



Royal Bank of Canada

Pillar 3 Report

As at January 31, 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 Q1 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 Q1 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 34 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. We expect OSFI to similarly defer BCBS phase two guidance to January 31, 2023.

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 Q1 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 Q1 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 Q1 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 Q1 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 - <i>Risk monitoring and reporting</i>	60	
		f) Stress testing	Enterprise risk management	Risk measurement – <i>Stress testing</i>	59	
				Market risk	Stress tests	73
				Systemic risk	Systemic risk	93-94
					Risk appetite	58
		g) Strategies and processes applied to manage, hedge and mitigate risks	Enterprise risk management	Risk measurement	58-59	
				Risk control	59-60	
				Overview	61-62	
			Credit risk		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	
		Liquidity and funding risk		Non-trading foreign exchange rate risk	76	
				Overview	78	
				Risk control	79	
				Risk measurement	79	
				Funding	81-83	
		Insurance risk		Liquidity coverage ratio	85-86	
				Insurance risk	89	
				Overview	89	
				Operational risk	Operational risk framework	89
					Regulatory compliance risk	Regulatory compliance risk
				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 - <i>Derivatives issued for trading purposes</i>
	Note 8 – Derivative financial instruments and hedging activities - <i>Derivatives issued for other-than-trading purposes</i>					177-178
	Note 8 – Derivative financial instruments and hedging activities - <i>Derivative-related credit risk</i>	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 - <i>Gross credit risk exposure</i>	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 - <i>Delegated authorities and risk limits</i>	60	
		c) Structure and organization of the credit risk management and control function	Enterprise risk management	Credit risk		Overview	61-62
						Credit risk assessment	63-64
						Credit risk mitigation	64-65
						Credit risk approval	65
	d) Interaction between the credit risk management, risk control, compliance and internal audit functions	Enterprise risk management			Risk governance	57	
					Risk control	59-60	
	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 - <i>Risk monitoring and reporting</i>	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 - <i>Definition of default Credit impaired financial assets (Stage 3)</i>	138	
				Note 5 – Loans and allowance for credit losses - <i>Loans past due but not impaired</i>	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 - <i>Loans past due but not impaired</i>	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 - <i>Modifications</i>	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	Credit risk	Credit risk assessment – <i>Counterparty credit risk</i>	63-64	
		Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - <i>Derivative-related credit risk</i>	180-181	
			Note 30 – Offsetting financial assets and financial liabilities	216-217	
		Credit risk	Credit risk mitigation - <i>Collateral</i>	64-65	
		Consolidated Financial Statements	Credit risk mitigation	64-65	
	Credit risk approval - <i>Credit risk limits</i>		65		
	CR3 ²				
	CRD				
	CR4				
	CR5				
	CRE				
	CR6				
	CR7				
CR8					
CR9 ³					
CR10		n/a	n/a	n/a	
Counterparty credit risk	CCRA	Credit risk	Credit risk assessment – <i>Counterparty credit risk</i>	63-64	
		Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - <i>Derivative-related credit risk</i>	180-181	
			Credit risk	Credit risk assessment – <i>Counterparty credit risk</i>	63-64
		Consolidated Financial Statements	Credit risk	Credit risk assessment – <i>Counterparty credit risk</i>	63-64
			Note 8 – Derivative financial instruments and hedging activities - <i>Derivative-related credit risk</i>	180-181	
		Consolidated Financial Statements	Note 30 – Offsetting financial assets and financial liabilities	216-217	
	Credit risk	Credit risk assessment – <i>Wrong-way risk</i>	64		
	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	Off-balance sheet arrangements	Off-balance sheet arrangements	51-53	
		a) Objectives in relation to securitization activities	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 – <i>Basis of consolidation</i>	132-133
				Note 2 – Summary of significant accounting policies, estimates and judgments – <i>Derecognition of financial assets</i>	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	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 – <i>Hedge accounting</i>	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 – <i>Stress testing</i>			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)	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 – <i>Stress testing</i>	59	
			Market risk controls – FVTPL positions	73	
		Market risk	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)

		a	b	c	d
	(Millions of Canadian dollars) ¹	January 31 2021	October 31 2020	January 31 2020	Q o Q Change (a-b)
	Available capital (amounts)				
1	Common Equity Tier 1 (CET1)	69,555	68,082	63,054	1,473
1a	Common Equity Tier 1 with transitional arrangements for ECL provisioning not applied	68,579	66,635		
2	Tier 1	76,733	74,005	68,709	2,728
2a	Tier 1 with transitional arrangements for ECL provisioning not applied	75,757	72,559		
3	Total capital	86,543	84,928	78,220	1,615
3a	Total capital with transitional arrangements for ECL provisioning not applied	86,543	84,928		
	Risk-weighted assets (amounts)				
4	Total risk-weighted assets (RWA)	557,519	546,242	523,725	11,277
	Risk-based capital ratios as a percentage of RWA				
5	Common Equity Tier 1 ratio	12.5%	12.5%	12.0%	-
5a	Common Equity Tier 1 ratio with transitional arrangements for ECL provisioning not applied	12.3%	12.2%		
6	Tier 1 ratio	13.8%	13.5%	13.1%	0.3%
6a	Tier 1 ratio with transitional arrangements for ECL provisioning not applied	13.6%	13.3%		
7	Total capital ratio	15.5%	15.5%	14.9%	-
7a	Total capital ratio with transitional arrangements for ECL provisioning not applied	15.5%	15.5%		
	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	4.5%	4.5%	4.0%	-
	Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	1,585,334	1,552,863	1,629,884	32,471
14	Basel III leverage ratio (row 2 / row 13)	4.8%	4.8%	4.2%	-
14a	Basel III leverage ratio (row 2a / row 13) with transitional arrangements for ECL provisioning not applied	4.8%	4.7%		

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 Q1 2021 was not material (Q4 2020 was not material; Q1 2020 – 2bps), the amount which is determined based on our private sector exposures in jurisdictions identified by BCBS. This reflects recent jurisdictional decreases in the required countercyclical buffer requirement.

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 (2% in Q1 2020). Refer to our 2020 Annual Report as updated by our Q1 2021 Report to Shareholders.

Our CET1 ratio was 12.5%, unchanged from last quarter as internal capital generation, the favourable impact of fair value OCI adjustments, and the favourable impact from asset returns in determining our pension obligations offset higher RWA and the impact of lower capital modification related to the reduction of the exclusion rate applicable to eligible Stage 1 and Stage 2 allowances from 70% to 50%, as well as a release of provisions on performing loans in the current quarter.

Our Tier 1 capital ratio of 13.8% was up 30 bps, reflecting the factors noted above under the CET1 ratio and favourable impact of the issuance of Limited Recourse Capital Notes.

Our Total capital ratio of 15.5% was unchanged, primarily reflecting the factors noted above under the Tier 1 capital ratio and the net redemption of subordinated debentures.

RWA increased by \$11.3 billion, primarily driven by business growth mainly in retail and wholesale lending, transitional methodology changes to the securitization framework effective Q1 2021, as well as higher market risk. These factors were partially offset by the impact of foreign exchange translation and net credit upgrades. The impact of foreign exchange translation on RWA is largely mitigated with economic hedges in our CET1 ratio.

Our Leverage ratio of 4.8% was unchanged from last quarter, as internal capital generation and the issuance of Limited Recourse Capital Notes were offset by higher leverage exposures.

Leverage exposures increased by \$32.4 billion, mainly due to business growth primarily in cash and due from banks, securities and loans, partially offset by the impact of foreign exchange translation and higher 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			
b)	Risk governance structure	Enterprise risk management	Risk control
			Risk governance
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 - <i>Risk monitoring and reporting</i>
f)	Stress testing	Enterprise risk management	Risk measurement - <i>Stress testing</i>
		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 - <i>Derivatives issued for trading purposes</i>
	Note 8 - Derivative financial instruments and hedging activities - <i>Derivatives issued for other-than-trading purposes</i>		
	Note 8 - Derivative financial instruments and hedging activities - <i>Derivative-related credit risk</i>		

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
		January 31 2021	October 31 2020	January 31 2020	January 31 2021	Change (a-b)
	(Millions of Canadian dollars)					
1	Credit risk (excluding counterparty credit risk)	368,824	361,605	350,825	29,506	7,219
2	Of which Standardized approach (SA)	96,011	93,289	88,045	7,681	2,722
3	Of which Internal rating-based (IRB) approach	272,813	268,316	262,780	21,825	4,497
4	Counterparty credit risk (CCR)	56,884	54,315	46,493	4,550	2,569
4a	Of which other CCR	11,367	10,057	11,184	909	1,310
4b	Credit valuation adjustment (CVA)	18,412	18,171	12,703	1,473	241
5	Of which Standardised approach for counterparty credit risk (SA-CCR) ²	27,105	26,087	22,606	2,168	1,018
6	Of which Internal model method (IMM)	-	-	-	-	-
7	Equity positions in banking book under market-based approach	2,626	2,324	2,436	210	302
8	Equity investments in funds – look-through approach	-	-	-	-	-
9	Equity investments in funds – mandate-based approach	2,846	2,902	2,702	228	(56)
10	Equity investments in funds – fall-back approach	4	-	24	-	4
11	Settlement risk	342	191	409	27	151
12	Securitisation exposures in banking book	10,780	11,489	11,448	862	(709)
12a	Of which transitional grandfathering adjustment	-	-	-	-	-
13	Of which IRB ratings-based approach (SEC-IRBA)	-	330	391	-	(330)
14	Of which External ratings-based approach (SEC-ERBA)	8,524	8,938	8,384	682	(414)
15	Of which Standardized approach (SEC-SA)	2,256	2,221	2,673	180	35
16	Market risk	28,449	27,374	28,415	2,276	1,075
17	Of which Standardized approach (SA)	12,532	12,089	12,010	1,003	443
18	Of which Internal model approaches (IMA)	15,917	15,285	16,405	1,273	632
19	Operational risk	70,908	70,047	67,243	5,673	861
20	Of which Basic Indicator Approach	-	-	-	-	-
21	Of which Standardized Approach	70,908	70,047	67,243	5,673	861
22	Of which Advanced Measurement Approach ³ (AMA)	-	-	-	-	-
23	Amounts below the thresholds for deduction (subject to 250% risk weight)	15,856	15,995	13,730	1,269	(139)
24	Floor adjustment	-	-	-	-	-
25	Total (1+4+7+8+9+10+11+12+16+19+23+24)	557,519	546,242	523,725	44,601	11,277

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 increased by \$11.3 billion (\$19.2 billion before foreign exchange) or 2%, driven by the following:

Credit risk

RWA increased \$7.2 billion (\$13.4 billion before foreign exchange), mainly driven by growth in our lending business offset by net credit upgrades.

Counterparty credit risk

RWA increased by \$2.6 billion (\$3.6 billion before foreign exchange), mainly due to business growth.

Securitization exposures in banking book

RWA decreased by \$0.7 billion, mainly driven by business growth offset by our originated credit card portfolio moving to retail given our holdings do not meet required risk transference requirements under the new Securitization framework.

Market risk

RWA increased \$1.0 billion, mainly driven by higher inventories.

Operational risk

RWA increased \$0.9 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	Q1/2021						Q1/2021	Risk-weighted assets All-in Basis			
	Risk-weighted assets All-in Basis						Capital requirements	Risk-weighted assets All-in Basis			
	Exposure ²	Average of risk weights ³	Standardized approach	IRB approach	Other	Total ⁴	Total ⁴	Q4/2020 Total ⁴	Q3/2020 Total ⁴	Q2/2020 Total ⁴	Q1/2020 Total ⁴
(Millions of Canadian dollars, except percentage and per share amounts)											
Credit risk ⁵											
Lending-related and other											
Residential mortgages	308,823	8%	9,164	15,731	-	24,895	1,992	24,604	23,334	23,503	22,658
Other retail (Personal, Credit cards and Small business treated as retail)	340,907	21%	6,886	65,226	-	72,112	5,769	60,544	59,402	59,627	59,483
Business (Corporate, Commercial, Medium-sized enterprises and Non-bank financial institutions)	371,596	57%	51,296	159,381	-	210,677	16,854	218,803	221,410	233,045	214,990
Sovereign (Government)	306,824	5%	2,772	13,106	-	15,878	1,270	15,371	15,195	14,242	10,979
Bank	31,540	18%	1,812	3,927	-	5,739	459	5,228	6,453	6,831	5,882
Total lending-related and other	1,359,690	24%	71,930	257,371	-	329,301	26,344	324,550	325,794	337,248	313,992
Trading - related											
Repo-style transactions	904,280	1%	37	10,598	96	10,731	858	9,496	9,332	8,930	10,560
Derivatives - including CVA	93,761	47%	1,905	23,452	18,753	44,110	3,529	42,917	43,768	40,686	34,137
Total trading-related	998,041	5%	1,942	34,050	18,849	54,841	4,387	52,413	53,100	49,616	44,697
Total lending-related and other and trading-related	2,357,731	16%	73,872	291,421	18,849	384,142	30,731	376,963	378,894	386,864	358,689
Banking book equities ⁶	3,747	138%	-	5,166	-	5,166	413	4,931	5,080	5,001	4,870
Securitization exposures	62,806	17%	5,189	5,591	-	10,780	862	11,489	11,689	12,716	11,448
Regulatory scaling factor ⁷	n.a.	n.a.	n.a.	17,795	-	17,795	1,424	17,385	17,540	18,126	16,963
Other assets	31,327	129%	n.a.	n.a.	40,279	40,279	3,222	38,053	36,595	40,860	36,097
Total credit risk	2,455,611	19%	79,061	319,973	59,128	458,162	36,652	448,821	449,798	463,567	428,067
Market risk ^{8,9}											
Interest rate			2,409	5,717	-	8,126	650	7,841	11,164	6,213	6,642
Equity			2,742	1,331	-	4,073	326	3,628	3,751	2,971	3,847
Foreign exchange			2,270	331	-	2,601	208	2,917	2,714	2,403	2,566
Commodities			232	47	-	279	22	287	245	255	239
Specific risk			4,879	1,406	-	6,285	503	5,985	7,322	7,713	8,358
Incremental risk charge ^{10, 11}			-	7,085	-	7,085	567	6,716	7,080	7,345	6,763
Total market risk			12,532	15,917	-	28,449	2,276	27,374	32,276	26,900	28,415
Operational risk			70,908	-	n.a.	70,908	5,673	70,047	69,347	67,945	67,243
Total risk-weighted assets (RWA)	2,455,611		162,501	335,890	59,128	557,519	44,601	546,242	551,421	558,412	523,725

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 Q1/21, the amount of publicly-traded equity exposures was \$1,668 million and private equity exposures amounted to \$2,079 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 (\$2,593 million). The calculation of RWA for Equity Investments in Funds (\$1,153 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 \$557 million as at Q1/21. The average was \$564 million, high was \$677 million and low was \$452 million for Q1/21. 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 January 31, 2021

	a	b	Carrying values of items: ¹					g
			c	d	e	f		
(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	149,588	149,588	149,414	174	-	-	-	
Interest-bearing deposits with banks	33,731	33,731	33,731	-	-	-	-	
Securities								
Trading	148,023	136,539	2,549	-	48	133,942	-	
Investment, net of applicable allowance	139,459	136,556	127,009	-	9,573	-	(26)	
	287,482	273,095	129,558	-	9,621	133,942	(26)	
Assets purchased under reverse repurchase agreements and securities borrowed	311,033	311,033	-	311,034	-	-	(1)	
Loans								
Retail	464,579	464,234	464,234	-	-	-	-	
Wholesale ³	213,462	211,058	190,781	1,472	8,219	4,374	6,212	
	678,041	675,292	655,015	1,472	8,219	4,374	6,212	
Allowance for loan losses	(5,478)	(5,478)	-	-	-	-	(5,478)	
	672,563	669,814	655,015	1,472	8,219	4,374	734	
Segregated fund net assets	2,127	-	-	-	-	-	-	
Other								
Customers' liability under acceptances	18,756	18,756	18,877	-	-	-	(121)	
Derivatives ²	110,917	111,676	-	111,676	-	107,658	-	
Premises and equipment, net	7,835	7,817	7,817	-	-	-	-	
Goodwill	11,085	11,085	-	-	-	-	11,085	
Other intangibles	4,633	4,514	-	-	-	-	4,514	
Other assets	61,401	64,337	33,215	25,486	-	4,530	1,106	
	214,627	218,185	59,909	137,162	-	112,188	16,584	
Total assets²	1,671,151	1,655,446	1,027,627	449,842	17,840	250,504	17,291	
Liabilities and equity								
Deposits								
Personal	348,304	348,304	-	-	-	-	348,304	
Business and government	660,064	660,802	-	-	-	-	660,802	
Bank	46,229	46,229	-	-	-	-	46,229	
	1,054,597	1,055,335	-	-	-	-	1,055,335	
Segregated fund net liabilities	2,127	-	-	-	-	-	-	
Other								
Acceptances	18,881	18,881	-	-	-	-	18,881	
Obligations related to securities sold short	32,569	32,569	-	-	-	-	32,569	
Obligations related to assets sold under repurchase agreements and securities loaned	274,907	274,907	-	274,907	-	-	-	
Derivatives ²	106,071	106,071	-	106,071	-	103,275	-	
Insurance claims and policy benefit liabilities	12,754	-	-	-	-	-	-	
Other liabilities	69,810	68,195	-	-	-	-	68,195	
	514,992	500,623	-	380,978	-	103,275	119,645	
Subordinated debentures	9,186	9,186	-	-	-	-	9,186	
Total liabilities²	1,580,902	1,565,144	-	380,978	-	103,275	1,184,166	
Equity attributable to shareholders								
Preferred shares	7,215	7,215	-	-	-	-	7,215	
Common shares	17,638	17,638	-	-	-	-	17,638	
Retained earnings	62,751	62,774	-	-	-	-	62,774	
Other components of equity	2,545	2,575	-	-	-	-	2,575	
	90,149	90,202	-	-	-	-	90,202	
Non-controlling interests	100	100	-	-	-	-	100	
Total equity	90,249	90,302	-	-	-	-	90,302	
Total liabilities and equity²	1,671,151	1,655,446	-	380,978	-	103,275	1,274,468	

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 January 31, 2021

	a	b	c	d	e
(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	1,638,155	1,027,627	17,840	449,842	250,504
2 Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1) ¹	380,978	-	-	380,978	103,275
3 Total net amount under regulatory scope of consolidation	1,257,177	1,027,627	17,840	68,864	147,229
4 Off-balance sheet amounts ²	1,340,561	366,398	44,966	929,197	-
5 Differences due to Fair Value adjustment	(912)	(893)	-	(19)	-
6 Differences due to different netting rules, other than those already included in row 2	1,019	1,019	-	-	-
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	610	610	-	-	-
10 Exposure amounts considered for regulatory purposes	2,598,455	1,394,761	62,806	998,042	147,229

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		Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q1/21	Q4/20	Q3/20	Q2/20	Q1/20
(Millions of Canadian dollars, except percentage and otherwise noted)							
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'	17,883	17,732	17,713	17,787	17,487
2	Retained earnings	b+b'	62,506	59,573	57,573	57,196	56,298
3	Accumulated other comprehensive income (and other reserves)	c-c'	2,545	3,414	3,535	4,253	4,472
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	12	12	12	13	12
6	Common Equity Tier 1 capital before regulatory adjustments		82,946	80,731	78,833	79,249	78,269
Common Equity Tier 1 capital: Regulatory adjustments							
7	Prudential valuation adjustments		-	-	-	-	-
8	Goodwill (net of related tax liability)	e+e'+m'-t	10,984	11,198	11,252	11,483	11,189
9	Other intangibles other than mortgage-servicing rights (net of related tax liability)	f+f'-v	3,906	3,999	3,860	3,931	3,811
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	g	184	181	170	174	175
11	Cash flow hedge reserve	h	(907)	(1,079)	(1,208)	(1,183)	(188)
12	Shortfall of provisions to expected losses	i	-	-	-	-	295
13	Securitization gain on sale		-	-	-	-	-
14	Gains and losses due to changes in own credit risk on fair valued liabilities	j	(474)	(314)	(118)	776	(148)
15	Defined benefit pension fund net assets (net of related tax liability)	k-u	673	111	102	108	81
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		(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		13,391	12,649	12,701	14,051	15,215
29	Common Equity Tier 1 capital (CET1)		69,555	68,082	66,132	65,198	63,054
29a	Common Equity Tier 1 Capital (CET1) with transitional arrangements for ECL provisioning not applied		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		7,175	5,921	5,923	4,175	4,175
31	of which: classified as equity under applicable accounting standards	n'	7,175	5,921	5,923	4,175	4,175
32	of which: classified as liabilities under applicable accounting standards		-	-	-	-	-



Composition of Capital Template <i>continued</i>		Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q1/21	Q4/20	Q3/20	Q2/20	Q1/20
(Millions of Canadian dollars, except percentage and otherwise noted)							
33	Directly issued capital instruments subject to phase out from Additional Tier 1	x+n"	-	-	1,478	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	3	2	3	3	2
35	of which: instruments issued by subsidiaries subject to phase out		-	-	-	-	-
36	Additional Tier 1 capital before regulatory adjustments		7,178	5,923	7,404	5,656	5,655
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)		7,178	5,923	7,404	5,656	5,655
45	Tier 1 capital (T1 = CET1 + AT1)		76,733	74,005	73,536	70,854	68,709
45a	Tier 1 capital with transitional arrangements for ECL provisioning not applied		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""	8,005	9,049	9,078	8,932	8,451
47	Directly issued capital instruments subject to phase out from Tier 2	q""	478	488	488	520	508
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""	28	29	26	27	27
49	of which: instruments issued by subsidiaries subject to phase out	q""	25	26	23	24	24
50	Collective allowances	s	1,299	1,357	1,418	1,136	525
51	Tier 2 capital before regulatory adjustments		9,810	10,923	11,010	10,615	9,511
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 instruments 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)		9,810	10,923	11,010	10,615	9,511
59	Total capital (TC = T1 + T2)		86,543	84,928	84,546	81,469	78,220
59a	Total Capital with transitional arrangements for ECL provisioning not applied		86,543	84,928	84,546	81,469	-
60	Total risk-weighted assets		557,519	546,242	551,421	558,412	523,725
60a	Common Equity Tier 1 (CET1) Capital RWA		557,519	546,242	551,421	558,412	523,725
60b	Tier 1 Capital RWA		557,519	546,242	551,421	558,412	523,725
60c	Total Capital RWA		557,519	546,242	551,421	558,412	523,725



Composition of Capital Template <i>continued</i>		Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q1/21	Q4/20	Q3/20	Q2/20	Q1/20
(Millions of Canadian dollars, except percentage and otherwise noted)							
Capital ratios							
61	Common Equity Tier 1 (as a percentage of risk-weighted assets)		12.5%	12.5%	12.0%	11.7%	12.0%
61a	CET1 Ratio with transitional arrangements for ECL provisioning not applied		12.3%	12.2%	11.7%	11.5%	0.0%
62	Tier 1 (as a percentage of risk-weighted assets)		13.8%	13.5%	13.3%	12.7%	13.1%
62a	Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied		13.6%	13.3%	13.1%	12.5%	0.0%
63	Total capital (as a percentage of risk-weighted assets)		15.5%	15.5%	15.3%	14.6%	14.9%
63a	Total Capital Ratio with transitional arrangements for ECL provisioning not applied		15.5%	15.5%	0.0%	14.6%	0.0%
64	Buffer (minimum CET1 requirement plus capital conservation buffer plus G-SIB buffer requirement plus D-SIB buffer expressed as a percentage of risk-weighted assets)		8.0%	8.0%	8.0%	8.0%	8.0%
65	of which: capital conservation buffer		2.5%	2.5%	2.5%	2.5%	2.5%
66	of which: bank-specific countercyclical buffer		0.0%	0.0%	0.0%	0.0%	0.0%
67	of which: G-SIB buffer ¹		1.0%	1.0%	1.0%	1.0%	1.0%
67a	of which: D-SIB buffer		0.0%	0.0%	0.0%	0.0%	0.0%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk-weighted assets)		12.5%	12.5%	12.0%	11.7%	12.0%
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 financial entities		659	549	995	1,276	1,242
73	Significant investments in the common stock of financials		5,348	5,221	5,082	4,847	4,577
74	Mortgage servicing rights (net of related tax liability)		-	-	-	-	-
75	Deferred tax assets arising from temporary differences (net of related tax liability)		995	1,177	958	1,068	915
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)		1,028	1,075	1,027	964	525
77	Cap on inclusion of allowances in Tier 2 under standardized approach		1,028	1,075	1,027	964	525
78	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)		4,159	4,271	4,151	3,976	2,183
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach		4,159	4,271	4,151	3,976	2,183
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	1,478	1,478	1,478	1,478
83	Amounts excluded from AT1 due to cap (excess over cap after redemptions and maturities)		-	-	22	22	22
84	Current cap on T2 instruments subject to phase out arrangements		919	1,838	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)	Q1/21	
		Balance sheet as in Report to Shareholders	Under regulatory scope of consolidation
Assets			
Cash and due from banks		149,588	149,588
Interest-bearing deposits with banks		33,731	33,731
Securities, net of applicable allowance		287,482	273,095
<i>Non-significant investments in capital of other financial institutions not exceeding regulatory thresholds</i>			659
<i>Other securities</i>			272,437
Assets purchased under reverse repurchase agreements and securities borrowed		311,033	311,033
Loans			-
Retail		464,579	464,234
Wholesale		213,462	211,058
Allowance for loan losses		(5,478)	(5,478)
<i>Collective allowance reflected in Tier 2 regulatory capital ¹</i>	s		(1,299)
<i>Shortfall of allowances to expected loss ²</i>	i		-
<i>Allowances not reflected in regulatory capital</i>			(4,179)
		672,563	669,814
Segregated fund net assets		2,127	-
Other			
Customers' liability under acceptances		18,756	18,756
Derivatives		110,917	111,676
Premises and equipment, net		7,835	7,817
Goodwill	e	11,085	11,085
<i>Goodwill related to insurance and joint ventures</i>	e'		-
Other intangibles	f	4,633	4,514
<i>Other intangibles related to insurance and joint ventures</i>	f'		119
Other		61,401	64,337
<i>Significant investments in other financial institutions and insurance subsidiaries</i>			5,348
<i>of which: exceeding regulatory thresholds</i>	l		-
<i>of which: not exceeding regulatory thresholds</i>			5,348
<i>Defined - benefit pension fund net assets</i>	k		907
<i>Deferred tax assets</i>			2,194
<i>of which: deferred tax assets excluding those arising from temporary differences</i>	g		184
<i>of which: deferred tax assets arising from temporary differences exceeding regulatory thresholds</i>	m		-
<i>of which: deferred tax liabilities related to permitted tax netting</i>			(1,019)
<i>of which: deferred tax assets - other temporary differences</i>			3,029
<i>Other assets</i>			55,888
<i>of which: relates to assets of operations held for sale – Goodwill</i>	m'		15
Total assets		1,671,151	1,655,446

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 <i>continued</i>	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q1/21	
		Balance sheet as in Report to Shareholders	Under regulatory scope of consolidation
(Millions of Canadian dollars)			
Liabilities			
Deposits			
Personal		348,304	348,304
Business and government		660,064	660,802
Bank		46,229	46,229
		1,054,597	1,055,335
Segregated fund net liabilities		2,127	-
Other			-
Acceptances		18,881	18,881
Obligations related to securities sold short		32,569	32,569
Obligations related to assets sold under repurchase agreements and securities loaned		274,907	274,907
Derivatives		106,071	106,071
Insurance claims and policy benefit liabilities		12,754	-
Other liabilities		69,810	68,195
<i>Gains and losses due to changes in own credit risk on fair value liabilities</i>	j		(474)
<i>Deferred tax liabilities</i>			54
<i>of which: related to goodwill</i>	t		116
<i>of which: related to intangibles</i>	v		728
<i>of which: related to pensions</i>	u		234
<i>of which: relates to permitted tax netting</i>			(1,019)
<i>of which: other deferred tax liabilities</i>			-
<i>Other Liabilities</i>			68,615
Subordinated debentures	q	9,186	9,186
<i>Regulatory capital amortization of maturing debentures</i>	q ^{''''}		(384)
<i>Subordinated debentures not allowed for regulatory capital</i>	q'		678
<i>Subordinated debentures used for regulatory capital:</i>			8,892
<i>of which: are qualifying</i>	q''		8,389
<i>of which: are subject to phase out directly issued capital:</i>	q'''		478
<i>of which: are subject to phase out issued by subsidiaries and held by 3rd party</i>	q ^{''''}		25
Total liabilities		1,580,902	1,565,144
Equity attributable to shareholders		90,149	90,202
Common shares	a	17,638	17,638
<i>of which are treasury - common shares</i>	a''		(26)
Retained earnings		62,751	62,774
<i>of which relates to contributed surplus</i>	a'		245
<i>of which relates to retained earnings for capital purposes</i>	b		62,527
<i>of which relates to insurance and joint ventures</i>	b'		(22)
Other components of equity	c	2,545	2,575
<i>Gains and losses on derivatives designated as cash flow hedges</i>	h		(907)
<i>Unrealized foreign currency translation gains and losses, net of hedging activities</i>			3,256
<i>Other reserves allowed for regulatory capital</i>			226
<i>of which relates to Insurance</i>	c'		30
Preferred shares and other equity instruments	n	7,215	7,215
<i>of which: are qualifying</i>	n'		7,175
<i>of which: are subject to phase out</i>	n''		-
<i>of which portion are not allowed for regulatory capital</i>			23
<i>of which: are qualifying treasury - preferred shares</i>	n'''		17
<i>of which: are subject to phase out treasury - preferred shares</i>			-



Regulatory capital balance sheet <i>continued</i>	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q1/21	
		Balance sheet as in Report to Shareholders	Under regulatory scope of consolidation
(Millions of Canadian dollars)			
Non-controlling interests		100	100
<i>of which: are qualifying</i>			-
<i>portion allowed for inclusion into CET1</i>	d		12
<i>portion allowed for inclusion into Tier 1 capital</i>	o		3
<i>portion allowed for inclusion into Tier 2 capital</i>	r		3
<i>of which: are subject to phase out</i>	x		-
<i>of which: portion not allowed for regulatory capital</i>			82
Total equity		90,249	90,302
Total liabilities and equity		1,671,151	1,655,446

		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	1,880	688
RBC (Barbados) Services Comp	The company provides investment management, reinsurance transaction support and corporate services to Royal Bank of Canada Insurance Company Ltd.	-	-
RBC Insurance Agency Ltd.	Distribution of H&A products through AVIVA	14	35
RBC Insurance Company (Cayman) Limited	Life, annuity reinsurance company provides coverage to international clients	76	-
RBC Insurance Company of Canada	Property and casualty insurance company	85	118
RBC Insurance Holdings Inc.	Holding company	1	-
RBC Insurance Services Inc.	Service provider for insurance companies listed and the bank (creditor)	61	64
RBC Life Insurance Company	Life and health insurance company	2,947	19,865
		5,065	20,770

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>

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-section
a)	Translation of the business model into the components of the bank's credit risk profile	Credit risk	Overview
			Measurement of economic and regulatory capital - <i>Gross credit risk exposure</i>
b)	Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Enterprise risk management	Risk governance
			Risk appetite
			Risk measurement
			Risk control – <i>Delegated authorities and risk limits</i>
		Credit risk	Overview
			Credit risk assessment
			Credit risk mitigation
			Credit risk approval
c)	Structure and organization of the credit risk management and control function	Enterprise risk management	Risk governance
			Risk control
d)	Interaction between the credit risk management, risk control, compliance and internal audit functions	Enterprise risk management	Risk governance
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
			Risk control – <i>Risk monitoring and reporting</i>

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 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)	
		Defaulted exposures ¹	Non-defaulted exposures		Allocated in regulatory category of Specific ³	Allocated in regulatory category of General ³			
	(Millions of Canadian dollars)								
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.

As at October 31, 2020

		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)	
		Defaulted exposures ¹	Non-defaulted exposures		Allocated in regulatory category of Specific ³	Allocated in regulatory category of General ³			
	(Millions of Canadian dollars)								
1	Loans	3,206	635,654	5,639	94	1,061	4,484	633,221	
2	Debt Securities	-	127,091	37	-	10	27	127,054	
3	Off-Balance Sheet exposures ⁴	637	261,727	472	-	4	470	261,892	
4	Total	3,843	1,024,472	6,148	94	1,075	4,981	1,022,167	

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.

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 January 31, 2021

(Millions of Canadian dollars)	a	b	c	d	e
	On-balance sheet amount	Credit Risk ^{1,2}		Counterparty Credit Risk ⁵	
		Undrawn	Off-balance sheet amount ³	Other ⁴	Repo-style Transaction
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	9,117	1,575	33	-	86
Automotive	7,023	7,964	274	-	991
Banking	42,881	1,472	552	45,168	21,624
Consumer Discretionary	13,252	8,830	473	-	852
Consumer Staples	5,164	6,809	218	-	1,360
Oil & Gas	7,414	10,582	1,667	-	2,838
Financial Services	34,836	22,628	2,853	123,334	21,046
Financing Products	4,209	885	501	138	1,352
Forest Products	1,040	915	141	-	30
Governments	269,849	4,597	1,616	40,282	6,130
Industrial Products	6,681	8,727	706	-	884
Information Technology	3,729	5,835	272	-	5,054
Investments	18,229	2,967	424	9	93
Mining & Metals	1,560	3,902	974	-	248
Public Works & Infrastructure	1,288	1,988	432	-	231
Real Estate & Related	72,543	13,775	1,476	-	1,405
Other Services	22,609	11,179	1,281	4	1,607
Telecommunication & Media	5,231	7,685	79	-	1,963
Transportation	7,187	5,369	1,420	-	1,294
Utilities	8,662	18,263	3,927	-	3,291
Other Sectors	1,404	731	3	23	7,307
Total Wholesale	543,908	146,678	19,322	208,958	79,686
Total Exposure¹	993,543	346,538	19,461	208,958	79,686
By Geography⁷					
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 Exposure¹	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.

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

As at October 31, 2020

(Millions of Canadian dollars)	a	b	c	d	e
	Credit Risk ^{1,2}			Counterparty Credit Risk ⁵	
	On-balance sheet amount	Off-balance sheet amount ³		Repo-style Transaction	Derivatives
Undrawn		Other ⁴			
Retail					
Residential secured ⁶	338,653	88,728			
Qualifying revolving	24,328	67,779			
Other retail	68,325	14,183	67		
Total Retail	431,306	170,690	67		
Wholesale					
Agriculture	9,560	1,854	34	-	108
Automotive	8,410	7,564	289	-	791
Banking	39,228	1,501	562	42,745	19,891
Consumer Discretionary	14,436	9,303	510	-	649
Consumer Staples	6,069	6,945	538	-	1,252
Oil & Gas	7,800	10,779	1,600	-	2,492
Financial Services	32,853	22,257	3,256	109,772	21,162
Financing Products	3,755	1,098	522	90	1,055
Forest Products	1,155	851	125	-	41
Governments	245,204	4,727	1,624	43,806	6,963
Industrial Products	6,962	9,397	723	-	801
Information Technology	4,632	5,073	257	13	3,898
Investments	17,636	2,963	437	13	230
Mining & Metals	1,692	3,930	979	-	338
Public Works & Infrastructure	1,345	2,007	340	-	239
Real Estate & Related	72,006	13,729	1,573	-	1,180
Other Services	24,965	12,285	1,336	5	1,857
Telecommunication & Media	4,987	7,451	83	-	1,752
Transportation	7,492	5,612	1,533	-	1,714
Utilities	8,739	18,705	3,849	-	3,852
Other Sectors	1,699	647	1	17	9,291
Total Wholesale	520,625	148,678	20,171	196,461	79,556
Total Exposure¹	951,931	319,368	20,238	196,461	79,556
By Geography⁷					
Canada	655,560	227,837	9,595	84,761	27,044
United States	199,705	63,423	6,404	41,938	23,142
Europe	50,940	21,158	2,312	43,754	22,429
Other International	45,726	6,950	1,927	26,008	6,941
Total Exposure^{1,7}	951,931	319,368	20,238	196,461	79,556
By Maturity					
Unconditionally cancellable	65,676	199,989	60	-	-
Within 1 year	359,974	26,070	11,797	196,461	36,516
1 to 5 year	450,881	88,382	6,857	-	26,240
Over 5 years	75,400	4,927	1,524	-	16,800
Total Exposure¹	951,931	319,368	20,238	196,461	79,556

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

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

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

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

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

⁶ Includes residential mortgages and home equity lines of credit.

⁷ Geographic profile is based on the country of residence of the borrower. Amounts have been revised from those previously presented.

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 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.

As at October 31, 2020

Impaired exposures by geography ¹ and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance ²	Net impaired exposures
Canada			
Retail	692	164	528
Wholesale	754	220	534
Securities	-	-	-
Total - Canada	1,446	384	1,062
United States			
Retail	32	1	31
Wholesale	1,039	267	772
Securities	-	-	-
Total - United States	1,071	268	803
Other International			
Retail	216	116	100
Wholesale	462	181	281
Securities	157	(4)	161
Total - Other International	835	293	542
Total			
Retail	940	281	659
Wholesale	2,255	668	1,587
Securities	157	(4)	161
Total impaired exposures	3,352	945	2,407

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 geography¹ and portfolio (Millions of Canadian dollars)	For the three months ended January 31, 2021	For the three months ended October 31, 2020
Canada		
Retail	138	171
Wholesale	26	17
Total Canada	164	188
United States²		
Retail	-	3
Wholesale	54	99
Total United States	54	102
Other International		
Retail	2	6
Wholesale ²	6	5
Total Other International	8	11
Total		
Retail	140	180
Wholesale	86	121
Total net write-offs	226	301

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 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.

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

As at October 31, 2020

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance ¹	Net impaired exposures
Retail			
Residential mortgages	638	152	486
Personal	212	96	116
Small business	90	33	57
Total Retail	940	281	659
Wholesale			
Agriculture	70	10	60
Automotive	79	14	65
Banking	4	-	4
Consumer Discretionary	281	88	193
Consumer Staples	112	26	86
Oil and Gas	552	242	310
Financial Services	81	22	59
Financial Products	-	-	-
Forest Products	13	9	4
Governments	7	2	5
Industrial Products	57	18	39
Information Technology	14	1	13
Investments	47	1	46
Mining and Metals	30	9	21
Public Works and Infrastructure	8	2	6
Real Estate and Related	395	88	307
Other Services	251	99	152
Telecommunication and Media	6	-	6
Transportation	148	16	132
Utilities	46	2	44
Other	54	19	35
Total Wholesale	2,255	668	1,587
Total impaired loans and acceptances	3,195	949	2,246
Securities	157	(4)	161
Total impaired exposures	3,352	945	2,407

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

CRB: Additional disclosure related to the credit quality of assets (continued)
(g) Ageing analysis of accounting past-due exposures

The following table provides the ageing of our retail and wholesale past due exposures. 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-ageing 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.

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

As at October 31, 2020

(Millions of Canadian dollars)	30 to 89 days	90 days and greater	Total
Retail	1,013	129	1,142
Wholesale	574	13	587
Total	1,587	142	1,729

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

The following table provides a breakdown of restructured exposures between impaired and not impaired.

(Millions of Canadian dollars)	As at January 31, 2021		As at October 31, 2020	
	Not Impaired	Impaired	Not Impaired	Impaired
Retail	62,739	106	66,335	2
Wholesale	17,130	243	19,010	304

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 – <i>Counterparty credit risk</i>
	Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – <i>Derivative-related credit risk</i>
		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 – <i>Collateral</i>
	c) Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk
Consolidated Financial Statements		Credit risk approval – <i>Credit risk limits</i>
		Note 8 - Derivative financial instruments and hedging activities

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 exposure 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:

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

We understand that OSFI reviews the list of acceptable rating agencies and will reflect any changes in allowed rating agencies in its revisions 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 January 31, 2021

	(Millions of Canadian dollars, except as otherwise noted)	a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
		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.

As at October 31, 2020

	(Millions of Canadian dollars, except as otherwise noted)	a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA and RWA density	
		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	26,887	396	44,864	3	221	0.5%
2	Non-central government public sector entities	13,359	38	13,361	18	2,139	16.0%
3	Multilateral development banks	233	-	233	-	-	-
4	Banks	3,014	368	3,014	180	755	23.6%
5	Securities firms ¹	4,282	2,014	5,441	828	1,797	28.7%
6	Corporates ¹	50,383	32,887	42,987	7,776	50,005	99.0%
7	Regulatory retail portfolios	8,175	5,478	8,175	396	6,775	79.0%
8	Secured by residential property ¹	41,727	-	22,661	-	8,724	38.5%
9	Secured by commercial real estate	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-
11	Past-due loans	544	-	543	-	775	142.7%
12	Higher-risk categories	143	22	143	11	231	150.0%
13	Other assets	22,538	-	22,538	-	21,867	97.0%
14	Total	171,285	41,203	163,960	9,212	93,289	53.9%

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 January 31, 2021

	Risk weight	a	b	c	d	e	f	g	h	i	j
		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post CCF and post-CRM)
Asset Classes (Millions of Canadian dollars)											
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



As at October 31, 2020

	Risk weight Asset Classes (Millions of Canadian dollars)	a	b	c	d	e	f	g	h	i	j
		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post CCF and post-CRM)
1	Sovereigns and their central banks	44,646	-	-	-	-	-	221	-	-	44,867
2	Non-central government public sector entities	2,823	-	10,521	-	1	-	34	-	-	13,379
3	Multilateral development banks	233	-	-	-	-	-	-	-	-	233
4	Banks	-	-	3,020	-	46	-	127	-	-	3,194
5	Securities firms	-	-	5,066	-	838	-	365	-	-	6,269
6	Corporates	-	-	7	1,146	14	-	49,596	-	-	50,762
7	Regulatory retail portfolios	-	-	-	-	-	7,181	1,390	-	-	8,571
8	Secured by residential property	-	-	-	20,679	-	1,982	-	-	-	22,661
9	Secured by commercial real estate	-	-	-	-	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	1	-	-	-	-	-	82	462	-	544
12	Higher-risk categories	-	-	-	-	-	-	-	154	-	154
13	Other assets	3,956	-	-	-	-	-	18,297	-	286	22,538
14	Total	51,659	-	18,614	21,825	899	9,163	70,112	616	286	173,172

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 updated and then 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 January 31, 2021

EAD (in %)	EAD covered by the various approaches		
	Standardized Approach ^{1,2}	IRB Approach ²	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.

² Effective Q2 2020, we have updated the table to include counterparty credit risk and securitization exposures in order to better align with OSFI's 80% IRB threshold requirement.

As at October 31, 2020

EAD (in %)	EAD covered by the various approaches		
	Standardized Approach ^{1,2}	IRB Approach ²	Other
Retail			
Residential secured	14%	86%	-
Qualifying revolving	-	100%	-
Other retail	4%	96%	-
Wholesale	-	-	-
Corporate	15%	85%	-
Sovereign	14%	86%	-
Bank	8%	92%	-
Securitization	34%	66%	-
Trading	2%	98%	-
Equity	-	100%	-
Other assets not subject to Standardized or IRB Approaches	-	-	100%
Total	9%	90%	1%

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

² Effective Q2 2020, we have updated the table to include counterparty credit risk and securitization exposures in order to better align with OSFI's 80% IRB threshold requirement.



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 estimated, 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 January 31, 2021

		a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	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
	PD scale ¹												
	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)	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 estate⁴												
	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)	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
	PD scale ¹												
	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.



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

As at October 31, 2020

		a	b	c	d	e	f	g	h	i	j	k	l
	(Millions of Canadian dollars, except as otherwise noted)	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
	PD scale ¹												
	Asset Classes												
1	Sovereigns												
	0.00 to < 0.15	226,752	23,899	53.93	324,585	0.02	1,515	27.42	1.21	13,458	4.2	14	
	0.15 to < 0.25	421	558	60.52	705	0.19	182	36.12	2.43	245	34.8	-	
	0.25 to < 0.50	135	102	55.20	191	0.41	73	23.53	1.27	57	29.9	-	
	0.50 to < 0.75	105	14	55.37	113	0.72	151	26.40	3.29	63	56.1	-	
	0.75 to < 2.50	174	51	38.96	193	1.54	195	26.05	3.16	134	69.6	1	
	2.50 to < 10.00	11	10	55.12	17	3.97	14	43.89	2.07	23	137.6	-	
	10.00 to < 100.00	-	-	65.00	-	29.24	4	45.00	1.28	-	252.7	-	
	100.00 (default)	-	-	-	-	100.00	2	45.00	2.50	-	596.3	-	
	Total Sovereigns	227,598	24,634	54.05	325,804	0.02	2,136	27.44	1.22	13,980	4.3	15	-
2	Banks												
	0.00 to < 0.15	19,183	3,151	45.57	28,824	0.05	168	31.02	1.77	4,832	16.8	5	
	0.15 to < 0.25	297	301	43.27	820	0.18	52	40.88	2.08	420	51.2	1	
	0.25 to < 0.50	207	69	49.42	253	0.41	13	48.12	1.94	197	77.9	1	
	0.50 to < 0.75	241	130	40.47	297	0.72	23	37.65	1.32	193	65.2	1	
	0.75 to < 2.50	182	278	46.47	313	1.53	34	40.01	1.34	277	88.4	2	
	2.50 to < 10.00	50	33	44.90	65	5.74	20	43.47	2.27	110	168.9	2	
	10.00 to < 100.00	1	-	-	1	17.71	9	43.83	1.13	3	242.8	-	
	100.00 (default)	-	-	-	-	100.00	1	60.00	2.50	-	795.0	-	
	Total Banks	20,161	3,962	45.36	30,573	0.10	320	31.61	1.77	6,032	19.7	12	-
3	Corporates												
	0.00 to < 0.15	24,304	103,498	52.25	78,661	0.09	11,910	39.61	2.17	20,096	25.6	28	
	0.15 to < 0.25	25,751	62,858	51.23	56,759	0.19	12,877	41.11	2.37	23,474	41.4	45	
	0.25 to < 0.50	22,701	23,742	50.08	33,107	0.41	9,779	36.86	2.29	17,194	51.9	51	
	0.50 to < 0.75	23,031	24,504	52.14	33,690	0.71	10,040	35.33	2.55	21,875	64.9	85	
	0.75 to < 2.50	44,272	34,571	49.11	55,880	1.55	23,211	34.00	2.19	41,699	74.6	295	
	2.50 to < 10.00	28,912	30,299	50.81	38,517	4.02	18,398	34.97	2.40	40,205	104.4	543	
	10.00 to < 100.00	3,177	2,724	49.69	3,762	16.15	3,409	33.74	2.21	5,671	150.7	208	
	100.00 (default)	2,004	693	26.66	2,089	100.00	1,299	34.79	2.18	4,945	236.7	592	
	Total Corporates	174,152	282,889	51.23	302,465	1.87	90,923	37.38	2.30	175,159	57.9	1,847	817
4	Total Wholesale	421,911	311,485	51.38	658,842	0.87	93,379	32.20	1.74	195,171	29.6	1,874	817

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. 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 October 31, 2020

		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 estate⁴												
	0.00 to < 0.15	22,668			1,742	0.14	141,514	16.70		95	5.4	-	
	0.15 to < 0.25	-			-	-	-	-		-	-	-	
	0.25 to < 0.50	43,146			1,406	0.32	190,106	15.43		131	9.3	1	
	0.50 to < 0.75	317			-	-	-	-		-	-	-	
	0.75 to < 2.50	8,684			263	1.25	40,636	13.69		55	20.8	-	
	2.50 to < 10.00	4,381			-	5.94	22,708	10.70		-	17.1	-	
	10.00 to < 100.00	853			-	21.66	3,342	11.80		-	25.8	-	
	100.00 (default)	257			-	-	1,337	-		-	-	-	
	Total Retail insured exposure secured by real estate	80,306			3,411	0.30	399,643	15.95		281	8.2	1	2
6	Uninsured residential mortgages												
	0.00 to < 0.15	159,499	340	100.00	159,838	0.13	622,438	17.58		8,494	5.3	36	
	0.15 to < 0.25	48	22	100.00	70	0.22	71	72.24		23	32.9	-	
	0.25 to < 0.50	58	317	100.00	375	0.33	236	14.59		36	9.6	-	
	0.50 to < 0.75	-	-	-	-	-	-	-		-	-	-	
	0.75 to < 2.50	16,210	284	100.00	16,494	0.91	57,586	18.44		3,791	23.0	28	
	2.50 to < 10.00	4,769	20	100.00	4,789	4.27	21,680	17.90		2,719	56.8	37	
	10.00 to < 100.00	862	-	100.00	863	22.32	4,022	17.80		852	98.7	34	
	100.00 (default)	213	-	-	213	100.00	1,088	17.14		35	16.3	38	
	Total Uninsured residential mortgages	181,659	983	100.00	182,642	0.53	707,121	17.68		15,950	8.7	173	41

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. 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 October 31, 2020

		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	32,751	94,249	91.50	118,989	0.08	757,881	24.58		6,320	5.3	24	
	0.15 to < 0.25	-	-	-	-	-	-	-		-	-	-	
	0.25 to < 0.50	-	-	-	-	-	-	-		-	-	-	
	0.50 to < 0.75	2,519	1,310	93.31	3,741	0.71	42,461	24.97		986	26.4	7	
	0.75 to < 2.50	-	-	-	-	-	-	-		-	-	-	
	2.50 to < 10.00	1,234	285	97.04	1,511	4.80	16,629	25.16		1,241	82.2	18	
	10.00 to < 100.00	117	7	116.03	126	35.07	980	24.93		185	147.1	11	
	100.00 (default)	104	1	-	104	100.00	845	25.35		57	54.7	27	
	Total HELOCs	36,725	95,852	91.54	124,471	0.28	818,796	24.60		8,789	7.1	87	27
8	Qualifying revolving retail												
	0.00 to < 0.15	3,585	28,576	77.20	25,647	0.11	4,702,997	93.97		1,723	6.7	28	
	0.15 to < 0.25	8,977	38,950	84.13	41,746	0.18	3,191,236	88.07		3,860	9.3	67	
	0.25 to < 0.50	430	4,604	98.84	4,981	0.39	3,613,760	86.46		833	16.7	17	
	0.50 to < 0.75	21	106	93.99	121	0.59	7,665	100.03		33	27.1	1	
	0.75 to < 2.50	6,724	7,536	83.77	13,036	1.30	2,513,778	90.29		5,745	44.1	153	
	2.50 to < 10.00	4,053	2,231	83.58	5,918	3.82	1,587,183	89.78		5,576	94.2	201	
	10.00 to < 100.00	499	198	61.08	620	29.23	414,481	90.75		1,641	264.7	164	
	100.00 (default)	39	2	-	39	100.00	24,062	87.02		99	253.6	27	
	Total Qualifying revolving retail	24,328	82,203	82.45	92,108	0.81	16,055,162	90.08		19,510	21.2	658	26
9	Other retail												
	0.00 to < 0.15	29,523	2,839	86.00	31,966	0.12	126,595	33.00		3,106	9.7	12	
	0.15 to < 0.25	2,630	5,829	85.00	7,590	0.20	111,336	82.00		2,658	35.0	12	
	0.25 to < 0.50	8,101	1,867	102.00	9,996	0.33	486,294	69.00		4,102	41.0	23	
	0.50 to < 0.75	410	582	96.00	968	0.58	95,378	97.00		771	79.6	5	
	0.75 to < 2.50	13,105	3,068	94.00	16,004	1.29	596,049	62.00		11,542	72.1	130	
	2.50 to < 10.00	3,722	1,132	92.00	4,761	4.18	263,367	70.00		5,096	107.0	138	
	10.00 to < 100.00	689	64	94.00	749	35.06	35,949	74.00		1,226	163.7	216	
	100.00 (default)	72	1	-	72	100.00	4,091	66.00		114	158.3	41	
	Total Other retail	58,252	15,382	90.00	72,106	1.15	1,719,059	53.00		28,615	39.7	577	39
10	Total retail	381,270	194,420	92.14	474,738	0.61	19,699,781	38.89	-	73,145	15.4	1,496	135
	Total	803,181	505,905	67.04	1,133,580	0.76	19,793,160	35.00	1.74	268,316	24.0	3,370	952

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. 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.

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 January 31, 2021

	(Millions of Canadian dollars)	a	b
		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 October 31, 2020

	(Millions of Canadian dollars)	a	b
		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.

	(Millions of Canadian dollars)	RWA amounts ¹	
		As at January 31, 2021	As at October 31, 2020
1	RWA as at end of previous reporting period	394,506	394,787
2	Asset size ²	9,752	(397)
3	Asset quality ³	(1,595)	1,719
4	Model updates ⁴	2,927	-
5	Methodology and policy ⁵	-	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	(6,027)	(1,315)
8	Other	1,715	(288)
9	RWA as at end of reporting period	401,278	394,506

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 – <i>Counterparty credit risk</i>
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – <i>Derivative-related credit risk</i>
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 – <i>Counterparty credit risk</i>
c)	Policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk, including exposures towards CCPs	Credit risk	Credit risk assessment – <i>Counterparty credit risk</i>
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – <i>Derivative-related credit risk</i> Note 30 - Offsetting financial assets and financial liabilities
d)	Policies with respect to wrong-way risk exposures	Credit risk	Credit risk assessment – <i>Wrong-way risk</i>
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 January 31, 2021

		a	b	c	d	e	f
		Replacement Cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM ¹	RWA ²
	(Millions of Canadian dollars, except as otherwise noted)						
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.

As at October 31, 2020

		a	b	c	d	e	f
		Replacement Cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM ¹	RWA ²
	(Millions of Canadian dollars, except as otherwise noted)						
1	SA-CCR (for derivatives) ^{1,2}	16,135	31,974		1.4	66,980	25,761
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)					193,684	10,001
5	VaR for SFTs						
6	Total						35,762

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 January 31, 2021

	(Millions of Canadian dollars)	a	b
		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.

As at October 31, 2020

	(Millions of Canadian dollars)	a	b
		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	67,352	18,171
4	Total subject to the CVA capital charge	67,352	18,171

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 January 31, 2021

Risk weight Regulatory portfolio (Millions of Canadian dollars)	a	b	c	d	e	f	g	h	i
	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

As at October 31, 2020

Risk weight Regulatory portfolio (Millions of Canadian dollars)	a	b	c	d	e	f	g	h	i
	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns	-	-	-	-	-	-	-	-	-
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	17	-	-	127	-	-	144
Securities firms	-	-	120	-	-	27	-	-	147
Corporates	-	-	304	-	-	1,918	-	-	2,222
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-
Total	-	-	441	-	-	2,072	-	-	2,513

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 January 31, 2021

(Millions of Canadian dollars, except as otherwise noted)	PD scale ¹	a	b	c	d	e	f	g
		EAD post-CRM	Average PD (%)	Number of obligors	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)
Asset classes								
Sovereigns	0.00 to < 0.15	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.

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

As at October 31, 2020

(Millions of Canadian dollars, except as otherwise noted)	PD scale ¹	a	b	c	d	e	f	g
		EAD post-CRM	Average PD (%)	Number of obligors	Average LGD (%)	Average maturity (in years)	RWA	RWA density (%)
Asset classes								
Sovereigns	0.00 to < 0.15	57,867	0.04	342	8.37	1.20	1,758	3
	0.15 to < 0.25	346	0.21	19	41.91	1.08	109	31
	0.25 to < 0.50	39	0.41	10	44.85	1.04	20	50
	0.50 to < 0.75	16	0.72	4	35.16	4.01	16	103
	0.75 to < 2.50	5	1.81	3	45.00	1.00	7	119
	2.50 to < 10.00	5	2.80	2	45.00	1.31	6	118
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total sovereigns		58,278	0.04	380	8.61	1.20	1,916	3
Banks								
	0.00 to < 0.15	84,585	0.08	213	13.14	0.31	5,183	6
	0.15 to < 0.25	15,439	0.17	101	11.50	0.19	1,372	9
	0.25 to < 0.50	1,883	0.41	28	14.21	0.34	369	20
	0.50 to < 0.75	2,182	0.72	19	4.03	0.06	149	7
	0.75 to < 2.50	1,321	1.30	25	10.63	0.17	295	22
	2.50 to < 10.00	218	3.03	10	45.00	1.19	260	120
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total banks		105,628	0.14	396	12.77	0.29	7,628	7
Corporates								
	0.00 to < 0.15	69,394	0.08	5,803	31.33	0.59	8,657	12
	0.15 to < 0.25	12,298	0.18	1,757	36.89	1.35	4,077	33
	0.25 to < 0.50	2,565	0.41	522	44.33	1.94	1,655	65
	0.50 to < 0.75	4,823	0.72	341	43.83	2.39	4,178	87
	0.75 to < 2.50	1,967	1.52	440	37.58	2.18	1,783	91
	2.50 to < 10.00	3,063	3.79	478	35.81	1.73	3,362	110
	10.00 to < 100.00	112	14.23	22	42.42	3.64	257	229
	100.00 (default)	23	100.00	16	29.91	1.00	89	396
Total corporates		94,245	0.33	9,379	33.33	0.90	24,058	26
Total		258,151	0.19	10,155	19.34	0.72	33,602	13

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



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 January 31, 2021

(Millions of Canadian dollars)		a	b
		EAD (post-CRM)	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%.



CCR8: Exposures to central counterparties (continued)

As at October 31, 2020

(Millions of Canadian dollars)		a	b
		EAD (post-CRM)	RWA
1	Exposures to QCCPs (total)	29,729	382
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	15,354	360
3	(i) OTC derivatives	3,596	124
4	(ii) Exchange-traded derivatives	8,980	180
5	(iii) Securities financing transactions	2,778	56
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	4,884	
8	Non-segregated initial margin	3,046	-
9	Pre-funded default fund contributions	1,229	22
10	Unfunded default fund contributions ¹	5,216	-
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 January 31, 2021

(Millions of Canadian dollars)		a	b	c	e	f	g	i	j	k
		Bank acts as originator ¹			Bank acts as sponsor ²			Bank acts as investor ³		
		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	Retail (total)	-	-	-	39,299	-	39,299	199	-	199
	- of which									
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)	-	-	-	13,888	-	13,888	9,420	-	9,420
	- of which									
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.

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

As at October 31, 2020

(Millions of Canadian dollars)		a	b	c	e	f	g	i	j	k
		Bank acts as originator ¹			Bank acts as sponsor ²			Bank acts as investor ³		
		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	Retail (total)	1,189	-	1,189	39,001	-	39,001	245	-	245
	- of which									
2	residential mortgage	-	-	-	1,624	-	1,624	-	-	-
3	credit card	1,167	-	1,167	7,613	-	7,613	47	-	47
4	other retail exposures	22	-	22	29,764	-	29,764	198	-	198
4a	of which student loans	-	-	-	3,836	-	3,836	99	-	99
4b	of which auto loans and leases	-	-	-	19,864	-	19,864	99	-	99
4c	of which consumer loans	-	-	-	6,064	-	6,064	-	-	-
4d	of which other retail	22	-	22	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	Wholesale (total)	-	-	-	13,610	-	13,610	10,376	-	10,376
	- of which									
7	loans to corporates	-	-	-	2,397	-	2,397	8,960	-	8,960
8	commercial mortgage	-	-	-	-	-	-	561	-	561
9	lease and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale	-	-	-	11,213	-	11,213	855	-	855
10a	of which dealer floor plan receivable	-	-	-	2,046	-	2,046	-	-	-
10b	of which equipment receivable	-	-	-	3,971	-	3,971	-	-	-
10c	of which trade receivable	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	5,196	-	5,196	855	-	855
11	re-securitization	-	-	-	-	-	-	-	-	-

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

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

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

SEC2: IRB – Securitization exposures in the trading book

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

As at January 31, 2021

	(Millions of Canadian dollars)	a	b	c	e	f	g	i	j	k
		Bank acts as originator ¹			Bank acts as sponsor ²			Bank acts as investor ³		
		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	Retail (total)	-	-	-	-	-	-	135	-	135
	- of which									
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)	-	-	-	-	-	-	5,262	-	5,262
	- of which									
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.



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

As at October 31, 2020

	(Millions of Canadian dollars)	a	b	c	e	f	g	i	j	k
		Bank acts as originator ¹			Bank acts as sponsor ²			Bank acts as investor ³		
		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	Retail (total)	-	-	-	-	-	-	141	-	141
	- of which									
2	residential mortgages	-	-	-	-	-	-	18	-	18
3	credit cards	-	-	-	-	-	-	(7)	-	(7)
4	other retail exposures	-	-	-	-	-	-	130	-	130
4a	of which student loans	-	-	-	-	-	-	55	-	55
4b	of which auto loans and leases	-	-	-	-	-	-	59	-	59
4c	of which consumer loans	-	-	-	-	-	-	16	-	16
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	Wholesale (total)	-	-	-	-	-	-	5,621	-	5,621
	- of which									
7	loans to corporates	-	-	-	-	-	-	184	-	184
8	commercial mortgages	-	-	-	-	-	-	4,792	-	4,792
9	leases and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	645	-	645
10a	of which dealer floor plan receivables	-	-	-	-	-	-	-	-	-
10b	of which equipment receivables	-	-	-	-	-	-	37	-	37
10c	of which trade receivables	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	608	-	608
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 January 31, 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)			
	≤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%
(Millions of Canadian dollars)																	
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, these exposures previously risk-weighted under SEC-IRBA are no longer reflected in the above table but instead are risk-weighted based on the underlying credit cards using the Credit Risk framework, with these exposures now being classified as qualifying revolving retail.



As at October 31, 2020

	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%
(Millions of Canadian dollars)																	
1 Total exposures	47,719	4,472	1,183	407	19	1,170	45,067	7,544	19	329	6,233	1,978	243	26	498	158	19
2 Traditional securitization	47,719	4,472	1,183	407	19	1,170	45,067	7,544	19	329	6,233	1,978	243	26	498	158	19
3 Of which securitization	47,719	4,472	1,183	407	19	1,170	45,067	7,544	19	329	6,233	1,978	243	26	498	158	19
4 Of which retail underlying	36,974	2,541	313	343	19	1,170	35,019	3,982	19	329	4,628	641	243	26	370	51	19
5 Of which wholesale	10,745	1,931	870	64	-	-	10,048	3,562	-	-	1,605	1,337	-	-	128	107	-
6 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 Synthetic securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Of which securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14 Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15 Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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

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

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

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



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

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

As at January 31, 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)			
	≤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%
(Millions of Canadian dollars)																	
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.



As at October 31, 2020

	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%
(Millions of Canadian dollars)																	
1 Total exposures	9,522	428	103	568	-	-	10,621	-	-	-	2,706	-	-	-	217	-	-
2 Traditional securitization	9,522	428	103	568	-	-	10,621	-	-	-	2,706	-	-	-	217	-	-
3 Of which securitization	9,522	428	103	568	-	-	10,621	-	-	-	2,706	-	-	-	217	-	-
4 Of which retail underlying	108	135	-	2	-	-	245	-	-	-	57	-	-	-	5	-	-
5 Of which wholesale	9,414	293	103	566	-	-	10,376	-	-	-	2,649	-	-	-	212	-	-
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>

Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-Section
b) Description of the market risk governance structure established to implement the strategies and processes of the bank	Enterprise Risk Management	Risk governance
		Risk appetite
		Risk measurement
		Risk control
		Risk measurement - Stress testing
		Culture and conduct risk
Description of the relationships and the communication mechanisms between the different parties involved in market risk management	Enterprise Risk Management	Risk governance
		Risk control

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>

Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-Section
c) Scope and nature of risk reporting and/or measurement systems	Enterprise Risk Management	Risk measurement
		Risk control
		Risk measurement – Stress testing
	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

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 99 th 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.	23%
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.	8%
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.	25%

¹ As at January 31, 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.

	(Millions of Canadian dollars)	RWA	
		As at January 31, 2021	As at October 31, 2020
Outright products			
1	Interest rate risk (general and specific)	3,473	3,705
2	Equity risk (general and specific)	305	217
3	Foreign exchange risk	2,068	2,158
4	Commodity risk	228	230
Options			
5	Simplified approach	-	-
6	Delta-plus method	-	-
7	Scenario approach	5,375	4,794
8	Securitization	1,083	985
9	Total	12,532	12,089

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 January 31, 2021

	(Millions of Canadian dollars)	a	b	c	d	e	f
		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.

As at October 31, 2020

	(Millions of Canadian dollars)	a	b	c	d	e	f
		VaR	Stressed VaR	IRC	CRM	Other	Total RWA
1	RWA at previous quarter end	9,755	3,593	7,080	-	-	20,428
2	Movement in risk levels ¹	(3,661)	(1,233)	(326)	-	-	(5,220)
3	Model updates/changes ²	81	34	-	-	-	115
4	Methodology and policy ³	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements ⁴	-	-	(38)	-	-	(38)
7	Other	-	-	-	-	-	-
8	RWA at end of Reporting Period	6,175	2,394	6,716	-	-	15,285

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 January 31, 2021	As at October 31, 2020
1	Maximum value	232	276
2	Average value	171	161
3	Minimum value	112	98
4	Period end	180	185
Stressed VaR (10 day 99%)¹			
5	Maximum value	212	238
6	Average value	160	156
7	Minimum value	117	91
8	Period end	169	188
Incremental Risk Charge (99.9%)			
9	Maximum value	677	625
10	Average value	564	503
11	Minimum value	452	400
12	Period end	557	537
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 now 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. Amounts for Oct. 31, 2020 have been revised from those previously presented to reflect this.

Average IRC of \$564 million increased \$61 million due to higher fixed income inventories.

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		Q1/2021	Q4/2020	Q3/2020	Q2/2020	Q1/2020
Summary comparison of accounting assets vs. leverage ratio exposure measure (Millions of Canadian dollars)						
1	Total consolidated assets as per published financial statements	\$1,671,151	1,624,548	1,683,134	1,675,682	1,476,304
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(16,464)	(16,147)	(16,470)	(15,223)	(15,705)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transfer ²	-	(5,528)	(5,529)	(5,529)	(6,503)
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	(28,579)	(30,842)	(75,457)	(50,686)	(6,427)
6	Adjustment for securities financing transactions (SFT) (i.e. repo assets and similar secured lending)	14,314	12,123	14,491	15,872	12,661
7	Adjustments for off-balance sheet items (i.e., credit equivalent amounts of off-balance sheet exposures)	210,955	208,192	204,916	199,426	200,011
8	Other adjustments ³	(266,043)	(239,483)	(261,574)	(241,820)	(30,457)
9	Leverage Ratio Exposure	\$1,585,334	1,552,863	1,543,511	1,577,722	1,629,884

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		Q1/2021	Q4/2020	Q3/2020	Q2/2020	Q1/2020
(Millions of Canadian dollars, except percentages)						
On-balance sheet exposures						
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures, but including collateral)	996,797	967,523	970,360	985,261	1,035,249
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)	(16,328)	(17,400)	(23,487)	(25,142)	(15,041)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(14,840)	(14,410)	(14,177)	(14,513)	(15,363)
5	Total on-balance sheet exposure (excluding derivatives and SFTs) (sum of lines 1 and 4)	965,629	935,713	932,696	945,606	1,004,845
Derivatives exposures						
6	Replacement cost associated with all derivatives transactions (i.e., net of eligible cash variation margin)	25,968	28,186	31,839	37,488	27,969
7	Add-on amounts for potential future exposure (PFE) associated with all derivatives transactions	55,546	53,236	49,280	52,294	59,270
8	(Exempted central counterparty (CCP)-leg of client-cleared trade exposures)	-	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	824	1,225	802	340	316
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-	-	-	-
11	Total derivative exposures (sum of lines 6 to 10)	82,338	82,647	81,921	90,122	87,555
Securities financing transaction exposures						
12	Gross SFT assets recognized for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions	357,257	349,971	360,469	378,910	378,787
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(45,160)	(35,783)	(50,981)	(52,213)	(53,975)
14	Counterparty credit risk (CCR) exposure for SFTs	14,314	12,123	14,491	15,872	12,661
15	Agent transaction exposures	-	-	-	-	-
16	Total securities financing transaction exposures (sum of lines 12 to 15)	326,411	326,311	323,979	342,569	337,473
Other off-balance sheet exposures						
17	Off-balance sheet exposures at gross notional amount	626,427	594,156	598,358	573,779	566,404
18	(Adjustments for conversion to credit equivalent amounts)	(415,471)	(385,964)	(393,443)	(374,354)	(366,393)
19	Off-balance sheet items (sum of lines 17 and 18)	210,956	208,192	204,915	199,425	200,011
Capital and Total Exposures						
20	Tier 1 capital	76,733	74,005	73,536	70,854	68,709
20a	Tier 1 capital with transitional arrangements for ECL provisioning not applied	75,757	72,559	72,179	69,616	
21	Total Exposures (sum of lines 3,11,16 and 19)	1,585,334	1,552,863	1,543,511	1,577,722	1,629,884
Leverage ratio						
22	Basel III leverage ratio	4.8%	4.8%	4.8%	4.5%	4.2%
22a	Basel III leverage ratio with transitional arrangements for ECL provisioning not applied	4.8%	4.7%	4.7%	4.4%	

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

Our Leverage ratio of 4.8% was unchanged from last quarter, as internal capital generation and the issuance of Limited Recourse Capital Notes were offset by higher leverage exposures.

Leverage exposures increased by \$32.4 billion, mainly due to business growth primarily in cash and due from banks, securities and loans, partially offset by the impact of foreign exchange translation and higher 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
		January 31 2021	October 31 2020	July 31 2020	April 30 2020	January 31 2020	Change (a) - (b)
<i>(Millions of Canadian dollars, except as otherwise noted)</i>							
Resolution group¹							
1	Total loss-absorbing capacity (TLAC) available	125,619	119,832	116,492	110,077	103,019	5,787
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	125,619	119,832	116,492	110,077		5,787
2	Total RWA at the level of the resolution group	557,519	546,242	551,421	558,412	523,725	11,277
3	TLAC ratio: TLAC as a percentage of RWA (row 1/row 2) (%)	22.5%	21.9%	21.1%	19.7%	19.7%	0.6%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied	22.5%	21.9%	21.1%	19.7%		0.6%
4	Leverage ratio exposure measure at the level of the resolution group	1,585,334	1,552,863	1,543,511	1,577,722	1,629,884	32,471
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1/row 4) (%)	7.9%	7.7%	7.5%	7.0%	6.3%	0.2%
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	7.9%	7.7%	7.5%	7.0%		0.2%
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 be 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 22.5% is up by 60bps QoQ, reflecting a \$5.8 billion increase in available TLAC. The TLAC leverage ratio of 7.9% was up 20 bps, reflecting the increase in available TLAC that was partially offset by the increase 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 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%

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

As at October 31, 2020

(Millions of Canadian dollars, except as otherwise noted)		Amount
	Regulatory capital elements of TLAC and adjustments	
1	Common Equity Tier 1 capital (CET1)	68,082
2	Additional Tier 1 capital (AT1) before TLAC adjustments	5,923
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	
4	Other adjustments	
5	AT1 instruments eligible under the TLAC framework	5,923
6	Tier 2 capital (T2) before TLAC adjustments	10,923
7	Amortised portion of T2 instruments where remaining maturity > 1 year	66
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	10,989
11	TLAC arising from regulatory capital	84,994
	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	34,902
14	Of which: amount eligible as TLAC after application of the caps	34,902
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	34,902
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	119,896
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	(64)
21	Other adjustments to TLAC	
22	TLAC available after deductions	119,832
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	546,242
24	Leverage exposure measure	1,552,863
	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)	21.9%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	7.7%
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 January 31, 2021

		Creditor ranking					Sum
		1	2	3	4	5	
(Millions of Canadian dollars, except as otherwise noted)		(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 <i>potentially</i> 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.

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

As at October 31, 2020

		Creditor ranking					Sum
		1	2	3	4	5	
(Millions of Canadian dollars, except as otherwise noted)		(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	17,628	5,948	9,573	37,365	-	70,514
3	Subset of row 2 that are excluded liabilities	129	4	4	2,080	-	2,217
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,499	5,944	9,569	35,285	-	68,297
5	Subset of row 4 that are <i>potentially</i> eligible as TLAC	17,499	5,920	9,310	35,285	-	68,014
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	2,999	-	2,999
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			110	26,838	-	26,948
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			8,744	3,076	-	11,820
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			456	2,372	-	2,828
10	Subset of row 5 that is perpetual securities	17,499	5,920	-	-	-	23,419

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