Royal Bank of Canada

Pillar 3 Report

As at April 30, 2021

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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 2020 Annual Report, in other filings with Canadian regulators or the SEC, in other reports to shareholders including our Q2 2021 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", "plan" and "project" and similar expressions of future or conditional verbs such as "will", "may", "should", "could" or "would". By their very nature, forward-looking statements require us to make assumptions and are subject to inherent risks and uncertainties, which give rise to the possibility that our predictions, forecasts, projections, expectations or conclusions will not prove to be accurate, that our assumptions may not be correct and that our financial performance and management objectives, vision and strategic goals will not be achieved. We caution readers not to place undue reliance on these statements as a number of risk factors could cause our actual results to differ materially from the expectations expressed in such forward-looking statements. Additional information about certain risk factors can be found in the Caution regarding forward-looking statements and risk sections of our 2020 Annual Report and the Risk management and Impact of COVID-19 pandemic sections of our Q2 2021 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 86,000+ 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 more than 17 million clients in Canada, the U.S. and 27 other countries. Learn more at rbc.com.

Our business segments include Personal & Commercial Banking, Wealth Management, Insurance, Investor & Treasury Services, and Capital Markets. 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 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;
- 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 2020 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 January 2015, the BCBS published the "*Revised Pillar 3 Disclosure Requirements*" (Revised Standards) to encourage market discipline through regulatory disclosure requirements. The Revised Standards require comprehensive disclosure of our risks and regulatory capital including our methodologies used in calculating capital requirements instituted under Pillar 1. Existing requirements in the areas of credit risk, counterparty credit risk and securitization activities were replaced by the Revised Standards. OSFI mandated the domestic implementation of the first phase of the Revised Standards for Canadian domestic systemically important banks (D-SIBs) for the reporting period ending October 31, 2018. This Pillar 3 report provides disclosures reflective of this first phase of the Revised Standards.

In March 2017, the BCBS issued its second phase of the Pillar 3 disclosure requirements entitled, "*Pillar 3 disclosure requirements – consolidated and enhanced framework*". The disclosure standard consolidates all existing Pillar 3 disclosure requirements of the Basel III framework, including the leverage and liquidity ratios disclosure templates.

In December 2018, the BCBS issued its third and final phase (phase three) of the Pillar 3 disclosure requirements, *Pillar 3 disclosure requirements – updated framework.* This phase incorporates 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 asset encumbrance and capital distribution constraints. The phase three requirements, together with the phase one and two disclosure requirements released in January 2015 and March 2017, respectively, complete the Pillar 3 framework. On March 27, 2020, OSFI announced that it would delay its implementation of the phase three BCBS Pillar 3 disclosure requirements to January 31, 2023. On March 11, 2021, OSFI released for public consultation its draft revised Pillar 3 guideline incorporating the domestic implementation of all three phases to be effective in fiscal 2023. Our Pillar 3 disclosures will be updated to reflect the finalized guideline requirements.

Effective November 1, 2018, OSFI adopted the BCBS frameworks related to the Standardized Approach for measuring counterparty credit risk (SA-CCR), capital requirements for bank exposures to central counterparties (CCPs) and the revised securitization framework as incorporated in OSFI's Capital Adequacy Requirements (CAR) guideline.

On November 1, 2019, the impact of adoption of IFRS 16 *Leases*, and removal of allowed grandfathering and transitioning treatment for certain securitization and counterparty credit risk exposures was incorporated in our measurement of regulatory capital. In addition, we adopted, the Standardized Approach for consolidated regulatory reporting of operational risk as the use of the Advanced Measurement Approach was discontinued by OSFI. This Pillar 3 report reflects the CAR guideline requirements for all periods, including prior period comparatives.

To address the recent economic disruption caused by the COVID-19 pandemic, OSFI announced a series of regulatory capital modifications which are described in more detail in our Capital management section of our 2020 Annual Report, as updated by the Capital management section of our Q2 2021 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 and risk-weight exclusions for certain exposures. In addition, OSFI also allowed delaying for six months, from the date of deferral, the past due treatment of all loan deferrals requested by clients. On August 31, 2020, OSFI amended this deferral treatment allowing any deferrals issued on or after August 31 to September 30, 2020 to only be exempt from past due treatment for a period of 3 months. Therefore, any deferrals given to clients on or after October 1, 2020 must follow the past due treatment required under the CAR guidelines. Our reported figures reflect this guidance as fully described in our Capital management section of our 2020 Annual Report, as updated by the Capital management section of our Q2 2021 Report to Shareholders.

Since Q2 2020, our disclosure for KM1: Key Capital and Leverage metrics template includes disclosure of our capital ratios assuming transitional ECL modifications had not been applied, as required by OSFI.

Refer to the Capital Management section of our Q2 2021 Report to Shareholders for further information on upcoming regulatory reforms which were announced during the quarter.

Leverage framework

On October 30, 2014, OSFI issued its "Leverage Requirements (LR) Guideline", which reflected its adoption of the BCBS "Basel III leverage ratio framework and disclosure requirement" effective the first fiscal quarter of 2015. The LR guideline requires banks to disclose their leverage ratio and its underlying components. 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.

Poorly managed 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. OSFI requires maintenance of a minimum leverage ratio of 3% at all times.

On October 30, 2018, OSFI published its updated LR Guideline, effective November 1, 2018. The revisions aligned the LR guideline with OSFI's adoption of the BCBS *"Standardized approach for measuring counterparty credit risk exposures"* and *Revisions to the securitization framework"*. On November 1, 2019, the impact of adoption of IFRS 16 *Leases*, was incorporated into our leverage ratio.

In addition to the pre-existing 3% leverage ratio minimum requirement, the BCBS has introduced an additional leverage ratio buffer requirement for global systemically-important banks (G-SIB) as part of their Basel III reforms *"Basel III: Finalizing post-crisis reforms* (December 2017)*"*. The G-SIB 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. On July 16, 2018 OSFI announced that all Canadian D-SIBs will be held to the 3.5% minimum leverage requirements including RBC which has been designated a G-SIB.

On November 20, 2018, OSFI updated its Leverage disclosure guidelines, which are based on BCBS phase two disclosure requirements, to reflect the revisions to the LR and CAR guidelines mentioned above. Refer to our Leverage disclosures included in this report, as required by OSFI.

To address the recent economic disruption caused by the COVID-19 pandemic, 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 Nov. 5, 2020, OSFI extended the allowed exclusion of central bank reserves and sovereign-issued securities another eight months to December 31, 2021. Our reported leverage figures reflect this guidance as fully described in our Capital management section of our 2020 Annual Report, as updated in the Capital management section of our Q2 2021 Report to Shareholders.

Since Q2 2020, our disclosure 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.

TLAC framework

The Canadian Bail-in regime, including OSFI's Total Loss Absorbing Capacity (TLAC) Framework 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, bail-in debt, which would ordinarily rank equally to Other Liabilities in liquidation, is subject to conversion under statutory resolution powers whereas Other Liabilities are not subject to such conversion.

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 Leverage Requirements 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 22.5% (inclusive of the revised domestic stability buffer of 1% in Q2 2020) and a TLAC leverage ratio of 6.75%. We began issuing TLAC eligible debt in Q4 2018 and our TLAC ratio is expected to increase through normal course refinancing of maturing debt through the effective date of the TLAC requirements.

In May 2018, OSFI published its TLAC Disclosure Guideline for Canadian D-SIBs. The disclosure requirements reflect the BCBS TLAC disclosure requirements as outlined in the BCBS March 2017 phase two requirements mentioned above. 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.

DISCLOSURE MAP

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 Annual Report Reference
Overview of key metrics, risk management and RWA	KM1				
	OVA	a) Business model and risk profile	Significant developments: COVID-19	Impact of pandemic risk factor	19
				Programs in support of liquidity and funding	21
			Top and emerging risks	Top and emerging risks	53-55
			Risk management overview	Risk management principles	56
				Risk drivers	56
			Enterprise risk management	Risk governance	57
				Risk appetite	58
				Risk measurement	58-59
				Risk control	59-60
		b) Risk governance structure	Enterprise risk management	Risk governance	57
				Risk control	59-60
		c) Communication and enforcement of risk culture within the bank	Enterprise risk management	Culture and conduct risk	60-61
		d) Scope and main features of risk measurement systems	Enterprise risk management	Risk measurement	58-59
		e) Risk information reporting	Enterprise risk management	Risk control - *Risk monitoring and reporting*	60
		f) Stress testing	Enterprise risk management	Risk measurement – *Stress testing*	59
			Market risk	Stress tests	73
			Systemic risk	Systemic risk	93-94
		g) Strategies and processes applied to manage, hedge and mitigate risks	Enterprise risk management	Risk appetite	58
				Risk measurement	58-59
				Risk control	59-60
			Credit risk	Overview	61-62
				Credit risk measurement	62
				Credit risk assessment	63-64
				Credit risk mitigation	64-65
				Credit risk approval	65
				Credit risk administration	65
			Market risk	Market risk controls – FVTPL positions	73
				Stress tests	73
				Market risk controls – Interest Rate Risk in the Banking Book (IRRBB)	75
				IRRBB measurement	75
				Non-trading foreign exchange rate risk	76
			Liquidity and funding risk	Overview	78
				Risk control	79
				Risk measurement	79
				Funding	81-83
				Liquidity coverage ratio	85-86
			Insurance risk	Insurance risk	89
			Operational risk	Overview	89
				Operational risk framework	89
			Regulatory compliance risk	Regulatory compliance risk	91
			Strategic risk	Strategic risk	91
			Reputation risk	Reputation risk	91-92
			Legal and regulatory environment risk	Legal and regulatory environment risk	92-93
			Competitive risk	Competitive risk	93
			Systemic risk	Systemic risk	93-94
			Environmental and social risk	Environmental and social risk	95
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivatives issued for trading purposes*	177
				Note 8 – Derivative financial instruments and hedging activities - *Derivatives issued for other-than-trading purposes*	177-178
				Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
	OV1				

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 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			
Credit risk	CRA	a) Translation of the business model into the components of the bank's credit risk profile	Credit risk	Overview	61-62
				Measurement of economic and regulatory capital - *Gross credit risk exposure*	62-63
		b) Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Enterprise risk management	Risk governance	57
				Risk appetite	58
				Risk measurement	58-59
				Risk control - *Delegated authorities and risk limits*	60
			Credit risk	Overview	61-62
				Credit risk assessment	63-64
				Credit risk mitigation	64-65
				Credit risk approval	65
		c) Structure and organization of the credit risk management and control function	Enterprise risk management	Risk governance	57
				Risk control	59-60
		d) Interaction between the credit risk management, risk control, compliance and internal audit functions	Enterprise risk management	Risk governance	57
		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	57
				Risk control - *Risk monitoring and reporting*	60
	CR1				
	CR2 [2]				
	CRB	a) The scope and definitions of "past due" and "impaired" exposures used for accounting purposes and the differences, if any, between the definition of past due and default for accounting and regulatory purposes	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)*	138
				Note 5 – Loans and allowance for credit losses - *Loans past due but not impaired*	172
		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*	172
		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	136-139
		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*	139

[1] CCA is available at https://www.rbc.com/investor-relations/regulatory-information.html.

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

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 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*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
				Note 30 – Offsetting financial assets and financial liabilities	216-217
		b) Core features of policies and processes for collateral evaluation and management	Credit risk	Credit risk mitigation - *Collateral*	64-65
		c) Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk	Credit risk mitigation	64-65
				Credit risk approval - *Credit risk limits*	65
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities	177-186
	CR3 [2]				
	CRD				
	CR4				
	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*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
		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*	63-64
		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*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
			Consolidated Financial Statements	Note 30 – Offsetting financial assets and financial liabilities	216-217
		d) Policies with respect to wrong-way risk exposures	Credit risk	Credit risk assessment – *Wrong-way risk*	64
		e) The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade	Liquidity and funding risk	Credit ratings	84
	CCR1				
	CCR2				
	CCR3				
	CCR4				
	CCR5 [2]				
	CCR6 [2]				
	CCR7		n/a	n/a	n/a
	CCR8	f) Exposures to central counterparties			

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

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 Annual Report Reference
Securitization	SECA	a) Objectives in relation to securitization activities	Off-balance sheet arrangements	Off-balance sheet arrangements	51-53
			Consolidated Financial Statements	Note 6 – Derecognition of financial assets	172-173
			Consolidated Financial Statements	Note 7 – Structured entities	173-176
		b) List of SPEs where RBC is sponsor / provides implicit support	Consolidated Financial Statements	Note 7 – Structured entities	173-176
		c) Accounting policies for securitization	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments – *Basis of consolidation*	132-133
				Note 2 – Summary of significant accounting policies, estimates and judgments – *Derecognition of financial assets*	140
			Critical accounting policies and estimates	Consolidation of structured entities	107
		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	105
		e) Use of Basel IAA for capital purposes	Credit risk	n/a	61-65
			Capital Management	Regulatory capital approach for securitization exposures	105
		f) Use of other internal assessment for capital purposes	Credit risk	Credit risk assessment	63-64
	SEC1	Securitization exposures in the banking book			
	SEC2	Securitization activities in the trading book			
	SEC3	Securitization exposures in the banking book and associated regulatory capital requirements - bank acting as originator or as sponsor			
	SEC4	Securitization exposures in the banking book and associated capital requirements - bank acting as investor			
Market risk	MRA	a) Processes implemented to identify, measure, monitor and control the bank's market risks	Market risk	Market risk controls – FVTPL positions	73
				Stress tests	73
				Market risk measures – FVTPL positions	74
				Market risk measures for assets and liabilities of RBC Insurance	75
				Market risk controls – Interest Rate Risk in the Banking Book (IRRBB)	75
				IRRBB measurement	75
				Market risk measures – IRRBB Sensitivities	75-76
				Market risk measures for other material non-trading portfolios	76
		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*	140-141
		b) Description of the market risk governance structure established to implement the strategies and processes of the bank	Enterprise risk management	Risk governance	57
				Risk appetite	58
				Risk measurement	58-59
				Risk control	59-60
				Risk measurement – *Stress testing*	59
				Culture and conduct risk	60-61

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 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	57
				Risk control	59-60
		c) Scope and nature of risk reporting and/or measurement systems	Enterprise risk management	Risk measurement	58-59
				Risk control	59-60
				Risk measurement – *Stress testing*	59
			Market risk	Market risk controls – FVTPL positions	73
				Stress tests	73
				Market risk measures – FVTPL positions	74
				Market risk measures for assets and liabilities of RBC Insurance	75
				Market risk controls – Interest Rate Risk in the Banking Book (IRRBB)	75
				IRRBB measurement	75
				Market risk measures – IRRBB Sensitivities	75-76
				Market risk measures for other material non-trading portfolios	76
	MRB	c) General description of the models (VaR/stressed VaR)	Market risk	Market risk controls – FVTPL positions	73
		g) Description of stress testing applied to the modelling parameters	Market risk	Stress tests	73
	MR1				
	MR2				
	MR3				
	MR4 [2]				
Leverage	LR1				
	LR2				
Total loss absorbing capacity	KM2				
	TLAC1				
	TLAC2				
	TLAC3				
Operational Risk		a) Details of the approach for operational risk capital assessment for which the bank qualifies	Operational risk	Operational risk capital	90
		b) Description of the advanced measurement approaches for operational risk (AMA)[4]	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[4]	n/a	n/a	n/a
Interest rate risk in the banking book			Market risk	Market risk	73-78

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

[4] 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 2021	b January 31 2021	c April 30 2020	d Q o Q Change (a-b)
	Available capital (amounts)				
1	Common Equity Tier 1 (CET1)	70,970	69,555	65,198	1,415
1a	Common Equity Tier 1 with transitional arrangements for ECL provisioning not applied	70,150	68,579	63,960	1,571
2	Tier 1	78,139	76,733	70,854	1,406
2a	Tier 1 with transitional arrangements for ECL provisioning not applied	77,319	75,757	69,616	1,562
3	Total capital	87,636	86,543	81,469	1,093
3a	Total capital with transitional arrangements for ECL provisioning not applied	87,636	86,543	81,469	1,093
	Risk-weighted assets (amounts)				
4	Total risk-weighted assets (RWA)	555,607	557,519	558,412	(1,912)
	Risk-based capital ratios as a percentage of RWA				
5	Common Equity Tier 1 ratio	12.8%	12.5%	11.7%	0.3%
5a	Common Equity Tier 1 ratio with transitional arrangements for ECL provisioning not applied	12.6%	12.3%	11.5%	0.3%
6	Tier 1 ratio	14.1%	13.8%	12.7%	0.3%
6a	Tier 1 ratio with transitional arrangements for ECL provisioning not applied	13.9%	13.6%	12.5%	0.3%
7	Total capital ratio	15.8%	15.5%	14.6%	0.3%
7a	Total capital ratio with transitional arrangements for ECL provisioning not applied	15.8%	15.5%	14.6%	0.3%
	Additional CET1 buffer requirements as a percentage of RWA				
8	Capital conservation buffer requirement	2.5%	2.5%	2.5%	-
9	Countercyclical buffer requirement[2]	0.0%	0.0%	0.0%	-
10	Bank G-SIB and/or D-SIB additional requirements	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%	-
12	CET1 available after meeting the bank's minimum capital requirements (row 5 - 8%)[3]	4.8%	4.5%	3.7%	0.3%
	Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	1,576,277	1,585,334	1,577,722	(9,057)
14	Basel III leverage ratio (row 2 / row 13)	5.0%	4.8%	4.5%	0.2%
14a	Basel III leverage ratio (row 2a / row 13) with transitional arrangements for ECL provisioning not applied	4.9%	4.8%	4.4%	0.1%

[1] This 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 reduced from a 75% after-tax exclusion rate for growth in Stage 1 and Stage 2 allowances allowed in 2020 to only a 50% after-tax exclusion rate allowed for 2021.

[2] Bank specific countercyclical buffer requirement for Q2 2021 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 1% effective Q2 2020. Refer to our 2020 Annual Report as updated by our Q2 2021 Report to Shareholders.

Our CET1 ratio was 12.8%, up 30 bps from last quarter, mainly reflecting internal capital generation and the impact of higher discount rates in determining our pension and other post-employment benefit obligations, partially offset by RWA growth (excluding FX).

Our Tier 1 capital ratio of 14.1% was up 30 bps, reflecting the factors noted above under the CET1 ratio.

Our Total capital ratio of 15.8% was up 30 bps, reflecting the factors noted above under the Tier 1 capital ratio.

RWA decreased by $1.9 billion, primarily driven by the impact of foreign exchange translation and net credit upgrades. These factors were partially offset by growth in wholesale lending, client-driven trading activity and residential mortgages. The impact of foreign exchange translation on RWA is largely mitigated with economic hedges in our CET1 ratio.

Our Leverage ratio of 5.0% was up 20 bps, mainly reflecting internal capital generation and the impact of foreign exchange translation, partially offset by lower regulatory modifications for central bank reserves and sovereign-issued securities qualifying as high-quality liquid assets (HQLA).

Leverage exposures decreased by $9.0 billion, mainly due to the impact of foreign exchange translation, partially offset by lower regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA.

OVA: Bank risk management approach

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-section
a)	Business model and risk profile	Significant developments: COVID-19	Impact of pandemic risk factor
			Programs in support of liquidity and funding
		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	Enterprise risk management	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)

OVA: Bank risk management approach (continued)

Pillar 3 disclosures requirement		RBC 2020 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	Environmental and social risk
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities - *Derivatives issued for trading purposes*
			Note 8 - Derivative financial instruments and hedging activities - *Derivatives issued for other-than-trading purposes*
			Note 8 - 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	c	d	e
		RWA			Minimum capital requirement[1]	RWA
	(Millions of Canadian dollars)	April 30 2021	January 31 2021	April 30 2020	April 30 2021	Change (a-b)
1	**Credit risk (excluding counterparty credit risk)**	**363,027**	**368,824**	**379,252**	**29,042**	**(5,797)**
2	Of which Standardized approach (SA)	93,316	96,011	97,112	7,465	(2,695)
3	Of which Internal rating-based (IRB) approach	269,711	272,813	282,140	21,577	(3,102)
4	**Counterparty credit risk (CCR)**	**57,606**	**56,884**	**51,471**	**4,609**	**722**
4a	Of which other CCR	12,838	11,367	9,459	1,027	1,471
4b	Credit valuation adjustment (CVA)	16,985	18,412	16,156	1,359	(1,427)
5	Of which Standardised approach for counterparty credit risk (SA-CCR)[2]	27,783	27,105	25,856	2,223	678
6	Of which Internal model method (IMM)	-	-	-	-	-
7	Equity positions in banking book under market-based approach	2,691	2,626	2,455	215	65
8	Equity investments in funds – look-through approach	-	-	-	-	-
9	Equity investments in funds – mandate-based approach	2,698	2,846	2,826	216	(148)
10	Equity investments in funds – fall-back approach	4	4	19	-	-
11	Settlement risk	28	342	41	2	(314)
12	**Securitisation exposures in banking book**	**10,424**	**10,780**	**12,716**	**834**	**(356)**
12a	Of which transitional grandfathering adjustment	-	-	-	-	-
13	Of which IRB ratings-based approach (SEC-IRBA)	-	-	355	-	-
14	Of which External ratings-based approach (SEC-ERBA)	8,601	8,524	9,563	688	77
15	Of which Standardized approach (SEC-SA)	1,823	2,256	2,798	146	(433)
16	**Market risk**	**30,617**	**28,449**	**26,900**	**2,450**	**2,168**
17	Of which Standardized approach (SA)	11,896	12,532	12,221	952	(636)
18	Of which Internal model approaches (IMA)	18,721	15,917	14,679	1,498	2,804
19	**Operational risk**	**72,133**	**70,908**	**67,945**	**5,771**	**1,225**
20	Of which Basic Indicator Approach	-	-	-	-	-
21	Of which Standardized Approach	72,133	70,908	67,945	5,771	1,225
22	Of which Advanced Measurement Approach[3] (AMA)	-	-	-	-	-
23	Amounts below the thresholds for deduction (subject to 250% risk weight)	16,379	15,856	14,787	1,311	523
24	Floor adjustment	-	-	-	-	-
25	**Total (1+4+7+8+9+10+11+12+16+19+23+24)**	**555,607**	**557,519**	**558,412**	**44,450**	**(1,912)**

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

Total RWA decreased by $1.9 billion (increase of $7.9 billion before foreign exchange) or -0.3%, driven by the following:

Credit risk
RWA decreased $5.8 billion (increase of $1.9 billion before foreign exchange), mainly driven by foreign exchange and net credit upgrades offset by growth in our wholesale lending business and residential mortgages.

Counterparty credit risk
RWA increased by $0.7 billion ($1.8 billion before foreign exchange), mainly due to client driven activity.

Securitization exposures in banking book
RWA decreased by $0.4 billion (flat before foreign exchange), mainly driven by business activity.

Market risk
RWA increased $2.2 billion ($2.8 billion before foreign exchange), mainly driven by client driven trading activity.

Operational risk
RWA increased $1.2 billion, mainly driven by average revenue 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]	Q2/2021						Q2/2021	Risk-weighted assets All-in Basis			
	Risk-weighted assets All-in Basis						Capital requirements				
(Millions of Canadian dollars, except percentage and per share amounts)	Exposure [2]	Average of risk weights [3]	Standardized approach	IRB approach	Other	Total [4]	Total [4]	Q1/2021 Total [4]	Q4/2020 Total [4]	Q3/2020 Total [4]	Q2/2020 Total [4]
Credit risk [5]											
Lending-related and other											
Residential mortgages	311,881	8%	8,874	15,691	-	24,565	1,965	24,895	24,604	23,334	23,503
Other retail (Personal, Credit cards and Small business treated as retail)	343,986	21%	5,847	64,814	-	70,661	5,653	72,112	60,544	59,402	59,627
Business (Corporate, Commercial, Medium-sized enterprises											
and Non-bank financial institutions)	373,317	56%	52,357	158,254	-	210,611	16,849	210,677	218,803	221,410	233,045
Sovereign (Government)	295,906	5%	2,835	12,692	-	15,527	1,242	15,878	15,371	15,195	14,242
Bank	25,315	19%	1,765	2,993	-	4,758	381	5,739	5,228	6,453	6,831
Total lending-related and other	**1,350,405**	**24%**	**71,678**	**254,444**	**-**	**326,122**	**26,090**	**329,301**	**324,550**	**325,794**	**337,248**
Trading - related											
Repo-style transactions	930,742	1%	48	11,867	211	12,126	970	10,731	9,496	9,332	8,930
Derivatives - including CVA	97,443	44%	1,644	24,361	17,301	43,306	3,464	44,110	42,917	43,768	40,686
Total trading-related	**1,028,185**	**5%**	**1,692**	**36,228**	**17,512**	**55,432**	**4,434**	**54,841**	**52,413**	**53,100**	**49,616**
Total lending-related and other and trading-related	**2,378,590**	**16%**	**73,370**	**290,672**	**17,512**	**381,554**	**30,524**	**384,142**	**376,963**	**378,894**	**386,864**
Banking book equities [6]	3,783	134%	-	5,088	-	5,088	407	5,166	4,931	5,080	5,001
Securitization exposures	61,791	17%	4,691	5,733	-	10,424	834	10,780	11,489	11,689	12,716
Regulatory scaling factor [7]	n.a.	n.a.	n.a.	17,746	n.a.	17,746	1,420	17,795	17,385	17,540	18,126
Other assets	28,622	133%	n.a.	n.a.	38,045	38,045	3,044	40,279	38,053	36,595	40,860
Total credit risk	**2,472,786**	**18%**	**78,061**	**319,239**	**55,557**	**452,857**	**36,229**	**458,162**	**448,821**	**449,798**	**463,567**
Market risk [8,9]											
Interest rate			2,123	7,940	-	10,063	806	8,126	7,841	11,164	6,213
Equity			2,776	2,038	-	4,814	385	4,073	3,628	3,751	2,971
Foreign exchange			2,354	394	-	2,748	220	2,601	2,917	2,714	2,403
Commodities			200	70	-	270	22	279	287	245	255
Specific risk			4,443	1,813	-	6,256	500	6,285	5,985	7,322	7,713
Incremental risk charge [10, 11]			-	6,466	-	6,466	517	7,085	6,716	7,080	7,345
Total market risk			**11,896**	**18,721**	**-**	**30,617**	**2,450**	**28,449**	**27,374**	**32,276**	**26,900**
Operational risk			**72,133**	**-**	**n.a.**	**72,133**	**5,771**	**70,908**	**70,047**	**69,347**	**67,945**
Total risk-weighted assets (RWA)	**2,472,786**		**162,090**	**337,960**	**55,557**	**555,607**	**44,450**	**557,519**	**546,242**	**551,421**	**558,412**

[1] Calculated using guidelines issued by OSFI under the Basel III All-in framework.

[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 portfolios use 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 Q2/21, the amount of publicly-traded equity exposures was $1,704 million and private equity exposures amounted to $2,078 million. Total exposure represents EAD, which is the expected gross exposure upon the default of an obligor.
Under OSFI guidelines, the Simple Risk Weight method under the Market-based Approach is being used to calculate RWA for direct equity exposures ($2,649 million). The calculation of RWA for Equity Investments in Funds ($1,134 million) uses the Mandate-based and Fall-Back Approaches.

[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.

[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 $398 million as at Q2/21. The average was $521 million, high was $637 million and low was $398 million for Q2/21. 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, 2021

	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	114,307	114,307	114,307	-	-	-	-
Interest-bearing deposits with banks	63,438	63,438	63,438	-	-	-	-
Securities							
Trading	125,733	114,777	2,886	-	42	111,849	-
Investment, net of applicable allowance	129,419	126,767	117,000	-	9,795	-	(28)
	255,152	241,544	119,886	-	9,837	111,849	(28)
Assets purchased under reverse repurchase agreements and securities borrowed	308,031	308,031	-	308,032	-	-	(1)
Loans							
Retail	476,230	475,899	475,899	-	-	-	-
Wholesale[3]	202,427	200,114	180,226	1,488	6,719	4,781	6,900
	678,657	676,013	656,125	1,488	6,719	4,781	6,900
Allowance for loan losses	(5,146)	(5,146)	-	-	-	-	(5,146)
	673,511	670,867	656,125	1,488	6,719	4,781	1,754
Segregated fund net assets	2,338	-	-	-	-	-	-
Other							
Customers' liability under acceptances	18,817	18,817	18,937	-	-	-	(120)
Derivatives[2]	97,236	97,685	-	97,685	-	93,736	-
Premises and equipment, net	7,601	7,583	7,583	-	-	-	-
Goodwill	10,816	10,815	-	-	-	-	10,815
Other intangibles	4,497	4,377	-	-	-	-	4,377
Other assets	59,572	62,421	30,558	24,523	-	5,212	2,128
	198,539	201,698	57,078	122,208	-	98,948	17,200
Total assets[2]	**1,615,316**	**1,599,885**	**1,010,834**	**431,728**	**16,556**	**215,578**	**18,925**
Liabilities and equity							
Deposits							
Personal	348,114	348,114	-	-	-	-	348,114
Business and government	644,283	644,851	-	-	-	-	644,851
Bank	40,926	40,926	-	-	-	-	40,926
	1,033,323	1,033,891	-	-	-	-	1,033,891
Segregated fund net liabilities	2,338	-	-	-	-	-	-
Other							
Acceptances	18,942	18,942	-	-	-	-	18,942
Obligations related to securities sold short	31,817	31,817	-	-	-	-	31,817
Obligations related to assets sold under repurchase agreements and securities loaned	257,049	257,049	-	257,049	-	-	-
Derivatives[2]	92,402	92,402	-	92,402	-	89,884	-
Insurance claims and policy benefit liabilities	12,109	-	-	-	-	-	-
Other liabilities	65,500	63,723	-	-	-	-	63,723
	477,819	463,933	-	349,451	-	89,884	114,482
Subordinated debentures	9,014	9,014	-	-	-	-	9,014
Total liabilities[2]	1,522,494	1,506,838	-	349,451	-	89,884	1,157,387
Equity attributable to shareholders							
Preferred shares	7,191	7,191	-	-	-	-	7,191
Common shares	17,698	17,698	-	-	-	-	17,698
Retained earnings	66,163	66,157	-	-	-	-	66,157
Other components of equity	1,683	1,914	-	-	-	-	1,914
	92,735	92,960	-	-	-	-	92,960
Non-controlling interests	87	87	-	-	-	-	87
Total equity	92,822	93,047	-	-	-	-	93,047
Total liabilities and equity[2]	**1,615,316**	**1,599,885**	**-**	**349,451**	**-**	**89,884**	**1,250,434**

[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, 2021

		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]**	**1,580,960**	**1,010,834**	**16,556**	**431,728**	**215,578**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)[1]	349,451	-	-	349,451	89,884
3	Total net amount under regulatory scope of consolidation	1,231,509	1,010,834	16,556	82,277	125,694
4	Off-balance sheet amounts[2]	1,361,911	370,760	45,235	945,915	-
5	Differences due to Fair Value adjustment	(575)	(569)	-	(6)	-
6	Differences due to different netting rules, other than those already included in row 2	1,386	1,386	-	-	-
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	398	398	-	-	-
10	**Exposure amounts considered for regulatory purposes**	**2,594,629**	**1,382,809**	**61,791**	**1,028,186**	**125,694**

[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 the 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 4 Settlement and Counterparty risk framework. On November 1, 2018, OSFI adopted the BCBS Standardized Approach for measuring Counterparty credit risk for derivative regulatory exposures and we have adopted this methodology for our derivative regulatory exposures. 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 also 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 7 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.

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 2020 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)	Q2/21	Q1/21	Q4/20	Q3/20	Q2/20
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'-a''**	17,927	17,883	17,732	17,713	17,787
2	Retained earnings	**b+b'**	65,925	62,506	59,573	57,573	57,196
3	Accumulated other comprehensive income (and other reserves)	**c-c'**	1,683	2,545	3,414	3,535	4,253
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	12	12	12	13
6	**Common Equity Tier 1 capital before regulatory adjustments**		**85,546**	**82,946**	**80,731**	**78,833**	**79,249**
	Common Equity Tier 1 capital: Regulatory adjustments						
7	Prudential valuation adjustments		-	-	-	-	-
8	Goodwill (net of related tax liability)	**e+e'+m'-t**	10,686	10,984	11,198	11,252	11,483
9	Other intangibles other than mortgage-servicing rights (net of related tax liability)	**f+f'-v**	3,671	3,906	3,999	3,860	3,931
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	**g**	170	184	181	170	174
11	Cash flow hedge reserve	**h**	(205)	(907)	(1,079)	(1,208)	(1,183)
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**	(374)	(474)	(314)	(118)	776
15	Defined benefit pension fund net assets (net of related tax liability)	**k-u**	1,448	673	111	102	108
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		(820)	(975)	(1,447)	(1,357)	(1,238)
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**		14,576	13,391	12,649	12,701	14,051
29	**Common Equity Tier 1 capital (CET1)**		**70,970**	**69,555**	**68,082**	**66,132**	**65,198**
29a	**Common Equity Tier 1 Capital (CET1)** with transitional arrangements for ECL provisioning not applied		70,150	68,579	66,635	64,775	63,960
Additional Tier 1 capital (AT1): Instruments							
30	Directly issued qualifying Additional Tier 1 instruments plus related stock surplus		7,167	7,175	5,921	5,923	4,175
31	of which: classified as equity under applicable accounting standards	**n'+n'''**	7,167	7,175	5,921	5,923	4,175
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)	Q2/21	Q1/21	Q4/20	Q3/20	Q2/20
33	*Directly issued capital instruments subject to phase out from Additional Tier 1*	x+n''	-	-	-	1,478	1,478
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	3	2	3	3
35	*of which: instruments issued by subsidiaries subject to phase out*		-	-	-	-	-
36	**Additional Tier 1 capital before regulatory adjustments**		7,169	7,178	5,923	7,404	5,656
	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)**		**7,169**	**7,178**	**5,923**	**7,404**	**5,656**
45	**Tier 1 capital (T1 = CET1 + AT1)**		**78,139**	**76,733**	**74,005**	**73,536**	**70,854**
45a	**Tier 1 capital** with transitional arrangements for ECL provisioning not applied		77,319	75,757	72,559	72,179	69,616
Tier 2 Capital: Instruments and Provisions							
46	Directly issued qualifying Tier 2 instruments plus related stock surplus	q''+q'''''	7,866	8,005	9,049	9,078	8,932
47	*Directly issued capital instruments subject to phase out from Tier 2*	q'''	470	478	488	488	520
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''''	27	28	29	26	27
49	*of which: instruments issued by subsidiaries subject to phase out*	q''''	*24*	*25*	*26*	*23*	*24*
50	Collective allowances	s	1,134	1,299	1,357	1,418	1,136
51	**Tier 2 capital before regulatory adjustments**		**9,497**	**9,810**	**10,923**	**11,010**	**10,615**
	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)**		**9,497**	**9,810**	**10,923**	**11,010**	**10,615**
59	**Total capital (TC = T1 + T2)**		**87,636**	**86,543**	**84,928**	**84,546**	**81,469**
59a	**Total Capital** with transitional arrangements for ECL provisioning not applied		87,636	86,543	84,928	84,546	81,469
60	**Total risk-weighted assets**		**555,607**	**557,519**	**546,242**	**551,421**	**558,412**
60a	**Common Equity Tier 1 (CET1) Capital RWA**		**555,607**	**557,519**	**546,242**	**551,421**	**558,412**
60b	**Tier 1 Capital RWA**		**555,607**	**557,519**	**546,242**	**551,421**	**558,412**
60c	**Total Capital RWA**		**555,607**	**557,519**	**546,242**	**551,421**	**558,412**

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)	Q2/21	Q1/21	Q4/20	Q3/20	Q2/20
Capital ratios							
61	Common Equity Tier 1 (as a percentage of risk-weighted assets)		12.8%	12.5%	12.5%	12.0%	11.7%
61a	CET1 Ratio with transitional arrangements for ECL provisioning not applied		12.6%	12.3%	12.2%	11.7%	11.5%
62	Tier 1 (as a percentage of risk-weighted assets)		14.1%	13.8%	13.5%	13.3%	12.7%
62a	Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied		13.9%	13.6%	13.3%	13.1%	12.5%
63	Total capital (as a percentage of risk-weighted assets)		15.8%	15.5%	15.5%	15.3%	14.6%
63a	Total Capital Ratio with transitional arrangements for ECL provisioning not applied		15.8%	15.5%	15.5%	0.0%	14.6%
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)		12.8%	12.5%	12.5%	12.0%	11.7%
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		348	659	549	995	1,276
73	Significant investments in the common stock of financials		5,423	5,348	5,221	5,082	4,847
74	Mortgage servicing rights (net of related tax liability)		-	-	-	-	-
75	Deferred tax assets arising from temporary differences (net of related tax liability)		1,129	995	1,177	958	1,068
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)		948	1,028	1,075	1,027	964
77	Cap on inclusion of allowances in Tier 2 under standardized approach		948	1,028	1,075	1,027	964
78	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)		3,879	4,159	4,271	4,151	3,976
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach		3,879	4,159	4,271	4,151	3,976
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)							
80	*Current cap on CET1 instruments subject to phase out arrangements*		-	-	-	-	-
81	*Amounts excluded from CET1 due to cap (excess over cap after redemptions and maturities)*		-	-	-	-	-
82	*Current cap on AT1 instruments subject to phase out arrangements*		739	739	1,478	1,478	1,478
83	*Amounts excluded from AT1 due to cap (excess over cap after redemptions and maturities)*		-	-	-	22	22
84	*Current cap on T2 instruments subject to phase out arrangements*		919	919	1,838	1,838	1,838
85	*Amounts excluded from T2 due to cap (excess over cap after redemptions and maturities)*		-	-	-	-	-

[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.

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)**	**Q2/21**	
		Balance sheet as in Report to Shareholders	**Under regulatory scope of consolidation**
Assets			
Cash and due from banks		114,307	114,307
Interest-bearing deposits with banks		63,438	63,438
Securities, net of applicable allowance		255,152	241,544
Non-significant investments in capital of other financial institutions not exceeding regulatory thresholds			348
Other securities			241,196
Assets purchased under reverse repurchase agreements and securities borrowed		308,031	308,031
Loans			-
Retail		476,230	475,899
Wholesale		202,427	200,114
Allowance for loan losses		(5,146)	(5,146)
Collective allowance reflected in Tier 2 regulatory capital [1]	**s**		(1,134)
Shortfall of allowances to expected loss [2]	**i**		-
Allowances not reflected in regulatory capital			(4,012)
		673,511	670,867
Segregated fund net assets		2,338	-
Other			
Customers' liability under acceptances		18,817	18,817
Derivatives		97,236	97,685
Premises and equipment, net		7,601	7,583
Goodwill	**e**	10,816	10,815
Goodwill related to insurance and joint ventures	**e'**		-
Other intangibles	**f**	4,497	4,377
Other intangibles related to insurance and joint ventures	**f'**		120
Other		59,572	62,421
Significant investments in other financial institutions and insurance subsidiaries			5,423
of which: exceeding regulatory thresholds	**l**		-
of which: not exceeding regulatory thresholds			5,423
Defined - benefit pension fund net assets	**k**		1,959
Deferred tax assets			1,772
of which: deferred tax assets excluding those arising from temporary differences	**g**		170
of which: deferred tax assets arising from temporary differences exceeding regulatory thresholds	**m**		-
of which: deferred tax liabilities related to permitted tax netting			(1,386)
of which: deferred tax assets - other temporary differences			2,988
Other assets			53,267
of which: relates to assets of operations held for sale – Goodwill	**m'**		-
Total assets		**1,615,316**	**1,599,885**

[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)	Q2/21 Balance sheet as in Report to Shareholders	Q2/21 Under regulatory scope of consolidation
Liabilities			
Deposits			
Personal		348,114	348,114
Business and government		644,283	644,851
Bank		40,926	40,926
		1,033,323	1,033,891
Segregated fund net liabilities		2,338	-
Other			
Acceptances		18,942	18,942
Obligations related to securities sold short		31,817	31,817
Obligations related to assets sold under repurchase agreements and securities loaned		257,049	257,049
Derivatives		92,402	92,402
Insurance claims and policy benefit liabilities		12,109	-
Other liabilities		65,500	63,723
Gains and losses due to changes in own credit risk on fair value liabilities	j		(374)
Deferred tax liabilities			74
of which: related to goodwill	t		129
of which: related to intangibles	v		826
of which: related to pensions	u		511
of which: relates to permitted tax netting			(1,386)
of which: other deferred tax liabilities			-
Other Liabilities			64,023
Subordinated debentures	q	9,014	9,014
Regulatory capital amortization of maturing debentures	q'''''		(369)
Subordinated debentures not allowed for regulatory capital	q'		653
Subordinated debentures used for regulatory capital:			8,730
of which: are qualifying	q''		8,236
of which: are subject to phase out directly issued capital:	q'''		470
of which: are subject to phase out issued by subsidiaries and held by 3rd party	q''''		24
Total liabilities		**1,522,494**	**1,506,838**
Equity attributable to shareholders		**92,735**	**92,960**
Common shares	a	17,698	17,698
of which are treasury - common shares	a''		9
Retained earnings		66,163	66,157
of which relates to contributed surplus	a'		238
of which relates to retained earnings for capital purposes	b		65,919
of which relates to insurance and joint ventures	b'		6
Other components of equity	c	1,683	1,914
Gains and losses on derivatives designated as cash flow hedges	h		(205)
Unrealized foreign currency translation gains and losses, net of hedging activities			1,827
Other reserves allowed for regulatory capital			292
of which relates to Insurance	c'		231
Preferred shares and other equity instruments	n	7,191	7,191
of which: are qualifying	n'		7,175
of which: are subject to phase out	n''		-
of which portion are not allowed for regulatory capital			24
of which: are qualifying treasury - preferred shares	n'''		(8)
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)**	**Q2/21** **Balance sheet as in Report to Shareholders**	**Under regulatory scope of consolidation**
Non-controlling interests		**87**	**87**
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			71
Total equity		**92,822**	**93,047**
Total liabilities and equity		**1,615,316**	**1,599,885**

		Equity	**Assets**
Insurance subsidiaries [1]	**Principal activities**		
Assured Assistance Inc.	Service provider for insurance claims	1	-
Royal Bank of Canada Insurance Company Limited	Life, annuity, trade credit, title and property reinsurance company provides coverage to international clients	-	-
RBC (Barbados) Services Comp	The company provides investment management, reinsurance transaction support and corporate services to Royal Bank of Canada Insurance Company Ltd.	1,888	848
RBC Insurance Agency Ltd.	Distribution of H&A products through AVIVA	17	35
RBC Insurance Company (Cayman) Limited	Life, annuity reinsurance company provides coverage to international clients	74	-
RBC Insurance Company of Canada	Property and casualty insurance company	100	119
RBC Insurance Holdings Inc.	Holding company	1	-
RBC Insurance Services Inc.	Service provider for insurance companies listed and the bank (creditor)	76	59
RBC Life Insurance Company	Life and health insurance company	2,823	19,350
		4,980	20,411

[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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 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, 2021

		a	b	c	d	e	f	g
		Gross carrying values of		Allowances/ impairments[2]	Of which ECL accounting provisions on SA exposures		Of which ECL accounting provisions 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	2,606	653,519	5,146	133	935	4,078	650,979
2	Debt Securities	-	118,299	28	-	11	17	118,271
3	Off-Balance Sheet exposures[4]	196	265,404	309	-	1	308	265,291
4	**Total**	**2,802**	**1,037,222**	**5,483**	**133**	**947**	**4,403**	**1,034,541**

[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.

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

[4] 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, 2021

		a	b	c	d	e	f	g
		Gross carrying values of		Allowances/ impairments[2]	Of which ECL accounting provisions on SA exposures		Of which ECL accounting provisions 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	2,637	652,378	5,478	143	1,013	4,322	649,537
2	Debt Securities	-	127,853	31	-	11	20	127,822
3	Off-Balance Sheet exposures[4]	460	262,514	408	-	4	406	262,566
4	**Total**	**3,097**	**1,042,745**	**5,917**	**143**	**1,028**	**4,748**	**1,039,925**

[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.

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

[4] 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, 2021

	(Millions of Canadian dollars)	a
1	**Defaulted loans and debt securities at the end of October 31, 2020**	**3,206**
2	Loans and debt securities that have defaulted since the last reporting period	684
3	Returned to non-defaulted status	(175)
4	Amounts written off	(615)
5	Other changes	(494)
6	**Defaulted loans and debt securities at the end of April 30, 2021**	**2,606**

For the six months ended October 31, 2020

	(Millions of Canadian dollars)	a
1	**Defaulted loans and debt securities at the end of April 30, 2020**	**3,533**
2	Loans and debt securities that have defaulted since the last reporting period	1,063
3	Returned to non-defaulted status	(165)
4	Amounts written off	(859)
5	Other changes	(366)
6	**Defaulted loans and debt securities at the end of October 31, 2020**	**3,206**

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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 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 Description of the categorization of ECL accounting provisions (general and specific) for standardized approach exposures	Consolidated Financial Statements n/a	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses 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, 2021

	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]	345,569	93,179			
Qualifying revolving	29,003	90,886			
Other retail	78,428	18,580	139		
Total Retail	**453,000**	**202,645**	**139**		
Wholesale					
Agriculture	9,282	1,575	36	-	61
Automotive	7,022	7,926	211	-	1,026
Banking	41,673	4,144	738	119,476	28,526
Consumer Discretionary	13,984	8,493	493	-	963
Consumer Staples	5,034	6,728	210	-	1,740
Oil & Gas	6,915	10,378	1,501	-	4,148
Financial Services	27,363	19,157	2,738	60,933	15,180
Financing Products	7,185	1,401	482	219	1,180
Forest Products	1,023	818	151	-	21
Governments	257,993	4,733	1,640	27,430	6,261
Industrial Products	7,404	8,324	616	-	949
Information Technology	3,563	6,368	243	-	5,114
Investments	19,547	3,207	433	17	112
Mining & Metals	1,462	3,765	930	-	284
Public Works & Infrastructure	1,301	1,984	408	-	219
Real Estate & Related	70,890	13,981	1,460	-	1,159
Other Services	23,508	11,647	1,332	7	1,345
Telecommunication & Media	5,556	8,155	601	-	1,932
Transportation	6,253	6,653	1,193	-	1,204
Utilities	8,175	17,856	3,965	-	3,615
Other Sectors	1,703	973	4	16	7,189
Total Wholesale	**526,836**	**148,266**	**19,385**	**208,098**	**82,228**
Total Exposure[1]	**979,836**	**350,911**	**19,524**	**208,098**	**82,228**
By Geography[7]					
Canada	667,074	259,670	8,877	79,324	26,181
United States	206,093	63,532	7,375	54,203	24,491
Europe	65,561	22,577	1,967	51,503	23,222
Other International	41,108	5,132	1,305	23,068	8,334
Total Exposure[1,7]	**979,836**	**350,911**	**19,524**	**208,098**	**82,228**
By Maturity					
Unconditionally cancellable	68,972	228,543	131	-	-
Within 1 year	359,450	29,059	11,203	208,098	38,613
1 to 5 year	474,788	86,218	7,469	-	28,051
Over 5 years	76,626	7,091	721	-	15,564
Total Exposure[1]	**979,836**	**350,911**	**19,524**	**208,098**	**82,228**

[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). In Q1 2021, $10 billion of Small Business Corporate exposures were reclassified from Wholesale to Other Retail to align with CAR guidelines threshold as under $1.25 million being Small Business retail. Refer to CR 6 for further details.

[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 home equity lines of credit.

[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, 2021

(Millions of Canadian dollars)	a	b	c	d	e
	Credit Risk[1,2,8]			Counterparty Credit Risk[5]	
	On-balance sheet amount	Off-balance sheet amount[3]		Repo-style Transaction	Derivatives
		Undrawn	Other[4]		
Retail					
Residential secured[6]	343,318	91,244			
Qualifying revolving	29,198	90,252			
Other retail	77,119	18,364	139		
Total Retail	**449,635**	**199,860**	**139**		
Wholesale					
Agriculture	9,119	1,577	33	-	86
Automotive	7,072	8,013	274	-	991
Banking	51,365	4,748	552	45,168	21,624
Consumer Discretionary	13,951	9,529	472	-	852
Consumer Staples	5,472	7,089	219	-	1,360
Oil & Gas	7,419	10,586	1,667	-	2,838
Financial Services	26,615	19,616	2,773	123,334	21,046
Financing Products	4,209	886	501	138	1,352
Forest Products	1,058	933	141	-	30
Governments	269,853	4,601	1,616	40,282	6,130
Industrial Products	7,054	9,100	706	-	884
Information Technology	3,773	5,879	272	-	5,054
Investments	18,215	2,953	424	9	93
Mining & Metals	1,560	3,902	974	-	248
Public Works & Infrastructure	1,312	2,012	432	-	231
Real Estate & Related	70,074	11,306	1,476	-	1,405
Other Services	23,193	11,763	1,281	4	1,607
Telecommunication & Media	5,373	7,827	79	-	1,963
Transportation	7,223	5,405	1,420	-	1,294
Utilities	8,626	18,227	3,927	-	3,291
Other Sectors	1,372	726	3	23	7,307
Total Wholesale	**543,908**	**146,678**	**19,322**	**208,958**	**79,686**
Total Exposure[1]	**993,543**	**346,538**	**19,461**	**208,958**	**79,686**
By Geography[7]					
Canada	697,532	255,870	8,035	95,829	25,397
United States	192,154	63,951	7,886	47,910	24,752
Europe	60,869	21,682	2,263	45,072	22,212
Other International	42,988	5,035	1,277	20,147	7,325
Total Exposure[1,7]	**993,543**	**346,538**	**19,461**	**208,958**	**79,686**
By Maturity					
Unconditionally cancellable	69,496	224,855	132	-	-
Within 1 year	379,909	27,491	10,854	208,958	36,846
1 to 5 year	467,216	89,023	7,664	-	26,564
Over 5 years	76,922	5,169	811	-	16,276
Total Exposure[1]	**993,543**	**346,538**	**19,461**	**208,958**	**79,686**

[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). In Q1 2021, $10 billion of Small Business Corporate exposures were reclassified from Wholesale to Other Retail to align with CAR guidelines threshold as under $1.25 million being Small Business retail. Refer to CR 6 for further details.

[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 home equity lines of credit.

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

[8] Certain loan amounts by sector have been revised from those previously presented to align with our revised sector definitions or to align with the sector of the borrower's primary source of repayment.

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, 2021

Impaired exposures by geography[1] and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance[2]	Net impaired exposures
Canada			
Retail	822	183	639
Wholesale	613	216	397
Securities	-	-	-
Total - Canada	**1,435**	**399**	**1,036**
United States			
Retail	22	1	21
Wholesale	651	150	501
Securities	-	-	-
Total - United States	**673**	**151**	**522**
Other International			
Retail	226	112	114
Wholesale	443	157	286
Securities	144	(7)	151
Total - Other International	**813**	**262**	**551**
Total			
Retail	1,070	296	774
Wholesale	1,707	523	1,184
Securities	144	(7)	151
Total impaired exposures	**2,921**	**812**	**2,109**

[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, 2021

Impaired exposures by geography[1] and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance[2]	Net impaired exposures
Canada			
Retail	768	195	573
Wholesale	708	215	493
Securities	-	-	-
Total - Canada	**1,476**	**410**	**1,066**
United States			
Retail	27	1	26
Wholesale	677	175	502
Securities	-	-	-
Total - United States	**704**	**176**	**528**
Other International			
Retail	215	116	99
Wholesale	477	192	285
Securities	152	(5)	157
Total - Other International	**844**	**303**	**541**
Total			
Retail	1,010	312	698
Wholesale	1,862	582	1,280
Securities	152	(5)	157
Total impaired exposures	**3,024**	**889**	**2,135**

[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, 2021	For the three months ended January 31, 2021
Canada		
Retail	168	138
Wholesale	14	26
Total Canada	**182**	**164**
United States[2]		
Retail	1	-
Wholesale	22	54
Total United States	**23**	**54**
Other International		
Retail	3	2
Wholesale[2]	-	6
Total Other International	**3**	**8**
Total		
Retail	172	140
Wholesale	36	86
Total net write-offs	**208**	**226**

[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, 2021

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance[1]	Net impaired exposures
Retail			
Residential mortgages	703	155	548
Personal	251	104	147
Small business	116	37	79
Total Retail	**1,070**	**296**	**774**
Wholesale			
Agriculture	22	3	19
Automotive	19	15	4
Banking	2	-	2
Consumer Discretionary	315	62	253
Consumer Staples	80	12	68
Oil and Gas	204	130	74
Financial Services	78	22	56
Financial Products	-	-	-
Forest Products	5	2	3
Governments	13	2	11
Industrial Products	47	15	32
Information Technology	30	2	28
Investments	33	-	33
Mining and Metals	23	1	22
Public Works and Infrastructure	5	2	3
Real Estate and Related	382	98	284
Other Services	240	105	135
Telecommunication and Media	6	1	5
Transportation	151	32	119
Utilities	-	-	-
Other	52	19	33
Total Wholesale	**1,707**	**523**	**1,184**
Total impaired loans and acceptances	**2,777**	**819**	**1,958**
Securities	144	(7)	151
Total impaired exposures	**2,921**	**812**	**2,109**

[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, 2021

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance[1]	Net impaired exposures
Retail			
Residential mortgages	678	158	520
Personal	242	118	124
Small business	90	36	54
Total Retail	**1,010**	**312**	**698**
Wholesale			
Agriculture	62	9	53
Automotive	22	14	8
Banking	2	-	2
Consumer Discretionary	276	65	211
Consumer Staples	95	14	81
Oil and Gas	333	175	158
Financial Services	77	23	54
Financial Products	-	-	-
Forest Products	12	9	3
Governments	13	2	11
Industrial Products	57	17	40
Information Technology	7	2	5
Investments	44	2	42
Mining and Metals	27	8	19
Public Works and Infrastructure	5	3	2
Real Estate and Related	361	84	277
Other Services	273	108	165
Telecommunication and Media	6	-	6
Transportation	142	26	116
Utilities	-	-	-
Other	48	21	27
Total Wholesale	**1,862**	**582**	**1,280**
Total impaired loans and acceptances	**2,872**	**894**	**1,978**
Securities	152	(5)	157
Total impaired exposures	**3,024**	**889**	**2,135**

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

(g) Ageing analysis of accounting past-due exposures

The following table provides the ageing of our retail and wholesale past due exposures. Loans under payment deferral programs resulting from COVID-19 have been re-aged to current and are not aged further during the deferral period. Subsequent to the payment deferral period, loans will commence re-aging from current. 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.

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

As at April 30, 2021

(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total
Retail	1,007	158	1,165
Wholesale	433	10	443
Total	**1,440**	**168**	**1,608**

As at January 31, 2021

(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total
Retail	1,620	165	1,785
Wholesale	693	11	704
Total	**2,313**	**176**	**2,489**

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

Due to the impact of the COVID-19 pandemic, we established relief programs to help personal and business banking clients manage the challenges of the COVID-19 pandemic through payment deferrals, interest rate reductions, covenant waivers, and refinancing or credit restructuring. In some cases, the original terms of the associated financial asset were renegotiated or otherwise modified, resulting in changes to the contractual terms of the financial asset that affect the contractual cash flows. For the majority of these programs, the modified terms were temporary in nature with the original terms resuming after a set period of time.

The following table provides a breakdown of restructured exposures between impaired and not impaired that were actively benefitting from modified contractual terms as at the reporting period date. Balances for loans that were modified in a temporary program that have returned to the original terms are not included below.

	As at April 30, 2021		As at January 31, 2021[1]	
(Millions of Canadian dollars)	Not Impaired	Impaired	Not Impaired	Impaired
Retail	765	7	1,423	-
Wholesale	606	201	885	218

[1] Amounts have been revised from those previously presented to conform to the current period presentation of active restructured exposures only.

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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 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 8 - 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 8 - 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 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, 2021

		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]	169,759	372,853	371,013	108,367	103,333	-	-
2	Debt securities	100,876	17,395	17,395	-	-	-	-
3	**Total**	**270,635**	**390,248**	**388,408**	**108,367**	**103,333**	**-**	**-**
4	Of which defaulted[5]	636	1,083	1,083	358	348	-	-

[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.

As at October 31, 2020

		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]	158,827	363,546	361,903	110,848	106,242	-	-
2	Debt securities	102,678	24,376	24,376	-	-	-	-
3	**Total**	**261,505**	**387,922**	**386,279**	**110,848**	**106,242**	**-**	**-**
4	Of which defaulted[5]	576	1,749	1,749	301	298	-	-

[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 securitizations 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, OSFI, 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 annually reviews the list of acceptable rating agencies and will reflect any changes in allowed rating agencies in its update to 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, 2021

		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]	28,344	351	45,769	27	198	0.4%
2	Non-central government public sector entities	15,230	38	15,231	18	2,612	17.1%
3	Multilateral development banks	700	-	700	-	-	-
4	Banks	3,452	330	3,452	163	879	24.3%
5	Securities firms[1]	3,809	2,248	4,972	867	1,655	28.3%
6	Corporates[1]	53,238	33,858	44,769	7,230	51,188	98.4%
7	Regulatory retail portfolios	7,068	5,112	7,068	298	5,762	78.2%
8	Secured by residential property[1]	40,233	-	21,713	-	8,359	38.5%
9	Secured by commercial real estate	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-
11	Past-due loans	467	-	467	-	675	144.5%
12	Higher-risk categories	114	252	114	119	350	150.0%
13	Other assets	21,485	-	21,485	-	21,638	100.7%
14	**Total**	**174,140**	**42,189**	**165,740**	**8,722**	**93,316**	**53.5%**

[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.

As at January 31, 2021

		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]	22,792	366	40,465	28	213	0.5%
2	Non-central government public sector entities	15,045	38	15,047	18	2,537	16.8%
3	Multilateral development banks	451	-	451	-	-	-
4	Banks	3,316	349	3,316	168	857	24.6%
5	Securities firms[1]	4,204	2,083	5,367	831	1,747	28.2%
6	Corporates[1]	51,598	33,199	43,843	7,488	50,492	98.0%
7	Regulatory retail portfolios	8,276	5,427	8,276	349	6,806	78.9%
8	Secured by residential property[1]	41,083	-	22,316	-	8,599	38.5%
9	Secured by commercial real estate	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-
11	Past-due loans	425	-	420	-	602	143.3%
12	Higher-risk categories	40	21	40	11	76	149.0%
13	Other assets	24,025	-	24,025	-	24,082	100.2%
14	**Total**	**171,255**	**41,483**	**163,566**	**8,893**	**96,011**	**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, 2021

		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	45,598	-	-	-	-	-	198	-	-	45,796
2	Non-central government public sector entities	2,562	-	12,593	-	1	-	93	-	-	15,249
3	Multilateral development banks	700	-	-	-	-	-	-	-	-	700
4	Banks	-	-	3,404	-	25	-	185	-	-	3,615
5	Securities firms	-	-	4,730	-	800	-	309	-	-	5,839
6	Corporates	-	-	13	1,222	14	-	50,750	-	-	51,999
7	Regulatory retail portfolios	-	-	-	-	-	6,417	950	-	-	7,366
8	Secured by residential property	-	-	-	19,813	-	1,900	-	-	-	21,713
9	Secured by commercial real estate	-	-	-	-	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	1	-	2	-	-	-	43	421	-	467
12	Higher-risk categories	-	-	-	-	-	-	-	233	-	233
13	Other assets	3,079	-	-	-	-	-	18,125	-	281	21,485
14	**Total**	**51,940**	**-**	**20,742**	**21,035**	**840**	**8,317**	**70,653**	**654**	**281**	**174,462**

As at January 31, 2021

		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	40,280	-	-	-	-	-	213	-	-	40,493
2	Non-central government public sector entities	2,828	-	12,124	-	2	-	111	-	-	15,065
3	Multilateral development banks	451	-	-	-	-	-	-	-	-	451
4	Banks	-	-	3,241	-	70	-	173	-	-	3,484
5	Securities firms	-	-	5,049	-	823	-	326	-	-	6,198
6	Corporates	-	-	7	1,272	14	-	50,038	-	-	51,331
7	Regulatory retail portfolios	-	-	-	-	-	7,275	1,350	-	-	8,625
8	Secured by residential property	-	-	-	20,344	-	1,972	-	-	-	22,316
9	Secured by commercial real estate	-	-	-	-	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	1	-	3	-	-	-	59	357	-	420
12	Higher-risk categories	-	-	-	-	-	-	-	51	-	51
13	Other assets	3,244	-	-	-	-	-	20,494	-	287	24,025
14	**Total**	**46,804**	**-**	**20,424**	**21,616**	**909**	**9,247**	**72,764**	**408**	**287**	**172,459**

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.

Estimates of PD, LGD and EAD are reviewed, validated and back-tested by an independent validation team within the bank on an annual basis. In addition, quarterly monitoring and back-testing procedures are performed.

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. The Foundation Internal Ratings Based (FIRB) approach is currently not applied.

As at April 30, 2021

EAD (in %)	EAD covered by the various approaches		
	Standardized Approach[1]	IRB Approach	Other
Retail			
Residential secured	13%	87%	-
Qualifying revolving	-	100%	-
Other retail	3%	97%	-
Wholesale	-	-	-
Corporate	16%	84%	-
Sovereign	15%	85%	-
Bank	7%	93%	-
Securitization	34%	66%	-
Trading	2%	98%	-
Equity	-	100%	-
Other assets not subject to Standardized or IRB Approaches	-	-	100%
Total	8%	91%	1%

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

As at January 31, 2021

EAD (in %)	EAD covered by the various approaches		
	Standardized Approach[1]	IRB Approach	Other
Retail			
Residential secured	13%	87%	-
Qualifying revolving	-	100%	-
Other retail	4%	96%	-
Wholesale	-	-	-
Corporate	16%	84%	-
Sovereign	12%	88%	-
Bank	7%	93%	-
Securitization	36%	64%	-
Trading	1%	99%	-
Equity	-	100%	-
Other assets not subject to Standardized or IRB Approaches	-	-	100%
Total	8%	91%	1%

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

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: 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 IRB approach, broken down by asset class and PD range.

As at April 30, 2021

			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	237,723	22,529	54.30	332,831	0.02	1,345	25.32	1.28	13,009	4.0	13	
		0.15 to < 0.25	333	761	64.22	777	0.19	178	34.66	1.89	233	30.0	1	
		0.25 to < 0.50	180	101	53.06	235	0.41	65	25.50	1.63	81	34.0	-	
		0.50 to < 0.75	385	14	54.17	393	0.72	437	26.34	2.91	210	54.0	1	
		0.75 to < 2.50	65	11	54.64	69	1.22	48	39.22	2.36	62	90.0	-	
		2.50 to < 10.00	21	12	54.59	27	4.27	24	35.02	2.23	30	111.0	-	
		10.00 to < 100.00	2	-	65.00	-	29.24	5	43.44	1.75	-	248.0	-	
		100.00 (default)	72	1	6.77	72	100.00	2	45.00	2.50	92	128.0	25	
	Total Sovereigns		**238,781**	**23,429**	**54.61**	**334,404**	**0.04**	**2,104**	**25.35**	**1.28**	**13,717**	**4.0**	**40**	**25**
2	**Banks**													
		0.00 to < 0.15	14,827	2,305	46.11	23,743	0.06	185	31.88	1.80	4,074	17.0	4	
		0.15 to < 0.25	358	361	39.92	838	0.17	65	41.37	2.13	428	51.0	1	
		0.25 to < 0.50	221	56	53.47	263	0.41	20	40.24	2.11	160	61.0	-	
		0.50 to < 0.75	229	131	37.48	280	0.72	17	40.77	1.07	181	64.0	1	
		0.75 to < 2.50	229	165	53.30	318	1.50	34	39.44	1.52	286	90.0	2	
		2.50 to < 10.00	75	14	35.29	80	4.89	15	49.43	1.81	137	171.0	2	
		10.00 to < 100.00	2	-	-	2	24.43	8	44.36	1.09	5	263.0	-	
		100.00 (default)	-	-	-	-	100.00	1	60.00	2.50	-	795.0	-	
	Total Banks		**15,941**	**3,032**	**45.50**	**25,524**	**0.11**	**345**	**32.53**	**1.80**	**5,271**	**21.0**	**10**	**-**
3	**Corporates**													
		0.00 to < 0.15	27,295	103,162	52.11	80,951	0.10	8,924	39.52	2.06	20,376	25.2	31	
		0.15 to < 0.25	24,544	61,203	51.36	55,296	0.19	10,376	41.30	2.27	22,461	40.6	44	
		0.25 to < 0.50	21,396	26,653	49.58	32,587	0.41	7,143	36.63	2.24	16,483	50.6	49	
		0.50 to < 0.75	22,604	22,920	51.61	32,605	0.71	6,819	35.20	2.55	20,886	64.1	82	
		0.75 to < 2.50	41,944	36,057	48.90	53,769	1.56	14,245	34.28	2.16	40,923	76.1	288	
		2.50 to < 10.00	24,985	32,155	48.91	34,738	3.89	13,107	34.96	2.46	36,405	104.8	474	
		10.00 to < 100.00	2,761	2,621	51.40	3,306	17.52	3,035	35.56	2.13	5,425	164.1	206	
		100.00 (default)	1,333	248	10.59	1,237	100.00	1,231	38.05	2.11	2,428	196.2	375	
	Total Corporates		**166,862**	**285,019**	**50.89**	**294,489**	**1.55**	**64,880**	**37.51**	**2.24**	**165,387**	**56.2**	**1,549**	**513**
4	**Total Wholesale**		**421,584**	**311,480**	**51.12**	**654,417**	**0.72**	**67,329**	**31.10**	**1.73**	**184,375**	**28.0**	**1,599**	**538**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

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

As at April 30, 2021

			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[4]**													
		0.00 to < 0.15	19,679			1,526	0.14	126,520	16.49		82	5.0	-	
		0.15 to < 0.25	-			-	-	-	-		-	-	-	
		0.25 to < 0.50	43,831			1,587	0.32	190,181	16.61		159	10.0	1	
		0.50 to < 0.75	444			-	-	-	-		-	-	-	
		0.75 to < 2.50	7,967			258	1.27	36,609	14.65		58	23.0	-	
		2.50 to < 10.00	4,056			35	4.25	20,255	10.49		12	33.0	-	
		10.00 to < 100.00	744			-	14.77	2,607	10.48		-	22.0	-	
		100.00 (default)	293			-	-	1,396	-		-	-	-	
	Total Retail insured exposure secured by real estate		**77,014**			**3,406**	**0.35**	**377,568**	**16.34**		**311**	**9.0**	**1**	**2**
6	**Uninsured residential mortgages**													
		0.00 to < 0.15	173,456	392	100.00	173,849	0.13	657,475	17.35		9,116	5.0	38	
		0.15 to < 0.25	67	34	100.00	101	0.22	74	72.24		33	33.0	-	
		0.25 to < 0.50	55	414	100.00	469	0.33	236	13.96		43	9.0	-	
		0.50 to < 0.75	-	-	-	-	-	-	-		-	-	-	
		0.75 to < 2.50	16,540	334	-	16,874	0.91	57,158	18.26		3,840	23.0	28	
		2.50 to < 10.00	4,463	22	100.00	4,485	4.11	19,721	17.75		2,482	55.0	33	
		10.00 to < 100.00	815	-	100.00	815	22.55	3,695	17.20		775	95.0	32	
		100.00 (default)	235	-	-	235	100.00	1,142	17.13		33	14.0	42	
	Total Uninsured residential mortgages		**195,631**	**1,196**	**100.00**	**196,828**	**0.50**	**739,501**	**17.45**		**16,322**	**8.0**	**173**	**45**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

[4] Retail insured exposures secured by real estate includes residential mortgages and other retail. Residential mortgages reflect 98% of this category. Exposures are insured with government and/or private insurance providers.

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

As at April 30, 2021

	(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													
7	**HELOCs**													
		0.00 to < 0.15	31,378	98,794	91.51	121,789	0.08	776,293	24.50		6,448	5.0	24	
		0.15 to < 0.25	-	-	-	-	-	-	-		-	-	-	
		0.25 to < 0.50	-	-	-	-	-	-	-		-	-	-	
		0.50 to < 0.75	2,332	1,390	92.93	3,623	0.71	42,195	24.99		955	26.0	6	
		0.75 to < 2.50	-	-	-	-	-	-	-		-	-	-	
		2.50 to < 10.00	1,051	281	96.48	1,322	4.50	15,317	25.02		1,044	79.0	15	
		10.00 to < 100.00	105	7	113.78	113	35.61	892	25.07		167	147.0	10	
		100.00 (default)	83	2	-	83	100.00	695	25.71		48	58.0	22	
	Total HELOCs		**34,949**	**100,474**	**91.55**	**126,930**	**0.24**	**835,392**	**24.52**		**8,662**	**7.0**	**77**	**22**
8	**Qualifying revolving retail**													
		0.00 to < 0.15	6,139	52,384	77.29	46,627	0.12	4,638,149	93.95		3,146	7.0	51	
		0.15 to < 0.25	8,599	40,335	84.12	42,528	0.18	3,239,247	88.10		3,934	9.0	68	
		0.25 to < 0.50	906	5,721	96.44	6,424	0.39	3,564,114	88.27		1,098	17.0	22	
		0.50 to < 0.75	22	115	94.16	131	0.59	7,830	100.44		35	27.0	1	
		0.75 to < 2.50	8,044	10,015	82.99	16,355	1.30	2,436,525	91.15		7,250	44.0	193	
		2.50 to < 10.00	4,574	2,908	81.68	6,949	3.75	1,509,980	90.57		6,543	94.0	234	
		10.00 to < 100.00	672	268	58.21	828	29.78	393,173	91.55		2,236	270.0	226	
		100.00 (default)	47	4	-	47	100.00	28,372	87.13		124	262.0	32	
	Total Qualifying revolving retail		**29,003**	**111,750**	**81.33**	**119,889**	**0.77**	**15,817,390**	**90.98**		**24,366**	**20.0**	**827**	**32**
9	**Other retail**													
		0.00 to < 0.15	35,054	3,356	86.00	37,941	0.12	139,348	34.00		3,800	10.0	15	
		0.15 to < 0.25	2,798	7,474	86.00	9,247	0.21	124,058	80.00		3,214	34.8	15	
		0.25 to < 0.50	8,524	2,094	108.00	10,777	0.33	502,403	70.00		4,476	41.5	25	
		0.50 to < 0.75	925	739	95.00	1,628	0.59	101,390	87.00		1,171	71.9	8	
		0.75 to < 2.50	14,588	4,353	95.00	18,736	1.27	587,844	61.00		13,306	71.0	148	
		2.50 to < 10.00	5,580	1,884	91.00	7,286	3.85	264,515	67.00		7,366	101.1	188	
		10.00 to < 100.00	1,426	277	99.00	1,702	22.49	38,223	63.00		2,182	128.2	291	
		100.00 (default)	108	3	-	108	100.00	4,078	66.00		160	148.1	62	
	Total Other retail		**69,003**	**20,180**	**91.00**	**87,425**	**1.28**	**1,761,859**	**53.00**		**35,675**	**40.8**	**752**	**60**
10	**Total retail**		**405,600**	**233,600**	**91.70**	**534,478**	**0.63**	**19,531,710**	**41.43**	**-**	**85,336**	**16.0**	**1,830**	**161**
	Total		**827,184**	**545,080**	**68.51**	**1,188,895**	**0.68**	**19,599,039**	**35.74**	**1.73**	**269,711**	**23.0**	**3,429**	**699**

[1] Refer to “Internal ratings map” under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

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

As at January 31, 2021

	(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	254,687	22,609	54.37	351,527	0.01	1,327	27.91	1.22	13,590	4.0	14	
		0.15 to < 0.25	402	590	62.68	717	0.19	198	36.75	2.07	237	33.0	1	
		0.25 to < 0.50	154	96	54.93	206	0.41	65	25.29	1.49	69	33.0	-	
		0.50 to < 0.75	388	15	55.29	397	0.72	439	26.30	2.82	209	53.0	1	
		0.75 to < 2.50	25	9	59.42	26	1.44	47	31.96	2.18	20	75.0	-	
		2.50 to < 10.00	12	12	53.50	18	4.60	20	39.98	2.30	24	129.0	-	
		10.00 to < 100.00	-	-	65.00	-	29.24	3	45.00	1.20	-	252.0	-	
		100.00 (default)	76	7	0.99	76	100.00	6	25.00	2.49	9	11.0	19	
	Total Sovereigns		**255,744**	**23,338**	**54.56**	**352,967**	**0.04**	**2,105**	**27.93**	**1.22**	**14,158**	**4.0**	**35**	**19**
2	**Banks**													
		0.00 to < 0.15	20,786	2,256	46.22	29,956	0.06	167	31.99	1.74	5,222	17.0	5	
		0.15 to < 0.25	551	351	43.52	1,067	0.17	61	42.97	1.76	504	47.0	1	
		0.25 to < 0.50	187	99	49.58	248	0.41	19	44.35	2.04	173	70.0	-	
		0.50 to < 0.75	189	124	39.11	241	0.72	18	39.59	1.04	156	65.0	1	
		0.75 to < 2.50	97	321	51.50	265	1.61	37	41.07	1.66	258	98.0	2	
		2.50 to < 10.00	58	13	48.28	64	6.10	16	43.35	1.01	101	157.0	2	
		10.00 to < 100.00	1	-	-	1	25.04	8	44.04	1.02	3	264.0	-	
		100.00 (default)	-	-	-	-	100.00	2	60.00	2.50	-	795.0	-	
	Total Banks		**21,869**	**3,164**	**46.30**	**31,842**	**0.09**	**328**	**32.61**	**1.73**	**6,417**	**20.0**	**11**	**-**
3	**Corporates**													
		0.00 to < 0.15	27,312	101,923	52.07	80,391	0.09	10,070	39.54	2.09	20,287	25.2	29	
		0.15 to < 0.25	24,764	60,483	51.13	54,602	0.19	10,129	41.01	2.26	21,898	40.1	43	
		0.25 to < 0.50	20,923	25,764	50.48	32,085	0.41	6,741	36.71	2.29	16,550	51.6	49	
		0.50 to < 0.75	23,047	24,033	51.50	33,381	0.71	6,732	34.58	2.55	21,063	63.1	83	
		0.75 to < 2.50	42,328	34,446	48.93	53,611	1.57	14,135	33.81	2.20	40,880	76.3	284	
		2.50 to < 10.00	25,796	31,020	50.10	35,445	4.02	12,067	34.12	2.39	36,568	103.2	488	
		10.00 to < 100.00	2,950	2,719	51.05	3,573	17.49	2,806	34.17	2.19	5,667	158.6	216	
		100.00 (default)	1,431	504	31.63	1,497	100.00	1,155	38.18	2.13	3,512	234.6	470	
	Total Corporates		**168,551**	**280,892**	**51.04**	**294,585**	**1.67**	**63,835**	**37.17**	**2.25**	**166,425**	**56.5**	**1,662**	**643**
4	**Total Wholesale**		**446,164**	**307,394**	**51.26**	**679,394**	**0.75**	**66,268**	**32.16**	**1.69**	**187,000**	**28.0**	**1,708**	**662**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

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

As at January 31, 2021

			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[4]**													
		0.00 to < 0.15	21,177			1,639	0.14	134,191	16.47		88	5.0	-	
		0.15 to < 0.25	-			-	-	-	-		-	-	-	
		0.25 to < 0.50	43,719			1,505	0.32	190,519	15.57		141	9.0	1	
		0.50 to < 0.75	374			-	-	-	-		-	-	-	
		0.75 to < 2.50	8,385			273	1.27	38,652	14.17		59	22.0	-	
		2.50 to < 10.00	4,296			38	4.25	21,583	10.50		13	33.0	-	
		10.00 to < 100.00	978			-	27.25	3,721	10.48		-	28.0	-	
		100.00 (default)	298			-	-	1,468	-		-	-	-	
	Total Retail insured exposure secured by real estate		**79,227**			**3,455**	**0.35**	**390,134**	**15.83**		**301**	**9.0**	**1**	**2**
6	**Uninsured residential mortgages**													
		0.00 to < 0.15	166,566	333	100.00	166,898	0.13	640,691	17.21		8,682	5.0	36	
		0.15 to < 0.25	51	24	100.00	75	0.22	61	72.24		25	33.0	-	
		0.25 to < 0.50	63	246	100.00	310	0.33	232	15.60		32	10.0	-	
		0.50 to < 0.75	-	-	-	-	-	-	-		-	-	-	
		0.75 to < 2.50	16,724	277	100.00	17,002	0.91	58,119	18.18		3,851	23.0	28	
		2.50 to < 10.00	5,001	16	100.00	5,017	4.38	22,175	17.54		2,825	56.0	39	
		10.00 to < 100.00	947	1	100.00	948	22.77	4,241	17.48		928	98.0	38	
		100.00 (default)	240	-	-	240	100.00	1,165	16.92		32	13.0	43	
	Total Uninsured residential mortgages		**189,592**	**897**	**100.00**	**190,490**	**0.55**	**726,684**	**17.33**		**16,375**	**9.0**	**184**	**46**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

[4] Retail insured exposures secured by real estate includes residential mortgages and other retail. Residential mortgages reflect 98% of this category. Exposures are insured with government and/or private insurance providers.

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

As at January 31, 2021

			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	31,646	97,002	91.52	120,426	0.08	767,714	24.50		6,376	5.0	24	
		0.15 to < 0.25	-	-	-	-	-	-	-		-	-	-	
		0.25 to < 0.50	-	-	-	-	-	-	-		-	-	-	
		0.50 to < 0.75	2,425	1,349	93.11	3,681	0.71	42,853	24.97		970	26.0	7	
		0.75 to < 2.50	-	-	-	-	-	-	-		-	-	-	
		2.50 to < 10.00	1,190	314	96.24	1,492	4.85	16,504	25.00		1,223	82.0	18	
		10.00 to < 100.00	104	8	111.10	113	34.72	953	25.62		171	152.0	10	
		100.00 (default)	102	1	-	102	100.00	802	25.06		53	53.0	26	
	Total HELOCs		**35,467**	**98,674**	**91.56**	**125,814**	**0.27**	**828,826**	**24.52**		**8,793**	**7.0**	**85**	**26**
8	**Qualifying revolving retail**													
		0.00 to < 0.15	5,666	52,519	77.44	46,335	0.12	4,595,100	93.95		3,126	7.0	50	
		0.15 to < 0.25	8,710	39,605	84.14	42,035	0.18	3,212,363	88.08		3,887	9.0	68	
		0.25 to < 0.50	944	5,620	96.50	6,368	0.39	3,526,176	88.31		1,088	17.0	22	
		0.50 to < 0.75	23	116	94.15	132	0.59	7,854	100.54		36	27.0	1	
		0.75 to < 2.50	8,306	9,919	83.17	16,556	1.30	2,459,595	91.16		7,338	44.0	195	
		2.50 to < 10.00	4,728	2,850	81.32	7,045	3.75	1,526,452	90.59		6,635	94.0	237	
		10.00 to < 100.00	779	279	56.74	937	29.47	416,609	91.94		2,536	271.0	254	
		100.00 (default)	43	4	-	43	100.00	27,562	87.13		106	245.0	30	
	Total Qualifying revolving retail		**29,199**	**110,912**	**81.37**	**119,451**	**0.80**	**15,771,711**	**90.99**		**24,752**	**21.0**	**857**	**30**
9	**Other retail**													
		0.00 to < 0.15	32,843	3,231	86.00	35,610	0.12	132,404	33.00		3,534	9.9	14	
		0.15 to < 0.25	2,596	7,277	86.00	8,875	0.21	120,405	81.00		3,086	34.8	14	
		0.25 to < 0.50	8,488	2,046	108.00	10,695	0.33	500,455	70.00		4,421	41.3	25	
		0.50 to < 0.75	787	729	95.00	1,477	0.58	100,070	89.00		1,085	73.5	8	
		0.75 to < 2.50	14,387	4,345	95.00	18,532	1.28	591,625	62.00		13,246	71.5	148	
		2.50 to < 10.00	5,933	2,025	89.00	7,733	3.88	270,984	66.00		7,761	100.4	200	
		10.00 to < 100.00	1,513	268	100.00	1,780	22.71	41,251	62.00		2,298	129.1	298	
		100.00 (default)	117	2	-	117	100.00	4,627	66.00		161	137.6	68	
	Total Other retail		**66,664**	**19,923**	**91.00**	**84,819**	**1.37**	**1,761,821**	**54.00**		**35,592**	**42.0**	**775**	**66**
10	**Total retail**		**400,149**	**230,406**	**91.61**	**524,029**	**0.67**	**19,479,176**	**41.77**	**-**	**85,813**	**16.4**	**1,902**	**170**
	Total		**846,313**	**537,800**	**68.55**	**1,203,423**	**0.72**	**19,545,444**	**36.34**	**1.69**	**272,813**	**23.0**	**3,610**	**832**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 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. Effective Q3 2020, retail borrowers with both Visa and Mastercard are counted as one borrower in the asset class qualifying revolving retail.

[3] Provisions reflect only IFRS 9 Stage 3 allowances under the IRB portfolio.

Effective Q1 2021, in addition to retail business growth, approximately 31,000 small business commercial clients, reflecting EAD \$10 bn and RWA of \$5 bn were reclassified from Corporate exposures to Other Retail exposures to align categorization of small business, as defined by the CAR guidelines, as under \$1.25 million. The net impact of this reclass was an increase of EAD \$1.0 bn and RWA of \$1.7 bn at the consolidated level, as the risk-weighting of these previously Corporate exposures are now reflected using retail risk parameters. Also this quarter, the Qualifying revolving retail exposures include a total increase of EAD \$29 bn and RWA \$5 bn for credit card exposures due to exposures no longer risk-weighted using the Securitization Framework (refer to SEC 1 and SEC 3) and maturities of existing securitization notes bringing card exposures back on balance sheet.

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.

As at April 30, 2021

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

As at January 31, 2021

		a	b
	(Millions of Canadian dollars)	**Pre-credit derivatives RWA**	**Actual RWA**
2	Sovereign - AIRB	-	-
4	Banks - AIRB	-	-
6	Corporate - AIRB	-	-
8	Specialised lending - AIRB	-	-
9	Retail - qualifying revolving (QRRE)	-	-
10	Retail - residential mortgage exposures	-	-
11	Retail - SME	-	-
12	Other retail exposures	-	-
14	Equity - AIRB	-	-
16	Purchased receivables - AIRB	-	-
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, 2021**	**As at January 31, 2021**
1	**RWA as at end of previous reporting period**	**401,278**	**394,506**
2	Asset size[2]	1,938	9,752
3	Asset quality[3]	(1,367)	(1,595)
4	Model updates[4]	-	2,927
5	Methodology and policy[5]	-	-
6	Acquisitions and disposals	(674)	-
7	Foreign exchange movements	(8,052)	(6,027)
8	Other	2,129	1,715
9	**RWA as at end of reporting period**	**395,252**	**401,278**

[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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

	Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-section
a)	Risk management objectives and policies related to counterparty credit risk	Credit risk	Credit risk assessment – *Counterparty credit risk*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
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*
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*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
			Note 30 - Offsetting financial assets and financial liabilities
d)	Policies with respect to wrong-way risk exposures	Credit risk	Credit risk assessment – *Wrong-way risk*
e)	The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade	Liquidity and funding risk	Credit ratings

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, 2021

		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]	15,774	35,000		1.4	70,840	27,468
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)					197,549	12,627
5	VaR for SFTs						
6	**Total**						**40,095**

[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.

As at January 31, 2021

		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]	14,862	33,721		1.4	67,737	26,764
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)					204,160	11,271
5	VaR for SFTs						
6	**Total**						**38,035**

[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, 2021

		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	71,083	16,985
4	**Total subject to the CVA capital charge**	**71,083**	**16,985**

[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, 2021

		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	68,016	18,412
4	**Total subject to the CVA capital charge**	**68,016**	**18,412**

[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, 2021

	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	-	-	-	-	-	1	-	-	1
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	13	-	-	102	-	-	115
Securities firms	-	-	175	-	-	41	-	-	216
Corporates	-	-	51	-	-	1,500	-	-	1,551
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**239**	**-**	**-**	**1,644**	**-**	**-**	**1,883**

As at January 31, 2021

	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	-	-	16	-	-	130	-	-	146
Securities firms	-	-	95	-	-	8	-	-	103
Corporates	-	-	75	-	-	1,767	-	-	1,842
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**186**	**-**	**-**	**1,905**	**-**	**-**	**2,091**

CCR4: IRB – CCR exposures by portfolio and PD scale

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

As at April 30, 2021

(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	39,937	0.05	320	11.08	1.27	1,872	5
	0.15 to < 0.25	586	0.21	21	43.74	1.03	189	32
	0.25 to < 0.50	110	0.41	10	43.50	1.31	55	50
	0.50 to < 0.75	20	0.72	5	35.62	3.35	19	92
	0.75 to < 2.50	9	1.27	3	45.00	3.34	10	121
	2.50 to < 10.00	-	4.01	1	45.00	4.63	-	175
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total sovereigns		**40,662**	**0.05**	**360**	**11.66**	**1.27**	**2,145**	**5**
Banks								
	0.00 to < 0.15	100,281	0.08	208	13.97	0.73	7,023	7
	0.15 to < 0.25	16,752	0.17	96	11.52	0.58	1,487	9
	0.25 to < 0.50	2,604	0.41	24	13.42	0.69	484	19
	0.50 to < 0.75	2,415	0.72	20	5.41	0.55	219	9
	0.75 to < 2.50	1,242	1.18	26	7.04	0.62	179	14
	2.50 to < 10.00	323	2.83	9	45.00	1.00	369	114
	10.00 to < 100.00	-	29.24	1	45.00	1.00	-	279
	100.00 (default)	-	-	-	-	-	-	-
Total banks		**123,617**	**0.13**	**384**	**13.47**	**0.70**	**9,761**	**8**
Corporates								
	0.00 to < 0.15	73,459	0.07	5,904	33.08	0.58	9,364	13
	0.15 to < 0.25	13,633	0.19	1,742	36.06	1.28	4,450	33
	0.25 to < 0.50	2,224	0.41	500	40.64	1.39	1,259	57
	0.50 to < 0.75	5,812	0.72	354	43.92	2.05	4,721	81
	0.75 to < 2.50	3,810	1.60	431	33.75	1.81	3,118	82
	2.50 to < 10.00	3,226	3.58	472	35.77	1.60	3,459	107
	10.00 to < 100.00	52	18.01	22	33.53	2.45	87	170
	100.00 (default)	11	100.00	3	25.49	1.00	38	338
Total corporates		**102,227**	**0.32**	**9,428**	**34.37**	**0.85**	**26,496**	**26**
Total		**266,506**	**0.12**	**10,172**	**21.21**	**0.84**	**38,402**	**14**

[1] Refer to “Internal ratings map” in the Credit risk assessment section in our 2020 Annual Report MD&A.

CCR4: IRB – CCR exposures by portfolio and PD scale (continued)

As at January 31, 2021

(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	52,913	0.03	323	8.95	1.08	1,718	3
	0.15 to < 0.25	406	0.21	18	40.20	0.82	116	28
	0.25 to < 0.50	88	0.41	11	44.94	1.02	44	50
	0.50 to < 0.75	16	0.72	6	35.71	2.97	14	86
	0.75 to < 2.50	6	1.40	4	45.00	1.00	6	94
	2.50 to < 10.00	-	4.01	1	45.00	4.75	1	177
	10.00 to < 100.00	-	15.12	1	45.00	1.00	-	218
	100.00 (default)	30	100.00	1	25.00	4.99	99	331
Total sovereigns		**53,459**	**0.09**	**365**	**9.27**	**1.08**	**1,998**	**4**
Banks								
	0.00 to < 0.15	91,223	0.08	209	13.15	0.31	5,533	6
	0.15 to < 0.25	16,527	0.17	97	12.06	0.19	1,525	9
	0.25 to < 0.50	1,911	0.41	24	12.82	0.34	343	18
	0.50 to < 0.75	2,015	0.72	21	5.86	0.05	189	9
	0.75 to < 2.50	1,178	1.17	25	3.78	0.10	93	8
	2.50 to < 10.00	165	2.87	10	45.00	1.38	197	120
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total banks		**113,019**	**0.13**	**386**	**12.80**	**0.28**	**7,880**	**7**
Corporates								
	0.00 to < 0.15	74,365	0.08	5,818	31.11	0.54	9,013	12
	0.15 to < 0.25	14,434	0.18	1,714	34.52	1.18	4,430	31
	0.25 to < 0.50	2,875	0.41	512	44.47	1.94	1,891	66
	0.50 to < 0.75	5,441	0.72	358	44.17	2.27	4,649	85
	0.75 to < 2.50	2,958	1.53	418	38.62	2.11	2,751	93
	2.50 to < 10.00	3,178	3.70	435	34.43	1.70	3,321	105
	10.00 to < 100.00	62	18.55	28	35.93	2.40	114	185
	100.00 (default)	12	100.00	8	27.90	1.00	46	370
Total corporates		**103,325**	**0.31**	**9,291**	**32.96**	**0.84**	**26,215**	**25**
Total		**269,803**	**0.14**	**10,042**	**19.82**	**0.65**	**36,093**	**13**

[1] Refer to "Internal ratings map" in the Credit risk assessment section in our 2020 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, 2021

	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	57	2,535	73	2,000	52,665	51,721
Cash - other currencies	3,298	19,806	8,592	18,940	265,138	330,798
Domestic sovereign debt	495	548	543	732	123,341	130,567
Other sovereign debt	2,776	1,055	3,161	1,271	224,612	202,964
Government agency debt	149	457	327	1,562	84,914	93,027
Corporate bonds	371	411	350	53	27,477	33,063
Equity securities	-	-	-	500	119,812	154,198
Other collateral	-	11	-	-	31,543	5,759
Total	**7,146**	**24,823**	**13,046**	**25,058**	**929,502**	**1,002,097**

As at October 31, 2020

	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	11	2,574	7	2,966	71,497	49,678
Cash - other currencies	4,322	21,069	10,389	19,873	249,498	304,919
Domestic sovereign debt	409	1,026	286	2,284	120,896	131,568
Other sovereign debt	3,019	2,732	3,527	1,458	218,109	185,921
Government agency debt	279	191	341	2,106	71,676	84,895
Corporate bonds	146	394	294	-	29,748	43,801
Equity securities	-	-	-	2,493	84,813	111,481
Other collateral	-	12	-	-	29,999	13,453
Total	**8,186**	**27,998**	**14,844**	**31,180**	**876,236**	**925,716**

CCR6: Credit derivatives exposures

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

As at April 30, 2021

	a	b
(Millions of Canadian dollars)	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	5,023	13,085
Index credit default swaps	20,563	7,069
Total return swaps	-	-
Credit options	-	-
Other credit derivatives	-	-
Total notionals	**25,586**	**20,154**
Fair values		
Positive fair value (asset)	15	495
Negative fair value (liability)	629	45

As at October 31, 2020

	a	b
(Millions of Canadian dollars)	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	4,304	15,817
Index credit default swaps	22,542	6,100
Total return swaps	-	-
Credit options	-	-
Other credit derivatives	-	-
Total notionals	**26,846**	**21,917**
Fair values		
Positive fair value (asset)	34	429
Negative fair value (liability)	361	170

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, 2021

		a	b
(Millions of Canadian dollars)		EAD (post-CRM)	RWA
1	**Exposures to QCCPs (total)**	**37,152**	**526**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	21,937	507
3	(i) OTC derivatives	4,474	158
4	(ii) Exchange-traded derivatives	6,915	138
5	(iii) Securities financing transactions	10,548	211
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	4,373	
8	Non-segregated initial margin	4,402	-
9	Pre-funded default fund contributions	1,296	19
10	Unfunded default fund contributions[1]	5,144	-
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%.

CCR8: Exposures to central counterparties (continued)

As at January 31, 2021

	(Millions of Canadian dollars)	a EAD (post-CRM)	b RWA
1	**Exposures to QCCPs (total)**	**30,823**	**437**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	16,747	413
3	(i) OTC derivatives	4,905	176
4	(ii) Exchange-traded derivatives	7,044	141
5	(iii) Securities financing transactions	4,798	96
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	4,102	
8	Non-segregated initial margin	3,336	-
9	Pre-funded default fund contributions	1,556	24
10	Unfunded default fund contributions[1]	5,082	-
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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

	Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-section
a)	Objectives in relation to securitization activities	Off-balance sheet arrangements	Off-balance sheet arrangements
		Consolidated Financial Statements	Note 6 - Derecognition of financial assets
		Consolidated Financial Statements	Note 7 - Structured entities
b)	List of SPEs where RBC is sponsor / provides implicit support	Consolidated Financial Statements	Note 7 - 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, 2021

		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**	**-**	**-**	**-**	**38,664**	**-**	**38,664**	**397**	**-**	**397**
2	residential mortgage	-	-	-	1,821	-	1,821	-	-	-
3	credit card	-	-	-	6,799	-	6,799	141	-	141
4	other retail exposures	-	-	-	30,044	-	30,044	256	-	256
4a	of which student loans	-	-	-	3,950	-	3,950	84	-	84
4b	of which auto loans and leases	-	-	-	19,882	-	19,882	172	-	172
4c	of which consumer loans	-	-	-	6,210	-	6,210	-	-	-
4d	of which other retail	-	-	-	2	-	2	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) – of which**	**-**	**-**	**-**	**13,291**	**-**	**13,291**	**9,439**	**-**	**9,439**
7	loans to corporates	-	-	-	1,788	-	1,788	8,620	-	8,620
8	commercial mortgage	-	-	-	-	-	-	288	-	288
9	lease and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale	-	-	-	11,503	-	11,503	531	-	531
10a	of which dealer floor plan receivable	-	-	-	2,011	-	2,011	-	-	-
10b	of which equipment receivable	-	-	-	3,389	-	3,389	-	-	-
10c	of which trade receivable	-	-	-	217	-	217	-	-	-
10d	of which other wholesale	-	-	-	5,886	-	5,886	531	-	531
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, 2021

		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**	**-**	**-**	**-**	**39,299**	**-**	**39,299**	**199**	**-**	**199**
2	residential mortgage	-	-	-	1,847	-	1,847	-	-	-
3	credit card	-	-	-	7,369	-	7,369	45	-	45
4	other retail exposures	-	-	-	30,083	-	30,083	154	-	154
4a	of which student loans	-	-	-	3,722	-	3,722	92	-	92
4b	of which auto loans and leases	-	-	-	20,349	-	20,349	62	-	62
4c	of which consumer loans	-	-	-	6,009	-	6,009	-	-	-
4d	of which other retail	-	-	-	3	-	3	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) – of which**	**-**	**-**	**-**	**13,888**	**-**	**13,888**	**9,420**	**-**	**9,420**
7	loans to corporates	-	-	-	2,696	-	2,696	8,227	-	8,227
8	commercial mortgage	-	-	-	-	-	-	420	-	420
9	lease and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale	-	-	-	11,192	-	11,192	773	-	773
10a	of which dealer floor plan receivable	-	-	-	2,060	-	2,060	-	-	-
10b	of which equipment receivable	-	-	-	3,529	-	3,529	-	-	-
10c	of which trade receivable	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	5,603	-	5,603	773	-	773
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.

Effective Q1 2021, under the Securitization Framework, OSFI requires that any securitizations involving a bank's own underlying assets must meet a 60% significant risk transfer test in order to recognize securitization risk transference to a third party. This requirement was not applicable in prior quarters under transitional arrangements allowed by OSFI. In Q1 2021, our Golden Credit Card Trust (GCCT) credit cards securitization, due to retained holdings, did not meet this criteria and are no longer eligible to be recognized as a securitization for regulatory capital purposes. As such, the underlying credit cards have been risk-weighted under the Credit Risk framework under the asset exposure class qualifying revolving retail.

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, 2021

		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**	**-**	**-**	**-**	**-**	**-**	**-**	**160**	**-**	**160**
2	residential mortgages	-	-	-	-	-	-	11	-	11
3	credit cards	-	-	-	-	-	-	11	-	11
4	other retail exposures	-	-	-	-	-	-	138	-	138
4a	of which student loans	-	-	-	-	-	-	64	-	64
4b	of which auto loans and leases	-	-	-	-	-	-	74	-	74
4c	of which consumer loans	-	-	-	-	-	-	-	-	-
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**4,793**	**-**	**4,793**
7	loans to corporates	-	-	-	-	-	-	148	-	148
8	commercial mortgages	-	-	-	-	-	-	4,202	-	4,202
9	leases and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	443	-	443
10a	of which dealer floor plan receivables	-	-	-	-	-	-	-	-	-
10b	of which equipment receivables	-	-	-	-	-	-	7	-	7
10c	of which trade receivables	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	436	-	436
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.

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

As at January 31, 2021

		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**	**-**	**-**	**-**	**-**	**-**	**-**	**135**	**-**	**135**
2	residential mortgages	-	-	-	-	-	-	7	-	7
3	credit cards	-	-	-	-	-	-	-	-	-
4	other retail exposures	-	-	-	-	-	-	128	-	128
4a	of which student loans	-	-	-	-	-	-	59	-	59
4b	of which auto loans and leases	-	-	-	-	-	-	64	-	64
4c	of which consumer loans	-	-	-	-	-	-	5	-	5
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**5,262**	**-**	**5,262**
7	loans to corporates	-	-	-	-	-	-	184	-	184
8	commercial mortgages	-	-	-	-	-	-	4,485	-	4,485
9	leases and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	593	-	593
10a	of which dealer floor plan receivables	-	-	-	-	-	-	-	-	-
10b	of which equipment receivables	-	-	-	-	-	-	-	-	-
10c	of which trade receivables	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	593	-	593
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, 2021

		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**	**45,309**	**5,527**	**803**	**316**	**-**	**-**	**44,966**	**6,989**	**-**	**-**	**6,463**	**1,823**	**-**	**-**	**517**	**146**	**-**
2	Traditional securitization	45,309	5,527	803	316	-	-	44,966	6,989	-	-	6,463	1,823	-	-	517	146	-
3	Of which securitization	45,309	5,527	803	316	-	-	44,966	6,989	-	-	6,463	1,823	-	-	517	146	-
4	Of which retail underlying	35,095	3,297	26	247	-	-	34,854	3,810	-	-	4,763	627	-	-	381	50	-
5	Of which wholesale	10,214	2,230	777	69	-	-	10,112	3,179	-	-	1,700	1,196	-	-	136	96	-
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.

As at January 31, 2021

(Millions of Canadian dollars)		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)			
		≤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**	**46,380**	**4,757**	**1,733**	**318**	**-**	**-**	**44,932**	**8,256**	**-**	**-**	**6,453**	**2,256**	**-**	**-**	**517**	**181**	**-**
2	Traditional securitization	46,380	4,757	1,733	318	-	-	44,932	8,256	-	-	6,453	2,256	-	-	517	181	-
3	Of which securitization	46,380	4,757	1,733	318	-	-	44,932	8,256	-	-	6,453	2,256	-	-	517	181	-
4	Of which retail underlying	36,579	2,192	272	257	-	-	34,992	4,308	-	-	4,632	669	-	-	371	54	-
5	Of which wholesale	9,801	2,565	1,461	61	-	-	9,940	3,948	-	-	1,821	1,587	-	-	146	127	-
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.

Effective Q1 2021, under the Securitization Framework, OSFI requires that any securitizations involving a bank's own underlying assets must meet a 60% significant risk transfer test in order to recognize securitization risk transference to a third party. This requirement was not applicable in prior quarters under transitional arrangements allowed by OSFI. In Q1 2021, our Golden Credit Card Trust (GCCT) credit cards securitization, due to retained holdings, did not meet this criteria and are no longer eligible to be recognized as a securitization for regulatory capital purposes. As such, the underlying credit cards have been risk-weighted under the Credit Risk framework under the asset exposure class qualifying revolving retail.

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, 2021

		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**	**9,363**	**167**	**287**	**19**	**-**	**-**	**9,836**	**-**	**-**	**-**	**2,138**	**-**	**-**	**-**	**171**	**-**	**-**
2	Traditional securitization	9,363	167	287	19	-	-	9,836	-	-	-	2,138	-	-	-	171	-	-
3	Of which securitization	9,363	167	287	19	-	-	9,836	-	-	-	2,138	-	-	-	171	-	-
4	Of which retail underlying	99	66	230	2	-	-	397	-	-	-	199	-	-	-	16	-	-
5	Of which wholesale	9,264	101	57	17	-	-	9,439	-	-	-	1,939	-	-	-	155	-	-
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.

As at January 31, 2021

(Millions of Canadian dollars)		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)			
		≤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**	**9,085**	**360**	**76**	**97**	**-**	**-**	**9,618**	**-**	**-**	**-**	**2,071**	**-**	**-**	**-**	**166**	**-**	**-**
2	Traditional securitization	9,085	360	76	97	-	-	9,618	-	-	-	2,071	-	-	-	166	-	-
3	Of which securitization	9,085	360	76	97	-	-	9,618	-	-	-	2,071	-	-	-	166	-	-
4	Of which retail underlying	100	97	-	2	-	-	198	-	-	-	43	-	-	-	3	-	-
5	Of which wholesale	8,985	263	76	95	-	-	9,420	-	-	-	2,028	-	-	-	163	-	-
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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 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 2020 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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 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 2020 Annual Report section</th><th>Sub-Section</th></tr>
<tr><td rowspan="11">c)</td><td rowspan="11">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="8">Market Risk</td><td>Market risk controls – FVTPL positions</td></tr>
<tr><td>Stress Tests</td></tr>
<tr><td>Market risk measures – FVTPL positions</td></tr>
<tr><td>Market risk measures for assets and liabilities of RBC Insurance</td></tr>
<tr><td>Market risk controls – Interest Rate Risk in the Banking Book (IRRBB) positions</td></tr>
<tr><td>IRRBB measurement</td></tr>
<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 bi-weekly basis. A mix of absolute and relative returns are used in generating the historical market changes.	30%
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.	10%
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.	21%

[1] As at April 30, 2021.

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.

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

The table below presents an overview of Pillar 3 disclosure requirements that have been met within our 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 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 a 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 marked-to-market revenue 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 regularly.

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 five 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 back-testing 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, 2021**	**As at January 31, 2021**
	Outright products		
1	Interest rate risk (general and specific)	3,393	3,473
2	Equity risk (general and specific)	246	305
3	Foreign exchange risk	2,098	2,068
4	Commodity risk	197	228
	Options		
5	Simplified approach	-	-
6	Delta-plus method	-	-
7	Scenario approach	4,898	5,375
8	**Securitization**	1,064	1,083
9	**Total**	**11,896**	**12,532**

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, 2021

		a	b	c	d	e	f
	(Millions of Canadian dollars)	VaR	Stressed VaR	IRC	CRM	Other	Total RWA
1	**RWA at previous quarter end**	**6,496**	**2,336**	**7,085**	**-**	**-**	**15,917**
2	Movement in risk levels[1]	2,646	793	(361)	-	-	3,078
3	Model updates/changes[2]	93	(109)	(100)	-	-	(116)
4	Methodology and policy[3]	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements[4]	-	-	(158)	-	-	(158)
7	Other	-	-	-	-	-	-
8	**RWA at end of Reporting Period**	**9,235**	**3,020**	**6,466**	**-**	**-**	**18,721**

[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, 2021

		a	b	c	d	e	f
	(Millions of Canadian dollars)	VaR	Stressed VaR	IRC	CRM	Other	Total RWA
1	**RWA at previous quarter end**	**6,175**	**2,394**	**6,716**	**-**	**-**	**15,285**
2	Movement in risk levels[1]	498	(8)	803	-	-	1,293
3	Model updates/changes[2]	(177)	(50)	(200)	-	-	(427)
4	Methodology and policy[3]	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements[4]	-	-	(234)	-	-	(234)
7	Other	-	-	-	-	-	-
8	**RWA at end of Reporting Period**	**6,496**	**2,336**	**7,085**	**-**	**-**	**15,917**

[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, 2021	As at January 31, 2021
1	Maximum value	346	232
2	Average value	235	171
3	Minimum value	112	112
4	Period end	231	180
Stressed VaR (10 day 99%)[1]			
5	Maximum value	322	212
6	Average value	215	160
7	Minimum value	103	117
8	Period end	215	169
Incremental Risk Charge (99.9%)			
9	Maximum value	637	677
10	Average value	521	564
11	Minimum value	398	452
12	Period end	398	557
Comprehensive Risk capital charge (99.9%)			
13	Maximum value	-	-
14	Average value	-	-
15	Minimum value	-	-
16	Period end	-	-
17	Floor (standardized measurement method)	-	-

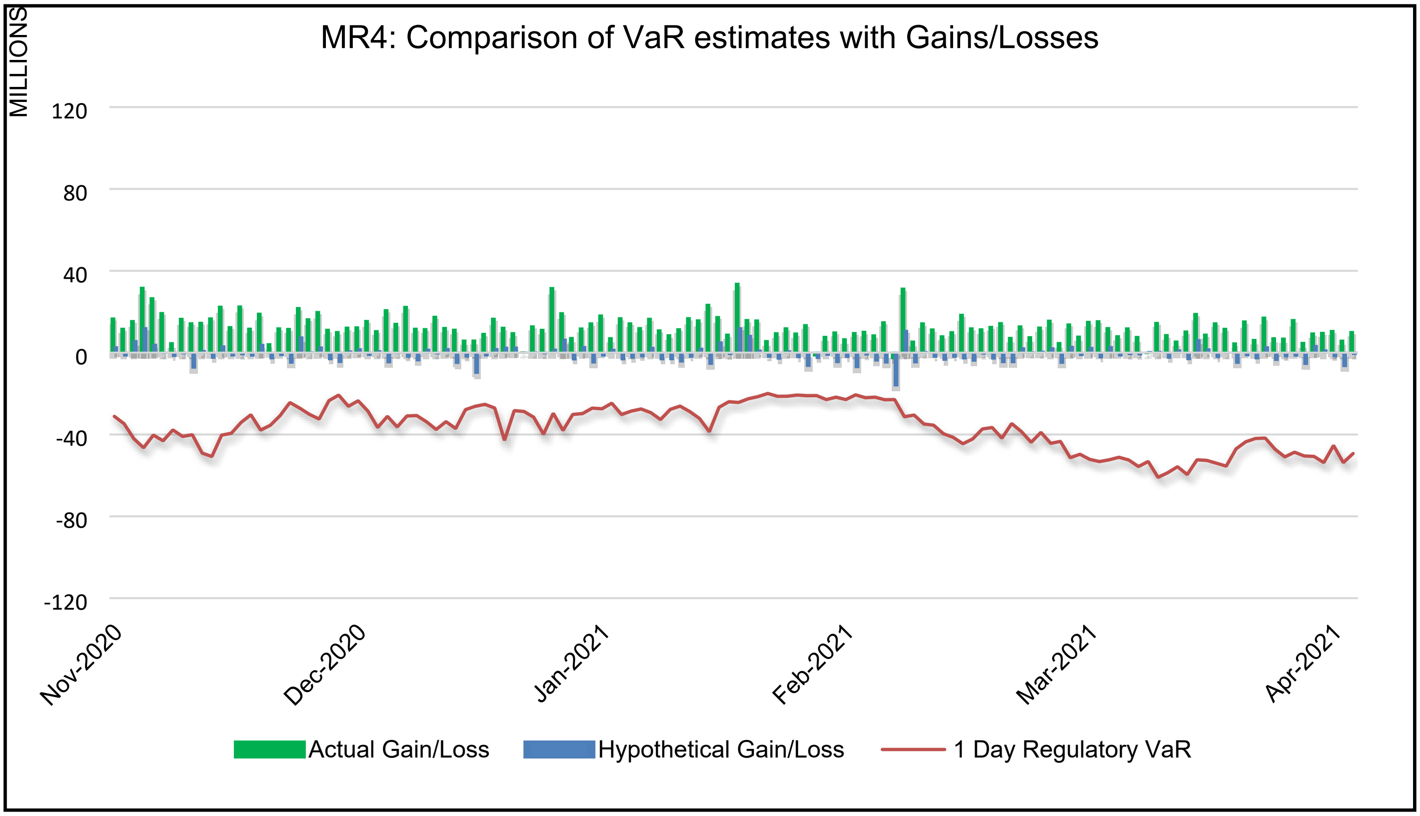
[1] The portfolio included in regulatory VaR and SVaR represents a subset of the portfolio captured in management VaR and SVaR reported in the Market Risk section of the 2020 Annual Report.

[2] VaR shown this quarter 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 of $235 million increased $64 million and average SVaR of $215 million increased $55 million due to elevated inventories in certain fixed income portfolios.

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, 2021, the bank experienced zero backtesting exception of Total Risk VaR against Actual Gain/Loss and zero Hypothetical Gain/Loss breaches.

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)	Q2/2021	Q1/2021	Q4/2020	Q3/2020	Q2/2020
1	**Total consolidated assets as per published financial statements**	**$1,615,316**	**1,671,151**	**1,624,548**	**1,683,134**	**1,675,682**
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(15,879)	(16,464)	(16,147)	(16,470)	(15,223)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transfer [2]	-	-	(5,528)	(5,529)	(5,529)
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	(12,741)	(28,579)	(30,842)	(75,457)	(50,686)
6	Adjustment for securities financing transactions (SFT) (i.e. repo assets and similar secured lending)	19,095	14,314	12,123	14,491	15,872
7	Adjustments for off-balance sheet items (i.e., credit equivalent amounts of off-balance sheet exposures)	213,097	210,955	208,192	204,916	199,426
8	Other adjustments [3]	(242,611)	(266,043)	(239,483)	(261,574)	(241,820)
9	**Leverage Ratio Exposure**	**$1,576,277**	**1,585,334**	**1,552,863**	**1,543,511**	**1,577,722**

[1] Based on OSFI's Leverage Requirements Guideline issued in October 2018.

[2] OSFI's October 2018 Leverage Requirements Guideline allows for the exclusion of securitized exposures that meet the operational requirements for risk transference. In Q1/2021 transitional methodology changes under the securitization framework did not allow us to recognize risk transference as further explained in SEC 1.

[3] Includes OSFI permitted exclusion of central bank reserves and sovereign-issued securities that qualify as high quality liquid assets and exposures related to the US Government Payment Protection Program (PPP).

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% at all times.

	LEVERAGE RATIO COMMON DISCLOSURE TEMPLATE [1] (Millions of Canadian dollars, except percentages)	Q2/2021	Q1/2021	Q4/2020	Q3/2020	Q2/2020
	On-balance sheet exposures					
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures, but including collateral)	982,497	996,797	967,523	970,360	985,261
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)	(16,858)	(16,328)	(17,400)	(23,487)	(25,142)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(15,771)	(14,840)	(14,410)	(14,177)	(14,513)
5	**Total on-balance sheet exposure (excluding derivatives and SFTs) (sum of lines 1 and 4)**	**949,868**	**965,629**	**935,713**	**932,696**	**945,606**
	Derivatives exposures					
6	Replacement cost associated with all derivatives transactions (i.e., net of eligible cash variation margin)	26,967	25,968	28,186	31,839	37,488
7	Add-on amounts for potential future exposure (PFE) associated with all derivatives transactions	57,189	55,546	53,236	49,280	52,294
8	(Exempted central counterparty (CCP)-leg of client-cleared trade exposures)	-	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	339	824	1,225	802	340
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-	-	-	-
11	**Total derivative exposures (sum of lines 6 to 10)**	**84,495**	**82,338**	**82,647**	**81,921**	**90,122**
	Securities financing transaction exposures					
12	Gross SFT assets recognized for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions	369,353	357,257	349,971	360,469	378,910
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(59,631)	(45,160)	(35,783)	(50,981)	(52,213)
14	Counterparty credit risk (CCR) exposure for SFTs	19,095	14,314	12,123	14,491	15,872
15	Agent transaction exposures	-	-	-	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15)**	**328,817**	**326,411**	**326,311**	**323,979**	**342,569**
	Other off-balance sheet exposures					
17	Off-balance sheet exposures at gross notional amount	634,002	626,427	594,156	598,358	573,779
18	(Adjustments for conversion to credit equivalent amounts)	(420,905)	(415,471)	(385,964)	(393,443)	(374,354)
19	**Off-balance sheet items (sum of lines 17 and 18)**	**213,097**	**210,956**	**208,192**	**204,915**	**199,425**
	Capital and Total Exposures					
20	**Tier 1 capital**	**78,139**	**76,733**	**74,005**	**73,536**	**70,854**
20a	**Tier 1 capital with transitional arrangements for ECL provisioning not applied**	**77,319**	**75,757**	**72,559**	**72,179**	**69,616**
21	**Total Exposures (sum of lines 3,11,16 and 19)**	**1,576,277**	**1,585,334**	**1,552,863**	**1,543,511**	**1,577,722**
	Leverage ratio					
22	**Basel III leverage ratio**	**5.0%**	**4.8%**	**4.8%**	**4.8%**	**4.5%**
22a	**Basel III leverage ratio with transitional arrangements for ECL provisioning not applied**	**4.9%**	**4.8%**	**4.7%**	**4.7%**	**4.4%**

[1] Based on OSFI's Leverage Requirements Guideline issued October 2018.

Our Leverage ratio of 5.0% was up 20 bps, mainly reflecting internal capital generation and the impact of foreign exchange translation, partially offset by lower regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA.

Leverage exposures decreased by $9.0 billion, mainly due to the impact of foreign exchange translation, partially offset by lower regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA.

TOTAL LOSS ABSORBING CAPACITY (TLAC) DISCLOSURE REQUIREMENTS

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

The following summary table provides information about our total loss-absorbing capacity (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 Leverage Requirements 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 has provided notification requiring systemically important banks to maintain a minimum TLAC ratio of 22.5% (inclusive of the revised domestic stability buffer of 1% in Q2 2020) and a TLAC leverage ratio of 6.75%. Our TLAC ratio is expected to increase through normal course refinancing of maturing debt through the effective date of the TLAC requirements.

		a	b	c	d	e	f
(Millions of Canadian dollars, except as otherwise noted)		April 30 2021	January 31 2021	October 31 2020	July 31 2020	April 30 2020	Change (a) - (b)
Resolution group[1]							
1	Total loss-absorbing capacity (TLAC) available	126,594	125,619	119,832	116,492	110,077	975
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	126,594	125,619	119,832	116,492	110,077	975
2	Total RWA at the level of the resolution group	555,607	557,519	546,242	551,421	558,412	(1,912)
3	TLAC ratio: TLAC as a percentage of RWA (row 1/row 2) (%)	22.8%	22.5%	21.9%	21.1%	19.7%	0.3%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied	22.8%	22.5%	21.9%	21.1%	19.7%	0.3%
4	Leverage ratio exposure measure at the level of the resolution group	1,576,277	1,585,334	1,552,863	1,543,511	1,577,722	(9,057)
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1/row 4) (%)	8.0%	7.9%	7.7%	7.5%	7.0%	0.1%
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	8.0%	7.9%	7.7%	7.5%	7.0%	0.1%
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 22.8% is up by 30bps QoQ, reflecting a $1 billion increase in available TLAC, mainly from CET1 Capital. The TLAC leverage ratio of 8% was up 10 bps, reflecting the increase in available TLAC and the decrease in leverage exposures as noted in LR2.

TLAC1: TLAC composition (at resolution group level)

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

As at April 30, 2021

	(Millions of Canadian dollars, except as otherwise noted)	Amount
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 capital (CET1)	70,970
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,169
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	AT1 instruments eligible under the TLAC framework	7,169
6	Tier 2 capital (T2) before TLAC adjustments	9,497
7	Amortised portion of T2 instruments where remaining maturity > 1 year	435
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	9,932
11	TLAC arising from regulatory capital	88,071
	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	38,573
14	Of which: amount eligible as TLAC after application of the caps	38,573
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	38,573
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	126,644
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	(50)
21	Other adjustments to TLAC	-
22	TLAC available after deductions	126,594
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	555,607
24	Leverage exposure measure	1,576,277
	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)	22.8%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	8.0%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	N/A
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, 2021

(Millions of Canadian dollars, except as otherwise noted)		Amount
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 capital (CET1)	69,555
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,178
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	AT1 instruments eligible under the TLAC framework	7,178
6	Tier 2 capital (T2) before TLAC adjustments	9,810
7	Amortised portion of T2 instruments where remaining maturity > 1 year	450
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	10,260
11	TLAC arising from regulatory capital	86,994
	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	38,670
14	Of which: amount eligible as TLAC after application of the caps	38,670
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	38,670
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	125,664
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	(46)
21	Other adjustments to TLAC	-
22	TLAC available after deductions	125,619
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	557,519
24	Leverage exposure measure	1,585,334
	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)	22.5%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	7.9%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	N/A
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 commencing 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.

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, 2021

	(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	17,689	7,198	8,880	41,761	-	75,528
3	Subset of row 2 that are excluded liabilities	-	8	1	2,741	-	2,750
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,689	7,190	8,879	39,020	-	72,778
5	Subset of row 4 that are *potentially* eligible as TLAC	17,689	7,167	8,641	39,020	-	72,517
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	4,596	-	4,596
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			1,954	28,500	-	30,454
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			5,249	2,514	-	7,763
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			1,438	3,410	-	4,848
10	Subset of row 5 that is perpetual securities	17,689	7,167	-	-	-	24,856

[1] Under the Bail-in Regime, Bail-in Debt which would ordinarily rank equally to Other Liabilities in liquidation, is subject to conversion under statutory resolution powers whereas Other Liabilities are not subject to such 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, 2021

	(Millions of Canadian dollars, except as otherwise noted)	Creditor ranking					
		1	2	3	4	5	Sum
		(most junior)					
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	17,664	7,198	8,974	39,901	-	73,737
3	Subset of row 2 that are excluded liabilities	26	-	48	859	-	933
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,638	7,198	8,926	39,042	-	72,804
5	Subset of row 4 that are *potentially* eligible as TLAC	17,638	7,175	8,677	39,042	-	72,532
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	4,925	-	4,925
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			2,029	28,612	-	30,641
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			5,212	2,490	-	7,702
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			1,436	3,015	-	4,451
10	Subset of row 5 that is perpetual securities	17,638	7,175	-	-	-	24,813

[1] Under the Bail-in Regime, Bail-in Debt which would ordinarily rank equally to Other Liabilities in liquidation, is subject to conversion under statutory resolution powers whereas Other Liabilities are not subject to such 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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement		RBC 2020 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 2020 Annual Report and incorporated by reference into this Pillar 3 report. Our 2020 Annual Report is available free of charge on our website at http://www.rbc.com/investorrelations

Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-section
Interest rate risk in the banking book	Market Risk	Market Risk