Royal Bank of Canada

Pillar 3 Report

As at October 31, 2020

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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, 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 including the Significant Developments: COVID-19 section of our 2020 Annual Report. 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. 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.

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 2020 Annual Report 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.

Since Q2 2020, our disclosure of LR2: Leverage ratio common disclosure template includes disclosure of our leverage ratio assuming transitional ECL modification had not been applied, as required by OSFI.

TLAC framework

The Canadian Bail-in regime, including OSFI's Total Loss Absorbing Capacity (TLAC) Framework Guideline, came into effect on September 23, 2018. The purpose of the TLAC requirement is to address the sufficiency of a Canadian D-SIB's loss absorbing capacity in supporting its recapitalization in the event of its failure. TLAC is defined as the aggregate of Tier 1 capital, Tier 2 capital, and other TLAC instruments (senior bail-in debt), which includes senior unsecured debt with an original term to maturity of greater than 400 days and remaining term to maturity of greater than 365 days. Under the Bail-in regime, bail-in debt, which would ordinarily rank equally to Other Liabilities in liquidation, is subject to conversion under statutory resolution powers whereas Other Liabilities are not subject to such conversion.

TLAC requirements establish two minimum standards; which are required to be met effective November 1, 2021: the risk-based TLAC ratio, which builds on the risk-based capital ratios described in the CAR guideline, and the TLAC leverage ratio, which builds on the leverage ratio described in OSFI's Leverage Requirements guideline. The risk-based TLAC ratio is defined as TLAC divided by Total risk-weighted assets (RWA) while the TLAC leverage ratio is defined as TLAC divided by the Leverage ratio exposure. OSFI requires systemically important banks to maintain a minimum TLAC ratio of 22.5% (inclusive of the revised domestic stability buffer of 1% in Q2 2020) and a TLAC leverage ratio of 6.75%. We began issuing TLAC eligible debt in Q4 2018 and our TLAC ratio is expected to increase through normal course refinancing of maturing debt through the effective date of the TLAC requirements.

In May 2018, OSFI published its TLAC Disclosure Guideline for Canadian D-SIBs. The disclosure requirements reflect the BCBS TLAC disclosure requirements as outlined in the BCBS March 2017 phase two requirements mentioned above. Refer to our TLAC disclosures included in this report, as required by OSFI.

To reflect the transitional ECL modification provided by OSFI, as discussed in the Capital framework and Leverage framework sections above, since Q2 2020 our disclosure of KM2: Key metrics – TLAC requirements includes both our TLAC ratio and TLAC leverage ratio assuming the transitional ECL modification had not been applied, as required by OSFI.

DISCLOSURE MAP

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

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 Annual Report Reference
Linkages between financial statements and regulatory exposures	LI1				
	LI2				
	LIA				
Composition of Capital	CC1				
	CC2				
	CCA [1]	Main features of regulatory capital instruments and of other TLAC-eligible instruments			
Credit risk	CRA	a) Translation of the business model into the components of the bank's credit risk profile	Credit risk	Overview	61-62
				Measurement of economic and regulatory capital - *Gross credit risk exposure*	62-63
		b) Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Enterprise risk management	Risk governance	57
				Risk appetite	58
				Risk measurement	58-59
				Risk control - *Delegated authorities and risk limits*	60
			Credit risk	Overview	61-62
				Credit risk assessment	63-64
				Credit risk mitigation	64-65
				Credit risk approval	65
		c) Structure and organization of the credit risk management and control function	Enterprise risk management	Risk governance	57
				Risk control	59-60
		d) Interaction between the credit risk management, risk control, compliance and internal audit functions	Enterprise risk management	Risk governance	57
		e) Scope and content of the reporting on credit risk exposure to the executive management and to the board of directors	Enterprise risk management	Risk governance	57
				Risk control - *Risk monitoring and reporting*	60
	CR1				
	CR2 [2]				
	CRB	a) The scope and definitions of "past due" and "impaired" exposures used for accounting purposes and the differences, if any, between the definition of past due and default for accounting and regulatory purposes	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments - Allowance for credit losses - *Definition of default* *Credit impaired financial assets (Stage 3)*	138
				Note 5 – Loans and allowance for credit losses - *Loans past due but not impaired*	172
		b) The extent of past-due exposures (more than 90 days) that are not considered to be impaired and the reasons for this	Consolidated Financial Statements	Note 5 – Loans and allowance for credit losses - *Loans past due but not impaired*	172
		c) Description of methods used for determining accounting provisions for credit losses	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments - Allowance for credit losses	136-139
		Description of the categorization of ECL accounting provisions (general and specific) for standardized approach exposures	n/a	n/a – For regulatory calculations under both the Standardized and IRB approaches, the IFRS 9 stage 3 allowances are considered to be specific allowances and the IFRS 9 stage 1 and stage 2 allowances are considered to be general allowances	
		d) The bank's own definition of a restructured exposure	Consolidated Financial Statements	Note 2 – Summary of significant accounting policies, estimates and judgments - Allowance for credit losses - *Modifications*	139

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

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

DISCLOSURE MAP (continued)

Pillar 3 Requirement	Pillar 3 Requirement		2020 Annual Report section	Sub-section	2020 Annual Report Reference
Credit risk (continued)	CRC	a) Core features of policies and processes for, and an indication of the extent to which the bank makes use of, on– and off–balance sheet netting	Credit risk	Credit risk assessment – *Counterparty credit risk*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
				Note 30 – Offsetting financial assets and financial liabilities	216-217
		b) Core features of policies and processes for collateral evaluation and management	Credit risk	Credit risk mitigation - *Collateral*	64-65
		c) Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk	Credit risk mitigation	64-65
				Credit risk approval - *Credit risk limits*	65
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities	177-186
	CR3 [2]				
	CRD				
	CR4				
	CR5				
	CRE				
	CR6				
	CR7				
	CR8				
	CR9 [3]				
	CR10		n/a	n/a	n/a
Counterparty credit risk	CCRA	a) Risk management objectives and policies related to counterparty credit risk	Credit risk	Credit risk assessment – *Counterparty credit risk*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
		b) The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures	Credit risk	Credit risk assessment – *Counterparty credit risk*	63-64
		c) Policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk, including exposures towards CCPs	Credit risk	Credit risk assessment – *Counterparty credit risk*	63-64
			Consolidated Financial Statements	Note 8 – Derivative financial instruments and hedging activities - *Derivative-related credit risk*	180-181
			Consolidated Financial Statements	Note 30 – Offsetting financial assets and financial liabilities	216-217
		d) Policies with respect to wrong-way risk exposures	Credit risk	Credit risk assessment – *Wrong-way risk*	64
		e) The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade	Liquidity and funding risk	Credit ratings	84
	CCR1				
	CCR2				
	CCR3				
	CCR4				
	CCR5 [2]				
	CCR6 [2]				
	CCR7		n/a	n/a	n/a
	CCR8	f) Exposures to central counterparties			

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

DISCLOSURE MAP (continued)

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

DISCLOSURE MAP (continued)

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

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

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

OVERVIEW OF KEY METRICS, RISK MANAGEMENT AND RWA

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

		a	b	c	d
	(Millions of Canadian dollars)[1]	October 31 2020	July 31 2020	October 31 2019	Y o Y Change (a-c)
	Available capital (amounts)				
1	Common Equity Tier 1 (CET1)	68,082	66,132	62,184	5,898
1a	Common Equity Tier 1 with transitional arrangements for ECL provisioning not applied	66,635	64,775		
2	Tier 1	74,005	73,536	67,861	6,144
2a	Tier 1 with transitional arrangements for ECL provisioning not applied	72,559	72,179		
3	Total capital	84,928	84,546	77,888	7,040
3a	Total capital with transitional arrangements for ECL provisioning not applied	84,928	84,546		
	Risk-weighted assets (amounts)				
4	Total risk-weighted assets (RWA)	546,242	551,421	512,856	33,386
	Risk-based capital ratios as a percentage of RWA				
5	Common Equity Tier 1 ratio	12.5%	12.0%	12.1%	0.4%
5a	Common Equity Tier 1 ratio with transitional arrangements for ECL provisioning not applied	12.2%	11.7%		
6	Tier 1 ratio	13.5%	13.3%	13.2%	0.3%
6a	Tier 1 ratio with transitional arrangements for ECL provisioning not applied	13.3%	13.1%		
7	Total capital ratio	15.5%	15.3%	15.2%	0.3%
7a	Total capital ratio with transitional arrangements for ECL provisioning not applied	15.5%	15.3%		
	Additional CET1 buffer requirements as a percentage of RWA				
8	Capital conservation buffer requirement	2.5%	2.5%	2.5%	-
9	Countercyclical buffer requirement[2]	0.0%	0.0%	0.0%	-
10	Bank G-SIB and/or D-SIB additional requirements	1.0%	1.0%	1.0%	-
11	Total of bank CET1 specific buffer requirements (row 8 + row 9 + row 10)	3.5%	3.5%	3.5%	-
12	CET1 available after meeting the bank's minimum capital requirements (row 5 - 8%)[3]	4.5%	4.0%	4.1%	0.4%
	Basel III leverage ratio				
13	Total Basel III leverage ratio exposure measure	1,552,863	1,543,511	1,570,460	(17,597)
14	Basel III leverage ratio (row 2 / row 13)	4.8%	4.8%	4.3%	0.5%
14a	Basel III leverage ratio (row 2a / row 13) with transitional arrangements for ECL provisioning not applied	4.7%	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.

[2] Bank specific countercyclical buffer requirement for Q4 2020 was not material (Q3 2020 was not material; Q4 2019 – 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 Q4 2019). Refer to our 2020 Annual Report.

2020 vs. 2019

Our CET1 ratio was 12.5%, up 40 bps from last year, mainly reflecting internal capital generation, partially offset by higher RWA, the impact of higher PCL net of related capital modifications for expected loss provisioning, the impact of regulatory changes and share repurchases.

Our Tier 1 capital ratio of 13.5% was up 30 bps, reflecting the factors noted above under the CET1 ratio and the favourable impact of the issuance of Limited Recourse Capital Notes partially offset by the redemption of preferred shares.

Our Total capital ratio of 15.5% was up 30 bps, reflecting the factors noted above under the Tier 1 capital ratio. Total capital ratio was also positively impacted by the inclusion of excess provisions, net of capital modifications applied, partially offset by the net redemption of subordinated debentures.

During the year, RWA was up $33 billion, primarily driven by the impact of net credit downgrades, business growth mainly in derivatives, cash and lending as well as the impact of foreign exchange translation. The unfavourable impact of regulatory changes reflecting the adoption of IFRS 16 and removal of allowed grandfathering and transitioning treatment for certain securitization and counterparty credit risk exposures, also contributed to the increase. These factors were partially offset by net normal course model and methodology changes, including capital modifications associated with the reduction in market risk. 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 up 50 bps, mainly reflecting internal capital generation, the impact of regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA, and the issuance of Limited Recourse Capital Notes.

These factors were partially offset by higher leverage exposures, the impact of higher PCL net of capital modifications for expected loss provisioning, the redemption of preferred shares, share repurchases and the impact of the adoption of IFRS 16.

Leverage exposures decreased by $17.6 billion mainly due to the favourable impact of regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA, partially offset by business growth mainly in cash, loans and securities, the impact of foreign exchange translation, and the impact of the adoption of IFRS16.

OVA: Bank risk management approach

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

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-section
a)	Business model and risk profile	Significant developments: COVID-19	Impact of pandemic risk factor
			Programs in support of liquidity and funding
		Top and emerging risks	Top and emerging risks
		Risk management Overview	Risk management principles
			Risk drivers
		Enterprise risk management	Risk governance
			Risk appetite
			Risk measurement
			Risk control
b)	Risk governance structure	Enterprise risk management	Risk governance
			Risk control
c)	Communication and enforcement of risk culture within the bank	Enterprise risk management	Culture and conduct risk
d)	Scope and main features of risk measurement systems	Enterprise risk management	Risk measurement
e)	Risk information reporting	Enterprise risk management	Risk control - *Risk monitoring and reporting*
f)	Stress testing	Enterprise risk management	Risk measurement - *Stress testing*
		Market risk	Stress Tests
		Systemic risk	Systemic risk
g)	Strategies and processes applied to manage, hedge and mitigate risks	Enterprise risk management	Risk appetite
			Risk measurement
			Risk control
		Credit risk	Overview
			Credit risk measurement
			Credit risk assessment
			Credit risk mitigation
			Credit risk approval
			Credit risk administration
		Market risk	Market risk controls - FVTPL positions
			Stress Tests
			Market risk controls - Interest Rate Risk in the Banking Book (IRRBB) positions
			IRRBB measurement
			Non-trading foreign exchange rate risk
		Liquidity and funding risk	Overview
			Risk control
			Risk measurement
			Funding
			Liquidity Coverage Ratio (LCR)

OVA: Bank risk management approach (continued)

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-section
g)	Strategies and processes applied to manage, hedge and mitigate risks (continued)	Insurance risk	Insurance risk
		Operational risk	Overview
			Operational risk framework
		Regulatory compliance risk	Regulatory compliance risk
		Strategic risk	Strategic risk
		Reputation risk	Reputation risk
		Legal and regulatory environment risk	Legal and regulatory environment risk
		Competitive risk	Competitive risk
		Systemic risk	Systemic risk
		Environmental and social risk	Environmental and social risk
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities - *Derivatives issued for trading purposes*
			Note 8 - Derivative financial instruments and hedging activities - *Derivatives issued for other-than-trading purposes*
			Note 8 - Derivative financial instruments and hedging activities - *Derivative-related credit risk*

OV1: Overview of risk weighted assets (RWA)

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

		a	b	c	d	e
		RWA			Minimum capital requirement[1]	RWA
	(Millions of Canadian dollars)	October 31 2020	July 31 2020	October 31 2019	October 31 2020	Change (a-c)
1	**Credit risk (excluding counterparty credit risk)**	**361,605**	**362,588**	**346,005**	**28,928**	**15,600**
2	Of which Standardized approach (SA)	93,289	91,877	79,487	7,463	13,802
3	Of which Internal rating-based (IRB) approach	268,316	270,711	266,518	21,465	1,798
4	**Counterparty credit risk (CCR)**	**54,315**	**55,011**	**45,814**	**4,346**	**8,501**
4a	Of which other CCR	10,057	9,881	11,083	805	(1,026)
4b	Credit valuation adjustment (CVA)	18,171	18,697	13,369	1,454	4,802
5	Of which Standardised approach for counterparty credit risk (SA-CCR)[2]	26,087	26,433	21,362	2,087	4,725
6	Of which Internal model method (IMM)	-	-	-	-	-
7	Equity positions in banking book under market-based approach	2,324	2,442	2,238	186	86
8	Equity investments in funds – look-through approach	-	-	-	-	-
9	Equity investments in funds – mandate-based approach	2,902	2,939	2,514	232	388
10	Equity investments in funds – fall-back approach	-	3	106	-	(106)
11	Settlement risk	191	25	29	15	162
12	**Securitisation exposures in banking book**	**11,489**	**11,689**	**7,794**	**919**	**3,695**
12a	Of which transitional grandfathering adjustment	-	-	(6,888)	-	6,888
13	Of which IRB ratings-based approach (SEC-IRBA)	330	327	422	26	(92)
14	Of which External ratings-based approach (SEC-ERBA)	8,938	9,075	11,445	715	(2,507)
15	Of which Standardized approach (SEC-SA)	2,221	2,287	2,815	178	(594)
16	**Market risk**	**27,374**	**32,276**	**28,917**	**2,190**	**(1,543)**
17	Of which Standardized approach (SA)	12,089	11,848	12,166	967	(77)
18	Of which Internal model approaches (IMA)	15,285	20,428	16,751	1,223	(1,466)
19	**Operational risk**	**70,047**	**69,347**	**66,104**	**5,604**	**3,943**
20	Of which Basic Indicator Approach	-	-	-	-	-
21	Of which Standardized Approach	70,047	69,347	5,570	5,604	64,477
22	Of which Advanced Measurement Approach[3] (AMA)	-	-	60,534	-	(60,534)
23	Amounts below the thresholds for deduction (subject to 250% risk weight)	15,995	15,101	13,335	1,279	2,660
24	Floor adjustment	-	-	-	-	-
25	**Total (1+4+7+8+9+10+11+12+16+19+23+24)**	**546,242**	**551,421**	**512,856**	**43,699**	**33,386**

[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.

2020 vs. 2019

Total RWA increased by $33 billion or 6.5%, driven by the following:

Credit risk
RWA increased $15.6 billion ($12.6 billion before foreign exchange), mainly driven by the impact of net credit downgrades, growth in our lending business and the impact of the adoption of IFRS 16 partially offset by normal course credit risk parameter changes.

Counterparty credit risk
RWA increased by $8.5 billion ($8.2 billion before foreign exchange), mainly due to business growth primarily in derivatives and the end of grandfathering allowed for certain counterparty credit risk exposures under the standardized approach.

Securitization exposures in banking book
RWA increased by $3.7 billion, mainly driven by the end of grandfathering allowed under the revised Securitization Framework offset by the move of certain positions out of our securitization portfolio to our wholesale portfolio.

Market risk
RWA decreased $1.5 billion, mainly driven by Stressed VaR multiplier reduction as part of OSFI's capital measures and a reduction in portfolio risk levels partially offset by model changes.

Operational risk
RWA increased $4 billion, mainly driven by average revenue growth.

Amounts subject to threshold deductions
RWA increased $2.7 billion mainly driven by increases in our equity investment of our insurance subsidiaries and deferred tax assets.

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]	Q4/2020						Q4/2020				
	Risk-weighted assets All-in Basis						Capital requirements	Risk-weighted assets All-in Basis			
(Millions of Canadian dollars, except percentage and per share amounts)	Exposure [2]	Average of risk weights [3]	Standardized approach	IRB approach	Other	Total [4]	Total [4]	Q3/2020 Total [4]	Q2/2020 Total [4]	Q1/2020 Total [4]	Q4/2019 Total [4]
Credit risk [5]											
Lending-related and other											
Residential mortgages	302,980	8%	9,294	15,310	-	24,604	1,968	23,334	23,503	22,658	23,629
Other retail (Personal, Credit cards and Small business treated as retail)	299,180	20%	6,848	53,696	-	60,544	4,844	59,402	59,627	59,483	59,443
Business (Corporate, Commercial, Medium-sized enterprises											
and Non-bank financial institutions)	378,188	58%	51,175	167,628	-	218,803	17,504	221,410	233,045	214,990	215,342
Sovereign (Government)	281,426	5%	2,385	12,986	-	15,371	1,230	15,195	14,242	10,979	9,400
Bank	29,911	17%	1,720	3,508	-	5,228	418	6,453	6,831	5,882	7,648
Total lending-related and other	**1,291,685**	**25%**	**71,422**	**253,128**	**-**	**324,550**	**25,964**	**325,794**	**337,248**	**313,992**	**315,462**
Trading - related											
Repo-style transactions	857,349	1%	88	9,352	56	9,496	760	9,332	8,930	10,560	10,469
Derivatives - including CVA	93,930	46%	2,073	22,347	18,497	42,917	3,433	43,768	40,686	34,137	33,617
Total trading-related	**951,279**	**6%**	**2,161**	**31,699**	**18,553**	**52,413**	**4,193**	**53,100**	**49,616**	**44,697**	**44,086**
Total lending-related and other and trading-related	**2,242,964**	**17%**	**73,583**	**284,827**	**18,553**	**376,963**	**30,157**	**378,894**	**386,864**	**358,689**	**359,548**
Banking book equities [6]	3,456	143%	-	4,931	-	4,931	394	5,080	5,001	4,870	4,583
Securitization exposures	64,421	18%	5,270	6,219	-	11,489	919	11,689	12,716	11,448	7,794
Regulatory scaling factor [7]	n.a.	n.a.	n.a.	17,385	-	17,385	1,391	17,540	18,126	16,963	17,089
Other assets	29,459	129%	n.a.	n.a.	38,053	38,053	3,044	36,595	40,860	36,097	28,821
Total credit risk	**2,340,300**	**19%**	**78,853**	**313,362**	**56,606**	**448,821**	**35,905**	**449,798**	**463,567**	**428,067**	**417,835**
Market risk [8,9]											
Interest rate			2,309	5,532	-	7,841	627	11,164	6,213	6,642	7,264
Equity			2,066	1,562	-	3,628	290	3,751	2,971	3,847	3,381
Foreign exchange			2,544	373	-	2,917	234	2,714	2,403	2,566	1,756
Commodities			238	49	-	287	23	245	255	239	296
Specific risk			4,932	1,053	-	5,985	479	7,322	7,713	8,358	8,885
Incremental risk charge [10, 11]			-	6,716	-	6,716	537	7,080	7,345	6,763	7,335
Total market risk			**12,089**	**15,285**	**-**	**27,374**	**2,190**	**32,276**	**26,900**	**28,415**	**28,917**
Operational risk			**70,047**	**-**	**n.a.**	**70,047**	**5,604**	**69,347**	**67,945**	**67,243**	**66,104**
Total risk-weighted assets (RWA)	**2,340,300**		**160,989**	**328,647**	**56,606**	**546,242**	**43,699**	**551,421**	**558,412**	**523,725**	**512,856**

[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 Q4/20, the amount of publicly-traded equity exposures was $1,444 million and private equity exposures amounted to $2,012 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 ($2,312 million). The calculation of RWA for Equity Investments in Funds ($1,144 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 $537 million as at Q4/20. The average was $503 million, high was $625 million and low was $400 million for Q4/20. 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 October 31, 2020

	a	b	c	d	e	f	g
			Carrying values of items:[1]				
(Millions of Canadian dollars)	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
Assets							
Cash and due from banks	118,888	118,888	118,888	-	-	-	-
Interest-bearing deposits with banks	39,013	39,013	39,013	-	-	-	-
Securities							
Trading	136,071	124,884	2,423	-	54	122,407	-
Investment, net of applicable allowance	139,743	136,911	126,342	-	10,569	-	-
	275,814	261,795	128,765	-	10,623	122,407	-
Assets purchased under reverse repurchase agreements and securities borrowed	313,015	313,015	-	312,991	-	-	24
Loans							
Retail	457,976	457,631	450,935	-	-	-	6,696
Wholesale[3]	208,655	206,206	187,925	1,053	7,095	3,780	6,353
	666,631	663,837	638,860	1,053	7,095	3,780	13,049
Allowance for loan losses	(5,639)	(5,639)	-	-	-	-	(5,639)
	660,992	658,198	638,860	1,053	7,095	3,780	7,410
Segregated fund net assets	1,922	-	-	-	-	-	-
Other							
Customers' liability under acceptances	18,507	18,507	18,507	-	-	-	-
Derivatives[2]	113,488	114,595	-	114,595	-	109,850	-
Premises and equipment, net	7,934	7,916	7,916	-	-	-	-
Goodwill	11,302	11,302	-	-	-	-	11,302
Other intangibles	4,752	4,637	-	-	-	-	4,637
Other assets	58,921	61,641	31,543	26,384	19	3,388	307
	214,904	218,598	57,966	140,979	19	113,238	16,246
Total assets[2]	**1,624,548**	**1,609,507**	**983,492**	**455,023**	**17,737**	**239,425**	**23,680**
Liabilities and equity							
Deposits							
Personal	343,052	343,052	-	-	-	-	343,052
Business and government	624,311	624,885	-	-	-	-	624,885
Bank	44,522	44,523	-	-	-	-	44,523
	1,011,885	1,012,460	-	-	-	-	1,012,460
Segregated fund net liabilities	1,922	-	-	-	-	-	-
Other							
Acceptances	18,618	18,618	-	-	-	-	18,618
Obligations related to securities sold short	29,285	29,285	-	-	-	-	29,285
Obligations related to assets sold under repurchase agreements and securities loaned	274,231	274,231	-	274,231	-	-	-
Derivatives[2]	109,927	109,927	-	109,927	-	106,161	-
Insurance claims and policy benefit liabilities	12,215	-	-	-	-	-	-
Other liabilities	69,831	68,321	-	-	-	-	68,321
	514,107	500,382	-	384,158	-	106,161	116,224
Subordinated debentures	9,867	9,867	-	-	-	-	9,867
Total liabilities[2]	1,537,781	1,522,709	-	384,158	-	106,161	1,138,551
Equity attributable to shareholders							
Preferred shares	5,945	5,945	-	-	-	-	5,945
Common shares	17,499	17,499	-	-	-	-	17,499
Retained earnings	59,806	59,847	-	-	-	-	59,847
Other components of equity	3,414	3,404	-	-	-	-	3,404
	86,664	86,695	-	-	-	-	86,695
Non-controlling interests	103	103	-	-	-	-	103
Total equity	86,767	86,798	-	-	-	-	86,798
Total liabilities and equity[2]	**1,624,548**	**1,609,507**	**-**	**384,158**	**-**	**106,161**	**1,225,349**

[1] Column c to g reflect a further breakout of column b by providing the respective CAR guideline frameworks utilized and recent 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 October 31, 2020

		a	b	c	d	e
			Items subject to:			
	(Millions of Canadian dollars)	Total	Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework
1	**Asset carrying value amount under scope of regulatory consolidation (as per template LI1)[1]**	**1,585,827**	**983,492**	**17,737**	**455,023**	**239,425**
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)[1]	384,158	-	-	384,158	106,161
3	Total net amount under regulatory scope of consolidation	1,201,669	983,492	17,737	70,865	133,264
4	Off-balance sheet amounts[2]	1,265,788	339,857	45,517	880,413	-
5	Differences due to Fair Value adjustment	(826)	(826)	-	-	(3,689)
6	Differences due to different netting rules, other than those already included in row 2	849	849	-	-	-
7	Differences due to consideration of provisions	320	320	-	-	-
8	Differences due to prudential filters	-	-	-	-	-
9	Difference due to accounting and risk treatment of securitizations and other items	2,075	908	1,167	-	-
10	**Exposure amounts considered for regulatory purposes**	**2,469,875**	**1,324,600**	**64,421**	**951,278**	**129,575**

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

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

LIA: Explanations of differences between accounting and regulatory exposure amounts

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

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

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

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

Regulatory carrying values for our Counterparty credit risk related to our derivative assets and liabilities, assets purchased under reverse repurchase agreements and securities borrowed and obligations related to assets sold under repurchase agreements and securities loaned are determined using OSFI's CAR guidelines Chapter 4 Settlement and Counterparty risk framework. On November 1, 2018, OSFI adopted the BCBS Standardized Approach for measuring Counterparty credit risk for derivative regulatory exposures and we have adopted this methodology for our derivative regulatory exposures. The main differences between the accounting and regulatory amounts for Counterparty credit risk relate to regulatory inclusion of potential future exposure amounts and differences in allowed IFRS and regulatory netting rules, and also application of financial collateral in the calculation of regulatory exposure amount.

The regulatory carrying value of exposures subject to the securitization framework includes our on-balance sheet third party securitization holdings as well as our securitized credit card exposures which meet the risk transference requirements under the CAR guidelines Chapter 7 but are not considered securitized for the purposes of our IFRS accounting balance sheet. Our regulatory carrying values are determined based on the BCBS revised securitization framework adopted by OSFI on November 1, 2018.

Our trading book regulatory carrying values are determined as prescribed under the CAR guidelines Chapter 9. We employ OSFI's prudent valuation guidance requirements, as stated in CAR Chapter 9 section 9.8 to our trading book. Refer to our 2020 Annual Report - Risk Management section which provides further insight into how we measure our market risk and the linkage of market risk to selected balance sheet items.

CAPITAL

CC1: Composition of Capital

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

	Composition of Capital Template (Millions of Canadian dollars, except percentage and otherwise noted)	Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q4/20	Q3/20	Q2/20	Q1/20	Q4/19
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'	17,732	17,713	17,787	17,487	17,888
2	Retained earnings	b+b'	59,573	57,573	57,196	56,298	55,680
3	Accumulated other comprehensive income (and other reserves)	c-c'	3,414	3,535	4,253	4,472	4,248
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	13	12	12
6	**Common Equity Tier 1 capital before regulatory adjustments**		**80,731**	**78,833**	**79,249**	**78,269**	**77,828**
	Common Equity Tier 1 capital: Regulatory adjustments						
7	Prudential valuation adjustments		-	-	-	-	-
8	Goodwill (net of related tax liability)	e+e'+m'-t	11,198	11,252	11,483	11,189	11,123
9	Other intangibles other than mortgage-servicing rights (net of related tax liability)	f+f'-v	3,999	3,860	3,931	3,811	3,820
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	g	181	170	174	175	179
11	Cash flow hedge reserve	h	(1,079)	(1,208)	(1,183)	(188)	(6)
12	Shortfall of provisions to expected losses	i	-	-	-	295	435
13	Securitization gain on sale		-	-	-	-	-
14	Gains and losses due to changes in own credit risk on fair valued liabilities	j	(314)	(118)	776	(148)	(20)
15	Defined benefit pension fund net assets (net of related tax liability)	k-u	111	102	108	81	113
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		(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**		12,649	12,701	14,051	15,215	15,644
29	**Common Equity Tier 1 capital (CET1)**		**68,082**	**66,132**	**65,198**	**63,054**	**62,184**
29a	**Common Equity Tier 1 Capital (CET1)** with transitional arrangements for ECL provisioning not applied		66,635	64,775	63,960	-	-
Additional Tier 1 capital (AT1): Instruments							
30	Directly issued qualifying Additional Tier 1 instruments plus related stock surplus		*5,921*	*5,923*	*4,175*	*4,175*	*4,175*
31	of which: classified as equity under applicable accounting standards	n'+n'''	*5,921*	*5,923*	*4,175*	*4,175*	*4,175*
32	of which: classified as liabilities under applicable accounting standards		-	-	-	-	-

	Composition of Capital Template ***continued*** (Millions of Canadian dollars, except percentage and otherwise noted)	**Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)**	**Q4/20**	**Q3/20**	**Q2/20**	**Q1/20**	**Q4/19**
33	*Directly issued capital instruments subject to phase out from Additional Tier 1*	**x+n"**	-	1,478	1,478	1,478	1,500
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group AT1)	**o**	2	3	3	2	2
35	*of which: instruments issued by subsidiaries subject to phase out*		-	-	-	-	-
36	**Additional Tier 1 capital before regulatory adjustments**		5,923	7,404	5,656	5,655	5,677
	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)**		**5,923**	**7,404**	**5,656**	**5,655**	**5,677**
45	**Tier 1 capital (T1 = CET1 + AT1)**		**74,005**	**73,536**	**70,854**	**68,709**	**67,861**
45a	**Tier 1 capital** with transitional arrangements for ECL provisioning not applied		72,559	72,179	69,616	-	-
Tier 2 Capital: Instruments and Provisions							
46	Directly issued qualifying Tier 2 instruments plus related stock surplus	**q"**	9,049	9,078	8,932	8,451	6,998
47	*Directly issued capital instruments subject to phase out from Tier 2*	**q'''**	488	488	520	508	2,509
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**	29	26	27	27	25
49	*of which: instruments issued by subsidiaries subject to phase out*	**q''''**	*26*	*23*	*24*	*24*	*22*
50	Collective allowances	**s**	1,357	1,418	1,136	525	495
51	**Tier 2 capital before regulatory adjustments**		**10,923**	**11,010**	**10,615**	**9,511**	**10,027**
	Tier 2 Capital: Regulatory adjustments						
52	Investments in own Tier 2 instruments		-	-	-	-	-
53	Reciprocal cross holdings in Tier 2 instruments and Other TLAC-eligible Instruments		-	-	-	-	-
54	Non-significant investments in the capital of banking, financial and insurance entities, and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation, where the institution does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)		-	-	-	-	-
54a	Non-significant investments in the other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs, where the institution does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but that no longer meets the conditions.		-	-	-	-	-
55	Significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instuments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation		-	-	-	-	-
56	Other deductions from Tier 2 capital		-	-	-	-	-
57	**Total regulatory adjustments to Tier 2 capital**		-	-	-	-	-
58	**Tier 2 capital (T2)**		**10,923**	**11,010**	**10,615**	**9,511**	**10,027**
59	**Total capital (TC = T1 + T2)**		**84,928**	**84,546**	**81,469**	**78,220**	**77,888**
59a	**Total Capital** with transitional arrangements for ECL provisioning not applied		84,928	84,546	81,469	-	-
60	**Total risk-weighted assets**		**546,242**	**551,421**	**558,412**	**523,725**	**512,856**
60a	**Common Equity Tier 1 (CET1) Capital RWA**		**546,242**	**551,421**	**558,412**	**523,725**	**512,856**
60b	**Tier 1 Capital RWA**		**546,242**	**551,421**	**558,412**	**523,725**	**512,856**
60c	**Total Capital RWA**		**546,242**	**551,421**	**558,412**	**523,725**	**512,856**

Composition of Capital Template *continued* (Millions of Canadian dollars, except percentage and otherwise noted)		Cross Reference of Current Quarter to Regulatory Capital Balance Sheet (CC2)	Q4/20	Q3/20	Q2/20	Q1/20	Q4/19
Capital ratios							
61	Common Equity Tier 1 (as a percentage of risk-weighted assets)		12.5%	12.0%	11.7%	12.0%	12.1%
61a	CET1 Ratio with transitional arrangements for ECL provisioning not applied		12.2%	11.7%	11.5%	0.0%	0.0%
62	Tier 1 (as a percentage of risk-weighted assets)		13.5%	13.3%	12.7%	13.1%	13.2%
62a	Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied		13.3%	13.1%	12.5%	0.0%	0.0%
63	Total capital (as a percentage of risk-weighted assets)		15.5%	15.3%	14.6%	14.9%	15.2%
63a	Total Capital Ratio with transitional arrangements for ECL provisioning not applied		15.5%	15.3%	14.6%	0.0%	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%	12.0%	11.7%	12.0%	12.1%
OSFI target (minimum + capital conservation buffer + D-SIB surcharge (if applicable))							
69	Common Equity Tier 1 target ratio		8.0%	8.0%	8.0%	8.0%	8.0%
70	Tier 1 capital target ratio		9.5%	9.5%	9.5%	9.5%	9.5%
71	Total capital target ratio		11.5%	11.5%	11.5%	11.5%	11.5%
Amounts below the thresholds for deduction (before risk-weighting)							
72	Non-significant investments in the capital and Other TLAC-eligible instruments of other financials entities		549	995	1,276	1,242	921
73	Significant investments in the common stock of financials		5,221	5,082	4,847	4,577	4,321
74	Mortgage servicing rights (net of related tax liability)		-	-	-	-	-
75	Deferred tax assets arising from temporary differences (net of related tax liability)		1,177	958	1,068	915	1,014
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)		1,075	1,027	964	525	495
77	Cap on inclusion of allowances in Tier 2 under standardized approach		1,075	1,027	964	525	495
78	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)		4,271	4,151	3,976	2,183	2,144
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach		4,271	4,151	3,976	2,183	2,144
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*		1,478	1,478	1,478	1,478	2,217
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*		1,838	1,838	1,838	1,838	2,757
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)	Q4/20 Balance sheet as in Report to Shareholders	Q4/20 Under regulatory scope of consolidation
Assets			
Cash and due from banks		118,888	118,888
Interest-bearing deposits with banks		39,013	39,013
Securities, net of applicable allowance		275,814	261,795
Non-significant investments in capital of other financial institutions not exceeding regulatory thresholds			549
Other securities			261,246
Assets purchased under reverse repurchase agreements and securities borrowed		313,015	313,015
Loans			-
Retail		457,976	457,631
Wholesale		208,655	206,206
Allowance for loan losses		(5,639)	(5,639)
Collective allowance reflected in Tier 2 regulatory capital [1]	**s**		(1,357)
Shortfall of allowances to expected loss [2]	**i**		-
Allowances not reflected in regulatory capital			(4,282)
		660,992	658,198
Segregated fund net assets		1,922	-
Other			
Customers' liability under acceptances		18,507	18,507
Derivatives		113,488	114,595
Premises and equipment, net		7,934	7,916
Goodwill	**e**	11,302	11,302
Goodwill related to insurance and joint ventures	**e'**		-
Other intangibles	**f**	4,752	4,637
Other intangibles related to insurance and joint ventures	**f'**		116
Other		58,921	61,641
Significant investments in other financial institutions and insurance subsidiaries			5,221
of which: exceeding regulatory thresholds	**l**		-
of which: not exceeding regulatory thresholds			5,221
Defined - benefit pension fund net assets	**k**		143
Deferred tax assets			2,529
of which: deferred tax assets excluding those arising from temporary differences	**g**		181
of which: deferred tax assets arising from temporary differences exceeding regulatory thresholds	**m**		-
of which: deferred tax liabilities related to permitted tax netting			(849)
of which: deferred tax assets - other temporary differences			3,197
Other assets			53,748
of which: relates to assets of operations held for sale – Goodwill	**m'**		16
Total assets		**1,624,548**	**1,609,507**

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

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

Regulatory capital balance sheet *continued* (Millions of Canadian dollars)	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q4/20 Balance sheet as in Report to Shareholders	 Under regulatory scope of consolidation
Liabilities			
Deposits			
Personal		343,052	343,052
Business and government		624,311	624,885
Bank		44,522	44,523
		1,011,885	1,012,460
Segregated fund net liabilities		1,922	-
Other			-
Acceptances		18,618	18,618
Obligations related to securities sold short		29,285	29,285
Obligations related to assets sold under repurchase agreements and securities loaned		274,231	274,231
Derivatives		109,927	109,927
Insurance claims and policy benefit liabilities		12,215	-
Other liabilities		69,831	68,321
Gains and losses due to changes in own credit risk on fair value liabilities	j		(314)
Deferred tax liabilities			52
of which: related to goodwill	t		120
of which: related to intangibles	v		754
of which: related to pensions	u		32
of which: relates to permitted tax netting			(849)
of which: other deferred tax liabilities			-
Other Liabilities			68,583
Subordinated debentures	q	9,867	9,867
Regulatory capital amortization of maturing debentures			-
Subordinated debentures not allowed for regulatory capital	q'		304
Subordinated debentures used for regulatory capital:			9,563
of which: are qualifying	q''		9,049
of which: are subject to phase out directly issued capital:	q'''		488
of which: are subject to phase out issued by subsidiaries and held by 3rd party	q''''		26
Total liabilities		**1,537,781**	**1,522,709**
Equity attributable to shareholders		**86,664**	**86,695**
Common shares	a	17,499	17,499
of which are treasury - common shares	a''		(129)
Retained earnings		59,806	59,847
of which relates to contributed surplus	a'		233
of which relates to retained earnings for capital purposes	b		59,613
of which relates to insurance and joint ventures	b'		(40)
Other components of equity	c	3,414	3,404
Gains and losses on derivatives designated as cash flow hedges	h		(1,079)
Unrealized foreign currency translation gains and losses, net of hedging activities			4,632
Other reserves allowed for regulatory capital			(149)
of which relates to Insurance	c'		(9)
Preferred shares and other equity instruments	n	5,945	5,945
of which: are qualifying	n'		5,925
of which: are subject to phase out	n''		-
of which portion are not allowed for regulatory capital			24
of which: are qualifying treasury - preferred shares	n'''		(4)
of which: are subject to phase out treasury - preferred shares			-

Regulatory capital balance sheet *continued* (Millions of Canadian dollars)	Cross Reference to Basel III Regulatory Capital Components (CC1)	Q4/20 Balance sheet as in Report to Shareholders	Q4/20 Under regulatory scope of consolidation
Non-controlling interests		**103**	**103**
of which: are qualifying			-
portion allowed for inclusion into CET1	**d**		12
portion allowed for inclusion into Tier 1 capital	**o**		3
portion allowed for inclusion into Tier 2 capital	**r**		29
of which: are subject to phase out	**x**		-
of which: portion not allowed for regulatory capital			59
Total equity		**86,767**	**86,798**
Total liabilities and equity		**1,624,548**	**1,609,507**

Insurance subsidiaries [1]	**Principal activities**	**Equity**	**Assets**
Assured Assistance Inc.	Service provider for insurance claims	1	-
RBC Insurance Services Inc.	Service provider for insurance companies listed and the bank (creditor)	56	64
RBC Insurance Agency Ltd.	Distribution of H&A products through AVIVA	14	39
RBC Life Insurance Company	Life and health insurance company	2,912	19,072
RBC Insurance Company of Canada	Property and casualty insurance company	74	125
RBC Insurance Holdings Inc.	Holding company	1	-
Royal Bank of Canada Insurance Company Limited	Life, annuity, trade credit, title and property reinsurance company provides coverage to international clients	1,815	689
RBC Insurance Company (Cayman) Limited	Life, annuity reinsurance company provides coverage to international clients	75	-
		4,948	19,989

[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 - *Gross credit risk exposure*
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 – *Delegated authorities and risk limits*
		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 – *Risk monitoring and reporting*

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 October 31, 2020

	(Millions of Canadian dollars)	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]		
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.

As at July 31, 2020

	(Millions of Canadian dollars)	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]		
1	Loans	3,647	630,513	5,509	140	1,213	4,156	628,651
2	Debt Securities	-	131,674	46	-	12	34	131,628
3	Off-Balance Sheet exposures[4]	693	255,420	515	-	4	511	255,598
4	**Total**	**4,340**	**1,017,607**	**6,070**	**140**	**1,229**	**4,701**	**1,015,877**

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

[2] Reflects Stage 1, 2 and 3 allowances under IFRS 9.

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

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

CR2: Changes in stock of defaulted loans and debt securities

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

For the six months ended October 31, 2020

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

For the six months ended April 30, 2020

	(Millions of Canadian dollars)	a
1	**Defaulted loans and debt securities at the end of October 31, 2019**	**2,856**
2	Loans and debt securities that have defaulted since the last reporting period	1,849
3	Returned to non-defaulted status	(1,122)
4	Amounts written off	(822)
5	Other changes	772
6	**Defaulted loans and debt securities at the end of April 30, 2020**	**3,533**

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	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses
	Description of the categorization of ECL accounting provisions (general and specific) for standardized approach exposures	n/a	n/a - For regulatory calculations under both the Standardized and IRB approaches, the IFRS 9 stage 3 allowances are considered to be specific allowances and the IFRS 9 stage 1 and stage 2 allowances are considered to be general allowances
d)	Definition of a restructured exposure	Consolidated Financial Statements	Note 2 - Summary of significant accounting policies, estimates and judgments Allowance for credit losses - Modifications

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

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

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

As at October 31, 2020

	a	b	c	d	e
	Credit Risk[1,2]			Counterparty Credit Risk[5]	
	On-balance sheet amount	Off-balance sheet amount[3]		Repo-style Transaction	Derivatives
(Millions of Canadian dollars)		Undrawn	Other[4]		
Retail					
Residential secured[6]	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 Exposure[1]	**951,931**	**319,368**	**20,238**	**196,461**	**79,556**
By Geography[7]					
Canada	688,813	247,258	10,887	85,735	31,490
United States	188,791	54,101	8,086	53,445	21,390
Europe	40,331	15,450	1,131	43,287	21,537
Other International	33,996	2,559	134	13,994	5,139
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 Exposure[1]	**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.

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

As at July 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]	329,819	87,720			
Qualifying revolving	24,561	68,196			
Other retail	65,453	13,675	69		
Total Retail	**419,833**	**169,591**	**69**		
Wholesale					
Agriculture	9,538	1,830	49	-	102
Automotive	10,417	6,679	285	-	887
Banking	41,756	1,848	565	43,176	20,400
Consumer Discretionary	15,812	10,236	523	-	750
Consumer Staples	5,619	7,278	539	-	1,329
Oil & Gas	8,766	10,700	1,568	-	2,014
Financial Services	32,043	22,920	2,836	113,488	19,310
Financing Products	3,693	754	525	162	1,137
Forest Products	1,345	775	121	-	39
Governments	252,062	11,126	1,551	55,654	7,639
Industrial Products	8,256	8,402	746	-	928
Information Technology	5,642	5,275	247	47	3,451
Investments	17,616	3,030	427	14	262
Mining & Metals	2,560	3,666	848	-	327
Public Works & Infrastructure	1,555	1,907	354	-	243
Real Estate & Related	68,996	13,555	1,616	-	1,295
Other Services	25,542	11,577	1,004	12	2,145
Telecommunication & Media	5,312	7,567	86	-	1,657
Transportation	8,072	5,205	1,644	-	1,856
Utilities	10,281	17,958	3,972	-	4,212
Other Sectors	1,268	522	1	178	9,727
Total Wholesale	**536,151**	**152,810**	**19,507**	**212,731**	**79,710**
Total Exposure[1]	**955,984**	**322,401**	**19,576**	**212,731**	**79,710**
By Geography[7]					
Canada	664,105	250,692	10,498	95,990	31,425
United States	196,061	53,202	8,030	51,461	22,517
Europe	60,511	15,969	921	51,203	20,110
Other International	35,307	2,538	127	14,077	5,658
Total Exposure[1,7]	**955,984**	**322,401**	**19,576**	**212,731**	**79,710**
By Maturity[8]					
Unconditionally cancellable	65,734	205,609	61	-	-
Within 1 year	355,524	26,043	10,703	212,731	37,010
1 to 5 year	459,244	85,496	7,281	-	24,813
Over 5 years	75,482	5,253	1,531	-	17,887
Total Exposure[1]	**955,984**	**322,401**	**19,576**	**212,731**	**79,710**

[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.

[8] 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 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.

As at July 31, 2020

Impaired exposures by geography[1] and portfolio (Millions of Canadian dollars)	Gross impaired exposures	Allowance[2]	Net impaired exposures
Canada			
Retail	850	190	660
Wholesale	754	236	518
Securities	-	-	-
Total - Canada	**1,604**	**426**	**1,178**
United States			
Retail	27	2	25
Wholesale	1,570	325	1,245
Securities	-	-	-
Total - United States	**1,597**	**327**	**1,270**
Other International			
Retail	206	118	88
Wholesale	450	162	288
Securities	159	(2)	161
Total - Other International	**815**	**278**	**537**
Total			
Retail	1,083	310	773
Wholesale	2,774	723	2,051
Securities	159	(2)	161
Total impaired exposures	**4,016**	**1,031**	**2,985**

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

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

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

Net write-offs by geography[1] and portfolio (Millions of Canadian dollars)	**For the three months ended October 31, 2020**	**For the three months ended July 31, 2020**
Canada		
Retail	171	227
Wholesale	17	30
Total Canada	**188**	**257**
United States[2]		
Retail	3	3
Wholesale	99	26
Total United States	**102**	**29**
Other International		
Retail	6	6
Wholesale[2]	5	95
Total Other International	**11**	**101**
Total		
Retail	180	236
Wholesale	121	151
Total net write-offs	**301**	**387**

[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 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)

As at July 31, 2020

Impaired exposures by portfolio and sector (Millions of Canadian dollars)	Gross impaired exposures	Allowance[1]	Net impaired exposures
Retail			
Residential mortgages	677	151	526
Personal	308	124	184
Small business	98	35	63
Total Retail	**1,083**	**310**	**773**
Wholesale			
Agriculture	94	16	78
Automotive	100	19	81
Banking	5	-	5
Consumer Discretionary	380	79	301
Consumer Staples	108	19	89
Oil and Gas	840	306	534
Financial Services	82	23	59
Financial Products	-	-	-
Forest Products	12	8	4
Governments	19	2	17
Industrial Products	54	16	38
Information Technology	4	1	3
Investments	167	17	150
Mining and Metals	32	8	24
Public Works and Infrastructure	6	1	5
Real Estate and Related	405	81	324
Other Services	217	92	125
Telecommunication and Media	6	1	5
Transportation	143	17	126
Utilities	55	1	54
Other	45	16	29
Total Wholesale	**2,774**	**723**	**2,051**
Total impaired loans and acceptances	**3,857**	**1,033**	**2,824**
Securities	159	(2)	161
Total impaired exposures	**4,016**	**1,031**	**2,985**

[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 will not be aged further while they are participating in the program. Amounts presented may include loans past due as a result of administrative processes, such as mortgage loans on which payments are restrained pending payout due to sale or refinancing. Past due loans arising from administrative processes are not representative of the borrowers' ability to meet their payment obligations.

As at October 31, 2020

(Millions of Canadian dollars)	1 to 29 days	30 to 89 days	90 days and greater	Total
Retail	3,346	1,013	129	4,488
Wholesale	2,129	574	13	2,716
Total	**5,475**	**1,587**	**142**	**7,204**

As at July 31, 2020

(Millions of Canadian dollars)	1 to 29 days	30 to 89 days	90 days and greater	Total
Retail	2,119	686	171	2,976
Wholesale	2,332	543	14	2,889
Total	**4,451**	**1,229**	**185**	**5,865**

(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.

	As at October 31, 2020		As at July 31, 2020	
(Millions of Canadian dollars)	Not Impaired	Impaired	Not Impaired	Impaired
Retail	66,335	2	69,753	2
Wholesale	19,010	304	19,197	357

CRC: Qualitative disclosure requirements related to credit risk mitigation techniques

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

	Pillar 3 disclosures requirement	RBC 2020 Annual Report section	Sub-section
a)	Core features of policies and processes for, and an indication of the extent to which the bank makes use of, on- and off-balance sheet netting	Credit risk	Credit risk assessment – *Counterparty credit risk*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
			Note 30 - Offsetting financial assets and financial liabilities
b)	Core features of policies and processes for collateral evaluation and management	Credit risk	Credit risk mitigation – *Collateral*
c)	Information about market or credit risk concentrations under the credit risk mitigation instruments used	Credit risk	Credit risk mitigation
			Credit risk approval – *Credit risk limits*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities

CR3: Credit risk mitigation techniques – overview

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

As at October 31, 2020

		a	b	c	d	e	f	g
	(Millions of Canadian dollars)	Exposures unsecured: carrying amount	Exposures secured by collateral	Exposures secured by collateral, of which: secured amount[1]	Exposures secured by financial guarantees[2]	Exposures secured by financial guarantees, of which: secured amount[3]	Exposures secured by credit derivatives	Exposures secured by credit derivatives, of which: secured amount
1	Loans[4]	158,827	363,546	361,903	110,848	106,242	-	-
2	Debt securities	102,678	24,376	24,376	-	-	-	-
3	**Total**	**261,505**	**387,922**	**386,279**	**110,848**	**106,242**	**-**	**-**
4	Of which defaulted[5]	576	1,749	1,749	301	298	-	-

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

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

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

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

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

As at April 30, 2020

		a	b	c	d	e	f	g
	(Millions of Canadian dollars)	Exposures unsecured: carrying amount	Exposures secured by collateral	Exposures secured by collateral, of which: secured amount[1]	Exposures secured by financial guarantees[2]	Exposures secured by financial guarantees, of which: secured amount[3]	Exposures secured by credit derivatives	Exposures secured by credit derivatives, of which: secured amount
1	Loans[4]	171,776	362,809	361,155	109,608	104,808	-	-
2	Debt securities	101,678	18,795	18,795	-	-	-	-
3	**Total**	**273,454**	**381,604**	**379,950**	**109,608**	**104,808**	**-**	**-**
4	Of which defaulted[5]	717	1,807	1,807	353	347	-	-

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

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

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

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

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

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

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

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

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

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

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

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

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

As at 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	
	Asset Classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks[1]	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.

As at July 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	
	Asset Classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks[1]	23,938	371	41,920	2	162	0.4%
2	Non-central government public sector entities	11,331	32	11,337	16	1,740	15.3%
3	Multilateral development banks	140	-	140	-	-	-
4	Banks	3,728	455	3,728	200	1,116	28.4%
5	Securities firms[1]	3,369	1,722	4,500	748	1,590	30.3%
6	Corporates[1]	49,285	31,771	42,396	7,401	49,021	98.0%
7	Regulatory retail portfolios	8,227	5,199	8,227	442	6,869	79.2%
8	Secured by residential property[1]	41,203	-	22,159	-	8,543	38.6%
9	Secured by commercial real estate	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-
11	Past-due loans	609	-	609	-	886	145.5%
12	Higher-risk categories	246	146	246	73	479	150.0%
13	Other assets	23,836	-	23,836	-	21,471	90.1%
14	**Total**	**165,912**	**39,696**	**159,098**	**8,882**	**91,877**	**54.7%**

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

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

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

As at October 31, 2020

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

As at July 31, 2020

		a	b	c	d	e	f	g	h	i	j
	Risk weight / Asset Classes (Millions of Canadian dollars)	0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post CCF and post-CRM)
1	Sovereigns and their central banks	41,760	-	-	-	-	-	162	-	-	41,922
2	Non-central government public sector entities	2,830	-	8,475	-	3	-	44	-	-	11,352
3	Multilateral development banks	140	-	-	-	-	-	-	-	-	140
4	Banks	-	-	3,430	-	136	-	362	-	-	3,928
5	Securities firms	-	-	4,047	-	840	-	361	-	-	5,248
6	Corporates	-	-	16	1,162	17	-	48,602	-	-	49,797
7	Regulatory retail portfolios	-	-	-	-	-	7,205	1,465	-	-	8,670
8	Secured by residential property	-	-	-	20,191	-	1,969	-	-	-	22,159
9	Secured by commercial real estate	-	-	-	-	-	-	-	-	-	-
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	1	-	-	-	-	-	53	556	-	609
12	Higher-risk categories	-	-	-	-	-	-	-	319	-	319
13	Other assets	5,572	-	-	-	-	-	17,985	-	279	23,836
14	**Total**	**50,303**	**-**	**15,968**	**21,353**	**996**	**9,174**	**69,034**	**875**	**279**	**167,980**

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 October 31, 2020

	EAD covered by the various approaches		
EAD (in %)	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.

As at July 31, 2020

	EAD covered by the various approaches		
EAD (in %)	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	12%	88%	-
Bank	7%	93%	-
Securitization	35%	65%	-
Trading	2%	98%	-
Equity	-	100%	-
Other assets not subject to Standardized or IRB Approaches	-	-	100%
Total	8%	91%	1%

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

[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 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													
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 estate[4]**													
		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.

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

As at July 31, 2020

	(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	a Original on-balance sheet gross exposure	b Off-balance sheet exposures pre CCF	c Average CCF (%)	d EAD post CRM and post-CCF	e Average PD (%)	f Number of obligors[2]	g Average LGD (%)	h Average maturity (in years)	i RWA	j RWA density (%)	k EL	l Provisions[3]
	Asset Classes													
1	**Sovereigns**													
		0.00 to < 0.15	236,615	34,730	55.41	341,004	0.02	1,502	25.49	1.21	13,709	4.0	14	
		0.15 to < 0.25	348	491	54.73	565	0.20	177	38.89	2.12	208	37.0	-	
		0.25 to < 0.50	133	184	46.73	219	0.41	71	24.21	1.31	69	31.0	-	
		0.50 to < 0.75	102	5	48.33	105	0.72	148	26.32	3.40	59	57.0	-	
		0.75 to < 2.50	173	53	39.07	193	1.53	190	26.48	3.30	139	72.0	1	
		2.50 to < 10.00	46	12	51.96	52	3.09	13	41.08	2.29	64	122.0	1	
		10.00 to < 100.00	-	-	65.00	-	16.57	5	33.26	1.01	-	161.0	-	
		100.00 (default)	-	-	-	-	100.00	2	45.00	2.50	-	596.0	-	
	Total Sovereigns		**237,417**	**35,475**	**55.33**	**342,138**	**0.02**	**2,108**	**25.52**	**1.21**	**14,248**	**4.0**	**16**	**-**
2	**Banks**													
		0.00 to < 0.15	22,457	3,622	45.18	31,860	0.05	183	32.36	1.87	5,622	18.0	6	
		0.15 to < 0.25	582	716	38.15	1,197	0.18	62	41.58	1.68	532	44.0	1	
		0.25 to < 0.50	215	123	53.80	285	0.41	12	46.83	1.91	216	76.0	1	
		0.50 to < 0.75	239	233	37.02	329	0.70	22	38.94	1.31	221	67.0	1	
		0.75 to < 2.50	167	265	49.92	302	1.54	35	38.99	1.50	266	88.0	2	
		2.50 to < 10.00	35	119	37.08	79	6.96	23	44.71	1.92	147	187.0	2	
		10.00 to < 100.00	2	20	36.00	10	22.00	11	44.50	1.01	25	260.0	1	
		100.00 (default)	-	-	-	-	100.00	1	60.00	2.50	1	795.0	-	
	Total Banks		**23,697**	**5,098**	**44.05**	**34,062**	**0.10**	**349**	**32.96**	**1.86**	**7,030**	**21.0**	**14**	**-**
3	**Corporates**													
		0.00 to < 0.15	26,858	103,945	51.78	80,937	0.09	11,831	39.88	2.22	21,182	26.2	29	
		0.15 to < 0.25	28,175	65,789	51.07	60,577	0.19	12,914	41.20	2.44	25,539	42.2	49	
		0.25 to < 0.50	23,488	22,720	50.05	33,554	0.41	9,827	36.85	2.39	17,782	53.0	51	
		0.50 to < 0.75	25,628	21,822	52.48	35,151	0.72	9,777	35.39	2.67	23,239	66.1	89	
		0.75 to < 2.50	45,336	32,991	48.90	56,290	1.55	23,531	33.54	2.29	41,933	74.5	293	
		2.50 to < 10.00	27,469	28,081	50.71	36,727	4.04	18,144	34.80	2.50	38,511	104.9	518	
		10.00 to < 100.00	3,227	2,174	52.21	3,513	15.63	2,968	32.81	2.20	5,193	147.8	186	
		100.00 (default)	2,346	753	26.11	2,440	100.00	1,308	30.97	2.13	5,387	220.7	532	
	Total Corporates		**182,527**	**278,275**	**51.03**	**309,189**	**1.92**	**90,300**	**37.39**	**2.38**	**178,766**	**57.8**	**1,747**	**795**
4	**Total Wholesale**		**443,641**	**318,848**	**51.40**	**685,389**	**0.88**	**92,757**	**31.24**	**1.77**	**200,044**	**29.0**	**1,777**	**795**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2019 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 July 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 estate[4]**													
		0.00 to < 0.15	24,589			1,883	0.14	150,994	16.67		102	5.0	1	
		0.15 to < 0.25	-			-	-	-	-		-	-	-	
		0.25 to < 0.50	42,402			1,307	0.32	189,733	14.20		111	9.0	1	
		0.50 to < 0.75	336			-	-	-	-		-	-	-	
		0.75 to < 2.50	8,667			269	1.24	41,791	13.52		55	20.0	-	
		2.50 to < 10.00	4,514			11	4.25	23,578	10.62		4	34.0	-	
		10.00 to < 100.00	574			-	40.68	1,948	10.48		-	30.0	-	
		100.00 (default)	259			-	-	1,480	-		-	-	-	
	Total Retail insured exposure secured by real estate		**81,341**			**3,470**	**0.31**	**409,524**	**15.48**		**272**	**8.0**	**2**	**2**
6	**Uninsured residential mortgages**													
		0.00 to < 0.15	151,647	417	100.00	152,063	0.13	602,090	17.49		8,040	5.0	34	
		0.15 to < 0.25	37	20	100.00	57	0.22	61	72.24		19	33.0	-	
		0.25 to < 0.50	54	472	100.00	526	0.33	237	13.25		45	9.0	-	
		0.50 to < 0.75	-	-	-	-	-	-	-		-	-	-	
		0.75 to < 2.50	15,381	393	100.00	15,774	0.91	56,384	18.16		3,574	23.0	26	
		2.50 to < 10.00	4,370	21	100.00	4,391	4.02	20,402	17.92		2,431	55.0	32	
		10.00 to < 100.00	682	-	-	682	19.21	3,408	17.27		630	93.0	22	
		100.00 (default)	229	-	-	229	100.00	1,170	17.28		78	34.0	37	
	Total Uninsured residential mortgages		**172,400**	**1,323**	**100.00**	**173,722**	**0.50**	**683,752**	**17.57**		**14,817**	**9.0**	**151**	**39**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2019 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 July 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	32,709	92,892	91.50	117,704	0.08	748,691	24.62		6,260	5.0	24	
		0.15 to < 0.25	-	-	-	-	-	-	-		-	-	-	
		0.25 to < 0.50	-	-	-	-	-	-	-		-	-	-	
		0.50 to < 0.75	2,616	1,257	93.54	3,793	0.71	41,744	25.06		1,003	26.0	7	
		0.75 to < 2.50	-	-	-	-	-	-	-		-	-	-	
		2.50 to < 10.00	1,146	222	98.71	1,365	4.39	15,823	25.16		1,072	79.0	15	
		10.00 to < 100.00	100	6	119.35	107	34.54	907	24.03		152	142.0	9	
		100.00 (default)	124	2	-	124	100.00	940	25.51		70	56.0	32	
	Total HELOCs		**36,695**	**94,379**	**91.54**	**123,093**	**0.28**	**808,105**	**24.64**		**8,557**	**7.0**	**87**	**32**
8	**Qualifying revolving retail**													
		0.00 to < 0.15	3,578	28,949	77.21	25,930	0.11	4,662,673	93.97		1,737	7.0	28	
		0.15 to < 0.25	8,912	38,766	84.13	41,526	0.18	3,176,128	88.06		3,839	9.0	67	
		0.25 to < 0.50	448	4,641	98.65	5,026	0.39	3,541,797	86.64		843	17.0	17	
		0.50 to < 0.75	14	81	96.93	92	0.60	5,229	97.92		25	27.0	1	
		0.75 to < 2.50	6,906	7,816	83.74	13,452	1.31	2,551,798	90.28		5,931	44.0	157	
		2.50 to < 10.00	4,199	2,250	84.95	6,111	3.82	1,597,818	89.70		5,748	94.0	207	
		10.00 to < 100.00	448	196	59.98	565	29.28	385,989	90.62		1,492	264.0	149	
		100.00 (default)	56	2	-	56	100.00	27,708	87.33		147	263.0	38	
	Total Qualifying revolving retail		**24,561**	**82,701**	**82.46**	**92,758**	**0.81**	**15,949,140**	**90.09**		**19,762**	**21.0**	**664**	**38**
9	**Other retail**													
		0.00 to < 0.15	27,659	2,839	86.00	30,097	-	125,073	33.00		2,745	9.0	11	
		0.15 to < 0.25	2,313	5,668	85.00	7,141	-	110,080	82.00		2,501	35.0	12	
		0.25 to < 0.50	8,164	2,208	100.00	10,376	-	531,364	71.00		4,481	43.0	25	
		0.50 to < 0.75	161	19	90.00	178	1.00	42,199	60.00		90	51.0	1	
		0.75 to < 2.50	12,653	3,010	95.00	15,505	1.00	606,836	63.00		11,397	74.0	130	
		2.50 to < 10.00	3,668	1,008	89.00	4,566	4.00	244,519	70.00		4,862	106.0	134	
		10.00 to < 100.00	556	61	94.00	613	36.00	34,822	77.00		1,026	167.0	190	
		100.00 (default)	96	-	-	95	100.00	2,648	65.00		157	164.0	50	
	Total Other retail		**55,270**	**14,813**	**90.00**	**68,571**	**1.00**	**1,697,541**	**54.00**		**27,259**	**40.0**	**553**	**48**
10	**Total retail**		**370,267**	**193,216**	**91.98**	**461,614**	**0.58**	**19,548,062**	**39.42**	**-**	**70,667**	**15.0**	**1,457**	**159**
	Total		**813,908**	**512,064**	**66.71**	**1,147,003**	**0.76**	**19,640,819**	**34.53**	**1.77**	**270,711**	**24.0**	**3,234**	**954**

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2019 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 October 31, 2020

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

As at July 31, 2020

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

CR8: RWA flow statements of credit risk exposures

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

		RWA amounts[1]	
	(Millions of Canadian dollars)	**As at October 31, 2020**	**As at July 31, 2020**
1	**RWA as at end of previous reporting period**	**394,787**	**412,096**
2	Asset size[2]	(397)	(12,797)
3	Asset quality[3]	1,719	1,172
4	Model updates[4]	-	-
5	Methodology and policy[5]	-	-
6	Acquisitions and disposals	-	-
7	Foreign exchange movements	(1,315)	(6,392)
8	Other	(288)	708
9	**RWA as at end of reporting period**	**394,506**	**394,787**

[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.

CR9: IRB – Backtesting of probability of default (PD) per portfolio

The following table presents a comparison of the PD used in our IRB models with the effective default rates of the bank's obligors in order to validate the reliability of our PD calculations.

As at October 31, 2020

	a	b	c					d	e	f		g	h	i
	(Millions of Canadian dollars, except as otherwise noted) Asset Classes	PD Range[1]	External rating equivalent					Weighted average PD[2]	Arithmetic average PD by obligors[2]	Number of obligors[3]		Defaulted obligors in the year[4,6]	of which: new defaulted obligors in the year[5,6]	Average historical annual default rate
			S&P	Moody's	Fitch	DBRS	Kroll			End of previous year	End of the year			
1	**Sovereigns**													
		0.00 to < 0.15	AAA to A-	Aaa to A3	AAA to A-	AAA to AL	AAA to A-	0.02	0.08	1,476	1,515	-	-	-
		0.15 to < 0.25	BBB+ to BBB	Baa1 to Baa2	BBB+ to BBB	BBBH to BBB	BBB+ to BBB	0.19	0.19	116	182	-	-	-
		0.25 to < 0.50	BBB- to BB+	Baa3 to Ba1	BBB- to BB+	BBBL to BBH	BBB- to BB+	0.41	0.41	134	73	-	-	-
		0.50 to < 0.75	BB	Ba2	BB	BB	BB	0.72	0.72	-	151	-	-	-
		0.75 to < 2.50	BB- to B+	Ba3 to B1	BB- to B+	BBL to BH	BB- to B+	1.54	1.26	318	195	-	-	-
		2.50 to < 10.00	B to CCC+	B2 to Caa1	B to CCC+	BL to CCCH	B to CCC+	3.97	4.25	19	14	-	-	-
		10.00 to < 100.00	CCC to CC	Caa2 to Ca	CCC or CC	CCC or CC	CCC or CC	29.24	24.68	3	4	-	-	5.00%
		100.00 (default)	C or lower	C or lower	C or lower	C or lower	C or lower	100.00	100.00	-	2	-	-	-
	Total Sovereigns							**0.02**	**0.42**	**2,066**	**2,136**	**-**	**-**	
2	**Banks**													
		0.00 to < 0.15	AAA to A-	Aaa to A3	AAA to A-	AAA to AL	AAA to A-	0.05	0.09	192	168	-	-	-
		0.15 to < 0.25	BBB+ to BBB	Baa1 to Baa2	BBB+ to BBB	BBBH to BBB	BBB+ to BBB	0.18	0.19	27	52	-	-	-
		0.25 to < 0.50	BBB- to BB+	Baa3 to Ba1	BBB- to BB+	BBBL to BBH	BBB- to BB+	0.41	0.41	37	13	-	-	-
		0.50 to < 0.75	BB	Ba2	BB	BB	BB	0.72	0.72	-	23	-	-	-
		0.75 to < 2.50	BB- to B+	Ba3 to B1	BB- to B+	BBL to BH	BB- to B+	1.53	1.54	54	34	-	-	-
		2.50 to < 10.00	B to CCC+	B2 to Caa1	B to CCC+	BL to CCCH	B to CCC+	5.74	4.77	20	20	-	-	-
		10.00 to < 100.00	CCC to CC	Caa2 to Ca	CCC or CC	CCC or CC	CCC or CC	17.71	22.05	11	9	-	-	-
		100.00 (default)	C or lower	C or lower	C or lower	C or lower	C or lower	100.00	-	2	1	-	-	-
	Total Banks							**0.10**	**1.29**	**343**	**320**	**-**	**-**	

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 Annual Report MD&A.

[2] Weighted average PD means PD (after CRM) weighted by EAD as at October 31, 2020. Arithmetic average PD is the sum of all the PDs (after CRM) over the number of accounts as at October 31, 2020.

[3] 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.

[4] Number of defaulted obligors in the year includes i) existing obligors not in default at the beginning of the year who went into default during the year; and ii) new obligors in the year who went into default.

[5] Number of new defaulted obligors in the year reflects the amount in column g that relates to new obligors in the year who went into default.

[6] Defaulted obligors reflects obligors who were in default after 90 days that have either returned to performing status or were written-off. For example, unadvised overdraft facilities have been included that returned to performing status.

[7] 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.

CR9: IRB – Backtesting of probability of default (PD) per portfolio (continued)

As at October 31, 2020

	a	b	c					d	e	f		g	h	i
	(Millions of Canadian dollars, except as otherwise noted) **Asset Classes**	PD Range[1]	External rating equivalent					Weighted average PD[2]	Arithmetic average PD by obligors[2]	Number of obligors[3]		Defaulted obligors in the year[4,6]	of which: new defaulted obligors in the year[5,6]	Average historical annual default rate
			S&P	Moody's	Fitch	DBRS	Kroll			End of previous year	End of the year			
3	**Corporates**													
		0.00 to < 0.15	AAA to A-	Aaa to A3	AAA to A-	AAA to AL	AAA to A-	0.09	0.10	11,269	11,910	-	-	0.02%
		0.15 to < 0.25	BBB+ to BBB	Baa1 to Baa2	BBB+ to BBB	BBBH to BBB	BBB+ to BBB	0.19	0.20	5,677	12,877	3	-	0.04%
		0.25 to < 0.50	BBB- to BB+	Baa3 to Ba1	BBB- to BB+	BBBL to BBH	BBB- to BB+	0.41	0.41	16,717	9,779	12	1	0.06%
		0.50 to < 0.75	BB	Ba2	BB	BB	BB	0.71	0.72	-	10,040	-	-	0.07%
		0.75 to < 2.50	BB- to B+	Ba3 to B1	BB- to B+	BBL to BH	BB- to B+	1.55	1.56	33,575	23,211	113	4	0.31%
		2.50 to < 10.00	B to CCC+	B2 to Caa1	B to CCC+	BL to CCCH	B to CCC+	4.02	4.29	20,331	18,398	308	31	1.04%
		10.00 to < 100.00	CCC to CC	Caa2 to Ca	CCC or CC	CCC or CC	CCC or CC	16.15	16.47	1,215	3,409	170	25	8.79%
		100.00 (default)	C or lower	C or lower	C or lower	C or lower	C or lower	100.00	100.00	1,101	1,299	-	-	-
	Total Corporates							**1.87**	**3.59**	**89,885**	**90,923**	**606**	**61**	
4	**Total Wholesale**									**92,294**	**93,379**	**606**	**61**	
5	**Retail residential mortgages excl. HELOCs[7]**													
		0.00 to < 0.15						0.13	0.13	559,092	763,952	124	8	0.02%
		0.15 to < 0.25						0.22	0.22	178,454	71	106	2	0.01%
		0.25 to < 0.50						0.33	0.32	71,526	190,342	71	6	0.05%
		0.50 to < 0.75						-	-	70,596	-	129	2	0.16%
		0.75 to < 2.50						0.91	1.08	40,401	98,222	95	5	0.32%
		2.50 to < 10.00						4.27	4.58	70,853	44,388	686	8	0.76%
		10.00 to < 100.00						22.32	23.91	8,938	7,364	1,518	7	9.99%
		100.00 (default)						100.00	100.00	4,254	2,425	-	-	
	Total Retail residential mortgages excl. HELOCs[7]							**0.53**	**0.83**	**1,004,114**	**1,106,764**	**2,729**	**38**	

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 Annual Report MD&A.

[2] Weighted average PD means PD (after CRM) weighted by EAD as at October 31, 2020. Arithmetic average PD is the sum of all the PDs (after CRM) over the number of accounts as at October 31, 2020.

[3] 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.

[4] Number of defaulted obligors in the year includes i) existing obligors not in default at the beginning of the year who went into default during the year; and ii) new obligors in the year who went into default.

[5] Number of new defaulted obligors in the year reflects the amount in column g that relates to new obligors in the year who went into default.

[6] Defaulted obligors reflects obligors who were in default after 90 days that have either returned to performing status or were written-off. For example, unadvised overdraft facilities have been included that returned to performing status.

[7] 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.

CR9: IRB – Backtesting of probability of default (PD) per portfolio (continued)

As at October 31, 2020

	a	b	c					d	e	f		g	h	i
	(Millions of Canadian dollars, except as otherwise noted) Asset Classes	PD Range[1]	External rating equivalent					Weighted average PD[2]	Arithmetic average PD by obligors[2]	Number of obligors[3]		Defaulted obligors in the year[4,6]	of which: new defaulted obligors in the year[5,6]	Average historical annual default rate
			S&P	Moody's	Fitch	DBRS	Kroll			End of previous year	End of the year			
6	**HELOCs**													
		0.00 to < 0.15						0.08	0.08	621,574	757,881	79	-	0.01%
		0.15 to < 0.25						-	-	138,833	-	90	-	0.01%
		0.25 to < 0.50						-	-	-	-	-	-	-
		0.50 to < 0.75						0.71	0.71	61,645	42,461	136	1	0.05%
		0.75 to < 2.50						-	-	-	-	-	-	0.12%
		2.50 to < 10.00						4.80	4.46	28,065	16,629	327	-	0.69%
		10.00 to < 100.00						35.07	35.14	3,473	980	509	-	10.12%
		100.00 (default)						100.00	100.00	887	845	-	-	
	Total HELOCs							**0.28**	**0.35**	**854,477**	**818,796**	**1,141**	**1**	
7	**Qualifying revolving retail[6]**													
		0.00 to < 0.15						0.11	0.12	6,836,772	4,702,997	872	18	0.01%
		0.15 to < 0.25						0.18	0.18	58,660	3,191,236	72	47	0.02%
		0.25 to < 0.50						0.39	0.40	3,827,092	3,613,760	1,275	104	0.02%
		0.50 to < 0.75						0.59	0.59	787,662	7,665	1,169	11	0.06%
		0.75 to < 2.50						1.30	1.43	3,523,077	2,513,778	9,318	488	0.22%
		2.50 to < 10.00						3.82	4.21	1,556,705	1,587,183	13,974	3,047	1.07%
		10.00 to < 100.00						29.23	31.28	583,765	414,481	147,965	66,216	13.65%
		100.00 (default)						100.00	100.00	39,043	24,062	-	-	
	Total Qualifying revolving retail							**0.81**	**1.73**	**17,212,776**	**16,055,162**	**174,645**	**69,931**	
8	**Other retail**													
		0.00 to < 0.15						0.12	0.13	429,151	126,595	22	2	0.02%
		0.15 to < 0.25						0.20	0.22	350,922	111,336	187	8	0.03%
		0.25 to < 0.50						0.33	0.33	211,183	486,294	391	15	0.07%
		0.50 to < 0.75						0.58	0.57	152,135	95,378	52	4	0.05%
		0.75 to < 2.50						1.29	1.32	547,347	596,049	1,957	285	0.24%
		2.50 to < 10.00						4.18	4.49	380,351	263,367	3,441	189	0.79%
		10.00 to < 100.00						35.06	27.53	26,842	35,949	6,616	513	6.62%
		100.00 (default)						100.00	100.00	3,408	4,091	-	-	
	Total Other retail							**1.00**	**1.67**	**2,101,339**	**1,719,059**	**12,666**	**1,016**	
9	**Total retail**									**21,172,706**	**19,699,781**	**191,181**	**70,986**	
	Total									**21,265,000**	**19,793,160**	**191,787**	**71,047**	

[1] Refer to "Internal ratings map" under the Credit Risk Assessment section in our 2020 Annual Report MD&A.

[2] Weighted average PD means PD (after CRM) weighted by EAD as at October 31, 2020. Arithmetic average PD is the sum of all the PDs (after CRM) over the number of accounts as at October 31, 2020.

[3] 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.

[4] Number of defaulted obligors in the year includes i) existing obligors not in default at the beginning of the year who went into default during the year; and ii) new obligors in the year who went into default.

[5] Number of new defaulted obligors in the year reflects the amount in column g that relates to new obligors in the year who went into default.

[6] Defaulted obligors reflects obligors who were in default after 90 days that have either returned to performing status or were written-off. For example, unadvised overdraft facilities have been included that returned to performing status.

[7] 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.

COUNTERPARTY CREDIT RISK

CCRA: Qualitative disclosure related to counterparty credit risk

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

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-section
a)	Risk management objectives and policies related to counterparty credit risk	Credit risk	Credit risk assessment – *Counterparty credit risk*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
b)	The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures	Credit risk	Credit risk assessment – *Counterparty credit risk*
c)	Policies relating to guarantees and other risk mitigants and assessments concerning counterparty credit risk, including exposures towards CCPs	Credit risk	Credit risk assessment – *Counterparty credit risk*
		Consolidated Financial Statements	Note 8 - Derivative financial instruments and hedging activities – *Derivative-related credit risk*
			Note 30 - Offsetting financial assets and financial liabilities
d)	Policies with respect to wrong-way risk exposures	Credit risk	Credit risk assessment – *Wrong-way risk*
e)	The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade	Liquidity and funding risk	Credit ratings

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

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

As at October 31, 2020

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

As at July 31, 2020

		a	b	c	d	e	f
	(Millions of Canadian dollars, except as otherwise noted)	Replacement Cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post-CRM[1]	RWA[2]
1	SA-CCR (for derivatives)[1,2]	18,649	29,044		1.4	66,770	26,100
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)					210,543	9,837
5	VaR for SFTs						
6	**Total**						**35,937**

[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 October 31, 2020

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

As at July 31, 2020

		a	b
	(Millions of Canadian dollars)	EAD post-CRM[1]	RWA[1]
	Total portfolios subject to the Advanced CVA capital charge		
1	(i) VaR component (including the 3x multiplier)		
2	(ii) Stressed VaR component (including the 3x multiplier)		
3	All portfolios subject to the Standardized CVA capital Charge	66,770	18,697
4	**Total subject to the CVA capital charge**	**66,770**	**18,697**

[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 October 31, 2020

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

As at July 31, 2020

	a	b	c	d	e	f	g	h	i
Regulatory portfolio (Millions of Canadian dollars) / Risk weight	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	-	-	110	-	-	127
Securities firms	-	-	128	-	-	15	-	-	143
Corporates	-	-	489	-	-	1,910	-	-	2,399
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets	-	-	-	-	-	-	-	-	-
Total	**-**	**-**	**634**	**-**	**-**	**2,035**	**-**	**-**	**2,669**

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 October 31, 2020

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

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

As at July 31, 2020

(Millions of Canadian dollars, except as otherwise noted)	PD scale[1]	a EAD post-CRM	b Average PD (%)	c Number of obligors	d Average LGD (%)	e Average maturity (in years)	f RWA	g RWA density (%)
Asset classes								
Sovereigns	0.00 to < 0.15	70,214	0.03	337	7.36	1.18	1,903	3
	0.15 to < 0.25	459	0.21	18	43.84	1.11	153	33
	0.25 to < 0.50	73	0.41	11	44.90	1.03	37	50
	0.50 to < 0.75	17	0.72	5	37.22	3.29	16	94
	0.75 to < 2.50	4	1.16	2	45.00	1.00	3	83
	2.50 to < 10.00	17	2.72	3	41.49	2.20	21	118
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (default)	-	-	-	-	-	-	-
Total sovereigns		**70,784**	**0.04**	**376**	**7.65**	**1.18**	**2,133**	**3**
Banks								
	0.00 to < 0.15	90,473	0.08	208	12.66	0.30	5,277	6
	0.15 to < 0.25	14,290	0.17	99	11.40	0.22	1,329	9
	0.25 to < 0.50	2,104	0.41	28	12.42	0.32	366	17
	0.50 to < 0.75	1,729	0.72	21	4.03	0.09	122	7
	0.75 to < 2.50	1,188	1.31	25	10.69	0.24	276	23
	2.50 to < 10.00	209	3.10	9	45.00	1.18	251	120
	10.00 to < 100.00	-	29.24	1	45.00	1.00	-	279
	100.00 (default)	-	-	-	-	-	-	-
Total banks		**109,993**	**0.13**	**391**	**12.40**	**0.29**	**7,621**	**7**
Corporates								
	0.00 to < 0.15	69,898	0.08	5,575	32.31	0.59	8,680	12
	0.15 to < 0.25	11,945	0.19	1,627	34.83	1.52	3,981	33
	0.25 to < 0.50	3,169	0.41	510	42.61	1.92	2,026	64
	0.50 to < 0.75	3,740	0.72	316	43.65	2.32	3,227	86
	0.75 to < 2.50	1,938	1.43	437	39.24	2.62	1,914	99
	2.50 to < 10.00	2,931	3.96	446	36.39	1.73	3,280	112
	10.00 to < 100.00	125	14.05	27	40.65	3.74	276	221
	100.00 (default)	119	100.00	17	40.54	3.15	638	537
Total corporates		**93,865**	**0.42**	**8,955**	**33.72**	**0.90**	**24,022**	**26**
Total		**274,642**	**0.21**	**9,722**	**18.46**	**0.73**	**33,776**	**12**

[1] Refer to “Internal ratings map” in the Credit risk assessment section in our 2019 Annual Report MD&A.

CCR5: Composition of collateral for CCR exposure

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

As at October 31, 2020

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(Millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash - domestic currency	11	2,574	7	2,966	71,497	49,678
Cash - other currencies	4,322	21,069	10,389	19,873	249,498	304,919
Domestic sovereign debt	409	1,026	286	2,284	120,896	131,568
Other sovereign debt	3,019	2,732	3,527	1,458	218,109	185,921
Government agency debt	279	191	341	2,106	71,676	84,895
Corporate bonds	146	394	294	-	29,748	43,801
Equity securities	-	-	-	2,493	84,813	111,481
Other collateral	-	12	-	-	29,999	13,453
Total	**8,186**	**27,998**	**14,844**	**31,180**	**876,236**	**925,716**

As at April 30, 2020

	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(Millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash - domestic currency	16	3,385	8	4,453	73,269	60,971
Cash - other currencies	4,804	21,642	12,259	26,199	258,140	311,523
Domestic sovereign debt	110	1,464	-	2,817	133,491	143,179
Other sovereign debt	3,913	4,446	4,319	1,834	237,209	197,702
Government agency debt	90	179	281	2,798	71,938	89,689
Corporate bonds	226	710	604	10	29,840	29,434
Equity securities	-	-	-	638	92,958	125,835
Other collateral	-	30	-	-	27,325	3,729
Total	**9,159**	**31,856**	**17,471**	**38,749**	**924,170**	**962,062**

CCR6: Credit derivatives exposures

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

As at October 31, 2020

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

As at April 30, 2020

	a	b
(Millions of Canadian dollars)	Protection bought	Protection sold
Notionals		
Single-name credit default swaps	4,719	12,115
Index credit default swaps	21,075	7,561
Total return swaps	-	-
Credit options	-	-
Other credit derivatives	-	-
Total notionals	**25,794**	**19,676**
Fair values		
Positive fair value (asset)	138	610
Negative fair value (liability)	537	210

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

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

CCR8: Exposures to central counterparties

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

As at October 31, 2020

		a	b
(Millions of Canadian dollars)		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%.

CCR8: Exposures to central counterparties (continued)

As at July 31, 2020

(Millions of Canadian dollars)		a EAD (post-CRM)	b RWA
1	**Exposures to QCCPs (total)**	**29,418**	**377**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	15,128	353
3	(i) OTC derivatives	3,391	118
4	(ii) Exchange-traded derivatives	9,549	191
5	(iii) Securities financing transactions	2,188	44
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	5,174	
8	Non-segregated initial margin	3,026	-
9	Pre-funded default fund contributions	974	24
10	Unfunded default fund contributions[1]	5,116	-
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

<table>
<tr><th colspan="2">Pillar 3 disclosures requirement</th><th>RBC 2020 Annual Report section</th><th>Sub-section</th></tr>
<tr><td rowspan="3">a)</td><td rowspan="3">Objectives in relation to securitization activities</td><td>Off-balance sheet arrangements</td><td>Off-balance sheet arrangements</td></tr>
<tr><td>Consolidated Financial Statements</td><td>Note 6 - Derecognition of financial assets</td></tr>
<tr><td>Consolidated Financial Statements</td><td>Note 7 - Structured entities</td></tr>
<tr><td>b)</td><td>List of SPEs where RBC is sponsor / provides implicit support</td><td>Consolidated Financial Statements</td><td>Note 7 - Structured entities</td></tr>
<tr><td rowspan="2">c)</td><td rowspan="2">Accounting policies for securitization</td><td>Consolidated Financial Statements</td><td>Note 2 - Summary of significant accounting policies, estimates and judgments
- Basis of consolidation
- Derecognition of financial assets</td></tr>
<tr><td>Critical accounting policies and estimates</td><td>Consolidation of structured entities</td></tr>
<tr><td>d)</td><td>The names of external credit assessment institution (ECAIs) used for securitizations and the types of securitization exposure for which each agency is used</td><td>Capital Management (also refer to CRD in this document)</td><td>Regulatory capital approach for securitization exposures</td></tr>
<tr><td rowspan="2">e)</td><td rowspan="2">Use of Basel IAA for capital purposes</td><td>Credit risk</td><td>n/a</td></tr>
<tr><td>Capital Management</td><td>Regulatory capital approach for securitization exposures</td></tr>
<tr><td>f)</td><td>Use of other internal assessment for capital purposes</td><td>Credit risk</td><td>Credit risk assessment</td></tr>
</table>

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 October 31, 2020

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
(Millions of Canadian dollars)		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**1,189**	**-**	**1,189**	**39,001**	**-**	**39,001**	**245**	**-**	**245**
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) – of which**	**-**	**-**	**-**	**13,610**	**-**	**13,610**	**10,376**	**-**	**10,376**
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.

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

As at July 31, 2020

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
(Millions of Canadian dollars)		Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**1,170**	**-**	**1,170**	**38,658**	**-**	**38,658**	**353**	**-**	**353**
2	residential mortgage	-	-	-	1,656	-	1,656	-	-	-
3	credit card	1,167	-	1,167	8,134	-	8,134	107	-	107
4	other retail exposures	3	-	3	28,868	-	28,868	246	-	246
4a	of which student loans	-	-	-	3,846	-	3,846	102	-	102
4b	of which auto loans and leases	-	-	-	19,373	-	19,373	144	-	144
4c	of which consumer loans	-	-	-	5,649	-	5,649	-	-	-
4d	of which other retail	3	-	3	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) – of which**	**-**	**-**	**-**	**13,821**	**-**	**13,821**	**10,551**	**-**	**10,551**
7	loans to corporates	-	-	-	2,458	-	2,458	9,091	-	9,091
8	commercial mortgage	-	-	-	-	-	-	605	-	605
9	lease and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale	-	-	-	11,363	-	11,363	855	-	855
10a	of which dealer floor plan receivable	-	-	-	2,090	-	2,090	-	-	-
10b	of which equipment receivable	-	-	-	3,990	-	3,990	-	-	-
10c	of which trade receivable	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	5,283	-	5,283	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 October 31, 2020

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
	(Millions of Canadian dollars)	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**141**	**-**	**141**
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) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**5,621**	**-**	**5,621**
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.

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

As at July 31, 2020

		a	b	c	e	f	g	i	j	k
		Bank acts as originator[1]			Bank acts as sponsor[2]			Bank acts as investor[3]		
	(Millions of Canadian dollars)	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
1	**Retail (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**148**	**-**	**148**
2	residential mortgages	-	-	-	-	-	-	20	-	20
3	credit cards	-	-	-	-	-	-	1	-	1
4	other retail exposures	-	-	-	-	-	-	127	-	127
4a	of which student loans	-	-	-	-	-	-	43	-	43
4b	of which auto loans and leases	-	-	-	-	-	-	84	-	84
4c	of which consumer loans	-	-	-	-	-	-	-	-	-
4d	of which other retail	-	-	-	-	-	-	-	-	-
5	re-securitization	-	-	-	-	-	-	-	-	-
6	**Wholesale (total) - of which**	**-**	**-**	**-**	**-**	**-**	**-**	**5,508**	**-**	**5,508**
7	loans to corporates	-	-	-	-	-	-	138	-	138
8	commercial mortgages	-	-	-	-	-	-	4,948	-	4,948
9	leases and receivables	-	-	-	-	-	-	-	-	-
10	other wholesale exposures	-	-	-	-	-	-	422	-	422
10a	of which dealer floor plan receivables	-	-	-	-	-	-	11	-	11
10b	of which equipment receivables	-	-	-	-	-	-	-	-	-
10c	of which trade receivables	-	-	-	-	-	-	-	-	-
10d	of which other wholesale	-	-	-	-	-	-	411	-	411
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 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)			
(Millions of Canadian dollars)		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**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.

As at July 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)			
(Millions of Canadian dollars)		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA [1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**47,410**	**4,278**	**996**	**965**	**-**	**1,171**	**44,576**	**7,902**	**-**	**327**	**6,298**	**2,284**	**2**	**26**	**503**	**182**	**-**
2	Traditional securitization	47,410	4,278	996	965	-	1,171	44,576	7,902	-	327	6,298	2,284	2	26	503	182	-
3	Of which securitization	47,410	4,278	996	965	-	1,171	44,576	7,902	-	327	6,298	2,284	2	26	503	182	-
4	Of which retail underlying	36,640	2,572	298	317	-	1,171	34,418	4,240	-	327	4,580	668	2	26	366	53	-
5	Of which wholesale	10,770	1,706	698	648	-	-	10,158	3,662	-	-	1,718	1,616	-	-	137	129	-
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 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)			
(Millions of Canadian dollars)		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**9,522**	**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.

As at July 31, 2020

(Millions of Canadian dollars)		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA[3] (by regulatory approach)				Capital charge after cap (by regulatory approach)			
		≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%	SEC – IRBA[1,4]	SEC – ERBA[1,2]	SEC – SA[1]	1250%
1	**Total exposures**	**9,687**	**552**	**77**	**588**	**-**	**-**	**10,904**	**-**	**-**	**-**	**2,778**	**-**	**-**	**-**	**222**	**-**	**-**
2	Traditional securitization	9,687	552	77	588	-	-	10,904	-	-	-	2,778	-	-	-	222	-	-
3	Of which securitization	9,687	552	77	588	-	-	10,904	-	-	-	2,778	-	-	-	222	-	-
4	Of which retail underlying	104	247	-	2	-	-	353	-	-	-	92	-	-	-	7	-	-
5	Of which wholesale	9,583	305	77	586	-	-	10,551	-	-	-	2,686	-	-	-	215	-	-
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

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<tr><td>Market risk controls – Interest Rate Risk in the Banking Book (IRRBB) positions</td></tr>
<tr><td>IRRBB measurement</td></tr>
<tr><td>Market risk measures – IRRBB Sensitivities</td></tr>
<tr><td>Market risk measures for other material non-trading portfolios</td></tr>
<tr><td>Policies for hedging risk and strategies/processes for monitoring the continuing effectiveness of hedges</td><td>Consolidated Financial Statements</td><td>Note 2 - Summary of significant accounting policies, estimates and judgements – Hedge accounting</td></tr>
</table>

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 99th percentile confidence level and for regulatory capital measurement we take the more conservative of the one-day holding period scaled up to a ten-day holding period or the direct ten-day holding period. The measure is computed daily, using a full-revaluation approach to generate potential profit or loss values arising from historically observed daily market movements. The historical period used to compute VaR is comprised of the recent two years of equally weighted market data, and is rolled forward on a bi-weekly basis. A mix of absolute and relative returns are used in generating the historical market changes.	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.	9%
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 October 31, 2020.

VaR and SVaR

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

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

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

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

Pillar 3 disclosures requirement		RBC 2020 Annual Report section	Sub-Section
c)	General description of the models (VaR/stressed VaR)	Market Risk	Market Risk Controls – FVTPL positions
g)	Description of stress testing applied to the modelling parameters	Market Risk	Stress Tests

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

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

Incremental Risk Charge

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

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

MR1: Market risk under standardized approach

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

		RWA	
	(Millions of Canadian dollars)	As at October 31, 2020	As at July 31, 2020
	Outright products		
1	Interest rate risk (general and specific)	3,705	3,186
2	Equity risk (general and specific)	217	303
3	Foreign exchange risk	2,158	1,986
4	Commodity risk	230	147
	Options		
5	Simplified approach	-	-
6	Delta-plus method	-	-
7	Scenario approach	4,794	5,390
8	**Securitization**	985	836
9	**Total**	**12,089**	**11,848**

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 October 31, 2020

	(Millions of Canadian dollars)	a VaR	b Stressed VaR	c IRC	d CRM	e Other	f 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.

As at July 31, 2020

	(Millions of Canadian dollars)	a VaR	b Stressed VaR	c IRC	d CRM	e Other	f Total RWA
1	**RWA at previous quarter end**	**4,576**	**2,758**	**7,345**	**-**	**-**	**14,679**
2	Movement in risk levels[1]	3,949	(221)	(637)	-	-	3,091
3	Model updates/changes[2]	1,230	1,056	603	-	-	2,889
4	Methodology and policy[3]	-	-	-	-	-	-
5	Acquisitions and disposals	-	-	-	-	-	-
6	Foreign exchange movements[4]	-	-	(231)	-	-	(231)
7	Other	-	-	-	-	-	-
8	**RWA at end of Reporting Period**	**9,755**	**3,593**	**7,080**	**-**	**-**	**20,428**

[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.

As at October 31, 2020

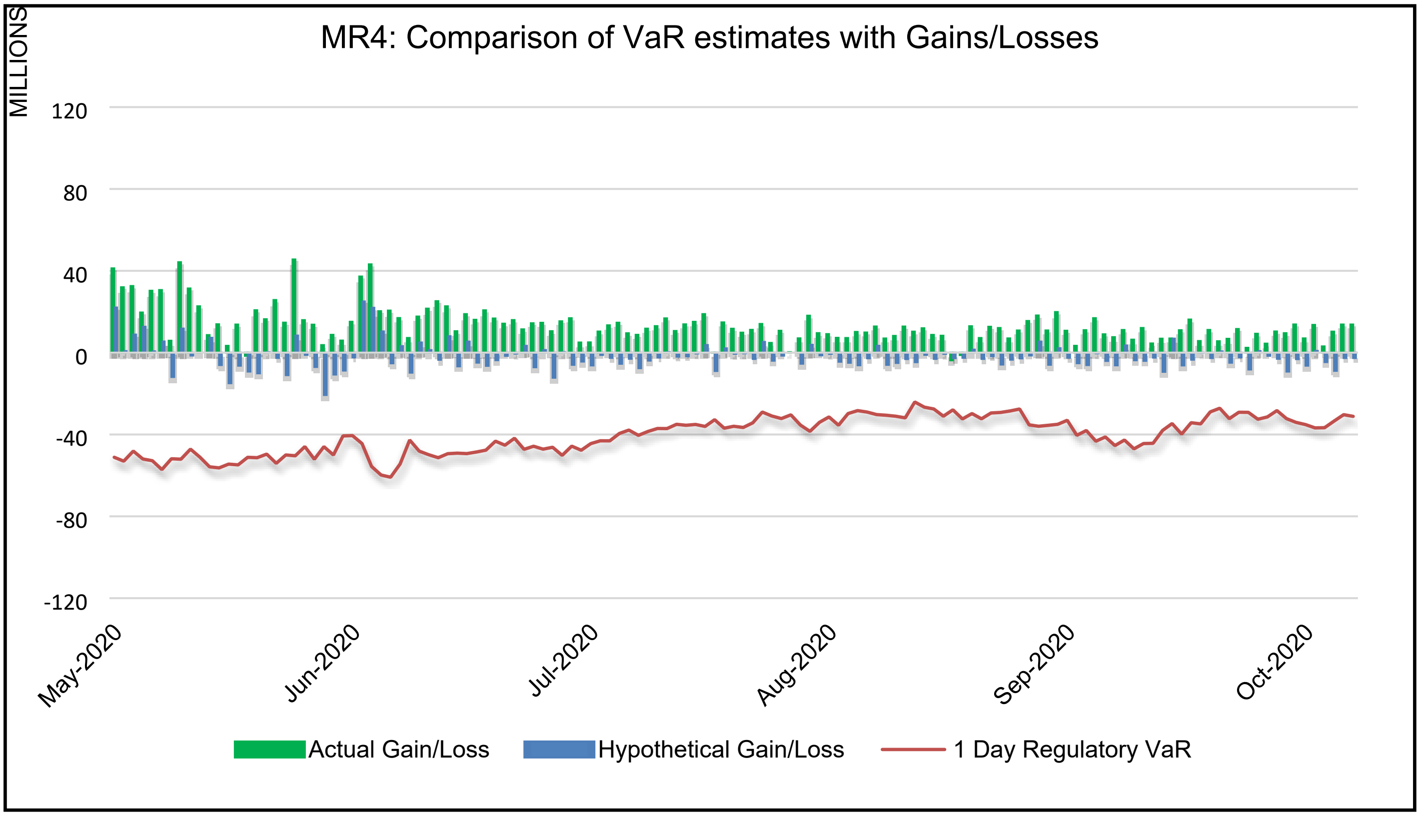
(Millions of Canadian dollars)		Value	
VaR (10 day 99%)[1]		As at October 31, 2020	As at July 31, 2020
1	Maximum value	149	193
2	Average value	106	149
3	Minimum value	76	104
4	Period end	98	114
Stressed VaR (10 day 99%)[1]			
5	Maximum value	238	382
6	Average value	156	279
7	Minimum value	91	162
8	Period end	188	165
Incremental Risk Charge (99.9%)			
9	Maximum value	625	727
10	Average value	503	535
11	Minimum value	400	454
12	Period end	537	566
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 2019 Annual Report.

Average VaR of $106 million decreased $43 million, average SVaR of $156 million decreased $123 million, and average IRC of $503 million decreased $32 million, all due to lower fixed income inventories.

MR4: Comparison of VaR estimates with gains/losses

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



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

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

During the six month period ending October 30, 2020, the bank experienced zero backtesting exception of Total Risk VaR against Actual Gain/Loss.

During the six month period ending October 30, 2020, the bank experienced zero Hypothetical Gain/Loss breaches.

LEVERAGE

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

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

	LEVERAGE RATIO [1] Summary comparison of accounting assets vs. leverage ratio exposure measure (Millions of Canadian dollars)	Q4/2020	Q3/2020	Q2/2020	Q1/2020	Q4/2019
1	**Total consolidated assets as per published financial statements**	**$1,624,548**	**1,683,134**	**1,675,682**	**1,476,304**	**1,428,935**
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(16,147)	(16,470)	(15,223)	(15,705)	(14,749)
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)	(6,831)
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	(30,842)	(75,457)	(50,686)	(6,427)	(20,391)
6	Adjustment for securities financing transactions (SFT) (i.e. repo assets and similar secured lending)	12,123	14,491	15,872	12,661	13,233
7	Adjustments for off-balance sheet items (i.e., credit equivalent amounts of off-balance sheet exposures)	208,192	204,916	199,426	200,011	201,314
8	Other adjustments [3]	(239,483)	(261,574)	(241,820)	(30,457)	(31,051)
9	**Leverage Ratio Exposure**	**$1,552,863**	**1,543,511**	**1,577,722**	**1,629,884**	**1,570,460**

[1] From Q1 2019 and onwards, 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.

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

LR2: Leverage ratio common disclosure template

The following table presents a detailed breakdown of the components of our leverage ratio. Maintaining a prescribed minimum level of leverage helps neutralizes leverage risk in the event of unexpected economic crises. OSFI requires maintenance of a minimum leverage ratio of 3% at all times.

	LEVERAGE RATIO COMMON DISCLOSURE TEMPLATE [1] (Millions of Canadian dollars, except percentages)	Q4/2020	Q3/2020	Q2/2020	Q1/2020	Q4/2019
	On-balance sheet exposures					
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures, but including collateral)	967,523	970,360	985,261	1,035,249	997,866
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)	(17,400)	(23,487)	(25,142)	(15,041)	(15,233)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(14,410)	(14,177)	(14,513)	(15,363)	(15,664)
5	**Total on-balance sheet exposure (excluding derivatives and SFTs) (sum of lines 1 and 4)**	**935,713**	**932,696**	**945,606**	**1,004,845**	**966,969**
	Derivatives exposures					
6	Replacement cost associated with all derivatives transactions (i.e., net of eligible cash variation margin)	28,186	31,839	37,488	27,969	28,057
7	Add-on amounts for potential future exposure (PFE) associated with all derivatives transactions	53,236	49,280	52,294	59,270	52,663
8	(Exempted central counterparty (CCP)-leg of client-cleared trade exposures)	-	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	1,225	802	340	316	449
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	-	-	-	-	-
11	**Total derivative exposures (sum of lines 6 to 10)**	**82,647**	**81,921**	**90,122**	**87,555**	**81,169**
	Securities financing transaction exposures					
12	Gross SFT assets recognized for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions	349,971	360,469	378,910	378,787	378,609
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(35,783)	(50,981)	(52,213)	(53,975)	(70,834)
14	Counterparty credit risk (CCR) exposure for SFTs	12,123	14,491	15,872	12,661	13,233
15	Agent transaction exposures	-	-	-	-	-
16	**Total securities financing transaction exposures (sum of lines 12 to 15)**	**326,311**	**323,979**	**342,569**	**337,473**	**321,008**
	Other off-balance sheet exposures					
17	Off-balance sheet exposures at gross notional amount	594,156	598,358	573,779	566,404	567,383
18	(Adjustments for conversion to credit equivalent amounts)	(385,964)	(393,443)	(374,354)	(366,393)	(366,069)
19	**Off-balance sheet items (sum of lines 17 and 18)**	**208,192**	**204,915**	**199,425**	**200,011**	**201,314**
	Capital and Total Exposures					
20	**Tier 1 capital**	**74,005**	**73,536**	**70,854**	**68,709**	**67,861**
20a	**Tier 1 capital with transitional arrangements for ECL provisioning not applied**	**72,559**	**72,179**	**69,616**		
21	**Total Exposures (sum of lines 3,11,16 and 19)**	**1,552,863**	**1,543,511**	**1,577,722**	**1,629,884**	**1,570,460**
	Leverage ratio					
22	**Basel III leverage ratio**	**4.8%**	**4.8%**	**4.5%**	**4.2%**	**4.3%**
22a	**Basel III leverage ratio with transitional arrangements for ECL provisioning not applied**	**4.7%**	**4.7%**	**4.4%**		

[1] From Q1 2019 onwards, Leverage ratio based on OSFI's Leverage Requirements Guideline issued October 2018.

Our Leverage ratio of 4.8% was up 50 bps, mainly reflecting internal capital generation, the impact of regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA, and the issuance of limited recourse capital notes. These factors were partially offset by higher leverage exposures, the impact of higher PCL net of capital modifications for expected loss provisioning, the redemption of preferred shares, share repurchases and the impact of the adoption of IFRS 16.

Leverage exposures decreased by $17.6 billion mainly due to the impact of favourable regulatory modifications for central bank reserves and sovereign-issued securities qualifying as HQLA, partially offset by business growth mainly in cash, loans and securities, the impact of foreign exchange translation, and the impact of the adoption of IFRS 16.

TOTAL LOSS ABSORBING CAPACITY (TLAC) DISCLOSURE REQUIREMENTS

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

The following summary table provides information about our total loss-absorbing capacity (TLAC) available, and TLAC requirements applied, at the resolution group level under a Single Point of Entry. TLAC requirements establish two minimum standards, which are required to be met effective November 1, 2021: the risk-based TLAC ratio, which builds on the risk-based capital ratios described in the CAR guideline, and the TLAC leverage ratio, which builds on the leverage ratio described in OSFI's Leverage Requirements guideline. The risk-based TLAC ratio is defined as TLAC divided by total risk-weighted assets (RWA) while the TLAC leverage ratio is defined as TLAC divided by the Leverage ratio exposure. OSFI has provided notification requiring systemically important banks to maintain a minimum TLAC ratio of 22.5% (inclusive of the revised domestic stability buffer of 1% in Q2 2020) and a TLAC leverage ratio of 6.75%. Our TLAC ratio is expected to increase through normal course refinancing of maturing debt through the effective date of the TLAC requirements.

		a	b	c	d	e	f
(Millions of Canadian dollars, except as otherwise noted)		October 31 2020	July 31 2020	April 30 2020	January 31 2020	October 31 2019	Change (a) - (b)
Resolution group[1]							
1	Total loss-absorbing capacity (TLAC) available	119,832	116,492	110,077	103,019	98,034	3,340
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	119,832	116,492	110,077			3,340
2	Total RWA at the level of the resolution group	546,242	551,421	558,412	523,725	512,856	(5,179)
3	TLAC ratio: TLAC as a percentage of RWA (row 1/row 2) (%)	21.9%	21.1%	19.7%	19.7%	19.1%	0.8%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied	21.9%	21.1%	19.7%			0.8%
4	Leverage ratio exposure measure at the level of the resolution group	1,552,863	1,543,511	1,577,722	1,629,884	1,570,460	9,352
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1/row 4) (%)	7.7%	7.5%	7.0%	6.3%	6.2%	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	7.7%	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 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 21.9% is up by 80bps QoQ, reflecting a $3.3 billion increase in available TLAC. The TLAC leverage ratio of 7.7% was up 20 bps, reflecting the increase in available TLAC offset by the 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 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%

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

As at July 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)	66,132
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,404
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-
4	Other adjustments	-
5	AT1 instruments eligible under the TLAC framework	7,404
6	Tier 2 capital (T2) before TLAC adjustments	11,010
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	11,076
11	TLAC arising from regulatory capital	84,612
	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	31,924
14	Of which: amount eligible as TLAC after application of the caps	31,924
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	31,924
	Non-regulatory capital elements of TLAC: adjustments	
18	TLAC before deductions	116,536
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	(44)
21	Other adjustments to TLAC	-
22	TLAC available after deductions	116,492
	Risk-weighted assets and leverage exposure measure for TLAC purposes	
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	551,421
24	Leverage exposure measure	1,543,511
	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)	21.1%
26	TLAC Leverage Ratio (as a percentage of leverage exposure)	7.5%
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. However, RBC IHC has been granted an extension to comply with TLAC rules by the Board of Governors of the Federal Reserve System until January 1, 2021. As such, OSFI has granted us an exemption for TLAC 2 disclosure until January 1, 2021. 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 October 31, 2020

		Creditor ranking					
		1	2	3	4	5	Sum
(Millions of Canadian dollars, except as otherwise noted)		(most junior)					
1	Description of creditor ranking	Common shares	Preferred shares	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 *potentially* 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.

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

As at July 31, 2020

		Creditor ranking					
		1	2	3	4	5	Sum
(Millions of Canadian dollars, except as otherwise noted)		(most junior)					
1	Description of creditor ranking	Common shares	Preferred shares	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	17,610	7,448	9,586	34,501	-	69,145
3	Subset of row 2 that are excluded liabilities	129	2	32	2,055	-	2,218
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	17,481	7,446	9,554	32,446	-	66,927
5	Subset of row 4 that are *potentially* eligible as TLAC	17,481	7,422	9,294	32,446	-	66,643
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years			-	2,558	-	2,558
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years			110	24,448	-	24,558
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years			8,727	3,057	-	11,784
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities			457	2,383	-	2,840
10	Subset of row 5 that is perpetual securities	17,481	7,422	-	-	-	24,903

[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