated guidance from OSFI including the raising of the domestic stability buffer to 2.5% effective October 31, 2021, as fully described in our Capital management section of our 2022 Annual Report and as updated in the Capital management section of our Q2 2023 Report to Shareholders. As announced by OSFI on December 8, 2022, effective February 1, 2023, the domestic stability buffer requirement increased to 3.0% of RWA.

On February 1, 2023 (Q2 2023), we adopted OSFI's revised capital and disclosure guidelines incorporating and implementing OSFI's first phase of the adoption of the final BCBS Basel III reforms. The second phase of OSFI's implementation relating to the revised CVA and market risk chapters of the CAR guideline will be effective for us in Q1 2024. The revised CAR guidelines implemented in the current quarter included the following notable changes:

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

Given substantial changes to credit risk and operational risk frameworks, OSFI requires only prospective disclosures under the Pillar 3 guidelines. As such, our comparative figures for Q1 2023 and earlier quarters reflect our capital position under the earlier OSFI CAR guidelines.

Our disclosure for fiscal 2022 for KM1: Key Capital and Leverage metrics template include disclosure of our capital ratios assuming transitional ECL modifications had not been applied, as required by OSFI. This transitional ECL modification is no longer applicable in fiscal 2023.

Refer to the Capital management section of our Q2 2023 Report to Shareholders for further information on upcoming regulatory developments which were announced during the quarter.

Leverage framework

OSFI's LR guideline requires banks to disclose their leverage ratio and its underlying components as well as maintain a minimum leverage ratio of 3%. The leverage ratio is defined as the capital measure divided by the leverage exposure measure. The capital measure is defined as Tier 1 capital and the leverage exposure measure is the sum of (a) on-balance sheet exposures; (b) derivative exposures; (c) securities financing transaction (SFT) exposures and (d) off-balance sheet items.

Unmanaged leverage can lead to unwarranted corrective measures due to excessive exposure growth or capital reduction, causing detriment to the bank's balance sheet and overall shareholders' wealth. Maintaining a prescribed minimum level of leverage helps neutralize leverage risk in the event of unexpected economic crises.

The BCBS introduced an additional leverage ratio buffer requirement for global systemically important banks (G-SIB) as part of the Basel III reforms. A G-SIB's leverage ratio must be met with Tier 1 capital and is set at 50% of a G-SIB's higher-loss absorbency risk-weighted requirement. This minimum leverage requirement has now been incorporated into OSFI's LR guideline.

To address the economic disruption caused by the COVID-19 pandemic in Q2 2020, OSFI announced two leverage ratio modifications. The first leverage ratio modification required the exclusion of central bank reserves and sovereign-issued securities that qualify as high-quality liquid assets from our total leverage exposure amount for a period of one year ending April 30, 2021. The second modification required the exclusion of loans issued under the US Government Payment Protection Program (PPP) from our total leverage exposure amount. On November 5, 2020, OSFI extended the allowed exclusion of central bank reserves and sovereign-issued securities another eight months to December 31, 2021. On August 12, 2021, OSFI announced that sovereign-issued securities would no longer be eligible for exclusion effective January 1, 2022, but that central bank reserves would continue to eligible for exclusion until further notice. On September 13, 2022, OSFI announced that central bank reserves would no longer be eligible for exclusion starting April 1, 2023. Our reported leverage figures reflect this guidance. Refer to our Capital management section of our Q2 2023 Report to Shareholders.

Our disclosure for fiscal 2022 of LR2: Leverage ratio common disclosure template includes disclosure of our leverage ratio assuming transitional ECL modification had not been applied, as required by OSFI. This transitional ECL modification is no longer applicable in fiscal 2023.

On February 1, 2023, we adopted OSFI's revised LR guideline which incorporates the internationally agreed BCBS leverage reforms with certain jurisdictional amendments. Our leverage calculations reflect the changes prescribed by OSFI. Disclosure requirements for LR were not affected by OSFI's updated Pillar 3 disclosure requirements. Refer to our Leverage disclosures included in this report, as required by OSFI.

TLAC framework

The Canadian Bail-in regime, including OSFI's Total Loss Absorbing Capacity (TLAC) guideline, came into effect on September 23, 2018. The purpose of the TLAC requirement is to address the sufficiency of a Canadian D-SIB's loss absorbing capacity in supporting its recapitalization in the event of its failure. TLAC is defined as the aggregate of Tier 1 capital, Tier 2 capital, and other TLAC instruments (senior bail-in debt), which includes senior unsecured debt with an original term to maturity of greater than 400 days and remaining term to maturity of greater than 365 days. Under the Bail-in regime, claims of some creditors whose claims otherwise rank equally with those of the holders holding bail-inable notes would be excluded from a bail-in conversion and thus the holders and beneficial owners of bail-inable notes will have to absorb losses ahead of these other creditors as a result of the bail-in conversion.

TLAC requirements establish two minimum standards, which were required to be met effective November 1, 2021: the risk-based TLAC ratio, which builds on the risk-based capital ratios described in the CAR guideline, and the TLAC leverage ratio, which builds on the leverage ratio described in OSFI's LR guideline. The risk-based TLAC ratio is defined as TLAC divided by Total risk-weighted assets (RWA) while the TLAC leverage ratio is defined as TLAC divided by the Leverage ratio exposure. OSFI requires systemically important banks to maintain a minimum TLAC ratio of 24% (inclusive of the domestic stability buffer (DSB) of 2.5%) and a TLAC leverage ratio of 6.75%. On December 8, 2022, OSFI announced the DSB would further increase to 3% of RWA effective February 1, 2023. Thus, our TLAC ratio minimum requirement beginning Q2 2023 is 24.5%. Our TLAC leverage ratio minimum requirement beginning Q2 2023 is 7.25% reflecting the incorporation of the 50 bps leverage buffer discussed in the Leverage Framework section above.

We began issuing TLAC eligible debt in Q4 2018 and our TLAC ratio is expected to increase through normal course refinancing of maturing debt. More details on our TLAC issuance is available in our Capital management section of our Q2 2023 Report to Shareholders.

In May 2018, OSFI published its TLAC Disclosure guideline for Canadian D-SIBs. The disclosure requirements reflect the BCBS TLAC disclosure requirements. Refer to our TLAC disclosures included in this report, as required by OSFI.

To reflect the transitional ECL modification provided by OSFI, as discussed in the Capital framework and Leverage framework sections above, since Q2 2020, our disclosure of KM2: Key metrics – TLAC requirements includes both our TLAC ratio and TLAC leverage ratio assuming the transitional ECL modification had not been applied, as required by OSFI. This transitional ECL modification is no longer applicable in fiscal 2023.

DISCLOSURE MAP

Pillar 3 Requirement	Pillar 3 Requirement		2022 Annual Report section	Sub-section	2022 Annual Report Reference
Overview of key metrics, risk management and RWA	KM1				
		a) Business model and risk profile	Top and emerging risks	Top and emerging risks	58-60
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				Risk drivers	60-61
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				Risk appetite	63
				Risk measurement	63-64
				Risk control	64-65
		b) Risk governance structure	Enterprise risk management	Risk governance	61-62
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		c) Communication and enforcement of risk culture within the bank	Enterprise risk management	Culture and conduct risk	96
		d) Scope and main features of risk measurement systems	Enterprise risk management	Risk measurement	63-64
		e) Risk information reporting	Enterprise risk management	Risk control - *Risk monitoring and reporting*	65
		f) Stress testing	Enterprise risk management	Risk measurement – *Stress testing*	64
			Market risk	Stress tests	76
			Systemic risk	Systemic risk	99-100
		g) Strategies and processes applied to manage, hedge and mitigate risks	Enterprise risk management	Risk appetite	63
				Risk measurement	63-64
				Risk control	64-65
			Credit risk	Overview	66
				Credit risk measurement	66-67
				Credit risk assessment	67-69
				Credit risk mitigation	69
				Credit risk approval	70
				Credit risk administration	70
			Market risk	Market risk controls – FVTPL positions	76
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			Legal and regulatory environment risk	Legal and regulatory environment risk	98-99
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				Note 9 – Derivative financial instruments and hedging activities - *Derivatives issued for other-than-trading purposes*	188
				Note 9 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	190-191
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DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2022 Annual Report section	Sub-section	2022 Annual Report Reference
Linkages between financial statements and regulatory exposures	LI1				
	LI2				
	LIA				
Composition of Capital	CC1				
	CC2				
	CCA [1]	Main features of regulatory capital instruments and of other TLAC-eligible instruments			
Macroprudential supervisory measures	GSIB 1 [2]	Disclosure of G-SIB indicators			
Credit risk	CRA	a) Translation of the business model into the components of the bank's credit risk profile	Credit risk	Overview	66
				Measurement of economic and regulatory capital - *Gross credit risk exposure*	67
		b) Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Enterprise risk management	Risk governance	61-62
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				Risk control - *Delegated risk approval authorities and risk limits*	65
			Credit risk	Overview	66
				Credit risk assessment	67-69
				Credit risk mitigation	69
				Credit risk approval	70
		c) Structure and organization of the credit risk management and control function	Enterprise risk management	Risk governance	61-62
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		e) Scope and content of the reporting on credit risk exposure to the executive management and to the board of directors	Enterprise risk management	Risk governance	61-62
				Risk control - *Risk monitoring and reporting*	65
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				Note 5 – Loans and allowance for credit losses - *Loans past due but not impaired*	182
		b) The extent of past-due exposures (more than 90 days) that are not considered to be impaired and the reasons for this	Consolidated Financial Statements	Note 5 – Loans and allowance for credit losses - *Loans past due but not impaired*	182
		c) Description of methods used for determining accounting provisions for credit losses	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments - Allowance for credit losses	147
		Description of the categorization of ECL accounting provisions (general and specific) for standardized approach exposures	n/a	n/a – For regulatory calculations under both the Standardized and IRB approaches, the IFRS 9 stage 3 allowances are considered to be specific allowances and the IFRS 9 stage 1 and stage 2 allowances are considered to be general allowances	
		d) The bank's own definition of a restructured exposure	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments - Allowance for credit losses - *Modifications*	149-150

[1] CCA is available at https://www.rbc.com/investor-relations/regulatory-information.html.
[2] G-SIB1 is provided on page 42 of our Q1 2023 Report to Shareholders available at https://www.rbc.com/investor-relations/regulatory-information.html.

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2022 Annual Report section	Sub-section	2022 Annual Report Reference
Credit risk (continued)	CRC	a) Core features of policies and processes for, and an indication of the extent to which the bank makes use of, on– and off–balance sheet netting	Credit risk	Credit risk assessment – *Counterparty credit risk*	68
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				Note 30 – Offsetting financial assets and financial liabilities	225-226
		b) Core features of policies and processes for collateral evaluation and management	Credit risk	Credit risk mitigation - *Collateral*	69
		c) Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk	Credit risk mitigation	69
				Credit risk approval - *Credit risk limits*	70
			Consolidated Financial Statements	Note 9 – Derivative financial instruments and hedging activities	187-196
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	CR5				
	CRE				
	CR6				
	CR7				
	CR8				
	CR9[3]				
	CR10		n/a	n/a	n/a
Counterparty credit risk	CCRA	a) Risk management objectives and policies related to counterparty credit risk	Credit risk	Credit risk assessment – *Counterparty credit risk*	68
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		b) The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures	Credit risk	Credit risk assessment – *Counterparty credit risk*	68
		c) Policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk, including exposures towards CCPs	Credit risk	Credit risk assessment – *Counterparty credit risk*	68
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	CCR2				
	CCR3				
	CCR4				
	CCR5				
	CCR6				
	CCR7		n/a	n/a	n/a
	CCR8	f) Exposures to central counterparties			

[3] Requirement for disclosure of this table is only annual.

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Pillar 3 Requirement	Pillar 3 Requirement		2022 Annual Report section	Sub-section	2022 Annual Report Reference
Market risk (continued)	MRA (continued)	Description of the relationships and the communication mechanisms between the different parties involved in market risk management	Enterprise risk management	Risk governance	61-62
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				Market risk measures for other material non-trading portfolios	79
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		g) Description of stress testing applied to the modelling parameters	Market risk	Stress tests	76
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	MR2				
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	TLAC2				
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		b) Description of the advanced measurement approaches for operational risk (AMA)[5]	n/a	n/a	n/a
		c) For banks using the AMA, a description of the use of insurance for the purpose of mitigating operational risk[5]	n/a	n/a	n/a
Interest rate risk in the banking book			Market risk	Market risk	76-81

[4] Requirement for disclosure of this table is only semi-annual.

[5] Effective November 1, 2019, OSFI discontinued the AMA approach.

OVERVIEW OF KEY METRICS, RISK MANAGEMENT AND RWA

KM1: Key Capital and Leverage metrics (at consolidated group level)

	(Millions of Canadian dollars)[1]	a April 30 2023	b January 31 2023	October 31 2022	July 31 2022	c April 30 2022	d Q o Q Change (a-b)
	Available capital (amounts)						
1	Common Equity Tier 1 (CET1)	81,103	78,055	76,945	76,907	77,069	3,048
1a	Common Equity Tier 1 with transitional arrangements for ECL provisioning not applied			76,774	76,773	76,966	n.a.
2	Tier 1	88,400	85,357	84,242	84,207	84,345	3,043
2a	Tier 1 with transitional arrangements for ECL provisioning not applied			84,071	84,073	84,242	n.a.
3	Total capital	99,540	96,438	93,850	93,857	93,871	3,102
3a	Total capital with transitional arrangements for ECL provisioning not applied			93,850	93,857	93,871	n.a.
	Risk-weighted assets (amounts)						
4	Total risk-weighted assets (RWA)	593,533	614,250	609,879	589,050	585,839	(20,717)
4a	Total risk-weighted assets (pre-floor)	593,533	614,250	609,879	589,050	585,839	(20,717)
	Risk-based capital ratios as a percentage of RWA						
5	Common Equity Tier 1 ratio (%)	13.7%	12.7%	12.6%	13.1%	13.2%	1.0%
5a	CET1 ratio with transitional arrangements for ECL provisioning not applied (%)			12.6%	13.0%	13.1%	n.a.
5b	CET1 ratio (%) (pre-floor ratio)	13.7%	12.7%	12.6%	13.0%	13.1%	1.0%
6	Tier 1 ratio (%)	14.9%	13.9%	13.8%	14.3%	14.4%	1.0%
6a	Tier 1 ratio with transitional arrangements for ECL provisioning not applied (%)			13.8%	14.3%	14.4%	n.a.
6b	Tier 1 ratio (%) (pre-floor ratio)	14.9%	13.9%	13.8%	14.3%	14.4%	1.0%
7	Total capital ratio (%)	16.8%	15.7%	15.4%	15.9%	16.0%	1.1%
7a	Total capital ratio with transitional arrangements for ECL provisioning not applied (%)			15.4%	15.9%	16.0%	n.a.
7b	Total capital ratio (%) (pre-floor ratio)	16.8%	15.7%	15.4%	15.9%	16.0%	1.1%
	Additional CET1 buffer requirements as a percentage of RWA						
8	Capital conservation buffer requirement (%)	2.5%	2.5%	2.5%	2.5%	2.5%	-
9	Countercyclical buffer requirement (%)[2]	0.0%	0.0%	0.0%	0.0%	0.0%	-
10	Bank G-SIB and/or D-SIB additional requirements (%)	1.0%	1.0%	1.0%	1.0%	1.0%	-
11	Total of bank CET1 specific buffer requirements (%) (row 8 + row 9 + row 10)	3.5%	3.5%	3.5%	3.5%	3.5%	-
12	CET1 available after meeting the bank's minimum capital requirements (row 5 - 8%) (%)[3]	5.7%	4.7%	4.6%	5.1%	5.2%	1.0%
	Basel III leverage ratio						
13	Total Basel III leverage ratio exposure measure	2,116,380	1,921,310	1,898,179	1,839,845	1,812,429	195,070
14	Basel III leverage ratio (row 2 / row 13)	4.2%	4.4%	4.4%	4.6%	4.7%	(0.2)%
14a	Basel III leverage ratio (row 2a / row 13) with transitional arrangements for ECL provisioning not applied			4.4%	4.6%	4.6%	n.a.

[1] No ECL modification is allowed in fiscal 2023. For fiscal 2022 quarters the table incorporates the impact of expected credit loss (ECL) accounting on regulatory capital including transitional ECL provisioning modification granted by OSFI on Mar. 27, 2020. This ECL provisioning modification allowed reduced from a 75% after-tax exclusion rate for growth in Stage 1 and Stage 2 allowances in 2020 to a 50% after-tax exclusion rate in 2021 and a 25% after-tax exclusion rate in 2022.

[2] Bank specific countercyclical buffer requirement for Q2 2023 was not material, the amount which is determined based on our private sector exposures in jurisdictions identified by BCBS.

[3] 8% reflects minimum capital requirements which includes D-SIB/G-SIB surcharge, and excludes the OSFI Domestic Stability Buffer of 3% effective February 2023 (2.5% previously effective October 2021). Refer to the Capital management section of our Q2 2023 Report to Shareholder.

Our CET1 ratio was 13.7%, up 100 bps from last quarter, mainly reflecting the favourable impact of the Basel III reforms, net internal capital generation and share issuances under the DRIP, partially offset by higher RWA from business growth. Refer to the Financial performance section of our Q2 2023 Report to Shareholders.

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

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

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

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

OVA: Bank risk management approach

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

	Pillar 3 disclosures requirement	RBC 2022 Annual Report section	Sub-section
a)	Business model and risk profile	Top and emerging risks	Top and emerging risks
		Risk management Overview	Risk management principles
			Risk drivers
		Enterprise risk management	Risk governance
			Risk appetite
			Risk measurement
			Risk control
b)	Risk governance structure	Enterprise risk management	Risk governance
			Risk control
c)	Communication and enforcement of risk culture within the bank	Operational risk	Culture and conduct risk
d)	Scope and main features of risk measurement systems	Enterprise risk management	Risk measurement
e)	Risk information reporting	Enterprise risk management	Risk control - *Risk monitoring and reporting*
f)	Stress testing	Enterprise risk management	Risk measurement - *Stress testing*
		Market risk	Stress tests
		Systemic risk	Systemic risk
g)	Strategies and processes applied to manage, hedge and mitigate risks	Enterprise risk management	Risk appetite
			Risk measurement
			Risk control
		Credit risk	Overview
			Credit risk measurement
			Credit risk assessment
			Credit risk mitigation
			Credit risk approval
			Credit risk administration
		Market risk	Market risk controls - FVTPL positions
			Stress tests
			Market risk controls - Interest Rate Risk in the Banking Book (IRRBB) positions
			IRRBB measurement
			Non-trading foreign exchange rate risk
		Liquidity and funding risk	Overview
			Risk control
			Risk measurement
			Funding
			Liquidity Coverage Ratio (LCR)
			Net Stable Funding Ratio (NSFR)

OVA: Bank risk management approach (continued)

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-section
g)	Strategies and processes applied to manage, hedge and mitigate risks (continued)	Insurance risk	Insurance risk
		Operational risk	Overview
			Operational risk framework
		Regulatory compliance risk	Regulatory compliance risk
		Strategic risk	Strategic risk
		Reputation risk	Reputation risk
		Legal and regulatory environment risk	Legal and regulatory environment risk
		Competitive risk	Competitive risk
		Systemic risk	Systemic risk
		Environmental and social risk (including climate change)	Environmental and social risk (including climate change)
		Consolidated Financial Statements	Note 9 - Derivative financial instruments and hedging activities - *Derivatives issued for trading purposes*
			Note 9 - Derivative financial instruments and hedging activities - *Derivatives issued for other-than-trading purposes*
			Note 9 - Derivative financial instruments and hedging activities - *Derivative-related credit risk*

OV1: Overview of risk weighted assets (RWA)

The following table presents an overview of our RWA and the related minimum capital requirements by risk type.

		a	b	b1	b2	b3	c	d
		RWA					Minimum capital requirement[1]	RWA
	(Millions of Canadian dollars)	April 30 2023	January 31 2023	October 31 2022	July 31 2022	April 30 2022	April 30 2023	Change (a-b)
1	**Credit risk (excluding counterparty credit risk)**	**398,949**	**413,636**	**406,601**	**391,932**	**381,755**	**31,916**	**(14,687)**
2	Of which: standardized approach (SA)	122,325	121,940	121,839	113,005	109,354	9,786	385
3	Of which: foundation internal ratings-based (F-IRB) approach	90,478					7,238	90,478
4	Of which: supervisory slotting approach							
5	Of which: advanced internal rating-based (A-IRB) approach	186,146	291,696	284,762	278,927	272,401	14,892	(105,550)
6	**Counterparty credit risk (CCR)**	**28,678**	**31,667**	**34,931**	**34,216**	**37,771**	**2,294**	**(2,989)**
7	Of which: standardized approach for counterparty credit risk (SA-CCR)[2]	21,709	21,898	25,749	25,429	28,116	1,737	(189)
8	Of which: internal model method (IMM)							
9	Of which: other CCR	6,969	9,769	9,182	8,787	9,655	558	(2,800)
10	**Credit valuation adjustment (CVA)**	**14,085**	**13,469**	**15,682**	**14,997**	**15,596**	**1,127**	**616**
	Equity positions in banking book[3]		2,790	2,561	2,562	2,699		n.a.
11	**Equity investments in funds – look-through approach**							
12	**Equity investments in funds – mandate-based approach**	**4,757**	**3,811**	**3,419**	**3,335**	**3,137**	**381**	**946**
	Equity investments in funds – fall-back approach		48	43	110	148		n.a.
13	**Settlement risk**	**94**	**3,503**	**978**	**683**	**639**	**8**	**(3,409)**
14	**Securitization exposures in banking book**	**11,417**	**13,209**	**12,543**	**11,897**	**11,706**	**913**	**(1,792)**
15	Of which: securitization IRB approach (SEC-IRBA)	174	-	-	-	-	14	174
16	Of which: securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	8,662	10,109	9,572	9,020	8,505	693	(1,447)
17	Of which: securitization standardized approach (SEC-SA)	2,581	3,100	2,971	2,877	3,201	206	(519)
18	**Market risk**	**37,685**	**32,635**	**35,342**	**34,551**	**37,851**	**3,015**	**5,050**
19	Of which: standardized approach (SA)	20,120	16,149	17,253	17,731	17,037	1,610	3,971
20	Of which: internal model approaches (IMA)	17,565	16,486	18,089	16,820	20,814	1,405	1,079
21	**Capital charge for switch between trading book and banking book**							
22	**Operational risk**	**75,895**	**78,808**	**77,639**	**75,813**	**75,472**	**6,072**	**(2,913)**
23	**Amounts below the thresholds for deduction (subject to 250% risk weight)**	**21,973**	**20,674**	**20,140**	**18,954**	**19,065**	**1,758**	**1,299**
24	Output floor applied	65%						
25	Floor adjustment (before application of transitional cap)	-	-	-	-	-	-	-
26	**Floor adjustment (after application of transitional cap)**	**-**					-	-
27	**Total (1 + 6 + 10 + 11 + 12 + 13 + 14 + 18 + 21 + 22 + 23 + 26)**	**593,533**	**614,250**	**609,879**	**589,050**	**585,839**	**47,484**	**(20,717)**

[1] The minimum capital requirements for each category can be calculated by multiplying the total RWA by 8% as per OSFI CAR guidelines.

[2] Includes RWA associated with CCP exposures, which EAD is calculated based on SA-CCR.

[3] Equity exposures are now included in the Standardized Approach as per OSFI CAR guidelines, refer to CR 4 and CR 5.

Total RWA decreased by $21 billion or 3.4%, driven by the following:

Credit risk
RWA decreased by $14.7 billion, mainly reflecting the favourable impact of Basel III credit risk reforms offset by business growth in commercial lending and the impact of foreign exchange translation. The impact of foreign exchange translation on RWA is largely mitigated with economic hedges in our CET1 ratio.

Counterparty credit risk
RWA decreased by $3 billion, mainly due to the favourable impact of Basel III reforms related to secured financing transactions.

Securitization exposures in banking book
RWA decreased by $1.8 billion, mainly driven by the favourable impact of Basel III reforms.

Market risk
RWA increased $5 billion, mainly driven by increased risk in our equity and interest rate derivative portfolios.

Operational risk
RWA decreased $2.9 billion, mainly driven by the adoption of the new Operational risk framework under the Basel III reforms offset by business growth.

RWA: Risk-Weighted Assets by Regulatory Approach

The following table provides details of our risk-weighted assets by type of risk and regulatory approach.

TOTAL CAPITAL RISK-WEIGHTED ASSETS [1]	Q2/2023							Q2/2023				
	Risk-weighted assets All-in Basis							Capital requirements	Risk-weighted assets All-in Basis			
(Millions of Canadian dollars, except percentage and per share amounts)	Exposure [2]	Average of risk weights [3]	Standardized Approach	Advanced Approach (A-IRB)	Foundation Approach (F-IRB)	Other	Total [4]	Total [4]	Q1/2023 Total [4]	Q4/2022 Total [4]	Q3/2022 Total [4]	Q2/2022 Total [4]
Credit risk [5]												
Lending-related and other												
Residential mortgages[12]	550,994	9%	9,733	37,874		-	47,607	3,809	41,491	41,662	40,392	38,860
Other retail (Personal, Credit cards and Small business treated as retail)[12]	208,669	28%	5,306	54,148		-	59,454	4,756	65,735	65,506	64,404	63,622
Business (Corporate, Commercial, Medium-sized enterprises and Non-bank financial institutions)	482,909	49%	73,507	83,595	81,929	-	239,031	19,122	244,620	238,823	227,105	221,001
Sovereign (Government)	374,637	4%	2,879	10,529		-	13,408	1,073	16,489	15,910	15,393	14,542
Bank	33,099	43%	5,608	-	8,549	-	14,157	1,133	5,566	5,483	5,644	5,868
Total lending-related and other	**1,650,308**	**23%**	**97,033**	**186,146**	**90,478**	**-**	**373,657**	**29,893**	**373,901**	**367,384**	**352,938**	**343,893**
Trading - related												
Repo-style transactions	1,063,312	1%	152	122	6,636	59	6,969	558	9,225	8,668	8,294	9,112
Derivatives - including CVA	123,365	29%	1,689	3,710	15,715	14,679	35,793	2,863	34,255	40,138	39,086	42,244
Total trading-related	**1,186,677**	**4%**	**1,841**	**3,832**	**22,351**	**14,738**	**42,762**	**3,421**	**43,480**	**48,806**	**47,380**	**51,356**
Total lending-related and other and trading-related	**2,836,985**	**15%**	**98,874**	**189,978**	**112,829**	**14,738**	**416,419**	**33,314**	**417,381**	**416,190**	**400,318**	**395,249**
Banking book equities [6]	4,890	209%	10,197	-		-	10,197	816	6,273	5,682	5,667	5,645
Securitization exposures	67,394	17%	5,415	6,002		-	11,417	913	13,209	12,543	11,897	11,706
Regulatory scaling factor [7]									18,544	18,267	17,961	17,768
Other assets	33,840	124%				41,920	41,920	3,354	47,400	44,216	42,843	42,148
Total credit risk	**2,943,109**	**16%**	**114,486**	**195,980**	**112,829**	**56,658**	**479,953**	**38,397**	**502,807**	**496,898**	**478,686**	**472,516**
Market risk[8,9]												
Interest rate			3,868	11,642		-	15,510	1,241	11,825	13,256	12,034	14,127
Equity			3,291	776		-	4,067	325	3,523	4,001	4,292	4,840
Foreign exchange			3,760	204		-	3,964	317	3,642	3,735	2,996	3,904
Commodities			1,033	126		-	1,159	93	1,392	1,750	2,627	1,791
Specific risk			8,168	1,104		-	9,272	742	8,401	8,411	8,110	8,758
Incremental risk charge[10, 11]			-	3,713		-	3,713	297	3,852	4,189	4,492	4,431
Total market risk			**20,120**	**17,565**		**-**	**37,685**	**3,015**	**32,635**	**35,342**	**34,551**	**37,851**
Operational risk			**75,895**				**75,895**	**6,072**	**78,808**	**77,639**	**75,813**	**75,472**
Total risk-weighted assets (RWA)	**2,943,109**		**210,501**	**213,545**	**112,829**	**56,658**	**593,533**	**47,484**	**614,250**	**609,879**	**589,050**	**585,839**

[1] Calculated using OSFI CAR guidelines incorporating Basel III reforms.

[2] Total exposure represents exposure at default (EAD) which is the expected gross exposure upon the default of an obligor. This amount excludes any allowance against impaired loans or partial write-offs and does not reflect the impact of credit risk mitigation. Exposures acquired through the Federal Reserve Paycheck Protection Program lending facility have been excluded, as required by OSFI.

[3] Represents the average of counterparty risk weights within a particular category.

[4] The minimum capital requirements for each category can be calculated by multiplying the total RWA by 8% as per OSFI CAR guidelines.

[5] For credit risk, a majority of our portfolio use the A-IRB and F-IRB approaches under the Internal Ratings Based (IRB) Approach and the remainder use the Standardized Approach.

[6] CAR guidelines define banking book equities based on the economic substance of the transaction rather than the legal form or accounting treatment associated with the financial instrument. As such, differences exist in the identification of equity securities held in the banking book and those reported in the financial statements. Banking book equities are financial instruments held for investment purposes and are not part of our trading book, consisting of publicly-traded and private equities, partnership units, venture capital and derivative instruments tied to equity interests.
As at Q2/23, the amount of publicly-traded equity exposures was $2,266 million and private equity exposures amounted to $2,624 million. Direct Equity exposure was risk weighted using a 250% rate as prescribed under section 4.1.8 ($5,440 million RWA) of the CAR and Equity Investments in Funds was risk weighted under section 4.1.22 using Mandate Based Approach ($4,757 million RWA).

[7] The scaling factor represents a calibration adjustment of 6% as prescribed by OSFI under the Basel III framework and is applied to RWA amounts for credit risk assessed under the IRB Approach. This scaling factor is no longer applicable after Q1 2023 on adoption of the Basel III Reforms by OSFI.

[8] For market risk RWA measurement, we use an internal models approach where we have obtained regulatory approval, and a standardized approach for products yet to be approved. For standardized approach, we use internally validated models.

[9] Regulatory capital for our correlation trading portfolios is determined through the standardized approach as prescribed by OSFI. Therefore, we do not have a Comprehensive Risk Charge for these portfolios. Our securitization and resecuritization positions in our trading book also have capital requirements under the standardized approach. The changes in value due to market and credit risk in the securitization and resecuritization in the trading book are managed through the daily mark-to-market process. Furthermore, we employ market risk measures such as sensitivities to changes in option-adjusted spreads and underlying asset prices as well as value-at-risk (VaR) and stress testing measures.

[10] The incremental risk charge (IRC) was $231 million as at Q2/23. The average was $296 million, high was $453 million and low was $225 million for Q2/23. The IRC is measured over a one-year horizon at a 99.9% confidence level. We utilize a technique known as the Monte Carlo simulation process to generate a statistically relevant number of loss scenarios due to ratings migration and default in order to establish the losses at that confidence level. We also make certain assumptions about position liquidity (the length of time to close out a position) within the model that range from a floor of three months to maximum of one year. The determination of liquidity is based on issuer type and credit rating. Credit rating migration and default probabilities (PD) are based on historical data.

[11] The models are subject to the same internal independent vetting and validation procedures used for all regulatory capital models. Important assumptions are re-reviewed at least annually. Due to the long time horizon and high confidence level of the risk measure, we do not perform back-testing as we do for the VaR measure.

LINKAGES BETWEEN FINANCIAL STATEMENTS AND REGULATORY EXPOSURES

LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories

The following table provides the differences between carrying values presented in our financial statements prepared in accordance with International Financial Reporting Standards (IFRS) and our regulatory exposures. It further breaks down the amounts in our financial statements into regulatory risk categories.

As at April 30, 2023

	a	b	c	d	e	f	g
			Carrying values of items:[1]				
(Millions of Canadian dollars)	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets							
Cash and due from banks	99,199	99,199	99,144	-	-	-	55
Interest-bearing deposits with banks	81,880	81,880	81,880	-	-	-	-
Securities							
Trading	136,207	123,967	5,532	-	60	118,265	110
Investment, net of applicable allowance	183,621	179,995	168,330	-	11,687	-	(22)
	319,828	303,962	173,862	-	11,747	118,265	88
Assets purchased under reverse repurchase agreements and securities borrowed	335,239	335,239	-	335,240	-	-	(1)
Loans							
Retail	554,139	553,638	553,638	-	-	-	-
Wholesale[3]	281,380	278,995	261,600	2,155	9,489	3,285	2,466
	835,519	832,633	815,238	2,155	9,489	3,285	2,466
Allowance for loan losses	(4,332)	(4,332)	-	-	-	-	(4,332)
	831,187	828,301	815,238	2,155	9,489	3,285	(1,866)
Segregated fund net assets	2,883	-	-	-	-	-	-
Other							
Customers' liability under acceptances	20,185	20,185	20,226	-	-	-	(41)
Derivatives[2]	124,149	124,036	-	124,036	-	115,216	-
Premises and equipment, net	7,023	7,009	7,009	-	-	-	-
Goodwill	12,469	12,469	-	-	-	-	12,469
Other intangibles	6,026	5,882	-	-	-	-	5,882
Other assets	100,234	104,119	59,543	29,143	-	8,421	7,012
	270,086	273,700	86,778	153,179	-	123,637	25,322
Total assets[2]	**1,940,302**	**1,922,281**	**1,256,902**	**490,574**	**21,236**	**245,187**	**23,598**
Liabilities and equity							
Deposits							
Personal	428,305	428,305	-	-	-	-	428,305
Business and government	734,038	734,543	-	-	-	-	734,543
Bank	47,710	47,710	-	-	-	-	47,710
	1,210,053	1,210,558	-	-	-	-	1,210,558
Segregated fund net liabilities	2,883	-	-	-	-	-	-
Other							
Acceptances	20,228	20,228	-	-	-	-	20,228
Obligations related to securities sold short	36,048	36,048	-	-	-	-	36,048
Obligations related to assets sold under repurchase agreements and securities loaned	291,558	290,889	-	290,889	-	-	-
Derivatives[2]	123,898	123,898	-	123,898	-	117,928	-
Insurance claims and policy benefit liabilities	12,243	-	-	-	-	-	-
Other liabilities	120,472	117,203	-	-	-	-	117,203
	604,447	588,266	-	414,787	-	117,928	173,479
Subordinated debentures	11,565	11,565	-	-	-	-	11,565
Total liabilities[2]	1,828,948	1,810,389	-	414,787	-	117,928	1,395,602
Equity attributable to shareholders							
Preferred shares	7,319	7,319	-	-	-	-	7,319
Common shares	17,857	17,857	-	-	-	-	17,857
Retained earnings	80,326	80,288	-	-	-	-	80,288
Other components of equity	5,754	6,330	-	-	-	-	6,330
	111,256	111,794	-	-	-	-	111,794
Non-controlling interests	98	98	-	-	-	-	98
Total equity	111,354	111,892	-	-	-	-	111,892
Total liabilities and equity[2]	**1,940,302**	**1,922,281**	**-**	**414,787**	**-**	**117,928**	**1,507,494**

[1] Column c to g reflect a further breakout of column b by providing the respective CAR guideline frameworks utilized and OSFI COVID-19 guidance.

[2] Derivative assets and liabilities are subject to both counterparty credit risk and market risk framework – hence column b will not equal to the sum of column c to g.

[3] Amount includes exposure related to the US Government Paycheck Protection Program which are excluded from risk-weighting as per OSFI COVID-19 guidance.

LI2: Main sources of differences between regulatory exposure amounts and carrying values in financial statements

The following table provides the key differences between the exposure amounts for regulatory purposes and the accounting carrying values as presented in our financial statements that are within the scope of regulatory consolidation.

As at April 30, 2023

		a	b	c	d	e
			Items subject to:			
	(Millions of Canadian dollars)	Total	Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework
1	**Asset carrying value amount under scope of regulatory consolidation (as per template LI1)[1]**	**1,898,683**	**1,256,902**	**21,236**	**490,574**	**245,187**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)[1]	414,787	-	-	414,787	117,928
3	Total net amount under regulatory scope of consolidation	1,483,896	1,256,902	21,236	75,787	127,259
4	Off-balance sheet amounts[2]	1,582,796	426,933	44,996	1,110,866	-
5	Differences due to Fair Value adjustment	2,929	2,905	-	24	-
6	Differences due to different netting rules, other than those already included in row 2	1,697	1,697	-	-	-
7	Differences due to consideration of provisions	-	-	-	-	-
8	Differences due to prudential filters	-	-	-	-	-
9	Difference due to accounting and risk treatment of securitizations and other items	1,761	599	1,162	-	-
10	**Exposure amounts considered for regulatory purposes**	**3,073,079**	**1,689,036**	**67,394**	**1,186,677**	**127,259**

[1] Amount reflects Table LI1 columns (c), (d), (e) and (f) from the previous page. Derivative assets and liabilities are subject to both counterparty credit risk and market risk framework – hence column a will not equal to the sum of column b to e.

[2] Off-balance sheet amounts reflect the application of credit conversion factors.

LIA: Explanations of differences between accounting and regulatory exposure amounts

Our consolidated balance sheet ("accounting balance sheet") is prepared in compliance with IFRS as issued by the International Accounting Standards Board. We leverage our accounting balance sheet to apply the required regulatory requirements prescribed by OSFI to determine our regulatory capital consolidated balance sheet.

In Template LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories, we identify the differences between our IFRS consolidated accounting balance sheet (column a in LI1) and our regulatory capital consolidated balance sheet (column b in LI1). Our regulatory capital consolidated balance sheet, on which capital adequacy requirements are determined, reflects all of our consolidated subsidiaries except for our insurance subsidiaries as prescribed by OSFI's CAR guidelines.

In Template LI2: Main sources of differences between regulatory exposure amounts and carrying values in financial statements, we quantify measurement differences other than regulatory consolidation.

Our banking book regulatory carrying values reflect our IFRS accounting balance sheet values except for our fair valued loans and debt securities carried at fair value through other comprehensive income (FVOCI), which under OSFI's Credit risk framework, are measured at amortized cost. Off-balance sheet regulatory asset values reflect prescribed conversion factors and undrawn amounts.

Regulatory carrying values for our Counterparty credit risk related to our derivative assets and liabilities, assets purchased under reverse repurchase agreements and securities borrowed, and obligations related to assets sold under repurchase agreements and securities loaned are determined using OSFI's CAR guidelines Chapter 7 Settlement and Counterparty risk framework. On November 1, 2018, OSFI adopted the BCBS Standardized Approach for measuring Counterparty credit risk (SA-CCR) for derivative regulatory exposures and we adopted this methodology for our derivative regulatory exposures. OSFI further updated SA-CCR for the Basel III reforms as released by OSFI on January 31, 2022. The main differences between the accounting and regulatory amounts for Counterparty credit risk relate to regulatory inclusion of potential future exposure amounts and differences in allowed IFRS and regulatory netting rules, and the application of financial collateral in the calculation of regulatory exposure amount.

The regulatory carrying value of exposures subject to the securitization framework includes our on-balance sheet third party securitization holdings as well as our securitized credit card exposures which meet the risk transference requirements under the CAR guidelines Chapter 6 but are not considered securitized for the purposes of our IFRS accounting balance sheet. Our regulatory carrying values are determined based on the BCBS revised securitization framework adopted by OSFI on November 1, 2018, and further updated for the Basel III reforms as released by OSFI on January 31, 2022.

Our trading book regulatory carrying values are determined as prescribed under the CAR guidelines Chapter 9. We employ OSFI's prudent valuation guidance requirements, as stated in CAR Chapter 9 section 9.8 to our trading book. Refer to our 2022 Annual Report - Risk Management section which provides further insight into how we measure our market risk and the linkage of market risk to selected balance sheet items.

CAPITAL

CC1: Composition of Capital

The following table provides details of our regulatory capital and required regulatory adjustments under OSFI's CAR guidelines. Reconciliation references to CC2 of where these items are located on our IFRS and regulatory balance sheet are also included.

	Composition of Capital Template (Millions of Canadian dollars, except percentage and otherwise noted)	Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q2/23	Q1/23	Q4/22	Q3/22	Q2/22
Common Equity Tier 1 capital (CET1): Instruments and Reserves							
1	Directly issued qualifying common share capital (and equivalent for non-joint stock companies) plus related stock surplus	a+a'	18,068	17,141	17,162	17,327	17,554
2	Retained earnings	b+b'	80,115	78,182	77,859	76,230	75,691
3	Accumulated other comprehensive income (and other reserves)	c-c'	5,755	5,040	5,725	3,011	3,761
4	*Directly issued capital subject to phase out from CET1 (only applicable to non-joint stock companies)*		-	-	-	-	-
5	Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	d	11	10	11	10	10
6	**Common Equity Tier 1 capital before regulatory adjustments**		**103,949**	**100,373**	**100,757**	**96,578**	**97,016**
	Common Equity Tier 1 capital: Regulatory adjustments						
7	Prudential valuation adjustments		26	-	-	-	-
8	Goodwill (net of related tax liability)	e+e'-t+e"	12,359	12,096	12,135	10,806	10,853
9	Other intangibles other than mortgage-servicing rights (net of related tax liability)	f+f'-v+f"	4,927	4,858	4,887	3,566	3,579
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	g	227	254	278	232	228
11	Cash flow hedge reserve	h	1,889	1,998	2,394	1,431	1,681
12	Shortfall of provisions to expected losses	i	-	-	-	-	-
13	Securitization gain on sale		-	-	-	-	-
14	Gains and losses due to changes in own credit risk on fair valued liabilities	j	1,262	879	1,893	1,371	1,009
15	Defined benefit pension fund net assets (net of related tax liability)	k-u	2,119	2,233	2,395	2,399	2,701
16	Investments in own shares (if not already netted off paid-in capital on reported balance sheet)		-	-	-	-	-
17	Reciprocal cross holdings in common equity		-	-	-	-	-
18	Non-significant investments in the capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)		-	-	-	-	-
19	Significant investments in the common stock of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions (amount above 10% threshold)		-	-	-	-	-
20	Mortgage servicing rights (amount above 10% threshold)		-	-	-	-	-
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability)		-	-	-	-	-
22	Amount exceeding the 15% threshold		-	-	-	-	-
23	of which: significant investments in the common stock of financials	l	-	-	-	-	-
24	of which: mortgage servicing rights		-	-	-	-	-
25	of which: deferred tax assets arising from temporary differences	m	-	-	-	-	-
26	Other deductions or regulatory adjustments to CET1 as determined by OSFI		37	-	(170)	(134)	(104)
27	Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions		-	-	-	-	-
28	**Total regulatory adjustments to Common Equity Tier 1**		22,846	22,318	23,812	19,671	19,947
29	**Common Equity Tier 1 capital (CET1)**		**81,103**	**78,055**	**76,945**	**76,907**	**77,069**
29a	**Common Equity Tier 1 Capital (CET1)** with transitional arrangements for ECL provisioning not applied				76,774	76,773	76,966
Additional Tier 1 capital (AT1): Instruments							
30	Directly issued qualifying Additional Tier 1 instruments plus related stock surplus		7,295	7,300	7,294	7,297	7,274
31	of which: classified as equity under applicable accounting standards	n'+n'"	7,295	7,300	7,294	7,297	7,274
32	of which: classified as liabilities under applicable accounting standards		-	-	-	-	-

Composition of Capital Template ***continued*** (Millions of Canadian dollars, except percentage and otherwise noted)		**Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)**	**Q2/23**	**Q1/23**	**Q4/22**	**Q3/22**	**Q2/22**
33	*Directly issued capital instruments subject to phase out from Additional Tier 1*	**x'+n"**	-	-	-	-	-
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group AT1)	**o**	2	2	3	3	2
35	*of which: instruments issued by subsidiaries subject to phase out*		-	-	-	-	-
36	**Additional Tier 1 capital before regulatory adjustments**		7,297	7,302	7,297	7,300	7,276
	Additional Tier 1 capital: Regulatory adjustments						
37	Investments in own Additional Tier 1 instruments		-	-	-	-	-
38	Reciprocal cross holdings in Additional Tier 1 instruments		-	-	-	-	-
39	Non-significant investments in the capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)		-	-	-	-	-
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions		-	-	-	-	-
41	Other deductions from Tier 1 capital as determined by OSFI		-	-	-	-	-
41a	of which: reverse mortgages		-	-	-	-	-
42	Regulatory adjustments applied to Additional Tier 1 due to insufficient Tier 2 to cover deductions		-	-	-	-	-
43	**Total regulatory adjustments to Additional Tier 1 capital**		-	-	-	-	-
44	**Additional Tier 1 Capital (AT1)**		**7,297**	**7,302**	**7,297**	**7,300**	**7,276**
45	**Tier 1 capital (T1 = CET1 + AT1)**		**88,400**	**85,357**	**84,242**	**84,207**	**84,345**
45a	**Tier 1 capital** with transitional arrangements for ECL provisioning not applied				84,071	84,073	84,242
Tier 2 Capital: Instruments and Provisions							
46	Directly issued qualifying Tier 2 instruments plus related stock surplus	**q" + q"""**	9,788	9,780	8,587	8,741	8,710
47	*Directly issued capital instruments subject to phase out from Tier 2*	**q"'**	-	-	-	-	-
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)	**r + q""**	3	3	3	3	3
49	*of which: instruments issued by subsidiaries subject to phase out*	**q""**	-	-	-	-	-
50	Collective allowances	**s**	1,349	1,298	1,018	906	813
51	**Tier 2 capital before regulatory adjustments**		**11,140**	**11,081**	**9,608**	**9,650**	**9,526**
	Tier 2 Capital: Regulatory adjustments						
52	Investments in own Tier 2 instruments		-	-	-	-	-
53	Reciprocal cross holdings in Tier 2 instruments and Other TLAC-eligible Instruments		-	-	-	-	-
54	Non-significant investments in the capital of banking, financial and insurance entities, and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation, where the institution does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)		-	-	-	-	-
54a	Non-significant investments in the other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs, where the institution does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but that no longer meets the conditions		-	-	-	-	-
55	Significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instuments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation		-	-	-	-	-
56	Other deductions from Tier 2 capital		-	-	-	-	-
57	**Total regulatory adjustments to Tier 2 capital**		-	-	-	-	-
58	**Tier 2 capital (T2)**		**11,140**	**11,081**	**9,608**	**9,650**	**9,526**
59	**Total capital (TC = T1 + T2)**		**99,540**	**96,438**	**93,850**	**93,857**	**93,871**
59a	**Total Capital** with transitional arrangements for ECL provisioning not applied				93,850	93,857	93,871
60	**Total risk-weighted assets**		**593,533**	**614,250**	**609,879**	**589,050**	**585,839**
60a	**Common Equity Tier 1 (CET1) Capital RWA**		**593,533**	**614,250**	**609,879**	**589,050**	**585,839**
60b	**Tier 1 Capital RWA**		**593,533**	**614,250**	**609,879**	**589,050**	**585,839**
60c	**Total Capital RWA**		**593,533**	**614,250**	**609,879**	**589,050**	**585,839**

Composition of Capital Template *continued* (Millions of Canadian dollars, except percentage and otherwise noted)		Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q2/23	Q1/23	Q4/22	Q3/22	Q2/22
Capital ratios							
61	Common Equity Tier 1 (as a percentage of risk-weighted assets)		13.7%	12.7%	12.6%	13.1%	13.2%
61a	CET1 Ratio with transitional arrangements for ECL provisioning not applied				12.6%	13.0%	13.1%
62	Tier 1 (as a percentage of risk-weighted assets)		14.9%	13.9%	13.8%	14.3%	14.4%
62a	Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied				13.8%	14.3%	14.4%
63	Total capital (as a percentage of risk-weighted assets)		16.8%	15.7%	15.4%	15.9%	16.0%
63a	Total Capital Ratio with transitional arrangements for ECL provisioning not applied				15.4%	15.9%	16.0%
64	Buffer (minimum CET1 requirement plus capital conservation buffer plus G-SIB buffer requirement plus D-SIB buffer expressed as a percentage of risk-weighted assets)		8.0%	8.0%	8.0%	8.0%	8.0%
65	of which: capital conservation buffer		2.5%	2.5%	2.5%	2.5%	2.5%
66	of which: bank-specific countercyclical buffer		0.0%	0.0%	0.0%	0.0%	0.0%
67	of which: G-SIB buffer[1]		1.0%	1.0%	1.0%	1.0%	1.0%
67a	of which: D-SIB buffer		0.0%	0.0%	0.0%	0.0%	0.0%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk-weighted assets)[2]		5.7%	4.7%	4.6%	5.1%	5.2%
OSFI target (minimum + capital conservation buffer + D-SIB surcharge (if applicable))							
69	Common Equity Tier 1 target ratio		8.0%	8.0%	8.0%	8.0%	8.0%
70	Tier 1 capital target ratio		9.5%	9.5%	9.5%	9.5%	9.5%
71	Total capital target ratio		11.5%	11.5%	11.5%	11.5%	11.5%
Amounts below the thresholds for deduction (before risk-weighting)							
72	Non-significant investments in the capital and Other TLAC-eligible instruments of other financials entities		395	448	600	769	1,324
73	Significant investments in the common stock of financials		6,739	6,642	6,533	5,960	6,112
74	Mortgage servicing rights (net of related tax liability)		-	-	-	-	-
75	Deferred tax assets arising from temporary differences (net of related tax liability)		1,704	1,628	1,523	1,622	1,514
Applicable caps on the inclusion of allowances in Tier 2							
76	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to standardized approach (prior to application of cap)		688	900	874	781	737
77	Cap on inclusion of allowances in Tier 2 under standardized approach		688	900	874	781	737
78	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)		3,229	2,831	2,693	2,609	2,485
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach		3,229	2,831	2,693	2,609	2,485

[1] Capital surcharge, equal to the higher of our D-SIB surcharge and the BCBS's G-SIB surcharge, is applicable to risk-weighted capital.

[2] Prior period percentages have been revised to reflect OSFI's current disclosure requirements.

CC2: Regulatory capital balance sheet

The following table provides a reconciliation of our regulatory capital elements as reported in CC1 with our balance sheet prepared in accordance with IFRS and our regulatory balance sheet.

Regulatory capital balance sheet (Millions of Canadian dollars)	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q2/23	
		Balance sheet as in Report to Shareholders	Under regulatory scope of consolidation
Assets			
Cash and due from banks		99,199	99,199
Interest-bearing deposits with banks		81,880	81,880
Securities, net of applicable allowance		319,828	303,962
Non-significant investments in capital of other financial institutions not exceeding regulatory thresholds			395
Other securities			303,567
Assets purchased under reverse repurchase agreements and securities borrowed		335,239	335,239
Loans			
Retail		554,139	553,638
Wholesale		281,380	278,995
Allowance for loan losses		(4,332)	(4,332)
Collective allowance reflected in Tier 2 regulatory capital [1]	**s**		(1,349)
Shortfall of allowances to expected loss [2]	**i**		-
Allowances not reflected in regulatory capital			(2,983)
		831,187	828,301
Segregated fund net assets		2,883	-
Other			
Customers' liability under acceptances		20,185	20,185
Derivatives		124,149	124,036
Premises and equipment, net		7,023	7,009
Goodwill	**e**	12,469	12,469
Goodwill related to insurance and joint ventures	**e'**		-
Other intangibles	**f**	6,026	5,882
Other intangibles related to insurance and joint ventures	**f'**		144
Other		100,234	104,119
Significant investments in other financial institutions and insurance subsidiaries			6,739
of which: exceeding regulatory thresholds	**l**		-
of which: not exceeding regulatory thresholds			6,739
Defined - benefit pension fund net assets	**k**		2,921
Deferred tax assets			1,786
of which: deferred tax assets excluding those arising from temporary differences	**g**		227
of which: deferred tax assets arising from temporary differences exceeding regulatory thresholds	**m**		-
of which: deferred tax liabilities related to permitted tax netting			(1,697)
of which: deferred tax assets - other temporary differences			3,256
Other assets			92,673
of which: relates to assets of operations held for sale – Goodwill	**e"**		31
of which: relates to assets of operations held for sale – Intangibles	**f"**		106
Total assets		**1,940,302**	**1,922,281**

[1] Collective allowance includes Stage 1 and Stage 2 ACL on financial assets.

[2] Expected loss as defined under the Basel III framework.

Regulatory capital balance sheet *continued* (Millions of Canadian dollars)	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q2/23 Balance sheet as in Report to Shareholders	Q2/23 Under regulatory scope of consolidation
Liabilities			
Deposits			
Personal		428,305	428,305
Business and government		734,038	734,543
Bank		47,710	47,710
		1,210,053	1,210,558
Segregated fund net liabilities		2,883	-
Other			
Acceptances		20,228	20,228
Obligations related to securities sold short		36,048	36,048
Obligations related to assets sold under repurchase agreements and securities loaned		291,558	290,889
Derivatives		123,898	123,898
Insurance claims and policy benefit liabilities		12,243	-
Other liabilities		120,472	117,203
Gains and losses due to changes in own credit risk on fair value liabilities	j		1,262
Deferred tax liabilities			457
of which: related to goodwill	t		142
of which: related to intangibles	v		1,205
of which: related to pensions	u		802
of which: relates to permitted tax netting			(1,692)
of which: other deferred tax liabilities	w		-
Other Liabilities			115,484
Subordinated debentures	q	11,565	11,565
Regulatory capital amortization of maturing debentures	q'''''		(1,220)
Subordinated debentures not allowed for regulatory capital	q'		1,777
Subordinated debentures used for regulatory capital:			11,008
of which: are qualifying	q''		11,008
of which: are subject to phase out directly issued capital:	q'''		-
of which: are subject to phase out issued by subsidiaries and held by 3rd party	q''''		-
Total liabilities		**1,828,948**	**1,810,389**
Equity attributable to shareholders		**111,256**	**111,794**
Common shares	a	17,857	17,857
of which are treasury - common shares			(128)
Retained earnings		80,326	80,288
of which relates to contributed surplus	a'		211
of which relates to retained earnings for capital purposes	b		80,077
of which relates to insurance and joint ventures	b'		38
Other components of equity	c	5,754	6,330
Gains and losses on derivatives designated as cash flow hedges	h		1,889
Unrealized foreign currency translation gains and losses, net of hedging activities			5,723
Other reserves allowed for regulatory capital			(1,282)
of which relates to Insurance	c'		575
Preferred shares and other equity instruments	n	7,319	7,319
of which: are qualifying	n'		7,300
of which: are subject to phase out	n''		-
of which portion are not allowed for regulatory capital			23
of which: are qualifying treasury - preferred shares			1
of which: are qualifying treasury - other	n'''		(5)
of which: are subject to phase out treasury - preferred shares			-

Regulatory capital balance sheet ***continued*** (Millions of Canadian dollars)	**Cross Reference to Basel III Regulatory Capital Components (CC1)**	**Q2/23**	
		Balance sheet as in Report to Shareholders	**Under regulatory scope of consolidation**
Non-controlling interests	**x**	**98**	**98**
of which: are qualifying			
portion allowed for inclusion into CET1	**d**		11
portion allowed for inclusion into Tier 1 capital	**o**		2
portion allowed for inclusion into Tier 2 capital	**r**		3
of which: are subject to phase out	**x'**		-
of which: portion not allowed for regulatory capital			82
Total equity		**111,354**	**111,892**
Total liabilities and equity		**1,940,302**	**1,922,281**

		Equity	**Assets**
Insurance subsidiaries [1]	**Principal activities**		
Assured Assistance Inc.	Service provider for insurance claims	2	-
Royal Bank of Canada Insurance Company Limited	Life, annuity, trade credit, title and property reinsurance company provides coverage to international clients	2,077	1,291
RBC (Barbados) Services Company Ltd	Investment management, reinsurance transaction support and corporate services to Royal Bank of Canada Insurance Company Ltd.	1	-
RBC Insurance Agency Ltd.	Distribution of H&A products through AVIVA	37	34
RBC Insurance Company (Cayman) Limited	Life, annuity reinsurance company provides coverage to international clients	-	-
RBC Insurance Company of Canada	Property and casualty insurance company	130	126
RBC Insurance Holdings Inc.	Holding company	1	-
RBC Insurance Services Inc.	Service provider for insurance companies listed and the bank (creditor)	81	84
RBC Life Insurance Company	Life and health insurance company	3,686	22,501
		6,015	24,036

[1] The list of legal entities that are included within the accounting scope of consolidation but excluded from the regulatory scope of consolidation.

CREDIT RISK

CRA: General qualitative information about credit risk

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

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</table>

CR1: Credit quality of assets

The following table presents a comprehensive view of the credit quality of our on- and off-balance sheet assets.

As at April 30, 2023

		a	b	c	d	e	f	g
		Gross carrying values of		Allowances/ impairments[2]	Of which ECL accounting provisions for credit losses on SA exposures		Of which ECL accounting provisions for credit losses on IRB exposures	Net values (a+b-c)
	(Millions of Canadian dollars)	Defaulted exposures[1]	Non-defaulted exposures		Allocated in regulatory category of Specific[3]	Allocated in regulatory category of General[3]		
1	Loans[4]	3,066	812,172	4,332	107	308	3,917	810,906
2	Debt Securities	-	171,002	22	-	-	22	170,980
2a	Equity Securities		2,860					2,860
3	Off-Balance Sheet exposures[5]	574	330,867	425	-	-	425	331,016
4	**Total**	**3,640**	**1,316,901**	**4,779**	**107**	**308**	**4,364**	**1,315,762**

[1] Definition of default as per the CAR guidelines and recent OSFI COVID-19 guidance.

[2] Reflects Stage 1, 2 and 3 allowances under IFRS 9, excluding ACL on fair value through OCI on financial instruments.

[3] Regulatory category of specific allowance reflects IFRS 9 Stage 3 allowances. Regulatory category of general allowances reflects Stage 1 & 2 allowances.

[4] Includes exposures related to operations held for sale that have been reclassified to Other Assets on our balance sheet.

[5] Off balance sheet amounts are before the application of credit conversion factors and reflect guarantees given and irrevocable loan commitments. Revocable loan commitments are excluded as per BCBS requirements.

As at January 31, 2023

		a	b	c	d	e	f	g
		Gross carrying values of		Allowances/ impairments[2]	Of which ECL accounting provisions for credit losses on SA exposures		Of which ECL accounting provisions for credit losses on IRB exposures	Net values (a+b-c)
	(Millions of Canadian dollars)	Defaulted exposures[1]	Non-defaulted exposures		Allocated in regulatory category of Specific[3]	Allocated in regulatory category of General[3]		
1	Loans[4]	2,714	804,177	3,999	112	296	3,591	802,892
2	Debt Securities	-	162,733	23	-	-	23	162,710
3	Off-Balance Sheet exposures[5]	727	318,954	432	-	-	432	319,249
4	**Total**	**3,441**	**1,285,864**	**4,454**	**112**	**296**	**4,046**	**1,284,851**

[1] Definition of default as per the CAR guidelines and recent OSFI COVID-19 guidance.

[2] Reflects Stage 1, 2 and 3 allowances under IFRS 9, excluding ACL on fair value through OCI on financial instruments.

[3] Regulatory category of specific allowance reflects IFRS 9 Stage 3 allowances. Regulatory category of general allowances reflects Stage 1 & 2 allowances.

[4] Includes exposures related to operations held for sale that have been reclassified to Other Assets on our balance sheet.

[5] Off balance sheet amounts are before the application of credit conversion factors and reflect guarantees given and irrevocable loan commitments. Revocable loan commitments are excluded as per BCBS requirements.

CR2: Changes in stock of defaulted loans and debt securities

The following table presents our defaulted exposure balances, the flows between non-defaulted and defaulted exposure categories and reductions in the defaulted exposure balances due to write-offs.

For the six months ended April 30, 2023

	(Millions of Canadian dollars)	a
1	**Defaulted loans and debt securities at the end of October 31, 2022**	**2,183**
2	Loans and debt securities that have defaulted since the last reporting period	827
3	Returned to non-defaulted status	(89)
4	Amounts written off	(660)
5	Other changes	805
6	**Defaulted loans and debt securities at the end of April 30, 2023 (1+2-3-4+5)**	**3,066**

For the six months ended October 31, 2022

	(Millions of Canadian dollars)	a
1	**Defaulted loans and debt securities at the end of April 30, 2022**	**2,066**
2	Loans and debt securities that have defaulted since the last reporting period	579
3	Returned to non-defaulted status	(72)
4	Amounts written off	(652)
5	Other changes	262
6	**Defaulted loans and debt securities at the end of October 31, 2022 (1+2-3-4+5)**	**2,183**

CRB: Additional disclosure related to the credit quality of assets

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-section
a)	Definitions of past due and impaired exposures	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses - Definition of default Credit impaired financial assets (Stage 3) Note 5 – Loans and allowances for credit losses Loans past due but not impaired
b)	Extent of past due exposures	Consolidated Financial Statements	Note 5 – Loans and allowances for credit losses Loans past due but not impaired
c)	Description of methods used for determining accounting provisions for credit losses	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses
	Description of the categorization of ECL accounting provisions (general and specific) for standardized approach exposures	n/a	n/a - For regulatory calculations under both the Standardized and IRB approaches, the IFRS 9 stage 3 allowances are considered to be specific allowances and the IFRS 9 stage 1 and stage 2 allowances are considered to be general allowances
d)	Definition of a restructured exposure	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses - Modifications

CRB: Additional disclosure related to the credit quality of assets (continued)

(e) Breakdown of exposures by geographical areas, industry and residual maturity

The following table provides a breakdown of our credit risk exposures by industry, geographical areas and residual maturity. Our classification below reflects the Basel regulatory defined exposure classes. Amounts shown below reflect Exposures at default (EAD), which is the amount expected to be owed by an obligor at the time of default.

As at April 30, 2023

	a	b	c	d	e
	Credit Risk[1,2]			Counterparty Credit Risk[5]	
	On-balance sheet amount	Off-balance sheet amount[3]		Repo-style Transaction	Derivatives
(Millions of Canadian dollars)		Undrawn	Other[4]		
Retail					
Residential secured[6]	443,491	107,469			
Qualifying revolving	34,036	108,173			
Other retail	46,242	20,074	136		
Total Retail	**523,769**	**235,716**	**136**		
Wholesale					
Agriculture	11,080	2,593	41	-	108
Automotive	11,009	7,975	509	-	1,238
Banking	76,248	3,363	2,557	94,286	41,646
Consumer Discretionary	19,037	9,323	549	-	1,225
Consumer Staples	7,807	6,055	339	-	1,753
Oil and Gas	6,138	8,758	1,672	-	2,540
Financial Services	51,669	22,919	4,048	75,055	22,122
Financing Products	4,384	1,266	858	240	1,621
Forest Products	1,502	937	249	-	58
Governments	306,199	7,076	1,959	24,377	6,039
Industrial Products	11,054	9,774	697	-	748
Information Technology	4,604	7,363	290	134	772
Investments	24,293	4,217	699	58	366
Mining and Metals	1,855	3,340	924	-	318
Public Works and Infrastructure	2,780	1,706	609	-	172
Real Estate and Related	97,541	20,173	1,566	-	1,007
Other Services	29,336	13,149	2,841	9	964
Telecommunication and Media	8,565	6,602	94	-	2,604
Transportation	7,443	6,040	994	-	1,834
Utilities	14,992	19,408	4,889	-	4,730
Other Sectors	6,849	2,104	560	69	14,843
Total Wholesale	**704,385**	**164,141**	**26,944**	**194,228**	**106,708**
Total Exposure[1]	**1,228,154**	**399,857**	**27,080**	**194,228**	**106,708**
By Geography[7]					
Canada	729,900	296,853	9,789	72,318	34,644
United States	333,380	74,405	10,878	58,379	24,408
Europe	93,461	21,729	4,226	36,081	33,486
Other International	71,413	6,870	2,187	27,450	14,170
Total Exposure[1,7]	**1,228,154**	**399,857**	**27,080**	**194,228**	**106,708**
By Maturity					
Unconditionally cancellable	52,934	268,033	-	-	-
Within 1 year	300,545	25,844	8,009	194,228	51,756
1 to 5 year	731,323	100,123	17,617	-	33,284
Over 5 years	143,352	5,857	1,454	-	21,668
Total Exposure[1]	**1,228,154**	**399,857**	**27,080**	**194,228**	**106,708**

[1] Excludes securitization and other assets not subject to standardized or IRB approach. Also excludes exposures acquired through the US Government Paycheck Protection Program (PPP).

[2] EAD for Standardized exposures are reported net of Stage 3 allowances and EAD for IRB exposures are reported gross of all allowances for credit loss and partial write-off as per regulatory definitions.

[3] EAD for Undrawn credit commitments and other off-balance sheet amounts are reported after the application of credit conversion factors.

[4] Includes other off-balance sheet exposures such as letters of credit & guarantees.

[5] Counterparty credit risk EAD reflects exposure amount after netting. Collateral is included in EAD for repo-style transactions to the extent allowed by regulatory guidelines. Exchange traded derivatives are included in Other Sectors.

[6] Includes residential mortgages and HELOC. Effective Q2 2023 includes investor mortgages as per updated CAR guidelines.

[7] Geographic profile is based on the country of residence of the borrower.

CRB: Additional disclosure related to the credit quality of assets (continued)

As at January 31, 2023

(Millions of Canadian dollars)	a	b	c	d	e
	Credit Risk[1,2]			Counterparty Credit Risk[5]	
	On-balance sheet amount	Off-balance sheet amount[3]		Repo-style Transaction	Derivatives
		Undrawn	Other[4]		
Retail					
Residential secured[6]	393,631	110,510			
Qualifying revolving	32,378	97,050			
Other retail	98,796	20,337	140		
Total Retail	**524,805**	**227,897**	**140**		
Wholesale					
Agriculture	10,624	2,164	43	-	98
Automotive	10,369	8,764	468	-	1,285
Banking	74,444	4,683	1,059	101,662	41,202
Consumer Discretionary	19,059	10,414	553	-	1,184
Consumer Staples	7,149	7,915	333	-	1,832
Oil and Gas	6,256	11,027	1,700	-	3,473
Financial Services	45,631	26,043	3,762	76,581	16,892
Financing Products	6,061	2,446	160	275	1,560
Forest Products	1,329	994	233	-	46
Governments	298,369	5,252	1,684	21,401	7,072
Industrial Products	10,802	10,068	732	-	738
Information Technology	6,484	8,060	297	73	1,590
Investments	23,168	4,101	677	114	353
Mining and Metals	1,704	4,067	923	-	305
Public Works and Infrastructure	2,571	1,983	595	-	175
Real Estate and Related	92,313	18,550	1,583	-	1,092
Other Services	28,771	13,899	2,890	12	932
Telecommunication and Media	7,828	7,957	89	-	2,668
Transportation	7,013	6,500	931	-	1,697
Utilities	14,194	20,059	5,140	-	4,439
Other Sectors	4,059	1,546	88	225	14,196
Total Wholesale	**678,198**	**176,492**	**23,940**	**200,343**	**102,829**
Total Exposure[1]	**1,203,003**	**404,389**	**24,080**	**200,343**	**102,829**
By Geography[7]					
Canada	707,186	291,280	9,623	73,735	33,017
United States	336,940	80,789	9,726	57,753	23,730
Europe	85,913	25,444	2,664	39,220	35,208
Other International	72,964	6,876	2,067	29,635	10,874
Total Exposure[1,7]	**1,203,003**	**404,389**	**24,080**	**200,343**	**102,829**
By Maturity					
Unconditionally cancellable	73,738	260,296	-	-	-
Within 1 year	412,689	30,363	13,381	200,343	48,053
1 to 5 year	580,265	109,588	9,261	-	29,945
Over 5 years	136,311	4,142	1,438	-	24,831
Total Exposure[1]	**1,203,003**	**404,389**	**24,080**	**200,343**	**102,829**

[1] Excludes securitization, banking book equities and other assets not subject to standardized or IRB approach. Also excludes exposures acquired through the US Government Paycheck Protection Program (PPP).

[2] EAD for Standardized exposures are reported net of Stage 3 allowances and EAD for IRB exposures are reported gross of all allowances for credit loss and partial write-off as per regulatory definitions.

[3] EAD for Undrawn credit commitments and other off-balance sheet amounts are reported after the application of credit conversion factors.

[4] Includes other off-balance sheet exposures such as letters of credit & guarantees.

[5] Counterparty credit risk EAD reflects exposure amount after netting. Collateral is included in EAD for repo-style transactions to the extent allowed by regulatory guidelines. Exchange traded derivatives are included in Other Sectors.

[6] Includes residential mortgages and HELOC.

[7] Geographic profile is based on the country of residence of the borrower.

CRB: Additional disclosure related to the credit quality of assets (continued)

(f) Amounts of impaired exposures (according to the definition used by the bank for accounting purposes) and related allowances and write-offs, broken down by geographical areas and industry

The following tables provide a breakdown of impaired exposures by geographical areas and industry.

As at April 30, 2023

Impaired exposures by geography[1] and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance[2]	Net impaired exposures
Canada			
Retail	823	230	593
Wholesale	613	177	436
Securities	-	-	-
Total - Canada	**1,436**	**407**	**1,029**
United States			
Retail	35	4	31
Wholesale	958	302	656
Securities	-	-	-
Total - United States	**993**	**306**	**687**
Other International			
Retail	192	95	97
Wholesale	272	107	165
Securities	150	(25)	175
Total - Other International	**614**	**177**	**437**
Total			
Retail	1,050	329	721
Wholesale	1,843	586	1,257
Securities	150	(25)	175
Total impaired exposures	**3,043**	**890**	**2,153**

[1] Geographic information is based on residence of borrower.

[2] Allowance reflects only Stage 3 IFRS 9 allowances and includes allowances on acquired credit-impaired loans and securities.

As at January 31, 2023

Impaired exposures by geography[1] and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance[2]	Net impaired exposures
Canada			
Retail	765	212	553
Wholesale	487	117	370
Securities	-	-	-
Total - Canada	**1,252**	**329**	**923**
United States			
Retail	36	3	33
Wholesale	848	241	607
Securities	-	-	-
Total - United States	**884**	**244**	**640**
Other International			
Retail	189	94	95
Wholesale	274	110	164
Securities	149	(24)	173
Total - Other International	**612**	**180**	**432**
Total			
Retail	990	309	681
Wholesale	1,609	468	1,141
Securities	149	(24)	173
Total impaired exposures	**2,748**	**753**	**1,995**

[1] Geographic information is based on residence of borrower.

[2] Allowance reflects only Stage 3 IFRS 9 allowances and includes allowances on acquired credit-impaired loans and securities.

CRB: Additional disclosure related to the credit quality of assets (continued)

Net write-offs by geography[1] and portfolio (Millions of Canadian dollars)	**For the three months ended April 30, 2023**	**For the three months ended January 31, 2023**
Canada		
Retail	220	196
Wholesale	11	11
Total Canada	**231**	**207**
United States[2]		
Retail	4	2
Wholesale	41	8
Total United States	**45**	**10**
Other International		
Retail	-	1
Wholesale[2]	2	(2)
Total Other International	**2**	**(1)**
Total		
Retail	224	199
Wholesale	54	17
Total net write-offs	**278**	**216**

[1] Geographic information is based on residence of borrower.

[2] Includes acquired credit-impaired loans related to the acquisition of City National.

CRB: Additional disclosure related to the credit quality of assets (continued)

As at April 30, 2023

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance[1]	Net impaired exposures
Retail			
Residential mortgages	587	139	448
Personal	256	120	136
Small business	207	70	137
Total Retail	**1,050**	**329**	**721**
Wholesale			
Agriculture	44	17	27
Automotive	21	3	18
Banking	3	1	2
Consumer Discretionary	317	112	205
Consumer Staples	202	58	144
Oil and Gas	69	66	3
Financial Services	100	30	70
Financial Products	-	-	-
Forest Products	6	2	4
Governments	13	1	12
Industrial Products	95	27	68
Information Technology	7	2	5
Investments	23	3	20
Mining and Metals	10	9	1
Public Works and Infrastructure	28	8	20
Real Estate and Related	502	126	376
Other Services	231	65	166
Telecommunication and Media	40	34	6
Transportation	97	11	86
Utilities	-	-	-
Other	35	11	24
Total Wholesale	**1,843**	**586**	**1,257**
Total impaired loans and acceptances	**2,893**	**915**	**1,978**
Securities	150	(25)	175
Total impaired exposures	**3,043**	**890**	**2,153**

[1] Allowance reflects only Stage 3 IFRS 9 allowances and includes allowances on acquired credit-impaired loans and securities.

CRB: Additional disclosure related to the credit quality of assets (continued)

As at January 31, 2023

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance[1]	Net impaired exposures
Retail			
Residential mortgages	594	133	461
Personal	227	118	109
Small business	169	58	111
Total Retail	**990**	**309**	**681**
Wholesale			
Agriculture	44	9	35
Automotive	8	5	3
Banking	3	-	3
Consumer Discretionary	285	69	216
Consumer Staples	191	40	151
Oil and Gas	67	65	2
Financial Services	95	29	66
Financial Products	-	-	-
Forest Products	6	1	5
Governments	12	2	10
Industrial Products	86	26	60
Information Technology	5	2	3
Investments	12	3	9
Mining and Metals	10	9	1
Public Works and Infrastructure	15	9	6
Real Estate and Related	459	86	373
Other Services	232	67	165
Telecommunication and Media	38	31	7
Transportation	5	3	2
Utilities	-	-	-
Other	36	12	24
Total Wholesale	**1,609**	**468**	**1,141**
Total impaired loans and acceptances	**2,599**	**777**	**1,822**
Securities	149	(24)	173
Total impaired exposures	**2,748**	**753**	**1,995**

[1] Allowance reflects only Stage 3 IFRS 9 allowances and includes allowances on acquired credit-impaired loans and securities.

CRB: Additional disclosure related to the credit quality of assets (continued)

(g) Ageing analysis of accounting past-due exposures

The following table provides the ageing of our retail and wholesale past due exposures. Amounts presented may include loans past due as a result of administrative processes, such as mortgage loans on which payments are restrained pending payout due to sale or refinance, which can fluctuate based on business volumes. Past due loans arising from administrative processes are not representative of the borrowers' ability to meet their payment obligations. The table excludes loans less than 30 days past due as they are not generally representative of the borrowers' ability to meet their payment obligations.

As at April 30, 2023

(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total
Retail	1,422	169	1,591
Wholesale	1,042	61	1,103
Total	**2,464**	**230**	**2,694**

As at January 31, 2023

(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total
Retail	1,392	173	1,565
Wholesale	1,080	26	1,106
Total	**2,472**	**199**	**2,671**

(h) Breakdown of restructured exposures between impaired and not impaired exposures

Restructured exposures actively benefitting from modified contractual terms as at Apr 30, 2023 are not material (Jan 31, 2023 – not material).

CRC: Qualitative disclosure requirements related to credit risk mitigation techniques

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-section
a)	Core features of policies and processes for, and an indication of the extent to which the bank makes use of, on- and off-balance sheet netting	Credit risk	Credit risk assessment – *Counterparty credit risk*
		Consolidated Financial Statements	Note 9 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
			Note 30 - Offsetting financial assets and financial liabilities
b)	Core features of policies and processes for collateral evaluation and management	Credit risk	Credit risk mitigation – *Collateral*
c)	Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk	Credit risk mitigation
			Credit risk approval – *Credit risk limits*
		Consolidated Financial Statements	Note 9 - Derivative financial instruments and hedging activities

CR3: Credit risk mitigation techniques – overview

We utilize allowed regulatory credit mitigation techniques to reduce capital requirements associated with our balance sheet exposures. The following table presents a detailed breakdown of our unsecured and secured loan and debt and equity securities exposures. Secured exposures are mitigated by way of additional collateral or guarantees being requested of the borrower. We sometimes also utilize credit derivatives to mitigate our on-balance sheet exposures.

As at April 30, 2023

		a	b	c	d	f
	(Millions of Canadian dollars)	Exposures unsecured: carrying amount	Exposures to be secured[1]	Exposures secured by collateral[1]	Exposures secured by financial guarantees[1,2]	Exposures secured by credit derivatives
1	Loans[3]	181,210	629,696	496,599	133,097	-
2	Debt securities	154,712	16,268	16,025	243	-
2a	Equity securities	2,860	-	-	-	-
3	**Total**	335,922	645,965	512,624	133,341	-
4	Of which defaulted[4]	955	1,412	878	534	-

[1] Column c and d are a subset of column b (b = c + d).

[2] Credit mitigation allocation for multi-secured exposures is made by way of order of priority of available mitigation to be utilized: financial guarantees portion first followed by collateral for any remaining balance.

[3] Securitized mortgages that do not qualify as securitized under IFRS or regulatory capital requirements are recognized as collateralized in column c.

[4] Defaulted exposures are net of Stage 3 allowances.

As at October 31, 2022

		a	b	c	d	e	f	g
	(Millions of Canadian dollars)	Exposures unsecured: carrying amount	Exposures secured by collateral	Exposures secured by collateral, of which: secured amount[1]	Exposures secured by financial guarantees[2]	Exposures secured by financial guarantees, of which: secured amount[3]	Exposures secured by credit derivatives	Exposures secured by credit derivatives, of which: secured amount
1	Loans[4]	230,547	460,738	455,985	107,640	96,973	-	-
2	Debt securities	142,959	15,333	15,333	77	-	-	-
3	**Total**	**373,506**	**476,071**	**471,318**	**107,717**	**96,973**	**-**	**-**
4	Of which defaulted[5]	272	1,128	1,128	338	287	-	-

[1] Column c is a subset of column b.

[2] Credit mitigation allocation for multi-secured exposures is made by way of order of priority of available mitigation to be utilized: financial guarantees portion first followed by collateral for any remaining balance.

[3] Column e is a subset of column d.

[4] Securitized mortgages that do not qualify as securitized under IFRS or regulatory capital requirements are recognized as collateralized in column b and column c.

[5] Defaulted exposures are net of Stage 3 allowances.

CRD: Qualitative disclosures on banks' use of external credit ratings under the standardized approach for credit risk

As detailed in section CR4, certain of our portfolios' RWA amounts are calculated as per OSFI's CAR Guideline Standardized Approach requirements. OSFI's Standardized Approach methodology allows for the reliance on the external credit ratings of counterparties, issued by independent rating agencies, for the determination of RWA. Five external rating agencies ratings, namely, Standard & Poor's (S&P), Moody's Investors Service, Fitch Rating Services, DBRS and Kroll Bond Rating Agency, Inc. have been approved by OSFI. Currently, external ratings are used to determine the RWA amounts associated with our wholesale exposures under the asset classes of corporate, sovereign, public sector entities, multilateral development banks, banks, and securities firms. As well, external ratings are used for determining the risk weighting for certain of our securitization's exposures.

External ratings utilized from the above-mentioned rating agencies are either an issuer rating or an issue-specific rating. We rely on an issue-specific rating if it is available for the purposes of determining RWA for the exposures we hold. We utilize the issuer rating only for our exposures which rank pari-passu with senior claims of the issuer.

Our supervisor specifies in its CAR guideline the required standard mapping of long-term external ratings of the above rating agencies to an equivalent risk weight. We rely on OSFI's mapping to determine the appropriate risk buckets for our Standardized Approach portfolios under the guideline. OSFI's current mapping of external rating agencies rating is reflected in the table below:

Long-term rating					
Standardized Risk Weight Category	**S&P**	**Moody's**	**Fitch**	**DBRS**	**Kroll**
Long Term					
(AAA to AA-)	AAA to AA-	Aaa to Aa3	AAA to AA-	AAA to AA (low)	AAA to AA-
(A+ to A-)	A+ to A-	A1 to A3	A+ to A-	A(high) to A(low)	A+ to A-
(BBB+ to BBB-)	BBB+ to BBB-	Baa1 to Baa3	BBB+ to BBB-	BBB(high) to BBB(low)	BBB+ to BBB-
(BB+ to BB-)	BB+ to BB-	Ba1 to Ba3	BB+ to BB-	BB(high) to BB(low)	BB+ to BB-
(B+ to B-)	B+ to B-	B1 to B3	B+ to B-	B(high) to B(low)	B+ to B-
(Below B-)	Below B-	Below B3	Below B-	CCC or lower	Below B-

We understand that OSFI reviews the list of acceptable rating agencies and will reflect any changes in allowed rating agencies in its update of the CAR guidelines.

CR4: Standardized approach – credit risk exposure and credit risk mitigation (CRM) effects

The following table provides the effect of CRM on the calculation of capital requirements under the standardized approach. It presents on-balance sheet and off-balance sheet exposures before and after credit conversion factors (CCF) and CRM as well as associated RWA and RWA density by asset classes. As noted in CRD, the external ratings of the counterparty is relied on to determine the prescribed regulatory risk weight to be assigned.

As at April 30, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars, except as otherwise noted)	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
	Asset Classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks[1]	35,823	388	45,260	75	137	0.3%
2	Public sector entities (PSEs)	13,334	427	18,585	150	2,741	14.6%
3	Multilateral development banks	4,404	-	4,404	-	-	-
4	Banks	4,631	2,477	5,951	592	5,289	80.8%
	Of which: securities firms and other financial institutions treated as banks	1,324	1,803	2,717	360	2,295	74.6%
5	Covered bonds	1,558	-	1,558	-	313	20.1%
6	Corporates[1]	69,873	54,834	57,134	14,652	66,261	92.3%
	Of which: securities firms and other financial institutions treated as corporates	2,064	2,478	2,064	879	2,721	92.5%
	Of which: specialised lending	-	-	-	-	-	-
7	Subordinated debt, equity and other capital	2,780	891	2,780	356	5,444	173.6%
8	Retail	5,832	5,698	5,832	1,492	4,944	67.5%
9	Real estate[1]	63,482	35	46,286	8	16,414	35.5%
	Of which: general RRE	49,915	-	33,031	8	7,312	22.1%
	Of which: IPRRE	3,804	-	3,496	-	2,216	63.4%
	Of which: other RRE	-	-	-	-	-	-
	Of which: general CRE	9,728	-	9,724	-	6,848	70.4%
	Of which: IPCRE	35	-	35	-	38	108.6%
	Of which: land acquisition, development and construction	-	-	-	-	-	-
10	Reverse mortgages	-	-	-	-	-	-
11	Mortgage-backed securities[2]						
12	Defaulted exposures	651	33	649	5	933	142.7%
13	Other assets	24,401	-	24,401	-	19,849	81.3%
14	**Total**	**226,769**	**64,783**	**212,840**	**17,330**	**122,325**	**53.1%**

[1] When CRM is available in the form of an eligible guarantee, the portion that is covered by the guarantee will attract the risk weight of the protection provider and will be reflected in the protection provider's asset class in column c and d. Exposures acquired through the US Government Paycheck Protection Program have been excluded, as required by OSFI.

[2] Mortgage-backed securities exposure and RWA are included in Sovereign or PSE to reflect ultimate risk.

As at January 31, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars, except as otherwise noted)	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
	Asset Classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks[1]	34,166	260	50,071	42	93	0.2%
2	Non-central government public sector entities	14,471	371	14,470	179	2,773	18.9%
3	Multilateral development banks	4,446	-	4,446	-	10	0.2%
4	Banks	4,334	647	4,333	242	1,096	24.0%
5	Securities firms[1]	1,280	1,765	2,452	234	1,065	39.7%
6	Corporates[1]	74,119	50,514	61,720	11,802	71,389	97.1%
7	Regulatory retail portfolios	10,165	5,785	10,165	418	8,069	76.2%
8	Secured by residential property[1]	51,484	19	34,408	-	12,864	37.4%
9	Secured by commercial real estate	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-
11	Past-due loans	585	25	583	2	793	135.6%
12	Higher-risk categories	258	298	258	117	563	150.0%
13	Other assets	23,021	-	23,021	-	23,225	100.9%
14	**Total**	**218,329**	**59,684**	**205,927**	**13,036**	**121,940**	**55.7%**

[1] When CRM is available in the form of an eligible guarantee, the portion that is covered by the guarantee will attract the risk weight of the protection provider and will be reflected in the protection provider's asset class in column c and d. Exposures acquired through the US Government Paycheck Protection Program have been excluded, as required by OSFI.

CR5: Standardized approach – exposures by asset classes and risk weights

The following table presents the breakdown of credit risk exposures under the standardized approach by asset classes and risk weight.

As at April 30, 2023 (in millions of Canadian dollars)

		0%	20%	50%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
1	Sovereigns and their central banks	45,198	-	-	137	-	-	45,335

		0%	20%	50%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
2	Public sector entities (PSEs)	5,251	13,428	-	56	-	-	18,735

		0%	20%	30%	50%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
3	Multilateral development banks	4,404	-	-	-	-	-	-	4,404

		20%	30%	40%	50%	75%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
4	Banks	144	490	-	33	-	4,484	-	1,392	6,543
	Of which: securities firms and other financial institutions	2	-	-	-	-	1,682	-	1,392	3,076

		20%	30%	40%	50%	75%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
5	Covered bonds	1,554	3	-	-	-	1	-	-	1,558

		20%	50%	65%	75%	80%	85%	100%	130%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
6	Corporates	1,554	18	-	597	-	28,744	40,495	-	378	-	71,786
	Of which: securities firms and other financial institutions	-	1	-	-			1,460		-	-	1,461
	Of which: specialised lending	-	-		-	-		-	-	-	-	-

		0%	20%	100%	250%	400%	Other	Total credit exposures amount (post CCF and post-CRM)
7	Subordinated debt, equity and other capital	146	356	807	1,825	-	2	3,136

		15%	75%	100%	Other	Total credit exposures amount (post CCF and post-CRM)
8	Retail	915	6,409	-	-	7,324

As at April 30, 2023 (in millions of Canadian dollars)

		20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	85%	90%	100%	105%	110%	150%	Other	Total credit exposure amount (post-CCF and post-CRM)
9	Real estate	30,313	197	531	1,288	3	269	879	-	5,260	1,511	925	2,237	1,449	-	1,397	-	35	-	-	46,294
	Of which: general RRE	30,313	197	378	1,158	3		65			-	925	-	-		-			-	-	33,039
	Of which: IPRRE			153	130		269	814		10			2,120				-		-	-	3,496
	Of which: other RRE			-	-		-		-	-			-				-		-	-	-
	Of which: general CRE	-		-		-		-	-	5,250	1,511		117	1,449		1,397			-	-	9,724
	Of which: IPCRE											-			-			35	-	-	35
	Of which: land acquisition, development and construction															-			-	-	-

		20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	85%	90%	100%	105%	110%	150%	Other	Total credit exposure amount (post-CCF and post-CRM)
10	Reverse mortgages																				

		20%	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%	75%	85%	90%	100%	105%	110%	150%	Other	Total credit exposure amount (post-CCF and post-CRM)
11	Mortgage-backed securities[1]			-	-		-			-						-			-	-	-

[1] Mortgage-backed securities exposure and RWA are included in Sovereign or PSE to reflect ultimate risk.

		50%	100%	150%	Other	Total credit exposures amount (post CCF and post-CRM)
12	Defaulted exposures	-	96	558	-	654

		0%	20%	100%	1250%	Others	Total credit exposures amount (post CCF and post-CRM)
13	Other assets	4,343	261	19,797	-	-	24,401

As at April 30, 2023 (in millions of Canadian dollars)

Exposure amounts and CCFs applied to off-balance sheet exposures, categorised based on risk bucket of converted exposures					
		a	b	c	d
		On-balance sheet exposure	Off-balance sheet exposure (pre-CCF)	Weighted average CCF*	Exposure (post-CCF and post-CRM)
1	Less than 40%	108,737	3,812	27.0%	110,380
2	40 - 70%	10,864	83	33.0%	10,287
3	75 - 80%	8,448	2,887	28.0%	9,242
4	85%	26,472	12,620	35.0%	30,193
5	90 - 100%	68,380	45,036	25.0%	67,270
6	105 - 130%	35	-	-	35
7	150%	995	335	37.0%	938
8	250%	1,820	12	40.0%	1,825
9	400%				
10	1250%				
11	**Total exposures**	**225,751**	**64,785**	27.0%	**230,170**

* Weighting is based on off-balance sheet exposure (pre-CCF).

As at January 31, 2023

		a	b	c	d	e	f	g	h	i	j
	Risk weight / Asset Classes (Millions of Canadian dollars)	0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post CCF and post-CRM)
1	Sovereigns and their central banks	50,020	-	-	-	-	-	93	-	-	50,113
2	Non-central government public sector entities	1,200	-	13,344	-	1	-	104	-	-	14,649
3	Multilateral development banks	4,396	-	50	-	-	-	-	-	-	4,446
4	Banks	-	-	4,338	-	20	-	219	-	-	4,577
5	Securities firms	-	-	1,584	-	707	-	394	-	-	2,685
6	Corporates	-	-	1,489	1,432	21	-	70,579	-	-	73,521
7	Regulatory retail portfolios	-	-	-	-	-	10,054	529	-	-	10,583
8	Secured by residential property	-	-	-	32,356	-	2,052	-	-	-	34,408
9	Secured by commercial real estate	-	-	-	-	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	-	-	-	-	-	-	171	414	-	585
12	Higher-risk categories	-	-	-	-	-	-	-	375	-	375
13	Other assets	3,803	-	64	-	-	-	18,801	-	353	23,021
14	**Total**	**59,419**	**-**	**20,869**	**33,788**	**749**	**12,106**	**90,890**	**789**	**353**	**218,963**

CRE: Qualitative disclosures related to internal risk-based (IRB) models

In measuring credit risk to determine regulatory capital, two principal approaches applied are: the Internal Ratings Based (IRB) approach and the Standardized approach. The majority of our credit risk exposures are reported under the IRB approach, as approved by OSFI. The remainder of our portfolios are reported under the Standardized approach. The Standardized approach uses risk weights prescribed by OSFI to calculate RWA for credit risk exposures.

Under the IRB approach, we determine our own estimates for Probability of Default (PD), Loss Given Default (LGD) and Exposure at Default (EAD). They are the key credit parameters that form the basis of our credit risk measures. Internal ratings for borrower facilities and their corresponding estimates are used for credit approval, risk management, internal capital allocations, and corporate governance functions. In addition, the IRB parameter estimates are critical inputs for enterprise and regulatory stress-testing.

In accordance with the IRB approach for credit risk, models are designed for wholesale and retail portfolios. For Wholesale portfolios, a PD is estimated for each internal borrower grade and LGD and EAD parameters are estimated for each credit facility. For Retail portfolios, borrowers are risk rated using internal credit scoring models. Credit scores are one of the key drivers for segmentation of the portfolios into pools. Retail PD, EAD and LGD parameters are estimated at the pool level. All IRB approach regulatory capital models for wholesale and retail credit risk are subject to approval by the Office of the Superintendent of Financial Institutions (OSFI).

Credit parameter estimates are based on our internal historical default and loan loss experience and are augmented by external data where appropriate. We employ a two-dimensional risk rating system for the majority of our credit portfolios. The first dimension is oriented to the risk of borrower default and quantified through the PD assigned to the borrower. The second dimension captures transaction-specific factors such as collateral, product type, and seniority, and is quantified by LGD and EAD estimates that apply at the credit facility level.

PD is an estimated percentage that represents the likelihood of default of an obligor within a given time period for a specific rating grade or for a particular pool of exposure. Each wholesale obligor is assigned a Borrower Risk Rating (BRR), reflecting an assessment of the credit quality of the obligor and each BRR has a PD calibrated against it. The assignment of BRRs is based on the evaluation of the obligor's business risk and financial risk and is based on fundamental credit analysis, as well as data-driven modelling. PD estimates are designed to be a long-run average of our experience across the economic cycle with margins of conservatism related to the likely range of errors. The BRR differentiates the riskiness of obligors and represents our evaluation of the obligors' ability and willingness to meet their contractual obligations on time over a three-year time horizon.

EAD is an amount expected to be owed by an obligor at the time of default. EAD is estimated based on the current exposure to the obligor and the possible future changes in that exposure driven by factors such as the nature of the credit commitment. Rates are estimated to reflect an economic downturn, with added conservatism to reflect data and statistical uncertainties identified in the modelling process.

LGD is an estimated percentage of EAD that is not expected to be recovered during the collection and recovery process. Each credit facility is assigned an LGD rate reflective of the extent of losses anticipated in the event the obligor defaults. Factors used in estimating LGD include seniority of debt, collateral security, and the industry sector in which the obligor operates. Estimated LGD rates draw primarily on internal loss experience and appropriate external data is used to supplement the estimation process when necessary. LGD rates are estimated to reflect conditions that might be expected to prevail in an economic downturn, with additional conservatism added to reflect data limitations and statistical uncertainties identified in the estimation process.

The IRB credit risk parameters are reviewed, at a minimum, annually and more frequently if deemed necessary by an independent validation team within the bank. In addition, quarterly monitoring and back-testing procedures are performed to compare the realized results with established estimates by the model development team.

CRE: Qualitative disclosures related to internal risk-based (IRB) models (continued)

EAD Covered by the Various Approaches

The following table outlines the percentage of our EAD covered by the IRB and Standardized approaches for each of our portfolios. This table reflects the methodology outlined by OSFI for IRB banks to determine whether they are meeting the 80% threshold calculation minimum requirement.

As at April 30, 2023

EAD (in %)	EAD covered by the various approaches			
	Standardized Approach[1]	Advanced Approach (A-IRB)	Foundation Approach (F-IRB)	Other
Retail				
Residential secured	10%	90%	-	-
Qualifying revolving	1%	99%	-	-
Other retail	10%	90%	-	-
Wholesale				
Corporate	20%	40%	40%	-
Sovereign	14%	86%	-	-
Bank	21%	0%	79%	-
Equity	100%	-	-	-
Total credit risk	13%	73%	14%	-
Counterparty credit risk	-	9%	75%	16%
Securitization	36%	64%	-	-
Other assets not subject to Standardized or IRB Approaches	-	-	-	100%
Total[2]	12%	24%	64%	-

[1] Standardized Approach includes assumptions and waivers granted by OSFI based on an OSFI approved rollout plan.

[2] The total for this table is calculated using OSFI's guidance on what exposures are included in the 80% Threshold Calculation for IRB banks.

As at January 31, 2023

EAD (in %)	EAD covered by the various approaches		
	Standardized Approach[1]	IRB Approach	Other
Retail			
Residential secured	14%	86%	-
Qualifying revolving	-	100%	-
Other retail	4%	96%	-
Wholesale	-	-	-
Corporate	18%	82%	-
Sovereign	15%	85%	-
Bank	18%	82%	-
Equity	-	100%	-
Total credit risk	13%	87%	-
Counterparty credit risk	-	83%	17%
Securitization	35%	65%	-
Other assets not subject to Standardized or IRB Approaches	-	-	100%
Total[2]	9%	91%	-

[1] Standardized Approach includes assumptions and waivers granted by OSFI based on an OSFI approved rollout plan.

[2] The total for this table is calculated using OSFI's guidance on what exposures are included in the 80% Threshold Calculation for IRB banks.

CRE: Qualitative disclosures related to internal risk-based (IRB) models (continued)

Parameters Governance

The techniques used to develop models are in accordance with banking industry standards and regulatory requirements. We calibrate our models to ensure that variations of default rates through an economic cycle are included in the underlying data. We also build conservatism into our model development process to reflect statistical uncertainties.

Our models have Model Development Owners (MDO) who are accountable for the development and performance of models within the framework set by our policies, standards and procedures. MDOs are responsible for collecting, defining and documenting model requirements, collecting and reviewing data, testing and evaluating, designing model performance monitoring, and documenting.

Our models are required to be independently reviewed and comprehensively evaluated by the Enterprise Model Risk Management (EMRM) team. EMRM is responsible for the review and challenge of the methodology underpinning the estimation of the parameters. EMRM issues a report at the end of each validation exercise that documents the scope, approach and findings of the review. The parameters reviewed by EMRM are presented to the Credit Models Governance Committee and approved by RBC's senior risk management committee.

Back-testing of Parameters and Model Performance

The IRB credit risk parameters are reviewed, at a minimum, annually and more frequently if deemed necessary. In order to ensure that any material events are identified in a timely fashion, we engage in regular monitoring of realized results against established estimates. In cases where the actual results exceed predefined thresholds, a review of the results will be conducted and documented which may lead to a re-calibration of the parameters. Any recommended changes to the parameters would be approved by the Credit Models Governance Committee, and OSFI as applicable.

CR6: A-IRB – Credit risk exposures by portfolio and PD range

The following table provides the key parameters used for the calculation of capital requirements for credit risk exposures under the A-IRB approach, broken down by asset class and PD range.

As at April 30, 2023

	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	a Original on-balance sheet gross exposure	b Off-balance sheet exposures pre CCF	c Average CCF (%)	d EAD post CRM and post-CCF	e Average PD (%)	f Number of obligors[2]	g Average LGD (%)	h Average maturity (in years)	i RWA	j RWA density (%)	k EL	l Provisions[3]
	Asset Classes													
1	**Sovereigns**													
		0.00 to < 0.15	304,914	25,522	64.54	383,760	0.02	988	12.56	1.99	10,321	2.7	10	
		0.15 to < 0.25	46	16	66.01	57	0.24	34	32.18	2.35	19	33.5	-	
		0.25 to < 0.50	389	25	63.86	405	0.46	231	17.16	2.62	106	26.0	-	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	92	16	57.71	101	1.23	36	30.27	2.88	68	67.3	-	
		2.50 to < 10.00	3	7	66.23	8	4.16	12	43.41	1.31	10	124.4	-	
		10.00 to < 100.00	1	3	64.73	4	18.59	6	34.20	1.38	6	168.5	-	
		100.00 (default)	39	-	-	39	100.00	6	44.97	2.50	-	0.2	35	
	Total Sovereigns		**305,484**	**25,589**	**64.54**	**384,374**	**0.03**	**1,313**	**12.58**	**1.99**	**10,530**	**2.7**	**45**	**36**
2	**Corporates**													
		0.00 to < 0.15	26,567	32,453	62.31	48,747	0.09	20,919	34.94	1.91	8,009	16.4	15	
		0.15 to < 0.25	18,031	9,223	55.29	21,249	0.24	8,121	34.03	2.06	6,381	30.0	17	
		0.25 to < 0.50	18,117	7,785	56.14	21,939	0.45	7,760	32.69	2.19	8,753	39.9	32	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	58,394	32,119	54.44	67,503	1.24	19,770	33.61	2.12	41,880	62.0	282	
		2.50 to < 10.00	10,811	6,521	53.46	11,177	4.45	6,200	35.20	2.12	10,548	94.4	175	
		10.00 to < 100.00	1,176	348	59.79	1,199	25.13	1,390	39.45	2.00	2,173	181.2	118	
		100.00 (default)	1,130	127	19.29	1,083	100.00	1,240	40.13	2.28	2,850	263.2	261	
	Total Corporates		**134,226**	**88,576**	**57.46**	**172,897**	**1.68**	**65,400**	**34.11**	**2.06**	**80,594**	**46.6**	**900**	**1,272**
3	**Corporate – Specialised Lending**													
		0.00 to < 0.15	886	612	58.46	1,243	0.10	71	31.00	2.90	287	23.1	-	
		0.15 to < 0.25	2,280	273	59.96	2,444	0.24	117	28.76	2.92	822	33.6	2	
		0.25 to < 0.50	2,564	347	52.24	2,746	0.46	209	27.65	2.60	1,118	40.7	3	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	862	298	60.60	1,043	1.15	36	32.08	2.78	718	68.8	4	
		2.50 to < 10.00	-	-	-	-	-	-	-	-	-	-	-	
		10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-	
		100.00 (default)	100	10	20.00	102	100.00	1	40.00	1.28	55	54.0	36	
	Total Corporate – Specialised Lending		**6,692**	**1,540**	**57.49**	**7,578**	**1.76**	**434**	**29.33**	**2.76**	**3,000**	**39.6**	**45**	**59**
4	**Total Wholesale**		**446,402**	**115,705**	**59.03**	**564,849**	**0.56**	**67,147**	**19.39**	**2.03**	**94,124**	**16.7**	**990**	**1,367**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR6: A-IRB – Credit risk exposures by portfolio and PD range (continued)

As at April 30, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
5	**Retail - Residential mortgage exposures**													
		0.00 to < 0.15	291,966	121,008	86.56	396,709	0.13	1,582,467	20.97	-	24,043	6.1	105	
		0.15 to < 0.25	12,890	62	100.00	10,293	0.15	91,669	16.00	-	549	5.3	3	
		0.25 to < 0.50	42,667	275	100.00	5,960	0.33	176,255	11.69	-	408	6.8	2	
		0.50 to < 0.75	775	-	-	775	0.51	2,692	25.07	-	153	19.8	1	
		0.75 to < 2.50	27,874	2,130	91.49	24,223	0.87	119,599	21.29	-	5,956	24.6	45	
		2.50 to < 10.00	10,647	367	91.12	7,870	4.12	56,010	20.36	-	4,588	58.3	66	
		10.00 to < 100.00	2,339	88	109.52	1,912	25.29	9,498	20.70	-	2,040	106.7	99	
		100.00 (default)	463	1	5.00	315	100.00	2,584	20.53	-	136	43.1	64	
	Total Retail - Residential mortgage exposures		**389,621**	**123,931**	**86.71**	**448,057**	**0.42**	**2,040,774**	**20.74**	**-**	**37,873**	**8.5**	**385**	**372**
5a	**Of which: Retail - Retail insured exposure secured by real estate**													
		0.00 to < 0.15	-	-	-	-	-	-	-	-	-	-	-	
		0.15 to < 0.25	12,743	-	-	10,083	0.15	91,573	15.02	-	496	4.9	2	
		0.25 to < 0.50	42,651	-	-	5,669	0.33	175,391	11.56	-	382	6.7	2	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	5,620	-	-	20	1.14	27,009	15.25	-	4	20.8	-	
		2.50 to < 10.00	3,115	-	-	4	4.33	17,847	15.49	-	2	45.6	-	
		10.00 to < 100.00	526	-	-	2	37.59	2,662	15.58	-	2	74.5	-	
		100.00 (default)	150	-	-	2	100.00	956	13.78	-	4	172.3	-	
	Total Retail – Insured exposure secured by real estate		**64,805**	**-**	**-**	**15,780**	**0.24**	**315,438**	**86.68**	**-**	**890**	**5.6**	**4**	**6**
5b	**Of which: Retail - uninsured mortgages**													
		0.00 to < 0.15	260,763	694	100.00	261,457	0.14	742,113	19.75	-	16,510	6.3	74	
		0.15 to < 0.25	148	62	100.00	210	0.16	96	62.93	-	54	25.5	-	
		0.25 to < 0.50	16	275	100.00	291	0.34	902	14.23	-	26	8.8	-	
		0.50 to < 0.75	775	-	-	775	0.51	2,692	25.07	-	153	19.8	1	
		0.75 to < 2.50	20,002	423	100.00	20,426	0.89	54,420	20.76	-	4,995	24.5	38	
		2.50 to < 10.00	6,544	31	100.00	6,575	4.06	22,681	19.62	-	3,668	55.8	52	
		10.00 to < 100.00	1,550	3	100.00	1,553	25.09	4,459	20.10	-	1,616	104.0	77	
		100.00 (default)	230	-	-	230	100.00	962	19.12	-	97	42.0	42	
	Total Retail – uninsured mortgages		**290,028**	**1,488**	**100.00**	**291,517**	**0.50**	**828,325**	**201.58**	**-**	**27,119**	**9.3**	**284**	**285**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR6: A-IRB – Credit risk exposures by portfolio and PD range (continued)

As at April 30, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
5c	**Of which: HELOCs**													
		0.00 to < 0.15	31,202	120,314	86.48	135,252	0.10	839,967	23.33	1.00	7,533	5.6	31	
		0.15 to < 0.25	-	-	-	-	-	-	-	-	-	-	-	
		0.25 to < 0.50	-	-	-	-	-	-	-	-	-	-	-	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	2,252	1,707	89.38	3,777	0.76	38,560	24.15	1.00	958	25.4	7	
		2.50 to < 10.00	987	336	90.31	1,291	4.40	15,482	24.16	1.00	918	71.1	14	
		10.00 to < 100.00	262	85	109.85	356	26.07	2,377	23.35	1.00	423	118.6	22	
		100.00 (default)	83	1	5.00	83	100.00	666	24.61	1.00	36	43.0	22	
	Total HELOC		**34,786**	**122,443**	**86.55**	**140,759**	**0.28**	**897,052**	**119.60**	**1.00**	**9,868**	**7.0**	**96**	**81**
6	**Qualifying revolving retail**													
		0.00 to < 0.15	8,514	57,584	89.11	59,828	0.09	5,632,105	93.18	-	2,946	4.9	48	
		0.15 to < 0.25	8,692	40,788	84.98	43,355	0.18	2,057,048	90.12	-	3,754	8.7	69	
		0.25 to < 0.50	804	5,723	87.01	5,784	0.34	3,653,163	90.82	-	848	14.7	18	
		0.50 to < 0.75	2,760	7,132	88.96	9,104	0.60	1,018,660	93.89	-	2,208	24.3	51	
		0.75 to < 2.50	7,740	7,888	88.38	14,711	1.62	2,209,337	91.47	-	7,380	50.2	218	
		2.50 to < 10.00	3,946	2,626	91.41	6,346	4.40	1,200,730	92.64	-	6,343	99.9	258	
		10.00 to < 100.00	1,085	427	104.45	1,531	30.20	463,509	91.12	-	3,295	215.1	427	
		100.00 (default)	71	1	5.26	71	100.00	41,320	87.43	-	183	257.4	47	
	Total Qualifying revolving retail		**33,612**	**122,169**	**87.68**	**140,730**	**0.89**	**16,275,872**	**91.96**	**-**	**26,957**	**19.2**	**1,136**	**1,445**
7	**Retail - SME**													
		0.00 to < 0.15	602	3,788	102.94	4,502	0.06	220,854	99.14	-	775	17.2	3	
		0.15 to < 0.25	367	3,978	93.60	4,090	0.22	106,902	69.83	-	1,234	30.2	6	
		0.25 to < 0.50	422	1,482	104.37	1,969	0.31	124,106	99.07	-	1,037	52.7	6	
		0.50 to < 0.75	1,955	56	99.01	1,742	0.54	8,780	37.08	-	488	28.0	4	
		0.75 to < 2.50	6,160	3,387	95.55	8,543	1.16	218,843	62.10	-	5,637	66.0	60	
		2.50 to < 10.00	2,747	980	97.92	3,369	5.21	115,193	59.13	-	2,922	86.7	97	
		10.00 to < 100.00	194	44	111.57	201	40.68	16,549	77.39	-	333	165.6	62	
		100.00 (default)	196	8	11.68	68	100.00	2,503	72.56	-	52	76.7	48	
	Total Retail - SME		**12,643**	**13,723**	**98.16**	**24,484**	**1.85**	**813,730**	**71.14**	**-**	**12,478**	**51.0**	**286**	**254**
8	**Other retail**													
		0.00 to < 0.15	4,191	2,759	100.00	6,950	0.08	17,045	53.80	-	808	11.6	3	
		0.15 to < 0.25	2,020	3,343	85.24	4,870	0.17	20,611	85.72	-	1,540	31.6	7	
		0.25 to < 0.50	8,713	2	97.43	8,713	0.31	332,748	66.53	-	3,112	35.7	18	
		0.50 to < 0.75	228	210	99.72	438	0.55	1,527	84.90	-	281	64.1	2	
		0.75 to < 2.50	9,897	474	91.61	9,710	1.12	306,842	60.51	-	6,352	65.4	70	
		2.50 to < 10.00	2,184	34	88.50	2,107	4.29	100,131	67.49	-	2,050	97.3	60	
		10.00 to < 100.00	412	12	89.40	303	34.29	22,208	72.92	-	484	159.7	74	
		100.00 (default)	75	-	96.06	56	100.00	3,445	68.30	-	87	158.1	34	
	Total Other retail		**27,720**	**6,834**	**92.11**	**33,147**	**1.21**	**804,557**	**65.28**	**-**	**14,714**	**44.4**	**268**	**327**
9	**Total retail**		**463,596**	**266,657**	**87.88**	**646,418**	**0.62**	**19,934,933**	**40.44**	**-**	**92,022**	**14.2**	**2,075**	**2,398**
10	**Total A-IRB**		**909,998**	**382,362**	**79.15**	**1,211,267**	**0.59**	**20,002,080**	**30.63**	**2.03**	**186,146**	**15.4**	**3,065**	**3,765**

[1] Refer to “Internal ratings map” under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR6: F-IRB – Credit risk exposures by portfolio and PD range

The following table provides the key parameters used for the calculation of capital requirements for credit risk exposures under the F-IRB approach adopted in Q2 2023, broken down by asset class and PD range. Only Banks and Large Corporates are currently required to follow the Foundation Approach under the CAR guidelines with all other IRB exposures allowed under A-IRB.

As at April 30, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
1	**Banks**													
		0.00 to < 0.15	23,067	4,851	54.76	33,149	0.06	254	41.28	2.39	7,986	24.1	8	
		0.15 to < 0.25	111	99	27.78	150	0.24	16	66.02	3.24	132	87.7	-	
		0.25 to < 0.50	16	388	32.97	142	0.46	30	23.37	1.08	42	29.3	-	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	186	174	31.06	262	1.13	37	60.95	1.87	313	119.1	2	
		2.50 to < 10.00	58	12	44.64	62	2.66	7	45.00	1.30	71	115.6	1	
		10.00 to < 100.00	-	-	-	-	20.13	3	45.00	1.00	-	250.6	-	
		100.00 (default)	-	1	100.00	1	100.00	6	45.00	1.02	5	562.5	-	
	Total Banks		**23,438**	**5,525**	51.99	**33,766**	0.08	**353**	41.47	2.38	**8,549**	25.4	**11**	-
2	**Corporates**													
		0.00 to < 0.15	51,662	183,659	40.42	125,793	0.08	5,405	41.01	2.44	32,858	26.1	42	
		0.15 to < 0.25	11,771	18,612	39.93	18,280	0.24	770	42.05	2.90	9,732	53.2	18	
		0.25 to < 0.50	6,847	14,504	41.76	11,423	0.46	656	36.87	2.79	6,770	59.3	19	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	17,481	30,627	40.51	27,556	1.25	1,431	36.91	2.95	23,716	86.1	127	
		2.50 to < 10.00	3,412	7,605	41.61	5,457	3.92	834	34.36	2.81	5,840	107.0	72	
		10.00 to < 100.00	360	325	40.06	447	28.63	79	39.59	1.61	934	209.2	51	
		100.00 (default)	305	478	63.48	528	100.00	46	31.49	1.61	2,078	393.6	-	
	Total Corporates		**91,838**	**255,810**	40.55	**189,484**	0.74	**9,221**	40.04	2.58	**81,928**	43.2	**329**	-
3	**Total F-IRB**		**115,276**	**261,335**	92.54	**223,250**	0.82	**9,574**	81.51	4.96	**90,477**	68.6	**340**	-

CR6: IRB – Credit risk exposures by portfolio and PD range (continued)

As at January 31, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
1	**Sovereigns**													
		0.00 to < 0.15	292,985	23,982	53.54	383,408	0.02	1,030	17.27	1.98	14,402	3.8	12	
		0.15 to < 0.25	119	75	57.75	162	0.24	36	28.86	2.19	51	31.3	-	
		0.25 to < 0.50	352	15	53.10	360	0.49	227	26.04	2.60	156	43.4	-	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	100	97	50.81	112	1.37	42	34.04	2.90	93	82.3	1	
		2.50 to < 10.00	-	6	60.56	4	5.40	9	58.55	1.02	7	186.1	-	
		10.00 to < 100.00	-	3	56.74	2	18.42	6	47.48	1.06	4	245.0	-	
		100.00 (default)	39	-	15.25	39	100.00	7	44.94	2.49	1	1.5	35	
	Total Sovereigns		**293,595**	**24,178**	**53.54**	**384,087**	**0.03**	**1,357**	**17.29**	**1.98**	**14,714**	**3.8**	**48**	**36**
2	**Banks**													
		0.00 to < 0.15	23,960	2,658	51.10	34,798	0.05	248	32.44	2.43	5,938	17.1	4	
		0.15 to < 0.25	101	90	51.61	158	0.24	13	54.87	3.30	124	78.2	-	
		0.25 to < 0.50	34	403	47.82	221	0.49	30	34.21	1.04	101	45.4	-	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	185	178	50.27	291	1.25	38	49.09	1.85	311	106.7	2	
		2.50 to < 10.00	54	12	50.30	59	2.76	9	44.51	1.50	73	124.0	1	
		10.00 to < 100.00	-	-	-	-	30.86	3	45.00	1.00	1	277.1	-	
		100.00 (default)	-	-	-	-	100.00	4	45.00	1.09	1	596.3	-	
	Total Banks		**24,334**	**3,341**	**50.67**	**35,527**	**0.07**	**345**	**32.71**	**2.42**	**6,549**	**18.4**	**7**	**1**
3	**Corporates**													
		0.00 to < 0.15	78,089	213,759	52.30	189,198	0.08	26,520	39.93	2.28	47,042	24.9	59	
		0.15 to < 0.25	30,908	29,606	49.13	42,183	0.24	9,132	37.30	2.54	18,528	43.9	38	
		0.25 to < 0.50	26,681	21,658	50.04	35,250	0.49	8,220	33.61	2.46	18,317	52.0	58	
		0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-	
		0.75 to < 2.50	75,110	60,418	47.68	92,988	1.34	21,813	34.93	2.44	71,948	77.4	437	
		2.50 to < 10.00	13,514	12,727	49.54	15,735	4.01	6,790	35.32	2.55	16,966	107.8	218	
		10.00 to < 100.00	1,227	676	51.97	1,366	26.43	1,345	37.96	1.96	2,663	195.0	136	
		100.00 (default)	1,275	761	38.92	1,446	100.00	1,297	37.14	2.08	4,216	291.5	273	
	Total Corporates		**226,805**	**339,604**	**50.92**	**378,166**	**1.09**	**75,117**	**37.61**	**2.38**	**179,680**	**47.5**	**1,219**	**1,216**
4	**Total Wholesale**		**544,734**	**367,123**	**51.09**	**797,780**	**0.53**	**76,819**	**27.61**	**2.19**	**200,943**	**25.2**	**1,274**	**1,253**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR6: IRB – Credit risk exposures by portfolio and PD range (continued)

As at January 31, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
5	**Retail insured exposure secured by real estate**													
		0.00 to < 0.15	13,551			1,087	0.14	95,783	16.44		58	5.4	-	
		0.15 to < 0.25	-			-	-	-	-		-	-	-	
		0.25 to < 0.50	43,576			1,931	0.32	179,153	20.01		233	12.0	1	
		0.50 to < 0.75	-			-	-	-	-		-	-	-	
		0.75 to < 2.50	5,677			121	1.24	27,167	14.11		26	21.3	-	
		2.50 to < 10.00	2,440			3	4.96	14,494	14.69		1	49.8	-	
		10.00 to < 100.00	507			2	29.74	2,583	16.17		2	95.2	-	
		100.00 (default)	171			2	100.00	1,094	13.53		4	179.3	-	
	Total Retail insured exposure secured by real estate		**65,923**			**3,146**	**0.39**	**320,274**	**18.54**		**324**	**10.3**	**2**	**7**
6	**Uninsured residential mortgages**													
		0.00 to < 0.15	219,098	282	100.00	219,380	0.13	643,362	18.43		12,219	5.6	51	
		0.15 to < 0.25	142	76	100.00	218	0.22	87	72.24		72	32.9	-	
		0.25 to < 0.50	17	124	100.00	141	0.34	536	17.14		17	11.8	-	
		0.50 to < 0.75	-	-	-	-	-	-	-		-	-	-	
		0.75 to < 2.50	16,181	202	100.00	16,383	0.91	45,857	19.26		3,930	24.0	29	
		2.50 to < 10.00	4,358	8	100.00	4,367	4.30	15,794	18.52		2,570	58.9	35	
		10.00 to < 100.00	1,041	1	100.00	1,042	24.48	3,556	18.07		1,079	103.6	46	
		100.00 (default)	208	-	-	208	100.00	941	17.28		32	15.2	38	
	Total Uninsured residential mortgages		**241,045**	**693**	**100.00**	**241,738**	**0.45**	**710,133**	**18.53**		**19,919**	**8.2**	**199**	**221**

[1] Refer to “Internal ratings map” under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR6: IRB – Credit risk exposures by portfolio and PD range (continued)

As at January 31, 2023

			a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF	Average CCF (%)	EAD post CRM and post-CCF	Average PD (%)	Number of obligors[2]	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)	EL	Provisions[3]
	Asset Classes													
7	**HELOCs**													
		0.00 to < 0.15	31,807	118,142	91.51	139,916	0.08	842,658	24.34		7,357	5.3	28	
		0.15 to < 0.25	-	-	-	-	-	-	-		-	-	-	
		0.25 to < 0.50	-	-	-	-	-	-	-		-	-	-	
		0.50 to < 0.75	2,156	1,543	92.04	3,576	0.71	38,049	24.81		936	26.2	6	
		0.75 to < 2.50	-	-	-	-	-	-	-		-	-	-	
		2.50 to < 10.00	840	299	91.73	1,114	4.52	12,770	25.06		884	79.4	13	
		10.00 to < 100.00	166	14	93.42	180	33.04	1,341	24.05		257	143.1	14	
		100.00 (default)	74	1	-	74	100.00	651	25.51		43	58.7	19	
	Total HELOCs		**35,043**	**119,999**	**91.51**	**144,860**	**0.22**	**895,469**	**24.36**		**9,477**	**6.5**	**80**	**77**
8	**Qualifying revolving retail**													
		0.00 to < 0.15	8,284	57,988	77.16	53,030	0.12	4,894,741	93.97		3,584	6.8	58	
		0.15 to < 0.25	9,289	43,362	84.07	45,745	0.18	3,422,665	88.19		4,237	9.3	74	
		0.25 to < 0.50	1,027	6,059	97.07	6,910	0.39	3,817,952	88.06		1,179	17.1	24	
		0.50 to < 0.75	28	121	93.12	141	0.59	7,706	101.52		38	27.3	1	
		0.75 to < 2.50	8,561	9,448	82.15	16,323	1.28	2,288,306	91.26		7,163	43.9	190	
		2.50 to < 10.00	4,139	2,461	77.40	6,043	3.74	1,247,735	90.38		5,658	93.6	202	
		10.00 to < 100.00	985	361	51.38	1,171	28.71	437,584	91.26		3,114	265.9	306	
		100.00 (default)	65	-	-	65	100.00	40,187	87.11		166	255.2	44	
	Total Qualifying revolving retail		**32,378**	**119,802**	**81.01**	**129,428**	**0.78**	**16,156,876**	**91.08**		**25,139**	**19.4**	**898**	**1,387**
9	**Other retail**													
		0.00 to < 0.15	47,743	5,402	85.02	52,304	0.12	372,259	30.70		4,803	9.2	19	
		0.15 to < 0.25	3,827	9,438	86.13	11,957	0.21	142,175	80.40		4,159	34.8	20	
		0.25 to < 0.50	10,484	1,396	109.91	11,840	0.32	434,526	64.34		4,474	37.8	25	
		0.50 to < 0.75	2,404	1,057	91.15	2,706	0.59	146,403	82.01		1,844	68.1	13	
		0.75 to < 2.50	16,984	3,576	93.03	19,459	1.16	456,899	57.09		12,709	65.3	137	
		2.50 to < 10.00	5,369	1,410	87.65	6,013	4.07	205,358	62.83		5,734	95.4	151	
		10.00 to < 100.00	1,504	282	97.19	1,521	18.39	38,089	58.79		1,919	126.2	174	
		100.00 (default)	259	35	-	132	100.00	8,940	73.31		252	190.5	80	
	Total Other retail		**88,574**	**22,596**	**88.76**	**105,932**	**0.97**	**1,804,649**	**48.51**		**35,894**	**33.9**	**618**	**618**
10	**Total retail**		**462,963**	**263,090**	**86.52**	**625,104**	**0.55**	**19,887,401**	**40.00**	**-**	**90,753**	**14.5**	**1,797**	**2,310**
	Total		**1,007,697**	**630,213**	**65.80**	**1,422,884**	**0.55**	**19,964,220**	**33.42**	**2.19**	**291,696**	**20.8**	**3,071**	**3,563**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2022 Annual Report MD&A.

[2] Number of obligors is defined as the number of borrowers in each PD band. For Retail exposures, a borrower can appear in multiple PD bands if the borrower has more than one type of product with the bank. In addition, Retail obligors include borrowers where the portion of the exposure has been securitized given CAR guideline requirements related to retained interests. Wholesale obligors are reflected as unique borrowers. For example, sovereign obligors include central banks or agencies, public sector entities and multilateral development banks which are each reflected as unique borrowers in the sovereign asset class. Retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect IFRS 9, Stage 1, 2 & 3 allowances under IRB portfolio.

CR7: IRB – Effect on RWA of credit derivatives used as CRM techniques

The following table provides the effect of credit derivatives used as mitigation techniques in determining RWA amounts. Currently no credit derivatives are used for mitigation.

As at April 30, 2023

		a	b
	(Millions of Canadian dollars)	**Pre-credit derivatives RWA**	**Actual RWA**
1	Sovereign - F-IRB	-	-
2	Sovereign - A-IRB	-	-
3	Banks - F-IRB	-	-
4	Banks - A-IRB	-	-
5	Other securities firms treated as Bank - F-IRB	-	-
6	Other securities firms treated as Bank - A-IRB	-	-
7	Corporate - F-IRB	-	-
8	Corporate - A-IRB	-	-
9	Other securities firms treated as Corporate - F-IRB	-	-
10	Other securities firms treated as Corporate - A-IRB	-	-
11	Specialised lending - F-IRB	-	-
12	Specialised lending - A-IRB	-	-
13	Retail - qualifying revolving (QRRE)	-	-
14	Retail - residential mortgage exposures	-	-
15	Retail - SME	-	-
16	Other retail exposures	-	-
17	Equity - F-IRB	-	-
18	Equity - A-IRB	-	-
19	Purchased receivables - F-IRB	-	-
20	Purchased receivables - A-IRB	-	-
21	**Total**	-	-

As at January 31, 2023

		a	b
	(Millions of Canadian dollars)	**Pre-credit derivatives RWA**	**Actual RWA**
2	Sovereign - A-IRB	-	-
4	Banks - A-IRB	-	-
6	Corporate - A-IRB	-	-
8	Specialised lending - A-IRB	-	-
9	Retail - qualifying revolving (QRRE)	-	-
10	Retail - residential mortgage exposures	-	-
11	Retail - SME	-	-
12	Other retail exposures	-	-
14	Equity - A-IRB	-	-
16	Purchased receivables - A-IRB	-	-
17	**Total**	**-**	**-**

CR8: RWA flow statements of credit risk exposures

The following table presents the changes in Standardized and IRB RWA amounts over the reporting period for the key drivers of credit risk.

		RWA amounts[1]	
	(Millions of Canadian dollars)	As at April 30, 2023	As at January 31, 2023
1	**RWA as at end of previous reporting period**	**457,605**	**446,254**
2	Asset size[2]	457	14,231
3	Asset quality[3]	1,038	709
4	Model updates[4]	1,317	-
5	Methodology and policy[5]	(26,659)	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	3,633	(3,130)
8	Other	(259)	(459)
9	**RWA as at end of reporting period**	**437,132**	**457,605**

[1] RWA flow amounts include both IRB and Standardized Approach figures reflecting our approved roll-out plan for transition to IRB.

[2] Organic changes in portfolio size and composition (including new business and maturing loans).

[3] Quality of book changes caused by experience such as underlying customer behaviour or demographics and credit mitigation.

[4] Updates to the model to reflect recent experience, model implementation, change in model scope or any change to address model malfunctions including changes through model calibrations/realignments.

[5] Methodology changes to the calculations driven by regulatory policy changes.

COUNTERPARTY CREDIT RISK

CCRA: Qualitative disclosure related to counterparty credit risk

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

<table>
<tr><th colspan="2">Pillar 3 disclosures requirement</th><th>RBC 2022 Annual Report section</th><th>Sub-section</th></tr>
<tr><td rowspan="2">a)</td><td rowspan="2">Risk management objectives and policies related to counterparty credit risk</td><td>Credit risk</td><td>Credit risk assessment – Counterparty credit risk</td></tr>
<tr><td>Consolidated Financial Statements</td><td>Note 9 - Derivative financial instruments and hedging activities – Derivative-related credit risk</td></tr>
<tr><td>b)</td><td>The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures</td><td>Credit risk</td><td>Credit risk assessment – Counterparty credit risk</td></tr>
<tr><td rowspan="3">c)</td><td rowspan="3">Policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk, including exposures towards CCPs</td><td>Credit risk</td><td>Credit risk assessment – Counterparty credit risk</td></tr>
<tr><td rowspan="2">Consolidated Financial Statements</td><td>Note 9 - Derivative financial instruments and hedging activities – Derivative-related credit risk</td></tr>
<tr><td>Note 30 - Offsetting financial assets and financial liabilities</td></tr>
<tr><td>d)</td><td>Policies with respect to wrong-way risk exposures</td><td>Credit risk</td><td>Credit risk assessment – Wrong-way risk</td></tr>
<tr><td>e)</td><td>The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade</td><td>Liquidity and funding risk</td><td>Credit ratings</td></tr>
</table>

CCR1: Analysis of counterparty credit risk (CCR) exposure by approach

The following table provides a comprehensive view of the methods used to calculate counterparty credit risk exposures and the main parameters used within each method, if applicable. Refer to CCR 8 for our central counterparty clearing house exposures. Figures below reflect both house and client trades.

As at April 30, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars, except as otherwise noted)	Replacement Cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
1	SA-CCR (for derivatives)	19,485	39,168		1.4	81,739	21,115
2	Internal Model Method (for derivatives and SFTs)						
3	Simple Approach for credit risk mitigation (for SFTs)						
4	Comprehensive Approach for credit risk mitigation (for SFTs)					191,254	6,910
5	Value-at-Risk (VaR) for SFTs						
6	**Total**						**28,025**

As at January 31, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars, except as otherwise noted)	Replacement Cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM[1]	RWA[2]
1	SA-CCR (for derivatives)[1,2]	18,590	36,644		1.4	76,968	21,308
1a	Current Exposure Method (CEM - for derivatives)						
2	Internal Model Method (for derivatives and SFTs)						
3	Simple Approach for credit risk mitigation (for SFTs)						
4	Comprehensive Approach for credit risk mitigation (for SFTs)					195,897	9,680
5	VaR for SFTs						
6	**Total**						**30,988**

[1] Effective Q1 2020, specific wrong way risk is reflected as per OSFI SA-CCR guideline requirement.

[2] RWA includes a calibration adjustment of 1.06% as prescribed by OSFI under the Basel III framework.

CCR2: Credit valuation adjustment (CVA) capital charge

The following table presents a breakdown of the CVA capital charge by advanced and standardized approaches.

As at April 30, 2023

		a	b
	(Millions of Canadian dollars)	EAD post-CRM[1]	RWA[1]
	Total portfolios subject to the Advanced CVA capital charge		
1	(i) VaR component (including the 3x multiplier)		
2	(ii) Stressed VaR component (including the 3x multiplier)		
3	All portfolios subject to the Standardized CVA capital Charge	82,113	14,085
4	**Total subject to the CVA capital charge**	**82,113**	**14,085**

[1] Effective Q1 2019, OSFI has allowed a 0.7 scalar to be applied to the exposure amount determined under SA-CCR for the purpose of determining CVA.

As at January 31, 2023

		a	b
	(Millions of Canadian dollars)	EAD post-CRM[1]	RWA[1]
	Total portfolios subject to the Advanced CVA capital charge		
1	(i) VaR component (including the 3x multiplier)		
2	(ii) Stressed VaR component (including the 3x multiplier)		
3	All portfolios subject to the Standardized CVA capital Charge	77,327	13,469
4	**Total subject to the CVA capital charge**	**77,327**	**13,469**

[1] Effective Q1 2019, OSFI has allowed a 0.7 scalar to be applied to the exposure amount determined under SA-CCR for the purpose of determining CVA.

CCR3: Standardized approach – CCR exposures by regulatory portfolio and risk weights

The following table presents a breakdown of counterparty credit risk exposures calculated according to the standardized approach by portfolio and risk weight.

As at April 30, 2023

	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Risk weight / Regulatory portfolio (Millions of Canadian dollars)	0%	10%	20%	30%	40%	50%	75%	80%	85%	100%	130%	150%	Others	Total credit exposure
Sovereigns	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Banks	-	-	1	11	-	-	-	-	-	-	-	6	-	18
Securities firms and other financial institutions treated as Banks	-	-	-	-	-	8	-	-	-	-	-	29	-	29
Corporates	-	-	2	-	-	-	-	-	-	145	-	1,663	-	1,818
Of which: specialised lending	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Securities firms and other financial institutions treated as Corporate	-	-	-	-	-	-	-	-	-	-	-	12	-	12
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**3**	**11**	**-**	**8**	**-**	**-**	**-**	**145**	**-**	**1,710**	**-**	**1,877**

CCR3: Standardized approach – CCR exposures by regulatory portfolio and risk weights (continued)

As at January 31, 2023

	a	b	c	d	e	f	g	h	i
Risk weight / Regulatory portfolio (Millions of Canadian dollars)	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns	-	-	-	-	-	-	-	-	-
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	23	-	-	23
Securities firms	-	-	-	-	-	15	-	-	15
Corporates	-	-	292	-	-	1,625	-	-	1,917
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**292**	**-**	**-**	**1,663**	**-**	**-**	**1,955**

CCR4: A-IRB – CCR exposures by portfolio and PD scale

The following table presents a detailed view of CCR exposures subject to A-IRB approach by asset classes and PD scale.

As at April 30, 2023

		a	b	c	d	e	f	g
(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	EAD post-CRM	Average PD (%)	Number of obligors	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)
Asset classes								
Sovereigns	0.00 to < 0.15	39,177	0.05	304	7.99	-	998	2.5
	0.15 to < 0.25	29	0.24	8	40.04	-	9	30.4
	0.25 to < 0.50	20	0.46	5	35.78	-	9	42.4
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	2	0.84	4	40.00	-	2	76.8
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	27	100.00	1	40.00	-	134	500.0
Total sovereigns		39,254	0.12	322	8.06	-	1,151	2.9
Corporates								
	0.00 to < 0.15	14,462	0.07	1,170	10.78	-	669	4.6
	0.15 to < 0.25	257	0.24	204	35.68	-	112	43.7
	0.25 to < 0.50	221	0.46	179	34.80	-	102	46.1
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	1,588	1.48	449	37.45	-	1,280	80.6
	2.50 to < 10.00	255	5.83	111	50.15	-	497	195.0
	10.00 to < 100.00	10	31.19	10	40.02	-	21	211.9
	100.00 (default)	-	100.00	3	44.59	-	-	557.3
Total corporates		16,794	0.32	2,126	14.62	-	2,682	16.0
Total		**56,048**	**0.18**	**2,448**	**10.02**		**3,833**	**6.8**

[1] Refer to “Internal ratings map” in the Credit risk assessment section in our 2022 Annual Report MD&A.

CCR4: F-IRB – CCR exposures by portfolio and PD scale

The following table presents a detailed view of CCR exposures subject to F-IRB approach adopted Q2 2023 by asset classes and PD scale. Only Banks and Large Corporates are currently required to follow the Foundation Approach under the CAR guidelines with all other IRB exposures allowed under A-IRB.

As at April 30, 2023

(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	a EAD post-CRM	b Average PD (%)	c Number of obligors	d Average LGD (%)	e Average maturity (in years)	f RWA	g RWA density (%)
Asset classes								
Banks								
	0.00 to < 0.15	109,114	0.07	297	12.29	-	5,835	5.3
	0.15 to < 0.25	201	0.24	23	40.39	-	93	46.2
	0.25 to < 0.50	2,252	0.46	18	3.53	-	93	4.1
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	391	1.00	26	20.30	-	138	35.2
	2.50 to < 10.00	-	6.40	1	45.00	-	-	192.9
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	7	100.00	2	45.00	-	39	562.5
Total banks		**111,965**		**367**			**6,198**	
Corporates								
	0.00 to < 0.15	96,280	0.06	7,297	33.17	-	11,579	12.0
	0.15 to < 0.25	1,850	0.24	355	42.37	-	786	42.5
	0.25 to < 0.50	2,093	0.46	129	42.30	-	1,289	61.6
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	2,640	1.24	229	41.40	-	2,186	82.8
	2.50 to < 10.00	224	3.79	53	41.35	-	282	125.6
	10.00 to < 100.00	16	19.71	4	40.00	-	31	195.7
	100.00 (default)	-	-	-	-	-	-	-
Total corporates		**103,103**		**8,067**			**16,153**	
Total		**215,068**	**0.10**	**8,434**	**22.52**	**-**	**22,351**	**0.1**

[1] Refer to “Internal ratings map” in the Credit risk assessment section in our 2022 Annual Report MD&A.

CCR4: A-IRB – CCR exposures by portfolio and PD scale (Jan 2023)

As at January 31, 2023

(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	a EAD post-CRM	b Average PD (%)	c Number of obligors	d Average LGD (%)	e Average maturity (in years)	f RWA	g RWA density (%)
Asset classes								
Sovereigns	0.00 to < 0.15	40,748	0.05	321	15.44	1.36	1,964	4.8
	0.15 to < 0.25	104	0.24	13	43.43	1.55	43	41.4
	0.25 to < 0.50	2	0.50	5	35.74	1.00	1	43.8
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	2	1.52	4	45.00	2.48	3	123.5
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	100.00	1	45.00	1.00	1	596.3
Total sovereigns		**40,856**	**0.05**	**344**	**15.52**	**1.36**	**2,012**	**4.9**
Banks								
	0.00 to < 0.15	111,695	0.06	292	14.38	0.71	6,471	5.8
	0.15 to < 0.25	251	0.24	20	40.97	1.50	112	44.8
	0.25 to < 0.50	2,028	0.50	20	5.13	0.56	141	7.0
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	350	1.05	28	23.42	0.67	154	44.0
	2.50 to < 10.00	-	2.74	1	45.00	5.00	-	165.8
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total banks		**114,324**	**0.07**	**361**	**14.30**	**0.71**	**6,878**	**6.0**
Corporates								
	0.00 to < 0.15	105,702	0.06	8,462	32.55	0.77	12,858	12.2
	0.15 to < 0.25	2,292	0.24	584	41.78	1.51	1,022	44.6
	0.25 to < 0.50	2,192	0.50	305	43.48	1.59	1,535	70.0
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	5,003	1.34	674	37.56	1.68	4,101	82.0
	2.50 to < 10.00	516	3.02	181	48.67	3.02	802	155.6
	10.00 to < 100.00	26	21.92	14	43.74	1.26	59	230.7
	100.00 (default)	-	-	-	-	-	-	-
Total corporates		**115,731**	**0.15**	**10,220**	**33.24**	**0.85**	**20,377**	**17.6**
Total		**270,911**	**0.07**	**10,925**	**22.58**	**0.87**	**29,267**	**10.8**

[1] Refer to "Internal ratings map" in the Credit risk assessment section in our 2022 Annual Report MD&A.

CCR5: Composition of collateral for CCR exposure

The following table presents a breakdown of collateral posted or received to support or reduce the CCR exposures related to derivative transactions or securities financing transactions (SFTs), including transactions cleared through a central counterparty clearing house (CCP).

As at April 30, 2023

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(Millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash - domestic currency	91	2,593	144	3,867	43,078	60,882
Cash - other currencies	5,695	17,950	14,493	18,545	356,384	370,235
Domestic sovereign debt	452	1,114	2,477	487	125,883	125,947
Other sovereign debt	4,723	2,026	5,388	1,613	285,496	266,888
Government agency debt	270	644	384	2,236	88,774	101,258
Corporate bonds	2,117	1,043	2,044	-	40,579	48,928
Equity securities	1,122	29	113	3,662	98,749	159,777
Other collateral	-	-	-	-	27,216	6,915
Total	**14,470**	**25,399**	**25,043**	**30,410**	**1,066,159**	**1,140,830**

As at October 31, 2022

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(Millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash - domestic currency	385	4,261	693	1,565	43,941	62,710
Cash - other currencies	6,634	19,456	14,598	28,798	325,277	338,600
Domestic sovereign debt	540	2,902	3,100	420	139,312	135,716
Other sovereign debt	4,378	1,885	5,149	1,258	253,649	246,708
Government agency debt	1,077	588	328	1,831	70,701	85,222
Corporate bonds	1,041	775	1,244	-	36,292	37,113
Equity securities	926	-	1,204	3,764	109,766	145,957
Other collateral	-	35	-	-	26,816	8,141
Total	**14,981**	**29,902**	**26,316**	**37,636**	**1,005,754**	**1,060,167**

CCR6: Credit derivatives exposures

The following table presents credit derivatives bought or sold by notional and fair values.

As at April 30, 2023

	a	b
(Millions of Canadian dollars)	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	10,036	16,844
Index credit default swaps	58,854	45,582
Total return swaps	-	-
Credit options	1,009	-
Other credit derivatives	-	-
Total notionals	**69,899**	**62,426**
Fair values		
Positive fair value (asset)	105	291
Negative fair value (liability)	22	122

As at January 31, 2023

	a	b
(Millions of Canadian dollars)	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	9,118	15,307
Index credit default swaps	28,030	15,389
Total return swaps	-	-
Credit options	225	133
Other credit derivatives	-	-
Total notionals	**37,373**	**30,829**
Fair values		
Positive fair value (asset)	36	319
Negative fair value (liability)	26	50

CCR7: RWA flow statements of CCR exposures under the Internal Model Method (IMM)

We currently do not apply the IMM to our counterparty credit risk exposures.

CCR8: Exposures to central counterparties

The following table presents a comprehensive view of our exposures to central counterparty clearing houses (CCPs), including due to operations, margins and contributions to default funds, and related RWA.

As at April 30, 2023

		a	b
(Millions of Canadian dollars)		EAD (post-CRM)	RWA
1	**Exposures to QCCPs (total)**	**44,599**	**653**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	27,943	619
3	(i) OTC derivatives	10,334	266
4	(ii) Exchange-traded derivatives	14,635	293
5	(iii) Securities financing transactions	2,974	60
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	6,991	
8	Non-segregated initial margin	1,967	-
	Pre-funded default fund contributions	1,628	34
	Unfunded default fund contributions[1]	6,070	-
9	**Exposures to non-QCCPs (total)**		
10	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		
11	(i) OTC derivatives		
12	(ii) Exchange-traded derivatives		
13	(iii) Securities financing transactions		
14	(iv) Netting sets where cross-product netting has been approved		
15	Segregated initial margin		
16	Non-segregated initial margin		
	Pre-funded default fund contributions		
	Unfunded default fund contributions		

[1] Unfunded default fund contributions are risk weighted at 0%.

CCR8: Exposures to central counterparties (continued)

As at January 31, 2023

	(Millions of Canadian dollars)	a EAD (post-CRM)	b RWA
1	**Exposures to QCCPs (total)**	**50,937**	**679**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	30,306	652
3	(i) OTC derivatives	11,802	282
4	(ii) Exchange-traded derivatives	14,059	281
5	(iii) Securities financing transactions	4,445	89
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	8,651	
8	Non-segregated initial margin	4,833	-
9	Pre-funded default fund contributions	1,373	27
10	Unfunded default fund contributions[1]	5,774	-
11	**Exposures to non-QCCPs (total)**		
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which		
13	(i) OTC derivatives		
14	(ii) Exchange-traded derivatives		
15	(iii) Securities financing transactions		
16	(iv) Netting sets where cross-product netting has been approved		
17	Segregated initial margin		
18	Non-segregated initial margin		
19	Pre-funded default fund contributions		
20	Unfunded default fund contributions		

[1] Unfunded default fund contributions are risk weighted at 0%.

SECURITIZATION

SECA: Qualitative disclosure requirements related to securitization exposures

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

	Pillar 3 disclosures requirement	RBC 2022 Annual Report section	Sub-section
a)	Objectives in relation to securitization activities	Off-balance sheet arrangements	Off-balance sheet arrangements
		Consolidated Financial Statements	Note 7 - Derecognition of financial assets
		Consolidated Financial Statements	Note 8 - Structured entities
b)	List of SPEs where RBC is sponsor / provides implicit support	Consolidated Financial Statements	Note 8 - Structured entities
c)	Accounting policies for securitization	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments - Basis of consolidation - Derecognition of financial assets
		Critical accounting policies and estimates	Consolidation of structured entities
d)	The names of external credit assessment institution (ECAIs) used for securitizations and the types of securitization exposure for which each agency is used	Capital management (also refer to CRD in this document)	Regulatory capital approach for securitization exposures
e)	Use of Basel IAA for capital purposes	Credit risk	n/a
		Capital management	Regulatory capital approach for securitization exposures
f)	Use of other internal assessment for capital purposes	Credit risk	Credit risk assessment

SEC1: IRB – Securitization exposures in the banking book

The following table presents the breakdown of our balance sheet banking book carrying values by our role and type.

As at April 30, 2023

		a	b	c	d	e	f	g	h	i	j	k	l
		Bank acts as originator[1]				Bank acts as sponsor[2]				Bank acts as investor[3]			
(Millions of Canadian dollars)		Traditional	Of which simple, transparent and comparable (STC)	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**-**	**35,907**	**31,379**	**-**	**35,907**	**281**	**-**	**-**	**281**
2	residential mortgage					2,995	1,923		2,995	2	-		2
3	credit card					5,529	4,469		5,529	-	-		-
4	other retail exposures					27,383	24,987		27,383	279	-		279
4a	of which student loans					3,601	3,601		3,601	239			239
4b	of which auto loans and leases					17,063	16,237		17,063	40			40
4c	of which consumer loans					6,719	5,151		6,719	-			-
4d	of which other retail					-	-		-	-			-
5	re-securitization					-	-		-	-			-
6	**Wholesale (total) – of which**			**1,162**	**1,162**	**18,536**	**12,329**		**18,536**	**11,508**	**-**		**11,508**
7	loans to corporates			1,162	1,162	3,443	-		3,443	10,232	-		10,232
8	commercial mortgage					-	-		-	72	-		72
9	lease and receivables					-	-		-	-	-		-
10	other wholesale					15,093	12,329		15,093	1,204	-		1,204
10a	of which dealer floor plan receivable					1,723	1,609		1,723	-	-		-
10b	of which equipment receivable					4,434	4,275		4,434	-	-		-
10c	of which trade receivable					229	229		229	-	-		-
10d	of which other wholesale					8,707	6,216		8,707	1,204	-		1,204
11	re-securitization												

[1] Bank acts as originator reflects securitization activities in which we securitize our own assets (e.g. Golden credit card securitization).

[2] Bank acts as sponsor reflects securitization activities in which RBC works with its client to originate securitization transactions. RBC provides the liquidity and credit enhancement facilities to the SPE.

[3] Bank acts as investor reflects purchases of securitization assets from the market.

SEC1: IRB – Securitization exposures in the banking book (continued)

As at January 31, 2023

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
(Millions of Canadian dollars)		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**46,484**	**-**	**46,484**	**318**	**-**	**318**
2	residential mortgage	-	-	-	3,403	-	3,403	2	-	2
3	credit card	-	-	-	9,174	-	9,174	-	-	-
4	other retail exposures	-	-	-	33,907	-	33,907	316	-	316
4a	of which student loans	-	-	-	4,456	-	4,456	247	-	247
4b	of which auto loans and leases	-	-	-	21,573	-	21,573	69	-	69
4c	of which consumer loans	-	-	-	7,878	-	7,878	-	-	-
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) – of which**	**-**	**-**	**-**	**22,120**	**-**	**22,120**	**11,262**	**-**	**11,262**
7	loans to corporates	-	-	-	3,463	-	3,463	9,961	-	9,961
8	commercial mortgage	-	-	-	-	-	-	77	-	77
9	lease and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale	-	-	-	18,657	-	18,657	1,224	-	1,224
10a	of which dealer floor plan receivable	-	-	-	2,169	-	2,169	-	-	-
10b	of which equipment receivable	-	-	-	5,524	-	5,524	-	-	-
10c	of which trade receivable	-	-	-	276	-	276	-	-	-
10d	of which other wholesale	-	-	-	10,688	-	10,688	1,224	-	1,224
11	re-securitization	-	-	-	-	-	-	-	-	-

[1] Bank acts as originator reflects securitization activities in which we securitize our own assets (e.g. Golden credit card securitization).

[2] Bank acts as sponsor reflects securitization activities in which RBC works with its client to originate securitization transactions. RBC provides the liquidity and credit enhancement facilities to the SPE.

[3] Bank acts as investor reflects purchases of securitization assets from the market.

SEC2: IRB – Securitization exposures in the trading book

The following table presents the breakdown of our balance sheet trading book carrying values by our role and type.

As at April 30, 2023

		a	b	c	d	e	f	g	h	i	j	k	l
		Bank acts as originator[1]				Bank acts as sponsor[2]				Bank acts as investor[3]			
	(Millions of Canadian dollars)	Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total	Traditional	Of which STC	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**221**	**-**	**-**	**221**
2	residential mortgages	-	-	-	-	-	-	-	-	3	-	-	3
3	credit cards	-	-	-	-	-	-	-	-	14	-	-	14
4	other retail exposures	-	-	-	-	-	-	-	-	204	-	-	204
4a	of which student loans	-	-	-	-	-	-	-	-	36	-	-	36
4b	of which auto loans and leases	-	-	-	-	-	-	-	-	161	-	-	161
4c	of which consumer loans	-	-	-	-	-	-	-	-	7	-	-	7
4d	of which other retail	-	-	-	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1,105**	**-**	**-**	**1,105**
7	loans to corporates	-	-	-	-	-	-	-	-	210	-	-	210
8	commercial mortgages	-	-	-	-	-	-	-	-	26	-	-	26
9	leases and receivables	-	-	-	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	-	-	869	-	-	869
10a	of which dealer floor plan receivables	-	-	-	-	-	-	-	-	-	-	-	-
10b	of which equipment receivables	-	-	-	-	-	-	-	-	1	-	-	1
10c	of which trade receivables	-	-	-	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	-	-	868	-	-	868
11	re-securitization	-	-	-	-	-	-	-	-	-	-	-	-

[1] Bank acts as originator reflects securitization activities in which we securitize our own assets.

[2] Bank acts as sponsor reflects securitization activities in which RBC works with its client to originate securitization transactions. RBC provides the liquidity and credit enhancement facilities to the SPE.

[3] Bank acts as investor reflects purchases of securitization assets from the market.

Commercial Mortgage exposures decreased this quarter due to an update of the securitization classification of certain commercial mortgage backed securities.

SEC2: IRB – Securitization exposures in the trading book (continued)

As at January 31, 2023

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
	(Millions of Canadian dollars)	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**161**	**-**	**161**
2	residential mortgages	-	-	-	-	-	-	3	-	3
3	credit cards	-	-	-	-	-	-	24	-	24
4	other retail exposures	-	-	-	-	-	-	134	-	134
4a	of which student loans	-	-	-	-	-	-	55	-	55
4b	of which auto loans and leases	-	-	-	-	-	-	75	-	75
4c	of which consumer loans	-	-	-	-	-	-	4	-	4
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**5,317**	**-**	**5,317**
7	loans to corporates	-	-	-	-	-	-	187	-	187
8	commercial mortgages	-	-	-	-	-	-	3,887	-	3,887
9	leases and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	1,243	-	1,243
10a	of which dealer floor plan receivables	-	-	-	-	-	-	-	-	-
10b	of which equipment receivables	-	-	-	-	-	-	7	-	7
10c	of which trade receivables	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	1,236	-	1,236
11	re-securitization	-	-	-	-	-	-	-	-	-

[1] Bank acts as originator reflects securitization activities in which we securitize our own assets.

[2] Bank acts as sponsor reflects securitization activities in which RBC works with its client to originate securitization transactions. RBC provides the liquidity and credit enhancement facilities to the SPE.

[3] Bank acts as investor reflects purchases of securitization assets from the market.

SEC3: Securitization exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor

The following table presents a breakdown of securitization exposures in the banking book by risk weight and by regulatory approach when we act as originator or sponsor, and the associated capital requirements.

As at April 30, 2023

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap (by regulatory approach)			
	(Millions of Canadian dollars)	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%
1	**Total exposures**	**50,169**	**3,535**	**1,584**	**317**	**-**	**1,162**	**44,328**	**10,115**	**-**	**174**	**6,204**	**2,338**	**-**	**14**	**496**	**187**	**-**
2	Traditional securitization	49,007	3,535	1,584	317	-	-	44,328	10,115	-	-	6,204	2,338	-	-	496	187	-
3	Of which: securitization	49,007	3,535	1,584	317	-	-	44,328	10,115	-	-	6,204	2,338	-	-	496	187	-
4	Of which: retail underlying	33,784	1,702	279	143	-	-	32,395	3,512	-	-	4,312	448	-	-	345	36	-
5	Of which: STC	30,895	419	66	-	-	-	29,106	2,274	-	-	3,377	244	-	-	270	20	-
6	Of which: wholesale	15,223	1,833	1,305	174	-	-	11,933	6,603	-	-	1,892	1,890	-	-	151	151	-
7	Of which: STC	11,912	145	124	149	-	-	10,694	1,635	-	-	1,606	206	-	-	128	16	-
8	Of which: re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Synthetic securitization	1,162	-	-	-	-	1,162	-	-	-	174	-	-	-	14	-	-	-
10	Of which: securitization	1,162	-	-	-	-	1,162	-	-	-	174	-	-	-	14	-	-	-
11	Of which: retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Of which: wholesale	1,162	-	-	-	-	1,162	-	-	-	174	-	-	-	14	-	-	-
13	Of which: re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] SEC-IRBA exposures reflect exposures where we have underlying IRB approval currently.

As at January 31, 2023

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA[3] (by regulatory approach)				Capital charge after cap (by regulatory approach)			
(Millions of Canadian dollars)		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA [1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**61,636**	**4,949**	**1,595**	**423**	**-**	**-**	**55,028**	**13,575**	**-**	**-**	**7,689**	**2,865**	**-**	**-**	**615**	**229**	**-**
2	Traditional securitization	61,636	4,949	1,595	423	-	-	55,028	13,575	-	-	7,689	2,865	-	-	615	229	-
3	Of which securitization	61,636	4,949	1,595	423	-	-	55,028	13,575	-	-	7,689	2,865	-	-	615	229	-
4	Of which retail underlying	43,875	1,952	410	245	-	-	41,133	5,350	-	-	5,448	715	-	-	436	57	-
5	Of which wholesale	17,761	2,997	1,185	178	-	-	13,895	8,225	-	-	2,241	2,150	-	-	179	172	-
6	Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Synthetic securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Of which securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] OSFI adopted BCBS Revised Securitization Framework in Q1 2019. Effective Q1 2020, transitional grandfathering is no longer allowed.

[2] As per disclosure requirements Internal assessment approach (IAA) exposures have been included with securitization external rating based approach.

[3] Under the revised securitization framework, OSFI has removed the 1.06% IRB scalar for securitization exposures not risk weighted at 1250%.

[4] SEC-IRBA exposures reflect exposures where we have underlying IRB approval currently.

SEC4: Securitization exposures in the banking book and associated capital requirements – bank acting as investor

The following table presents a breakdown of securitization exposures in the banking book by risk weight and by regulatory approach when we act as investor, and the associated capital requirements.

As at April 30, 2023

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap (by regulatory approach)			
	(Millions of Canadian dollars)	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%	SEC – IRBA [1]	SEC – ERBA and SEC-IAA	SEC – SA	1250%
1	**Total exposures**	**11,566**	**179**	**-**	**25**	**19**	**-**	**11,770**	**-**	**19**	**-**	**2,458**	**-**	**243**	**-**	**197**	**-**	**19**
2	Traditional securitization	11,566	179	-	25	19	-	11,770	-	19	-	2,458	-	243	-	197	-	19
3	Of which: securitization	11,566	179	-	25	19	-	11,770	-	19	-	2,458	-	243	-	197	-	19
4	Of which: retail underlying	263	18	-	-	-	-	281	-	-	-	59	-	-	-	5	-	-
5	Of which: STC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	Of which: wholesale	11,303	161	-	25	19	-	11,489	-	19	-	2,399	-	243	-	192	-	19
7	Of which: STC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Of which: re-securitization																	
9	Synthetic securitization																	
10	Of which: securitization																	
11	Of which: retail underlying																	
12	Of which: wholesale																	
13	Of which: re-securitization																	

[1] SEC-IRBA exposures reflect exposures where we have underlying IRB approval currently.

As at January 31, 2023

		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA[3] (by regulatory approach)				Capital charge after cap (by regulatory approach)			
(Millions of Canadian dollars)		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**11,375**	**140**	**20**	**26**	**19**	**-**	**11,561**	**-**	**19**	**-**	**2,418**	**-**	**237**	**-**	**194**	**-**	**19**
2	Traditional securitization	11,375	140	20	26	19	-	11,561	-	19	-	2,418	-	237	-	194	-	19
3	Of which securitization	11,375	140	20	26	19	-	11,561	-	19	-	2,418	-	237	-	194	-	19
4	Of which retail underlying	276	41	-	2	-	-	319	-	-	-	72	-	-	-	6	-	-
5	Of which wholesale	11,099	99	20	24	19	-	11,242	-	19	-	2,346	-	237	-	188	-	19
6	Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Synthetic securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10	Of which securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11	Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12	Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13	Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15	Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

[1] OSFI adopted BCBS Revised Securitization Framework in Q1 2019. Effective Q1 2020, transitional grandfathering is no longer allowed.

[2] As per disclosure requirements Internal assessment approach (IAA) exposures have been included with securitization external rating based approach.

[3] Under the revised securitization framework, OSFI has removed the 1.06% IRB scalar for securitization exposures not risk weighted at 1,250%.

[4] SEC-IRBA exposures reflect exposures where we have underlying IRB approval currently.

MARKET RISK

MRA: Qualitative disclosure requirements related to market risk

Market risk management strategies and processes

Market risk arises from our trading and non-trading portfolios. The primary objective of trading is to generate an optimal return on our capital while ensuring that risks remain within our risk appetite. Trading activities involve market making, facilitating client transactions and hedging risks generated from these activities.

Market risk also arises from our non-trading portfolio as a result of managing interest rate risk from client-originating banking products (such as loans and deposits) and related hedge transactions, portfolios used for asset-liability management and liquidity management, exposures designated as FVOCI, and exposures from our insurance operations.

To ensure that market risk remains within our risk appetite, we hedge our market risk exposures where appropriate. We use cash and derivative financial instruments, as permitted by regulatory and jurisdictional requirements, to manage the market risk related to our trading and non-trading activities.

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-Section
a)	Processes implemented to identify, measure, monitor and control the bank's market risks	Market Risk	Market risk controls – FVTPL positions
			Stress tests
			Market risk measures – FVTPL positions
			Market risk measures for assets and liabilities of RBC Insurance
			Market risk controls – Interest Rate Risk in the Banking Book (IRRBB) positions
			IRRBB measurement
			Market risk measures – IRRBB Sensitivities
			Market risk measures for other material non-trading portfolios
	Policies for hedging risk and strategies/processes for monitoring the continuing effectiveness of hedges	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgements – Hedge accounting

MRA: Qualitative disclosure requirements related to market risk (continued)

Market risk management structure and organization

The Enterprise Market Risk Management Framework is the governance and control framework for the management of market risk within the bank. The market risk management structure is designed to ensure strong corporate governance over all market risk in the context of each business considering operating environment, industry best practices, and regulatory requirements. Drivers of market risk are considered in the bank's policies, practices and standards which are continuously updated given dynamic market and regulatory conditions.

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

<table>
<tr><th colspan="2">Pillar 3 disclosures requirement</th><th>RBC 2022 Annual Report section</th><th>Sub-Section</th></tr>
<tr><td rowspan="8">b)</td><td rowspan="6">Description of the market risk governance structure established to implement the strategies and processes of the bank</td><td rowspan="6">Enterprise Risk Management</td><td>Risk governance</td></tr>
<tr><td>Risk appetite</td></tr>
<tr><td>Risk measurement</td></tr>
<tr><td>Risk control</td></tr>
<tr><td>Risk measurement - Stress testing</td></tr>
<tr><td>Culture and conduct risk</td></tr>
<tr><td rowspan="2">Description of the relationships and the communication mechanisms between the different parties involved in market risk management</td><td rowspan="2">Enterprise Risk Management</td><td>Risk governance</td></tr>
<tr><td>Risk control</td></tr>
</table>

Scope and nature of risk reporting and/or measurement systems

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

<table>
<tr><th colspan="2">Pillar 3 disclosures requirement</th><th>RBC 2022 Annual Report section</th><th>Sub-Section</th></tr>
<tr><td rowspan="12">c)</td><td rowspan="12">Scope and nature of risk reporting and/or measurement systems</td><td rowspan="3">Enterprise Risk Management</td><td>Risk measurement</td></tr>
<tr><td>Risk control</td></tr>
<tr><td>Risk measurement – Stress testing</td></tr>
<tr><td rowspan="9">Market Risk</td><td>Market risk controls – FVTPL positions</td></tr>
<tr><td>Stress tests</td></tr>
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<tr><td>Market risk measures – IRRBB Sensitivities</td></tr>
<tr><td>Market risk measures for other material non-trading portfolios</td></tr>
</table>

MRB: Qualitative disclosures for banks using the Internal Models Approach (IMA)

Internal models used for measuring Market Risk

Measure	Description	Percentage of market risk regulatory capital[1]
Regulatory Value at Risk (VaR)	VaR is a statistical measure of potential loss for a financial portfolio computed at a given level of confidence and over a defined holding period. We measure VaR at the 99th percentile confidence level and for regulatory capital measurement we take the more conservative of the one-day holding period scaled up to a ten-day holding period or the direct ten-day holding period. The measure is computed daily, using a full-revaluation approach to generate potential profit or loss values arising from historically observed daily market movements. The historical period used to compute VaR is comprised of the recent two years of equally weighted market data, and is rolled forward on a weekly basis. A mix of absolute and relative returns are used in generating the historical market changes.	8%
Stressed VaR (SVaR)	SVaR is calculated daily in a similar manner as VaR, but based on a ten-day holding period directly and using a one year period of heightened volatility. We currently use the historical period between 2019 and 2020 covering the market volatility observed during Q2 2020. This historical period chosen reflects the one year period of greatest potential loss for our portfolio.	28%
Incremental Risk Charge (IRC)	IRC captures the risk of losses under default or rating changes for issuers of traded instruments. IRC is measured over a one-year horizon at a 99.9% confidence level, and captures different liquidity horizons for instruments and concentrations in issuers under a constant level of risk assumption.	10%

[1] As at April 30, 2023.

VaR and SVaR

The VaR and SVaR models are used for computing regulatory capital for trading book positions across the enterprise, where we have obtained approval from our regulator. We model a general market risk measure, a debt specific risk measure, and an equity total risk measure; along with a total correlated risk measure which combines the above distributions. For portions of our portfolio for which we do not have regulatory approval for models based capital, we use the Standardized Approach to compute regulatory capital.

For management purposes, VaR and SVaR are both computed with one-day holding periods and are applied to all positions that impact the bank's revenue across the trading book and non-trading book. A sensitivity-ladder interpolation approach is applied for some positions instead of full-revaluation, and inactive non-trading book positions are refreshed monthly.

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-Section
c)	General description of the models (VaR/stressed VaR)	Market Risk	Market Risk Controls – FVTPL positions
g)	Description of stress testing applied to the modelling parameters	Market Risk	Stress tests

The VaR and SVaR models are governed by our model risk governance framework, which requires that models are validated on a regular basis by a model validation group that is independent of the model developers. The VaR and SVaR models are also subject to ongoing model performance monitoring. The VaR model is back tested by comparing changes in the mark-to-market amounts to the computed VaR on a daily basis, in order to ensure that actual outcomes in trading revenue do not exceed the VaR projections beyond the expectations of the applied confidence interval. Backtesting is also performed using a hypothetical profit and loss calculation which allows for comparisons to the total correlated VaR, the general market risk VaR, and asset class VaR measures separately.

While the majority of market risks are reflected in our VaR models, there is the potential for certain risks to be inadequately captured. This can occur due to infrastructure limitations, lack of historical market data or missing risk factors within our VaR models. These Risks Not in VaR (RNIV) are identified through backtesting and other model monitoring processes, and are incorporated into the VaR models, where possible. An assessment of residual RNIV materiality is reviewed and monitored against thresholds at least quarterly.

MRB: Qualitative disclosures for banks using the Internal Models Approach (continued)

Incremental Risk Charge

Our IRC model is applied to debt instruments, credit products, and credit derivatives within our trading portfolios. A probability modelling technique known as the Monte Carlo simulation process is used to generate a statistically relevant number of loss scenarios due to issuer ratings migration and default in order to establish the losses at that confidence level. These scenarios are determined using a transition probability matrix which is calibrated using recent 20 years of historical issuer ratings migration and default observations. Correlations between issuer regions and sectors are calibrated using eight years of historical equity time series data. For the Monte Carlo process, each position is assigned a liquidity horizon (the length of time to close out a position) of three months, six months, or one year, depending on its issuer type, credit rating, and maturity profile.

The IRC model is also subject to the same independent vetting, validation procedures and model risk governance framework as the VaR and SVaR models. Model performance monitoring includes reviews and stress testing of model assumptions, which includes stress testing the historical correlation and liquidity assumptions. Due to the long time horizon and high confidence level of the risk measure, we do not perform backtesting of the IRC model as we do for the VaR measure.

MR1: Market risk under standardized approach

The following table presents the components of the capital requirement under the standardized approach for market risk.

		RWA	
	(Millions of Canadian dollars)	**As at April 30, 2023**	**As at January 31, 2023**
	Outright products		
1	Interest rate risk (general and specific)	6,787	4,853
2	Equity risk (general and specific)	716	565
3	Foreign exchange risk	3,104	2,904
4	Commodity risk	1,033	1,197
	Options		
5	Simplified approach	-	-
6	Delta-plus method	-	-
7	Scenario approach	7,721	5,346
8	**Securitization**	759	1,284
9	**Total**	**20,120**	**16,149**

Total standardized approach RWA increased this quarter due to increased risk in our equity and interest rate derivatives portfolio and due to an update of securitization classification for certain commercial mortgage backed securities.

MR2: RWA flow statements of market risk exposures under the Internal Models Approach (IMA)

The following table presents variations in the Market RWA determined under the Internal Models Approach.

As at April 30, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars)	VaR	Stressed VaR	IRC	CRM	Other	Total RWA
1	**RWA at previous quarter end**	**2,761**	**9,873**	**3,852**	**-**	**-**	**16,486**
2	Movement in risk levels[1]	211	932	(180)	-	-	963
3	Model updates/changes[2]	169	(94)	18	-	-	93
4	Methodology and policy[3]	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements[4]	-	-	23	-	-	23
7	Other	-	-	-	-	-	-
8	**RWA at end of Reporting Period**	**3,141**	**10,711**	**3,713**	**-**	**-**	**17,565**

[1] Change in risk due to position changes and averaging in of prior quarter model updates.

[2] Updates to the model to reflect recent market volatility, model implementation, change in model scope or any change to address model malfunctions including changes through model calibrations/realignments.

[3] Methodology changes to the calculations driven by regulatory policy changes. Please note that these changes may be temporary.

[4] Foreign exchange movements for VaR and Stressed VaR are embedded within movement in risk levels.

As at January 31, 2023

		a	b	c	d	e	f
	(Millions of Canadian dollars)	VaR	Stressed VaR	IRC	CRM	Other	Total RWA
1	**RWA at previous quarter end**	**2,605**	**11,295**	**4,189**	**-**	**-**	**18,089**
2	Movement in risk levels[1]	(235)	(1,826)	(392)	-	-	(2,453)
3	Model updates/changes[2]	391	404	8	-	-	803
4	Methodology and policy[3]	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements[4]	-	-	47	-	-	47
7	Other	-	-	-	-	-	-
8	**RWA at end of Reporting Period**	**2,761**	**9,873**	**3,852**	**-**	**-**	**16,486**

[1] Change in risk due to position changes and averaging in of prior quarter model updates.

[2] Updates to the model to reflect recent market volatility, model implementation, change in model scope or any change to address model malfunctions including changes through model calibrations/realignments.

[3] Methodology changes to the calculations driven by regulatory policy changes. Please note that these changes may be temporary.

[4] Foreign exchange movements for VaR and Stressed VaR are embedded within movement in risk levels.

MR3: IMA values for trading portfolios

The following table presents minimum, maximum, average and period-end regulatory 10 day VaR, regulatory 10 day stressed VaR, incremental risk charge and comprehensive risk capital charge. These measures are based on the scope of the global trading book with internal models approach (IMA) approval from OSFI for calculating regulatory market risk capital.

(Millions of Canadian dollars)		Value	
VaR (10 day 99%)[1,2]		As at April 30, 2023	As at January 31, 2023
1	Maximum value	134	93
2	Average value	82	73
3	Minimum value	49	50
4	Period end	115	52
Stressed VaR (10 day 99%)[1]			
5	Maximum value	455	361
6	Average value	280	263
7	Minimum value	168	152
8	Period end	234	168
Incremental Risk Charge (99.9%)			
9	Maximum value	453	389
10	Average value	296	307
11	Minimum value	225	224
12	Period end	231	303
Comprehensive Risk capital charge (99.9%)			
13	Maximum value	-	-
14	Average value	-	-
15	Minimum value	-	-
16	Period end	-	-
17	Floor (standardized measurement method)	-	-

[1] The portfolio included in regulatory VaR and SVaR represents a subset of the portfolio captured in management VaR and SVaR reported in the Market Risk section of the 2022 Annual Report.

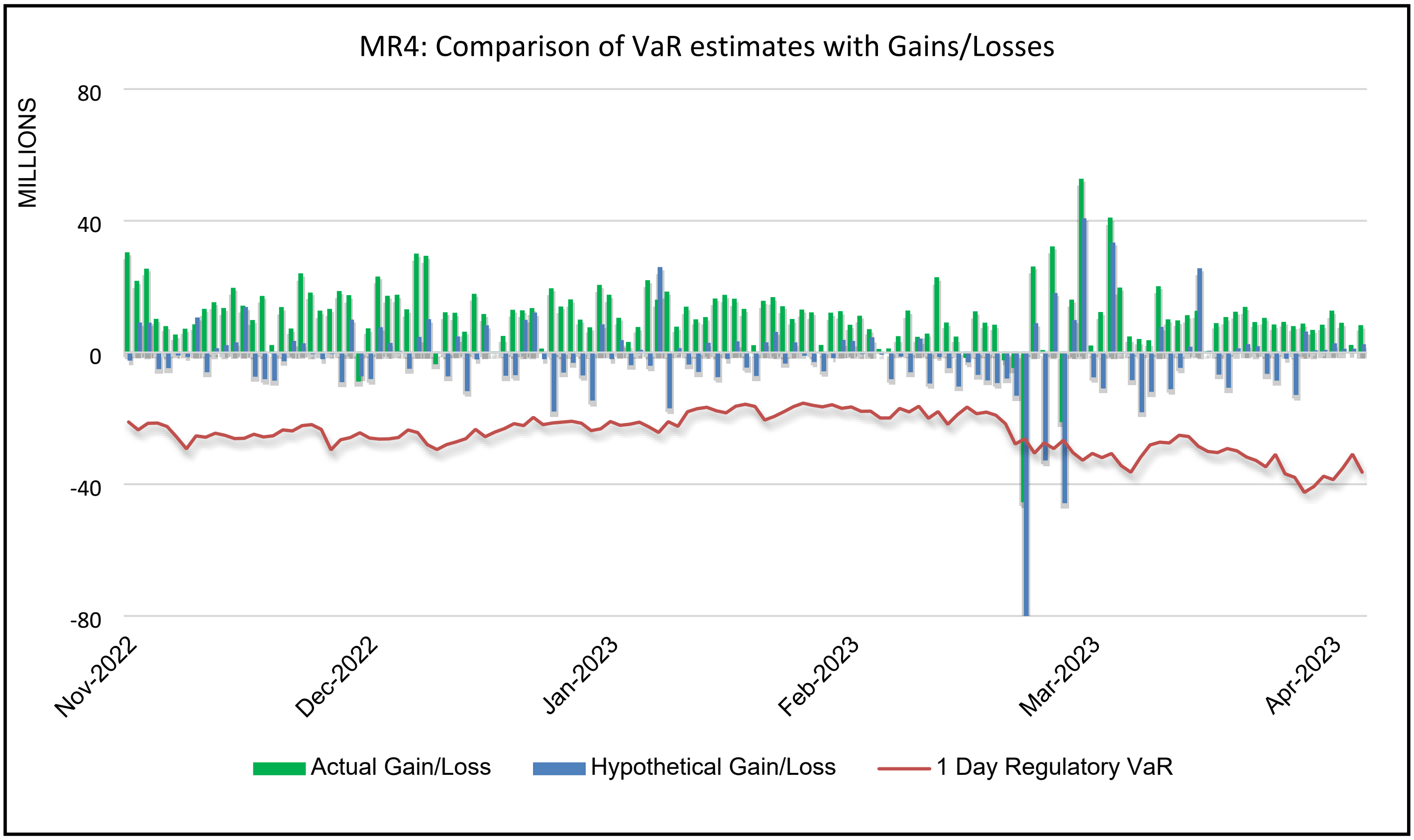
[2] VaR shown reflects the more conservative of either a one-day holding period scaled up to a ten-day holding period or the direct ten-day holding period.

Average VaR increased this quarter due to market volatility in March 2023 being reflected in our two-year historical VaR period.

Average IRC decreased this quarter due to reductions in certain fixed income inventories.

MR4: Comparison of VaR estimates with gains/losses

The following graph compares the results of the 1 day regulatory VaR model with both hypothetical and actual trading gains and losses, for all trading portfolios included in Internal Models Approach (IMA) based market risk capital.



Actual Gain/Loss reported in this graph is the gain or loss which occurred as a result of all portfolio changes impacting income over the holding period and therefore includes reserves and intraday trading but excludes commissions and fees. Hypothetical Gain/Loss is the gain or loss which would have occurred if end of day positions remained unchanged.

Refer to table MRB for further details into our backtesting program and a list of the key models used at the group-wide level with explanations as to the extent they represent the models used at the group-wide level.

During the six month period ending April 30 2023, the bank experienced one backtesting exception of Total Risk VaR against Actual Gain/Loss.

During the six month period ending April 30 2023, the bank experienced three Hypothetical Gain/Loss breaches, all experienced during the heightened market volatility in March.

LEVERAGE

LR1: Summary comparison of accounting assets vs leverage ratio exposure measure

The following table presents a reconciliation of our total assets per our published financial statements to our leverage ratio exposure measure.

LEVERAGE RATIO[1] Summary comparison of accounting assets vs. leverage ratio exposure measure (Millions of Canadian dollars)		Q2/2023	Q1/2023	Q4/2022	Q3/2022	Q2/2022
1	**Total consolidated assets as per published financial statements**	**$1,940,302**	**$1,933,019**	**$1,917,219**	**1,842,092**	**1,848,572**
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(17,908)	(17,362)	(16,073)	(16,940)	(16,400)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transfer[2]	-	-	-	-	-
4	Adjustment for fiduciary assets recognized on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	-	-	-	-	-
5	Adjustments for derivative financial instruments	(23,699)	(36,321)	(51,188)	(23,150)	(51,622)
6	Adjustment for securities financing transactions (SFT) (i.e. repo assets and similar secured lending)	17,305	17,762	16,624	15,711	15,557
7	Adjustments for off-balance sheet items (i.e., credit equivalent amounts of off-balance sheet exposures)	242,434	258,399	251,034	239,621	235,629
8	Other adjustments[3]	(42,054)	(234,187)	(219,437)	(217,489)	(219,307)
9	**Leverage Ratio Exposure**	**$2,116,380**	**$1,921,310**	**$1,898,179**	**1,839,845**	**1,812,429**

[1] Based on OSFI's LR guideline effective Q2 2023.

[2] OSFI's LR guideline allows for the exclusion of securitized exposures that meet the operational requirements for risk transference.

[3] Includes OSFI permitted exclusion of central bank reserves that qualify as high quality liquid assets and exposures related to the US Government Payment Protection Program (PPP). Exclusions for central bank reserves ceased on April 1, 2023.

LR2: Leverage ratio common disclosure template

The following table presents a detailed breakdown of the components of our leverage ratio. Maintaining a prescribed minimum level of leverage helps neutralizes leverage risk in the event of unexpected economic crises. OSFI requires maintenance of a minimum leverage ratio of 3.5% at all times.

LEVERAGE RATIO COMMON DISCLOSURE TEMPLATE[1] (Millions of Canadian dollars, except percentages)		Q2/2023	Q1/2023	Q4/2022	Q3/2022	Q2/2022
	On-balance sheet exposures					
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures, but including collateral)	1,460,662	1,262,959	1,254,962	1,203,354	1,179,634
2	Gross-up for derivatives collateral provided where deducted from balance sheet assets pursuant to the operative accounting framework (IFRS)	-	-	-	-	-
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(20,471)	(21,342)	(26,414)	(20,944)	(24,092)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(21,583)	(21,438)	(22,090)	(18,434)	(19,042)
5	**Total on-balance sheet exposure (excluding derivatives and SFTs) (sum of lines 1 and 4)**	**1,418,608**	**1,220,179**	**1,206,458**	**1,163,976**	**1,136,500**
	Derivatives exposures					
6	Replacement cost associated with all derivatives transactions (i.e., net of eligible cash variation margin)	29,666	28,554	41,180	35,086	43,576
7	Add-on amounts for potential future exposure (PFE) associated with all derivatives transactions	68,038	62,973	60,172	62,798	60,134
8	(Exempted central counterparty (CCP)-leg of client-cleared trade exposures)	-	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	2,746	2,271	1,897	1,023	872
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-	-	-	-
11	**Total derivative exposures (sum of lines 6 to 10)**	**100,450**	**93,798**	**103,249**	**98,907**	**104,582**
	Securities financing transaction exposures					
12	Gross SFT assets recognized for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions	437,241	418,383	415,017	416,893	401,372
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(99,658)	(87,211)	(94,203)	(95,262)	(81,211)
14	Counterparty credit risk (CCR) exposure for SFTs	17,305	17,762	16,624	15,710	15,557
15	Agent transaction exposures	-	-	-	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15)**	**354,888**	**348,934**	**337,438**	**337,341**	**335,718**
	Other off-balance sheet exposures					
17	Off-balance sheet exposures at gross notional amount	767,609	749,066	733,563	706,583	694,093
18	(Adjustments for conversion to credit equivalent amounts)	(525,175)	(490,667)	(482,529)	(466,962)	(458,464)
19	**Off-balance sheet items (sum of lines 17 and 18)**	**242,434**	**258,399**	**251,034**	**239,621**	**235,629**
	Capital and Total Exposures					
20	**Tier 1 capital**	**88,400**	**85,357**	**84,242**	**84,207**	**84,345**
20a	**Tier 1 capital with transitional arrangements for ECL provisioning not applied**			**84,070**	**84,073**	**84,242**
21	**Total Exposures (sum of lines 3,11,16 and 19)**	**2,116,380**	**1,921,310**	**1,898,179**	**1,839,845**	**1,812,429**
	Leverage ratio					
22	**Basel III leverage ratio**	**4.2%**	**4.4%**	**4.4%**	**4.6%**	**4.7%**
22a	**Basel III leverage ratio with transitional arrangements for ECL provisioning not applied**			**4.4%**	**4.6%**	**4.6%**

[1] Based on OSFI's LR guideline effective Q2 2023.

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

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

TOTAL LOSS ABSORBING CAPACITY (TLAC) DISCLOSURE REQUIREMENTS

KM2: Key metrics – TLAC requirements (at resolution group level)

The following summary table provides information about our TLAC available, and TLAC requirements applied, at the resolution group level under a Single Point of Entry. TLAC requirements establish two minimum standards, which are required to be met effective November 1, 2021: the risk-based TLAC ratio, which builds on the risk-based capital ratios described in the CAR guideline, and the TLAC leverage ratio, which builds on the leverage ratio described in OSFI's LR guideline. The risk-based TLAC ratio is defined as TLAC divided by Total risk-weighted assets (RWA) while the TLAC leverage ratio is defined as TLAC divided by the Leverage ratio exposure. OSFI requires systemically important banks to maintain a minimum TLAC ratio of 24% (inclusive of the domestic stability buffer of 2.5%) and a TLAC leverage ratio of 6.75%. On December 8, 2022, OSFI announced the DSB would further increase to 3% of RWA effective February 1, 2023. Thus, our TLAC ratio minimum requirement beginning Q2 2023 is 24.5%. Our TLAC leverage ratio minimum requirement beginning Q2 2023 is 7.25% reflecting incorporation of a 50bps leverage buffer discussed in the Leverage Framework section above. We began issuing TLAC eligible debt in Q4 2018 and our TLAC ratio is expected to increase through normal course refinancing of maturing debt.

		a	b	c	d	e	f
(Millions of Canadian dollars, except as otherwise noted)		April 30 2023	January 31 2023	October 31 2022	July 31 2022	April 30 2022	Change (a) - (b)
Resolution group[1]							
1	Total loss-absorbing capacity (TLAC) available	183,978	173,179	160,961	162,284	158,140	10,799
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	183,978	173,179	160,961	162,284	158,140	10,799
2	Total RWA at the level of the resolution group	593,533	614,250	609,879	589,050	585,839	(20,717)
3	TLAC ratio: TLAC as a percentage of RWA (row 1/row 2) (%)	31.0%	28.2%	26.4%	27.6%	27.0%	2.8%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied			26.4%	27.6%	27.0%	0.0%
4	Leverage ratio exposure measure at the level of the resolution group	2,116,380	1,921,310	1,898,179	1,839,845	1,812,429	195,070
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1/row 4) (%)	8.7%	9.0%	8.5%	8.8%	8.7%	(0.3)%
5a	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1a/row 4) (%) with transitional arrangements for ECL provisioning not applied			8.5%	8.8%	8.7%	0.0%
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	Yes	Yes	Yes	Yes	Yes	-
6b	Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	No	No	No	No	No	-
6c	If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is recognized as external TLAC, divided by funding issued that ranks pari passu with Excluded Liabilities and that would recognized as external TLAC if no cap was applied (%)	N/A	N/A	N/A	N/A	N/A	-

[1] Lines 1, 3 and 5 incorporate expected credit loss (ECL) transitional modification provided by OSFI as announced on March 27, 2020. Lines 1a, 3a and 5a represent TLAC available with transitional arrangements for ECL provisioning not applied.

Our TLAC ratio of 31.0% was up 280 bps, reflecting the factors as noted in KM1 under the Total capital ratio, as well as a favourable impact from the net issuance of external TLAC instruments.

Our TLAC leverage ratio of 8.7% was down 30 bps, reflecting the factors noted above under the LR2, as well as a favourable impact from the net issuance of external TLAC instruments.

TLAC1: TLAC composition (at resolution group level)

The following table presents details of the composition of our TLAC.

As at April 30, 2023

(Millions of Canadian dollars, except as otherwise noted)		Amount
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 capital (CET1)	81,103
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,297
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	AT1 instruments eligible under the TLAC framework	7,297
6	Tier 2 capital (T2) before TLAC adjustments	11,140
7	Amortised portion of T2 instruments where remaining maturity > 1 year	1,219
8	T2 capital ineligible as TLAC as issued out of subsidiaries to third parties	-
9	Other adjustments	-
10	T2 instruments eligible under the TLAC framework	12,359
11	TLAC arising from regulatory capital	100,759
	Non-regulatory capital elements of TLAC	
12	External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	-
13	External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC term sheet requirements	83,817
14	Of which: amount eligible as TLAC after application of the caps	83,817
15	External TLAC instruments issued by funding vehicles prior to January 1, 2022	-
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution	-
17	TLAC arising from non-regulatory capital instruments before adjustments	83,817
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	184,576
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs and D-SIBs)	-
20	Deduction of investments in own other TLAC liabilities	(598)
21	Other adjustments to TLAC	-
22	TLAC available after deductions	183,978
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	593,533
24	Leverage exposure measure	2,116,380
	TLAC ratios and buffers	
25	TLAC Ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime, row 22 / row 23)	31.0%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	8.7%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	8.8%
28	Institution-specific buffer (capital conservation buffer plus countercyclical buffer plus higher loss absorbency, expressed as a percentage of risk-weighted assets)	3.5%
29	Of which: capital conservation buffer	2.5%
30	Of which: bank specific countercyclical buffer	0.0%
31	Of which: higher loss absorbency	1.0%

TLAC1: TLAC composition (at resolution group level) (continued)

As at January 31, 2023

	(Millions of Canadian dollars, except as otherwise noted)	Amount
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 capital (CET1)	78,055
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,302
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	AT1 instruments eligible under the TLAC framework	7,302
6	Tier 2 capital (T2) before TLAC adjustments	11,081
7	Amortised portion of T2 instruments where remaining maturity > 1 year	1,197
8	T2 capital ineligible as TLAC as issued out of subsidiaries to third parties	-
9	Other adjustments	-
10	T2 instruments eligible under the TLAC framework	12,278
11	TLAC arising from regulatory capital	97,635
	Non-regulatory capital elements of TLAC	
12	External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	-
13	External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC term sheet requirements	75,864
14	Of which: amount eligible as TLAC after application of the caps	75,864
15	External TLAC instruments issued by funding vehicles prior to January 1, 2022	-
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution	-
17	TLAC arising from non-regulatory capital instruments before adjustments	75,864
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	173,499
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs and D-SIBs)	-
20	Deduction of investments in own other TLAC liabilities	(320)
21	Other adjustments to TLAC	-
22	TLAC available after deductions	173,179
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	614,250
24	Leverage exposure measure	1,921,310
	TLAC ratios and buffers	
25	TLAC Ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime, row 22 / row 23)	28.2%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	9.0%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	7.7%
28	Institution-specific buffer (capital conservation buffer plus countercyclical buffer plus higher loss absorbency, expressed as a percentage of risk-weighted assets)	3.5%
29	Of which: capital conservation buffer	2.5%
30	Of which: bank specific countercyclical buffer	0.0%
31	Of which: higher loss absorbency	1.0%

TLAC2: Material subgroup entity – creditor ranking at legal entity level (G-SIBs only)

TLAC 2 is a G-SIB disclosure requirement to provide the ranking of the liability structure of all our material subsidiaries in foreign jurisdictions as defined by the FSB TLAC term sheet. RBC US Group Holdings LLC ("RBC IHC") is a material subsidiary entity for which TLAC 2 disclosure would be required. Effective January 1, 2021, RBC IHC must comply with the Federal Reserve TLAC rules which require reporting of TLAC ratios for calendar quarters on or after June 2021. OSFI has advised RBC it can align its IHC TLAC 2 disclosure requirements to similarly commence in Q3 2021 and will require only disclosure of IHC calendar quarter TLAC ratios. OSFI does require us to disclose TLAC 2 for any other material subsidiary identified, however, at this time RBC IHC is our only material subsidiary.

As at April 30, 2023

(Millions of Canadian dollars, except as otherwise noted) Based on US GAAP		Creditor ranking					
		1 (most junior)	2	3	4	5	Sum
1	Is the resolution entity the creditor/investor? (yes or no)	yes	-	no	yes	-	-
2	Description of creditor ranking	Common shares	Preferred shares and Limited Recourse Capital Notes	Subordinated Debt	Bail-in Debt[1]	Other Liabilities excluding Bail-in Debt and Subordinated Debt[2]	
3	Total capital and liabilities net of credit risk mitigation	23,803	-	-	15,672	2,100	41,575
4	Subset of row 3 that are excluded liabilities	-	-	-	-	2,100	2,100
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)	23,803	-	-	15,672	-	39,475
6	Subset of row 5 that are eligible as TLAC	23,803	-	-	15,672	-	39,475
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years			-	-	-	-
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years			-	9,585	-	9,585
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years			-	6,087	-	6,087
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities			-	-	-	-
11	Subset of row 6 that is perpetual securities	23,803	-	-	-	-	23,803

[1] Under the Bail-in regime, claims of some creditors whose claims otherwise rank equally with those of the holders holding bail-inable notes would be excluded from a bail-in conversion and thus the holders and beneficial owners of bail-inable notes will have to absorb losses ahead of these other creditors as a result of the bail-in conversion. Bail-in-Debt represents TLAC Eligible Long-Term Debt based on U.S. TLAC rules.

[2] Completion of this column is not required by OSFI at this time.

TLAC2: Material subgroup entity – creditor ranking at legal entity level (G-SIBs only) (continued)

As at January 31, 2023

	(Millions of Canadian dollars, except as otherwise noted) Based on US GAAP	Creditor ranking					
		1	2	3	4	5	Sum
		(most junior)					
1	Is the resolution entity the creditor/investor? (yes or no)	yes	-	no	yes	-	-
2	Description of creditor ranking	Common shares	Preferred shares and Limited Recourse Capital Notes	Subordinated Debt	Bail-in Debt[1]	Other Liabilities excluding Bail-in Debt and Subordinated Debt[2]	
3	Total capital and liabilities net of credit risk mitigation	23,167	-	-	15,699	-	38,866
4	Subset of row 3 that are excluded liabilities	-	-	-	-	-	-
5	Total capital and liabilities less excluded liabilities (row 3 minus row 4)	23,167	-	-	15,699	-	38,866
6	Subset of row 5 that are eligible as TLAC	23,167	-	-	15,699	-	38,866
7	Subset of row 6 with 1 year ≤ residual maturity < 2 years			-	-	-	-
8	Subset of row 6 with 2 years ≤ residual maturity < 5 years			-	9,602	-	9,602
9	Subset of row 6 with 5 years ≤ residual maturity < 10 years			-	6,097	-	6,097
10	Subset of row 6 with residual maturity ≥ 10 years, but excluded perpetual securities			-	-	-	-
11	Subset of row 6 that is perpetual securities	23,167	-	-	-	-	23,167

[1] Under the Bail-in regime, claims of some creditors whose claims otherwise rank equally with those of the holders holding bail-inable notes would be excluded from a bail-in conversion and thus the holders and beneficial owners of bail-inable notes will have to absorb losses ahead of these other creditors as a result of the bail-in conversion. Bail-in-Debt represents TLAC Eligible Long-Term Debt based on U.S. TLAC rules.

[2] Completion of this column is not required by OSFI at this time.

TLAC3: Resolution entity – creditor ranking at legal entity level

The following table provides information regarding the ranking of our unsecured liabilities structure at the resolution entity level.

As at April 30, 2023

	(Millions of Canadian dollars, except as otherwise noted)	Creditor ranking 1 (most junior)	2	3	4	5	Sum
1	Description of creditor ranking	Common shares	Preferred shares and Limited Recourse Capital Notes	Subordinated Debt	Bail-in Debt[1]	Other Liabilities excluding Bail-in Debt and Subordinated Debt[2]	
2	Total capital and liabilities net of credit risk mitigation	17,984	7,323	11,992	100,816	-	138,115
3	Subset of row 2 that are excluded liabilities	128	5	51	12,804	-	12,988
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,856	7,318	11,941	88,012	-	125,127
5	Subset of row 4 that are *potentially* eligible as TLAC	17,856	7,318	11,941	88,012	-	125,127
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	29,372	-	29,372
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			2,032	37,661	-	39,693
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			9,449	13,145	-	22,594
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			460	7,834	-	8,294
10	Subset of row 5 that is perpetual securities	17,856	7,318	-	-	-	25,174

[1] Under the Bail-in regime, claims of some creditors whose claims otherwise rank equally with those of the holders holding bail-inable notes would be excluded from a bail-in conversion and thus the holders and beneficial owners of bail-inable notes will have to absorb losses ahead of these other creditors as a result of the bail-in conversion.

[2] Completion of this column is not required by OSFI at this time.

TLAC3: Resolution entity – creditor ranking at legal entity level (continued)

As at January 31, 2023

(Millions of Canadian dollars, except as otherwise noted)		Creditor ranking 1 (most junior)	2	3	4	5	Sum
1	Description of creditor ranking	Common shares	Preferred shares and Limited Recourse Capital Notes	Subordinated Debt	Bail-in Debt[1]	Other Liabilities excluding Bail-in Debt and Subordinated Debt[2]	
2	Total capital and liabilities net of credit risk mitigation	17,112	7,323	11,951	93,892	-	130,508
3	Subset of row 2 that are excluded liabilities	-	-	26	13,698	-	14,113
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,112	7,323	11,925	80,194	-	116,395
5	Subset of row 4 that are *potentially* eligible as TLAC	17,112	7,323	11,925	80,194	-	116,395
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	24,356	-	24,356
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			1,995	39,412	-	41,407
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			7,975	7,842	-	15,817
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			1,955	8,584	-	10,539
10	Subset of row 5 that is perpetual securities	16,953	7,323	-	-	-	24,276

[1] Under the Bail-in regime, claims of some creditors whose claims otherwise rank equally with those of the holders holding bail-inable notes would be excluded from a bail-in conversion and thus the holders and beneficial owners of bail-inable notes will have to absorb losses ahead of these other creditors as a result of the bail-in conversion.

[2] Completion of this column is not required by OSFI at this time.

OPERATIONAL RISK

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2022 Annual Report section	Sub-section
a)	Details of the approach for operational risk capital assessment for which the bank qualifies	Operational risk	Operational risk capital
b)	Description of the advanced measurement approaches for operational risk (AMA)[1]	n/a	n/a
c)	For banks using the AMA, a description of the use of insurance for the purpose of mitigating operational risk[1]	n/a	n/a

[1] Effective November 1, 2019, OSFI discontinued the AMA approach.

INTEREST RATE RISK IN THE BANKING BOOK

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2022 Annual Report and incorporated by reference into this Pillar 3 report. Our 2022 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement	RBC 2022 Annual Report section	Sub-section
Interest rate risk in the banking book	Market Risk	Market Risk