

Supplementary Regulatory Capital Disclosures

Q4 2021

For the period ended: October 31, 2021

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This Appendix disclosure is based on OSFI's Pillar 3 disclosure requirements (April 2017), including subsequently issued Total Loss Absorbing Capital (May 2018), and OSFI Capital Adequacy Requirements Guidelines (November 2018), and Leverage Ratio Guidelines (November 2018) and disclosure requirements (November 2018), which are primarily sourced from the BCBS' Revised Pillar 3 disclosure requirements - Phase 1 (2015) and its Technical Amendment to Regulatory Treatment of Accounting Provisions (August 2018). This document is not audited and should be read in conjunction with our 2021 Annual Report.

Effective November 1, 2012, Canadian banks are subject to the revised capital adequacy requirements as published by the Basel Committee on Banking Supervision (BCBS) and commonly referred to as Basel III, as per OSFI's Capital Adequacy Requirements Guideline (CAR). Basel III builds on the "International Convergence of Capital Measurement and Capital Standards: A Revised Framework" (Basel II).

The Basel III Framework is comprised of three Pillars:

- Pillar 1 – methodologies that must be applied to calculate the minimum capital requirements.
- Pillar 2 – the requirement that banks have internal processes to assess their capital adequacy in relation to their strategies, risk appetite and actual risk profile. Regulators are expected to review these internal capital adequacy assessments.
- Pillar 3 – reflects the market disclosures required by banks to assist users of the information to better understand the risk profile.

Basel III classifies risk into three broad categories: credit risk, market risk and operational risk. Under Pillar 1 of the Basel III Framework, minimum capital for these three risks is calculated using one of the following approaches:

- Credit risk capital – Internal Ratings Based Approach (Advanced or Foundation) or Standardized Approach.
- Operational risk capital – Advanced Measurement Approach (AMA), Standardized Approach or Basic Indicator Approach.
- Market risk capital – Internal models or Standardized Approach.

Credit Risk

The credit risk component consists of on- and off- balance sheet claims. The Basel III rules are not applied to traditional balance sheet categories but to categories of on- and off- balance sheet exposures which represent general classes of assets/exposures (Corporate, Sovereign, Bank, Retail and Equity) based on their different underlying risk characteristics.

Generally, while calculating capital requirements, exposure types such as Corporate, Sovereign, Bank, Retail and Equity are analyzed by the following credit risk exposure sub-types: Drawn, Undrawn, Repo-style Transactions, Over-the-counter (OTC) Derivatives, Exchange Traded Derivatives and Other Off-balance Sheet claims.

OSFI approved the Bank's use of the Advanced Internal Ratings Based (AIRB) approach for credit risk in its material Canadian, US and European portfolios and for a significant portion of international corporate and commercial portfolios and Canadian retail portfolios. The Bank uses internal estimates, based on historical experience, for probability of default (PD), loss given default (LGD) and exposure at default (EAD). As described in CR2 of this Supplementary Regulatory Capital Disclosure, the definition of regulatory capital default is consistent with the accounting definitions described in the Bank's annual report, except that all products, including credit cards, may be defaulted when a contractual payment is 90 days in arrears.

- Under the AIRB approach, credit risk risk-weighted assets (RWA) are calculated by multiplying the capital requirement (K) by EAD times 12.5, where K is a function of the PD, LGD, maturity and prescribed correlation factors. This results in the capital calculations being more sensitive to underlying risks.

- A multiplier of 1.25 is applied to the correlation parameter of all exposures to all unregulated Financial Institutions, and regulated Financial Institutions with assets of at least US\$100 billion.
- Exchange-traded derivatives and other exposures to CCPs which previously were excluded from the capital calculation under Basel II are risk-weighted under Basel III.
- An overall scaling factor of 6% is added to the credit risk RWA for all AIRB portfolios. For the remaining portfolios, the Standardized Approach is used to compute credit risk.
- The Standardized Approach applies regulator prescribed risk weight factors to credit exposures based on the external credit assessments (public ratings), where available, and also considers other additional factors (e.g. loan-to-value for retail, eligible collateral, allowances, etc.)
- Risk weights for exposures falling under the Securitization Framework are mainly computed under the following approaches: the Internal Ratings Based Approach (IRBA), External Ratings-Based Approach (ERBA), or the OSFI approved Internal Assessments Approach (IAA).
- IRBA risk weights are only applicable to retained exposures to securitizations of Bank originated receivables utilizing the Bank's existing OSFI approved AIRB model parameters.
- ERBA risk weights for other banking book exposures depend on the external ratings provided by the external credit assessment institutions (ECAI): S&P, Moody's and DBRS and are risk-weighted based on prescribed percentages incorporating effective maturity and STC (Simple, Transparent, Comparable) criteria, a mapping process consistent with OSFI's CAR.
- IAA risk weights for exposures to our asset-backed commercial paper conduits are based on a rating methodology similar to the criteria that are published by ECAIs and therefore are similar to the methodologies used by these institutions. Our ratings process includes a comparison of the available credit enhancement in a securitization structure to a stressed level of projected losses. The stress level used is determined by the desired risk profile of the transaction. As a result, we stress the cash flows of a given transaction at a higher level in order to achieve a higher rating. Conversely, transactions that only pass lower stress levels achieve lower ratings. We periodically compare our own ratings to ECAIs ratings to ensure that the ratings provided by ECAIs are reasonable. We have developed asset class specific criteria guidelines which provide the rating methodologies for different asset classes. The guidelines are reviewed periodically and are subject to a model validation process, for compliance with Basel rules. The Bank's Global Risk Management (GRM) is responsible for providing risk assessments for capital purposes. GRM is independent of the business originating the securitization exposures and performs its own analysis, sometimes in conjunction with but always independent of the applicable business.

Operational Risk

In January 2020, OSFI revised its capital requirements for operational risk in consideration of the final Basel III revisions published by the BCBS in December 2017. Upon future implementation of the revised Basel III requirements, institutions will be required to use the revised Basel III Standardized Approach for operational risk. In the interim, institutions previously approved for the Basel II Advanced Measurement Approach (AMA) for operational risk capital are to report using the existing Basel II Standardized Approach (TSA).

Market Risk

The Bank uses both internal models and standardized approaches to calculate market risk capital. Commencing Q1 2012, the Bank implemented additional market risk measures in accordance with Basel's Revisions of the Basel II market risk framework (July 2009). Additional measures include stressed Value-at-Risk and incremental risk charge.

Regulatory response to COVID-19

During the second quarter of 2020, OSFI introduced changes to regulations to keep the financial system resilient and well capitalized in response to COVID-19. A suite of temporary adjustments to existing capital and leverage requirements were introduced and are described within the Capital Management section of the MD&A in the 2021 Annual Report to Shareholders.

This "Supplementary Regulatory Capital Disclosure" including the main features template that sets out a summary of information on the terms and conditions of the main features of all capital instruments is posted on the Bank's website as follows: <http://www.scotiabank.com/ca/en/0,,3066,00.htm>

REGULATORY CAPITAL HIGHLIGHTS



(in \$MM)	Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2020
Common Equity Tier 1 capital⁽¹⁾	51,010	50,465	49,697	49,542	49,165
Tier 1 capital⁽¹⁾	57,915	56,630	55,152	55,293	55,362
Total capital⁽¹⁾	66,101	65,101	63,686	63,724	64,512
Risk-weighted Assets⁽¹⁾					
Capital Risk-weighted Assets	416,105	414,169	404,727	406,780	417,138
Capital Ratios (%)⁽¹⁾					
Common Equity Tier 1 (as a percentage of risk-weighted assets)	12.3	12.2	12.3	12.2	11.8
Tier 1 (as a percentage of risk-weighted assets)	13.9	13.7	13.6	13.6	13.3
Total capital (as a percentage of risk-weighted assets)	15.9	15.7	15.7	15.7	15.5
Leverage⁽²⁾:					
Leverage Exposures	1,201,766	1,191,993	1,180,223	1,179,755	1,170,290
Leverage Ratio (%)	4.8	4.8	4.7	4.7	4.7
OSFI Pillar 1 Target (%)					
Common Equity Tier 1 minimum ratio	8.0	8.0	8.0	8.0	8.0
Tier 1 capital minimum ratio	9.5	9.5	9.5	9.5	9.5
Total capital minimum ratio	11.5	11.5	11.5	11.5	11.5
Leverage minimum ratio	3.0	3.0	3.0	3.0	3.0
Capital instruments subject to phase-out arrangements					
Current cap on Additional Tier 1 (AT1) instruments subject to phase-out arrangements (%)	10	10	10	10	20
Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	97	97	97	505	-
Current cap on Tier 2 (T2) instruments subject to phase-out arrangements (%)	10	10	10	10	20
Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	-	-	-	-

⁽¹⁾ This measure has been disclosed in this document in accordance with OSFI Guideline - Capital Adequacy Requirements (November 2018).

⁽²⁾ This measure has been disclosed in this document in accordance with OSFI Guideline - Leverage Requirements (November 2018).

EXPOSURE AT DEFAULT AND RISK-WEIGHTED ASSETS FOR CREDIT RISK PORTFOLIOS



(in \$MM)	Sub-type	Q4 2021								Q3 2021	
		AIRB		Standardized		Total		% AIRB		Total	
		EAD ⁽¹⁾	RWA ⁽²⁾	EAD ⁽¹⁾	RWA ⁽²⁾	EAD ⁽¹⁾	RWA ⁽²⁾	EAD ⁽¹⁾	RWA ⁽²⁾	EAD ⁽¹⁾	RWA ⁽²⁾
Exposure Type											
Non-Retail											
Corporate	Drawn	171,497	79,338	52,545	48,717	224,042	128,055	77%	62%	221,050	129,014
	Undrawn	108,300	39,390	3,475	3,391	111,775	42,781	97%	92%	109,611	41,232
	Other ⁽³⁾	59,914	12,488	2,423	2,417	62,337	14,905	96%	84%	63,456	14,949
	Total	339,711	131,216	58,443	54,525	398,154	185,741	85%	71%	394,117	185,195
Bank	Drawn	15,737	2,794	3,048	2,466	18,785	5,260	84%	53%	18,338	5,236
	Undrawn	4,662	1,026	15	15	4,677	1,041	100%	99%	4,632	1,006
	Other ⁽³⁾	8,494	924	1	1	8,495	925	100%	100%	10,149	1,150
	Total	28,893	4,744	3,064	2,482	31,957	7,226	90%	66%	33,119	7,392
Sovereign	Drawn	134,444	3,928	8,641	737	143,085	4,665	94%	84%	139,731	4,931
	Undrawn	761	72	-	-	761	72	100%	100%	1,037	89
	Other ⁽³⁾	1,163	38	15	15	1,178	53	99%	72%	981	47
	Total	136,368	4,038	8,656	752	145,024	4,790	94%	84%	141,749	5,067
Total Non-Retail	Drawn	321,678	86,060	64,234	51,920	385,912	137,980			379,119	139,181
	Undrawn	113,723	40,488	3,490	3,406	117,213	43,894			115,280	42,327
	Other ⁽³⁾	69,571	13,450	2,439	2,433	72,010	15,883			74,586	16,146
	Total	504,972	139,998	70,163	57,759	575,135	197,757			568,985	197,654
Retail											
Residential Mortgages ⁽¹⁾	Drawn	261,655	19,114	54,617	21,458	316,272	40,572	83%	47%	307,068	38,541
	Undrawn	-	-	-	-	-	-	-	-	-	-
	Total	261,655	19,114	54,617	21,458	316,272	40,572	83%	47%	307,068	38,541
Secured Lines Of Credit	Drawn	20,278	2,938	-	-	20,278	2,938	100%	100%	20,133	2,883
	Undrawn	19,984	897	-	-	19,984	897	100%	100%	19,355	780
	Total	40,262	3,835	-	-	40,262	3,835	100%	100%	39,488	3,663
Qualifying Revolving Retail Exposures (QRRE)	Drawn	14,415	7,958	-	-	14,415	7,958	100%	100%	15,208	8,424
	Undrawn	27,356	3,111	-	-	27,356	3,111	100%	100%	26,760	3,000
	Total	41,771	11,069	-	-	41,771	11,069	100%	100%	41,968	11,424
Other Retail	Drawn	32,527	17,317	36,445	26,869	68,972	44,186	47%	39%	68,832	43,689
	Undrawn	3,680	1,706	-	-	3,680	1,706	100%	100%	3,459	1,458
	Total	36,207	19,023	36,445	26,869	72,652	45,892	50%	41%	72,291	45,147
Total Retail	Drawn	328,875	47,327	91,062	48,327	419,937	95,654			411,241	93,537
	Undrawn	51,020	5,714	-	-	51,020	5,714			49,574	5,238
	Total	379,895	53,041	91,062	48,327	470,957	101,368			460,815	98,775
Securitizations		16,727	3,024	4,238	1,329	20,965	4,353	80%	69%	21,632	4,328
Trading Derivatives		25,865	5,637	1,083	1,034	26,948	6,671	96%	85%	28,327	7,545
Derivatives - credit valuation adjustment (CVA)		-	3,957	-	-	-	3,957			-	4,835
Total Credit Risk (Excluding Equities & Other Assets)		927,459	205,657	166,546	108,449	1,094,005	314,106			1,079,759	313,137
Equities		4,563	4,436	-	-	4,563	4,436	100%	100%	3,838	3,748
Other Assets ⁽⁴⁾		-	-	61,737	28,054	61,737	28,054			60,411	28,328
Total Credit Risk (Before Scaling Factor)		932,022	210,093	228,283	136,503	1,160,305	346,596			1,144,008	345,213
Add-on for 6% Scaling Factor ⁽⁵⁾			12,186				12,186				12,029
Total Credit Risk		932,022	222,279	228,283	136,503	1,160,305	358,782			1,144,008	357,242

(1) AIRB Exposure at default is post credit risk mitigation. Standardized Exposure at default is after related IFRS 9 (ECL Stage 3) allowances net of for credit losses, and the collateral impact under Comprehensive Approach. Residential Mortgages include insured mortgages.

(2) Risk-weighted Assets used for calculation of CET1, Tier 1, and Total Capital ratios.

(3) Includes lending instruments such as letters of credit and letters of guarantee, banking book derivatives and repo-style exposures, net of related collateral.

(4) Other Assets include amounts related to central counterparties (CCPs).

(5) The Basel Framework requires an additional 6% scaling factor to AIRB credit risk portfolios (excluding CVA and Securitizations).

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



(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
Resolution group					
1	Total loss absorbing capacity (TLAC) available	115,681	104,759	97,870	94,967
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	115,681	104,759	97,870	94,967
2	Total RWA at the level of the resolution group	416,105	414,169	404,727	406,780
3	TLAC as a percentage of RWA (row 1 / row 2) (%)	27.8%	25.3%	24.2%	23.3%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied	27.8%	25.3%	24.2%	23.3%
4	Leverage exposure measure at the level of the resolution group	1,201,766	1,191,993	1,180,223	1,179,755
5	TLAC as a percentage of leverage exposure measure (row 1 / row 4) (%)	9.6%	8.8%	8.3%	8.0%
5a	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure with transitional arrangements for ECL provisioning not applied (row 1a / row 4) (%)	9.6%	8.8%	8.3%	8.0%
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	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
6c	If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is recognized as external TLAC, divided by funding issued that ranks pari passu with Excluded Liabilities and that would be recognized as external TLAC if no cap was applied (%)	N/A	N/A	N/A	N/A

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
	Part 2 - OVA – Bank risk management approach	Annual				
	Banks must describe their risk management objectives and policies, in particular:	Annual				
(a)	How the business model determines and interacts with the overall risk profile (eg the key risks related to the business model and how each of these risks is reflected and described in the risk disclosures) and how the risk profile of the bank interacts with the risk tolerance approved by the board.	Annual	79-117			
(b)	The risk governance structure: responsibilities attributed throughout the bank (eg oversight and delegation of authority; breakdown of responsibilities by type of risk, business unit etc); relationships between the structures involved in risk management processes (eg board of directors, executive management, separate risk committee, risk management structure, compliance function, internal audit function).	Annual	79-85			
(c)	Channels to communicate, decline and enforce the risk culture within the bank (eg code of conduct; manuals containing operating limits or procedures to treat violations or breaches of risk thresholds; procedures to raise and share risk issues between business lines and risk functions).	Annual	79-85			
(d)	The scope and main features of risk measurement systems.	Annual	80-84, 89-94, 99-101, 117			
(e)	Description of the process of risk information reporting provided to the board and senior management, in particular the scope and main content of reporting on risk exposure.	Annual	79-83, 99			
(f)	Qualitative information on stress testing (eg portfolios subject to stress testing, scenarios adopted and methodologies used, and use of stress testing in risk management).	Annual	82-83, 99-101, 104	234, 239		
(g)	The strategies and processes to manage, hedge and mitigate risks that arise from the bank's business model and the processes for monitoring the continuing effectiveness of hedges and mitigants.	Annual	79-83, 89-87-91, 99-101	160-162, 181-185		
	Part 3 - LIA – Explanations of differences between accounting and regulatory exposures amounts	Annual				
	Banks must explain the origins of the differences between accounting amounts, as reported in financial statements amounts and regulatory exposure amounts, as displayed in templates LI1 and LI2.	Annual				
(a)	Banks must explain the origins of any significant differences between the amounts in columns (a) and (b) in LI1.	Annual			LI1	
(b)	Banks must explain the origins of differences between carrying values and amounts considered for regulatory purposes shown in LI2.	Annual			LI2	
(c)	In accordance with the implementation of the guidance on prudent valuation, banks must describe systems and controls to ensure that the valuation estimates are prudent and reliable. Disclosure must include:	Annual				
	• Valuation methodologies, including an explanation of how far mark-to-market and mark-to-model methodologies are used.	Annual	89-90, 119-120	175-180, 234		
	• Description of the independent price verification process.	Annual	119-120	175-176		

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
	• Procedures for valuation adjustments or reserves (including a description of the process and the methodology for valuing trading positions by type of instrument).	Annual	119-120	161-162, 181-182		
	Part 4 - CRA – General qualitative information about credit risk	Annual				
	Banks must describe their risk management objectives and policies for credit risk, focusing in particular on:	Annual				
(a)	How the business model translates into the components of the bank's credit risk profile	Annual	79, 83-85, 87-92			
(b)	Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Annual	82-85, 87, 96-97			
(c)	Structure and organization of the credit risk management and control function	Annual	79-80, 90-92			
(d)	Relationships between the credit risk management, risk control, compliance and internal audit functions	Annual	79-81			
(e)	Scope and main content of the reporting on credit risk exposure and on the credit risk management function to the executive management and to the board of directors	Annual	79-83, 90-92			
	Part 4 - CRB – Additional disclosure related to the credit quality of assets	Annual				
	Banks must provide the following disclosures:					
	Qualitative disclosures	Annual				
(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.	Annual		163-165	Overview	
(b)	The extent of past-due exposures (more than 90 days) that are not considered to be impaired and the reasons for this.	Annual		163-165, 204		
(c)	Description of methods used for determining accounting provisions for credit losses. In addition, banks that have adopted an ECL accounting model must provide information on the rationale for categorization of ECL accounting provisions in general and specific categories for standardized approach exposures.	Annual		163-165	CR1	
(d)	The bank's own definition of a restructured exposure. (i.e. modified loans not derecognized)	Annual		163-165		
	Quantitative disclosures	Annual				
(e)	Breakdown of exposures by geographical areas, industry and residual maturity;	Annual				

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
	(i) Geography	Annual	125, 130	226		
	(ii) Industry	Annual	127	227		
	(iii) Residual Maturity	Annual	111, 130	196		
(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;	Annual				
	(i) Geography	Annual			Q4, 2021 - Impaired by Region	
	(ii) Industry	Annual			Q4, 2021 Impaired by Industry	
(g)	Ageing analysis of accounting past-due exposures;	Annual		204		
(h)	Breakdown of restructured exposures between impaired and not impaired	Annual		201		
	Part 4 - Table CRC: Qualitative disclosure requirements related to credit risk mitigation techniques	Annual				
	Banks must disclose:	Annual				
(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.	Annual	90-91	185, 191-192		
(b)	Core features of policies and processes for collateral evaluation and management.	Annual	90-91	185		
(c)	Information about market or credit risk concentrations under the credit risk mitigation instruments used (ie by guarantor type, collateral and credit derivative providers).	Annual	84, 90-91, 94-95	191-192, 234		
	Part 4 - CRD: Qualitative disclosures on banks' use of external credit ratings under the standardized approach for credit risk	Annual				
	A. For portfolios that are risk-weighted under the standardized approach for credit risk, banks must disclose the following information:	Annual				
(a)	Names of the external credit assessment institutions (ECAIs) and export credit agencies (ECAs) used by the bank, and the reasons for any changes over the reporting period;	Annual	69-70	237		
(b)	The asset classes for which each ECAI or ECA is used;	Annual	69-70	237	EAD_RWA	
(c)	A description of the process used to transfer the issuer to issue credit ratings onto comparable assets in the banking book (see paragraphs 99–101 of the Basel framework); and	Annual	69-70	237		
(d)	The alignment of the alphanumeric scale of each agency used with risk buckets (except where the relevant supervisor publishes a standard mapping with which the bank has to comply).	Annual	69-70	237		
	Part 4 - CRE: Qualitative disclosures related to IRB models	Annual				
	Banks must provide the following information on their use of IRB models:	Annual				

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
(a)	Internal model development, controls and changes: role of the functions involved in the development, approval and subsequent changes of the credit risk models.	Annual	69-72, 85, 89			
(b)	Relationships between risk management function and internal audit function and procedure to ensure the independence of the function in charge of the review of the models from the functions responsible for the development of the models.	Annual	69-72			
(c)	Scope and main content of the reporting related to credit risk models.	Annual	69-72	234, 236-237	Overview	
(d)	Scope of the supervisor's acceptance of approach.	Annual	69-72			
(e)	For each of the portfolios, the bank must indicate the part of EAD within the group (in percentage of total EAD) covered by standardized, FIRB and AIRB approach and the part of portfolios that are involved in a roll-out plan.	Annual	69-72		Overview EAD_RWA	
(f)	The number of key models used with respect to each portfolio, with a brief discussion of the main differences among the models within the same portfolios.	Annual	69-72	234, 236-237		
(g)	Description of the main characteristics of the approved models: (i) definitions, methods and data for estimation and validation of PD (eg how PDs are estimated for low default portfolios; if there are regulatory floors; the drivers for differences observed between PD and actual default rates at least for the last three periods); and where applicable: (ii) LGD (eg methods to calculate downturn LGD; how LGDs are estimated for low default portfolio; the time lapse between the default event and the closure of the exposure); (iii) credit conversion factors, including assumptions employed in the derivation of these variables;	Annual	69-72	234, 236-237		
	Part 5 - CCRA: Qualitative disclosure related to counterparty credit risk	Annual				
	Banks must provide:	Annual				
(a)	Risk management objectives and policies related to counterparty credit risk, including:	Annual				
(b)	The method used to assign the operating limits defined in terms of internal capital for counterparty credit exposures and for CCP exposures;	Annual	80-81, 90-91	184-185		
(c)	Policies relating to guarantees and other risk mitigants and assessments concerning counterparty risk, including exposures towards CCPs;	Annual	82-83, 90-91	184-185		
(d)	Policies with respect to wrong-way risk exposures;	Annual	91			
(e)	The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade.	Annual	106			

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
	Part 6 - SECA: Qualitative disclosure requirements related to securitization exposures	Annual				
	Qualitative disclosures	Annual				
	Banks must describe their risk management objectives and policies for securitization activities and main features of these activities according to the framework below. If a bank holds securitization positions reflected both in the regulatory banking book and in the regulatory trading book, the bank must describe each of the following points by distinguishing activities in each of the regulatory books.	Annual				
	(a) The bank's objectives in relation to securitization and re-securitization activity, including the extent to which these activities transfer credit risk of the underlying securitized exposures away from the bank to other entities, the type of risks assumed and the types of risks retained.	Annual	74-75, 120	205-207		
	(b) The bank must provide a list of:	Annual				
	• special purpose entities (SPEs) where the bank acts as sponsor (but not as an originator such as an Asset Backed Commercial Paper (ABCP) conduit), indicating whether the bank consolidates the SPEs into its scope of regulatory consolidation;	Annual	74-75	205-207		
	• affiliated entities (i) that the bank manages or advises and (ii) that invest either in the securitization exposures that the bank has securitized or in SPEs that the bank sponsors; and	Annual	74-75	205-207		
	• a list of entities to which the bank provides implicit support and the associated capital impact for each of them (as required in paragraphs 551 and 564 of the securitization framework).	Annual	n/a			
	(c) Summary of the bank's accounting policies for securitization activities.	Annual	120	205-207		
	(d) If applicable, the names of external credit assessment institution (ECAIs) used for securitizations and the types of securitization exposure for which each agency is used.	Annual			Overview	
	(e) If applicable, describe the process for implementing the Basel internal assessment approach (IAA). The description should include:	Annual			Overview	
	• structure of the internal assessment process and relation between internal assessment and external ratings, including information on ECAIs as referenced in item (d) of this table;	Annual			Overview	
	• control mechanisms for the internal assessment process including discussion of independence, accountability, and internal assessment process review; and	Annual			Overview	
	• the exposure type to which the internal assessment process is applied; and stress factors used for determining credit enhancement levels, by exposure type.	Annual			Overview	
	(f) Banks must describe the use of internal assessment other than for IAA capital purposes.	Annual	n/a			

Summary of Qualitative Requirements - Pillar III (Cross Referenced)



Item #	Pillar III - Requirements - Qualitative	Frequency	2021 Annual Report: MD&A	2021 Annual Report: Financial Statements	Regulatory Capital Supplementary Package	Financial Reporting Supplementary Package
			Page Reference			
	Part 7 - Market risk					
	OSFI revised Pillar 3 Market Risk disclosure requirements allow for a continuation of the existing Basel 2.5 Market Risk disclosures until the implementation of the next phase of Pillar 3 disclosures in Canada. As a result, the Bank's Market Risk disclosures continue to be based on Basel 2.5 disclosure requirements. OSFI's requirements for Pillar 3 Requirements may be found in (http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gld/Pages/plr3.aspx).		n/a			
	Part 8 - Operational risk					
	(a) In addition to the general qualitative disclosure requirement (paragraph 824), the approach(es) for operational risk capital assessment for which the bank qualifies.	Annual	73, 113			
	(b) Description of the advanced measurement approaches for operational risk (AMA), if used by the bank, including a discussion of relevant internal and external factors considered in the bank's measurement approach. In the case of partial use, the scope and coverage of the different approaches used/applied in regulatory capital.	Annual	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.		n/a			
	Part 9 - Interest rate risk in the banking book (IRRBB)					
	(a) The general qualitative disclosure requirement (paragraph 824), including the nature of IRRBB and key assumptions, including assumptions regarding loan prepayments and behaviour of non-maturity deposits, and frequency of IRRBB measurement.	Annual	99-101	239		

OV1: Overview of RWA


(in \$MM)		a	b	b ₂	b ₃	c
		RWA ⁽¹⁾				Minimum capital requirements ⁽²⁾
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2021
1	Credit risk (excluding counterparty credit risk)	322,329	319,301	311,981	313,962	25,785
2	Of which: standardized approach (SA) ⁽³⁾	123,728	123,407	118,856	121,863	9,897
3	Of which: foundation internal ratings-based (F-IRB) approach	-	-	-	-	-
4	Of which: supervisory slotting approach	-	-	-	-	-
5	Of which: advanced internal ratings-based (A-IRB) approach	198,601	195,894	193,125	192,099	15,888
6	Counterparty credit risk (CCR)	14,089	15,112	16,171	14,590	1,128
7	Of which: standardized approach for counterparty credit risk (SA-CCR)	1,150	1,446	1,637	1,289	92
8	Of which: Internal Model Method (IMM)	6,220	6,874	6,395	6,703	498
9	Of which: other CCR ⁽⁴⁾	6,719	6,792	8,139	6,598	538
10	Credit valuation adjustment (CVA)	3,957	4,835	4,124	4,222	317
11	Equity positions under the simple risk weight approach	-	-	-	-	-
12	Equity investments in funds – look-through approach	997	807	646	574	80
13	Equity investments in funds – mandate-based approach	152	178	171	174	12
14	Equity investments in funds – fall-back approach	109	117	103	105	9
15	Settlement risk	-	-	-	-	-

OV1: Overview of RWA



(in \$MM)		a	b	b ₂	b ₃	c
		RWA ⁽¹⁾				Minimum capital requirements ⁽²⁾
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2021
16	Securitization exposures in banking book	4,353	4,328	4,593	5,069	348
17	Of which: securitization internal ratings-based approach (SEC-IRBA)	100	110	122	143	8
18	Of which: securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	3,973	3,915	4,134	4,572	317
19	Of which: securitization standardized approach (SEC-SA)	280	303	337	354	23
20	Market risk	8,112	7,968	6,180	7,206	649
21	Of which: standardized approach (SA)	661	689	707	796	53
22	Of which: internal model approaches (IMA)	7,451	7,279	5,473	6,410	596
23	Capital charge for switch between trading book and banking book	-	-	-	-	-
24	Operational risk	49,210	48,958	48,517	48,273	3,937
25	Amounts below the thresholds for deduction (subject to 250% risk weight)	12,797	12,565	12,241	12,605	1,023
26	Floor adjustment	-	-	-	-	-
27	Total (1 + 6 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 20 + 23 + 24 + 25 + 26)	416,105	414,169	404,727	406,780	33,288

(1) RWA: risk-weighted assets according to the Basel framework, including the 6% AIRB scalar applied to AIRB credit risk portfolios (excluding CVA and Securitizations).

(2) Minimum capital requirement: Pillar 1 capital requirements are RWA * 8%.

(3) Includes equities under the AIRB Materiality Threshold which are risk weighted at 100% plus the 6% AIRB scalar requirement.

(4) Includes SFT and CCP Default Fund.

LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories ⁽¹⁾



Q4 2021 (in \$MM)	a	b	c	d	e	f	g
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Carrying values of items: ⁽²⁾				
			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 ⁽³⁾
Assets							
Cash and deposits with financial institutions	86,323	86,220	86,220	-	-	-	-
Precious metals	755	755	755	-	-	755	-
Trading assets							
Securities	137,148	137,140	1	-	-	137,139	-
Loans	8,113	8,113	469	-	-	8,041	-
Other	1,051	1,051	-	-	-	1,051	-
Financial instruments designated at fair value through profit or loss	-	-	-	-	-	-	-
Securities purchased under resale agreements and securities borrowed	127,739	127,739	-	127,739	-	-	-
Derivative financial instruments	42,302	42,302	-	42,302	-	35,379	-
Investment securities	75,199	74,305	74,305	-	-	-	-
Loans							
Residential mortgages ⁽⁴⁾	319,678	319,605	319,605	-	-	-	-
Personal loans	91,540	91,533	89,518	-	2,015	-	-
Credit cards	12,450	12,450	10,842	-	136	-	1,472
Business and government	218,944	218,940	213,012	-	5,861	-	67
Allowance for credit loss	(5,626)	(5,625)	(5,571)	-	-	-	(54)
Customers' liability under acceptances, net of allowance	20,404	20,404	20,404	-	-	-	-
Property and equipment	5,621	5,620	5,620	-	-	-	-
Investments in associates	2,604	2,781	2,781	-	-	-	-
Goodwill and other intangible assets	16,604	16,930	1,774	-	-	-	15,156
Deferred tax assets	2,051	2,051	1,877	-	-	-	174
Other assets	21,944	19,658	12,749	6,593	-	-	316
Total assets	1,184,844	1,181,972	834,361	176,634	8,012	182,365	17,131

LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories ⁽¹⁾



Q4 2021 (in \$MM)	a	b	c	d	e	f	g
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Carrying values of items: ⁽²⁾				
			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 ⁽³⁾
Liabilities							
Deposits							
Personal	243,551	243,551	-	-	-	-	243,551
Business and government	511,348	511,348	-	-	-	-	511,348
Financial institutions	42,360	42,360	-	-	-	-	42,360
Financial instruments designated at fair value through profit or loss	22,493	22,493	-	-	-	-	22,493
Acceptances	20,441	20,441	-	-	-	-	20,441
Obligations related to securities sold short	40,954	40,954	-	-	-	40,954	-
Derivative financial instruments	42,203	42,203	-	42,203	-	35,702	-
Obligations related to securities sold under repurchase agreements and securities lent	123,469	123,469	-	123,469	-	-	-
Subordinated debentures	6,334	6,334	-	-	-	-	6,334
Other liabilities	58,799	55,927	-	-	-	417	55,510
Total liabilities	1,111,952	1,109,080	-	165,672	-	77,073	902,037

(1) Based on the Consolidated Statement of Financial Position as reported in the Bank's 2021 Annual Report. Effective Q1 2018, the Bank fully adopted IFRS 9 (Financial Instruments).

(2) A single item may attract capital charges according to more than one risk category framework.

(3) Includes capital deductions net of associated deferred tax liabilities, and securitized credit card exposures not subject to capital requirements for assets.

(4) Includes \$78.1 billion in mortgages guaranteed by Canada Mortgage Housing Corporation (CMHC), including 90% of privately insured mortgages.

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



Q4 2021 (in \$MM)		a	b	c	d	e
		Total	Items subject to: ⁽¹⁾			
			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)	1,164,841	834,361	8,012	176,634	182,365
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	242,745	-	-	165,672	77,073
3	Total net amount under regulatory scope of consolidation	922,096	834,361	8,012	10,962	105,292
4	Off-balance sheet amounts ⁽²⁾	210,327	195,313	12,953	2,061	-
5	Differences in valuations ⁽³⁾	260	260	-	-	-
6	Differences due to different netting rules, other than those already included in row 2	126,342	786	-	125,556	-
7	Differences due to considerations of provisions ⁽⁴⁾	4,328	4,509	-	(181)	-
8	Collateral offsetting ⁽⁵⁾	(116,571)	(2,982)	-	(113,589)	-
9	Differences due to Potential Future Exposures and Collateral Haircut	66,639	-	-	66,639	-
10	Differences due to deconsolidated subsidiaries	-	-	-	-	-
11	Other differences not classified above	(2)	(2)	-	-	-
12	Exposure amounts considered for regulatory purposes ⁽⁶⁾	1,213,419	1,032,245	20,965	91,448	105,292

(1) A single item can attract capital charges according to more than one risk category framework.

(2) Includes undrawn commitments and letters of credit/guarantee after application of the credit conversion factors, unfunded securitization exposures, and unfunded default fund contributions.

(3) Includes fair value adjustments for credit risk items (loans, bonds).

(4) Amounts for AIRB exposures are reported gross of partial write-offs and IFRS 9 specific allowances, and amounts for Standardized exposures are reported net of partial write-offs and IFRS 9 specific allowances.

(5) Includes adjustments for credit risk mitigation based on the application of the Comprehensive Approach for collateral under the credit risk framework.

(6) The aggregate amount considered as a starting point of the RWA calculation.

CC1: Composition of regulatory capital


(in \$MM)		a	a ₂	a ₃	a ₄	b
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation ⁽¹⁾
Common Equity Tier 1 capital: instruments and reserves						
1	Directly issued qualifying common share capital (and equivalent for non-joint stock companies) plus related stock surplus	18,585	18,518	18,407	18,335	u+y
2	Retained earnings	51,354	50,044	48,713	47,519	v
3	Accumulated other comprehensive income (and other reserves)	(5,333)	(3,986)	(3,979)	(2,785)	w
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)	1,322	1,330	1,635	1,709	bb
6	Common Equity Tier 1 capital before regulatory adjustments	65,928	65,906	64,776	64,778	
Common Equity Tier 1 capital: regulatory adjustments						
7	Prudential valuation adjustments	-	-	-	-	
8	Goodwill (net of related tax liability)	(9,175)	(9,321)	(9,438)	(9,581)	g
9	Other intangibles other than mortgage servicing rights (net of related tax liability)	(5,981)	(5,943)	(5,905)	(5,907)	h-q+i-r
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	(174)	(195)	(207)	(251)	k
11	Cash flow hedge reserve	214	(466)	(241)	(457)	x
12	Shortfall of provisions to expected losses	-	-	-	-	ee
13	Securitization gain on sale	-	-	-	-	
14	Gains and losses due to changes in own credit risk on fair valued liabilities	381	358	413	322	p
15	Defined benefit pension fund net assets (net of related tax liability)	(316)	(184)	(212)	(200)	l-s
16	Investments in own shares (if not already netted off paid-in capital on reported balance sheet)	(99)	(70)	(50)	(44)	a
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)	-	-	-	-	e
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	-	-	-	-	f
24	of which: mortgage servicing rights	-	-	-	-	
25	of which: deferred tax assets arising from temporary differences	-	-	-	-	j
26	Other deductions or regulatory adjustments to CET1 as determined by OSFI	232	380	561	882	gg-o
27	Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions	-	-	-	-	
28	Total regulatory adjustments to Common Equity Tier 1	(14,918)	(15,441)	(15,079)	(15,236)	
29	Common Equity Tier 1 capital (CET1)	51,010	50,465	49,697	49,542	
29a	Common Equity Tier 1 capital (CET1) with transitional arrangements for ECL provisioning not applied	50,775	50,083	49,135	48,657	

CC1: Composition of regulatory capital


(in \$MM)		a	a ₂	a ₃	a ₄	b
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation ⁽¹⁾
Additional Tier 1 capital: instruments						
30	Directly issued qualifying Additional Tier 1 instruments plus related stock surplus	6,052	5,299	4,549	4,899	z
31	of which: classified as equity under applicable accounting standards	6,052	5,299	4,549	4,899	
32	of which: classified as liabilities under applicable accounting standards	-	-	-	-	
33	Directly issued capital instruments subject to phase out from additional Tier 1	653	653	653	654	aa + (2)
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)	200	213	253	198	cc
35	of which: instruments issued by subsidiaries subject to phase out	-	-	-	-	
36	Additional Tier 1 capital before regulatory adjustments	6,905	6,165	5,455	5,751	
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	-	-	-	-	b
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)	6,905	6,165	5,455	5,751	
45	Tier 1 capital (T1 = CET1 + AT1)	57,915	56,630	55,152	55,293	
45a	Tier 1 capital (T1 = CET1 + AT1) with transitional arrangements for ECL provisioning not applied	57,680	56,248	54,590	54,408	

CC1: Composition of regulatory capital


(in \$MM)		a	a ₂	a ₃	a ₄	b
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation ⁽¹⁾
Tier 2 capital: instruments and provisions						
46	Directly issued qualifying Tier 2 instruments plus related stock surplus	5,675	5,756	5,782	5,927	<i>m</i>
47	<i>Directly issued capital instruments subject to phase out from Tier 2</i>	248	248	298	302	
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)	157	165	162	206	<i>dd</i>
49	<i>of which: instruments issued by subsidiaries subject to phase out</i>	-	-	-	-	
50	General allowances	2,106	2,302	2,292	1,996	<i>c+d</i>
51	Tier 2 capital before regulatory adjustments	8,186	8,471	8,534	8,431	
Tier 2 capital: regulatory adjustments						
52	Investments in own Tier 2 instruments	-	-	-	-	<i>ff</i>
53	Reciprocal cross holdings in Tier 2 instruments and Other TLAC-eligible instruments	-	-	-	-	
54	Non-significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation, where the institution does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)	-	-	-	-	
54a	Non-significant investments in the other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs, where the institution does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but that no longer meets the conditions.	-	-	-	-	
55	Significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation.	-	-	-	-	
56	Other deductions from Tier 2 capital	-	-	-	-	
57	Total regulatory adjustments to Tier 2 capital	-	-	-	-	
58	Tier 2 capital (T2)	8,186	8,471	8,534	8,431	
59	Total capital (TC = T1 + T2)	66,101	65,101	63,686	63,724	
59a	Total Capital with transitional arrangements for ECL provisioning not applied	66,101	65,101	63,686	63,724	
60	Total risk-weighted assets	416,105	414,169	404,727	406,780	
60a	Common Equity Tier 1 (CET1) Capital RWA	416,105	414,169	404,727	406,780	
60b	Tier 1 Capital RWA	416,105	414,169	404,727	406,780	
60c	Total Capital RWA	416,105	414,169	404,727	406,780	

CC1: Composition of regulatory capital


(in \$MM)		a	a ₂	a ₃	a ₄	b
		Q4 2021	Q3 2021	Q2 2021	Q1 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation ⁽¹⁾
Capital ratios						
61	Common Equity Tier 1 (as a percentage of risk-weighted assets)	12.3%	12.2%	12.3%	12.2%	
61a	CET1 Ratio with transitional arrangements for ECL provisioning not applied	12.2%	12.1%	12.1%	12.0%	
62	Tier 1 (as a percentage of risk-weighted assets)	13.9%	13.7%	13.6%	13.6%	
62a	Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied	13.9%	13.6%	13.5%	13.4%	
63	Total capital (as a percentage of risk-weighted assets)	15.9%	15.7%	15.7%	15.7%	
63a	Total Capital Ratio with transitional arrangements for ECL provisioning not applied	15.9%	15.7%	15.7%	15.7%	
64	Buffer (minimum CET1 requirement plus capital conservation buffer plus G-SIB buffer plus D-SIB buffer expressed as a percentage of risk-weighted assets)	8.0%	8.0%	8.0%	8.0%	
65	of which: capital conservation buffer	2.5%	2.5%	2.5%	2.5%	
66	of which: bank-specific countercyclical buffer	0.0%	0.0%	0.0%	0.0%	
67	of which: G-SIB buffer	0.0%	0.0%	0.0%	0.0%	
67a	of which: D-SIB buffer	1.0%	1.0%	1.0%	1.0%	
68	Common Equity Tier 1 available to meet buffers (as percentage of risk-weighted assets)	12.3%	12.2%	12.3%	12.2%	
OSFI target (minimum + capital conservation buffer + D-SIB buffer (if applicable))⁽³⁾						
69	Common Equity Tier 1 target ratio	8.0%	8.0%	8.0%	8.0%	
70	Tier 1 capital target ratio	9.5%	9.5%	9.5%	9.5%	
71	Total capital target ratio	11.5%	11.5%	11.5%	11.5%	
Amounts below the thresholds for deduction (before risk weighting)						
72	Non-significant investments in the capital and other TLAC-eligible instruments of other financial entities	3,968	3,296	4,289	2,514	
73	Significant investments in the common stock of financial entities	2,631	2,534	2,508	2,653	
74	Mortgage servicing rights (net of related tax liability)	-	-	-	-	
75	Deferred tax assets arising from temporary differences (net of related tax liability)	2,488	2,492	2,389	2,389	
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)	1,335	1,480	1,450	1,485	
77	Cap on inclusion of allowances in Tier 2 under standardized approach	1,488	1,497	1,450	1,485	
78	Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	1,006	1,204	1,404	1,395	
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach	1,438	1,425	1,404	1,395	
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	10%	10%	10%	10%	
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	10%	10%	10%	10%	
83	Amounts excluded from AT1 due to cap (excess over cap after redemptions and maturities)	97	97	97	505	
84	Current cap on T2 instruments subject to phase out arrangements	10%	10%	10%	10%	
85	Amounts excluded from T2 due to cap (excess over cap after redemptions and maturities)	-	-	-	-	

(1) Cross-referenced to the Consolidated Balance Sheet: Source of Definition of Capital Components on CC2 (refer to column: Under Regulatory Scope of Consolidation).

(2) Line 33 also includes \$750 million as at October 31, 2021 which is subject to the phase out requirements of capital instruments issued by trusts not consolidated under accounting standard IFRS 10, effective Q1 2014. This amount was fully included in Tier 1 capital in prior years.

(3) Reflects Pillar 1 targets and does not include Pillar 2 domestic stability buffer of 2.5% effective October 31, 2021 (previously 1% commencing April 2020).

CC2: Reconciliation of regulatory capital to balance sheet


Condensed balance sheet (in \$MM)	a	b	c
	Balance sheet as in published financial statements ⁽¹⁾	Under regulatory scope of consolidation ⁽²⁾	Cross-reference to Definition of Capital Components
	Q4 2021	Q4 2021	
Assets			
Cash and deposits with financial institutions	86,323	86,220	
Precious metals	755	755	
Trading assets			
Securities	137,148	137,140	
- Investment in own shares		99	a
- Other trading securities		137,041	
Loans	8,113	8,113	
Other	1,051	1,051	
	146,312	146,304	
Financial instruments designated at fair value through profit and loss	-	-	
Securities purchased under resale agreements and securities borrowed	127,739	127,739	
Derivative financial instruments	42,302	42,302	
Investment securities	75,199	74,305	
- Significant investments in Additional Tier 1 capital and other financial institutions reflected in regulatory capital		-	b
- Other securities		74,305	
Loans			
Residential mortgages	319,678	319,605	
Personal loans	91,540	91,533	
Credit cards	12,450	12,450	
Business and government	218,944	218,940	
	642,612	642,528	
Allowance for credit losses	5,626	5,625	
- General Allowance reflected in Tier 2 capital		1,267	c
- Shortfall of allowances to expected loss		-	ee
- Excess of allowances to expected loss		839	d
- ECL transitional adjustment		235	gg
- Allowances not reflected in regulatory capital		3,284	

CC2: Reconciliation of regulatory capital to balance sheet


Condensed balance sheet (in \$MM)	a	b	c
	Balance sheet as in published financial statements ⁽¹⁾	Under regulatory scope of consolidation ⁽²⁾	Cross-reference to Definition of Capital Components
	Q4 2021	Q4 2021	
Other			
Customers' liability under acceptances, net of allowance	20,404	20,404	
Property and equipment	5,621	5,620	
Investments in associates	2,604	2,781	
- Significant Investments in other financial institutions including deconsolidated subsidiaries exceeding 10% regulatory thresholds		-	e
- Significant Investments in other financial institutions including deconsolidated subsidiaries exceeding 15% regulatory thresholds		-	f
- Significant Investments in other financial institutions including deconsolidated subsidiaries within regulatory thresholds		2,781	
Goodwill and other intangible assets	16,604	16,930	
- Goodwill		8,849	g
- Imputed goodwill for Significant Investments		326	g
- Intangibles (excl computer software)		5,174	h
- Computer software intangibles		2,581	i
Deferred tax assets	2,051	2,051	
- Deferred tax assets arising from temporary differences exceeding the regulatory threshold		-	j
- Deferred tax assets that rely on future profitability		174	k
- Deferred tax assets not deducted from regulatory capital		1,877	
Other Assets	21,944	19,658	
- Defined pension fund assets		456	l
- Other assets		19,202	
Total other	69,228	67,444	
Total assets	1,184,844	1,181,972	

CC2: Reconciliation of regulatory capital to balance sheet


Condensed balance sheet (in \$MM)	a	b	c
	Balance sheet as in published financial statements ⁽¹⁾	Under regulatory scope of consolidation ⁽²⁾	Cross-reference to Definition of Capital Components
	Q4 2021	Q4 2021	
Liabilities			
Deposits			
Personal	243,551	243,551	
Business and government	511,348	511,348	
- <i>Investment in own Tier 2 instruments</i>		-	<i>ff</i>
- <i>Other deposits from Business and government</i>		511,348	
Financial institutions	42,360	42,360	
	797,259	797,259	
Financial instruments designated at fair value through profit and loss	22,493	22,493	
Other			
Acceptances	20,441	20,441	
Obligations related to securities sold short	40,954	40,954	
Derivative financial instruments	42,203	42,203	
Obligations related to securities sold under repurchase agreements and securities lent	123,469	123,469	
Subordinated debentures	6,334	6,334	
- <i>Regulatory capital amortization of maturing debentures</i>		411	
- <i>Subordinated debentures used for regulatory capital</i>		5,923	
- <i>of which: are included in Tier 2 capital</i>		5,675	<i>m</i>
- <i>of which: are subject to phase out included in Tier 1 capital (10%)</i>		248	
- <i>of which: are subject to phase out not included in Tier 1 capital</i>		-	
Other liabilities	58,799	55,927	
- <i>Liquidity reserves</i>		3	<i>o</i>
- <i>Gains/losses due to changes in own credit risk including DVA on derivatives</i>		(381)	<i>p</i>
- <i>Deferred tax liabilities</i>		1,127	
- <i>Intangible assets (excl. computer software and mortgage servicing rights)</i>		1,434	<i>q</i>
- <i>Intangible assets - computer software</i>		340	<i>r</i>
- <i>Defined benefit pension fund assets</i>		140	<i>s</i>
- <i>Other deferred tax liabilities</i>		(787)	
- <i>Other liabilities</i>		55,178	
Total other	292,200	289,328	
Total liabilities	1,111,952	1,109,080	

CC2: Reconciliation of regulatory capital to balance sheet



Condensed balance sheet (in \$MM)	a	b	c
	Balance sheet as in published financial statements ⁽¹⁾	Under regulatory scope of consolidation ⁽²⁾	Cross-reference to Definition of Capital Components
	Q4 2021	Q4 2021	
Equity			
Common equity			
Common shares	18,507	18,507	u
- of which: amount eligible for CET1		18,507	
- of which: amount eligible for AT1		-	
Retained earnings	51,354	51,354	v
Accumulated other comprehensive income	(5,333)	(5,333)	w
- Cash flow hedging reserve		(214)	x
- Other		(5,119)	
Other reserves	222	222	
- portion allowed for inclusion into CET1		78	y
- portion not allowed for regulatory capital		144	
Total common equity	64,750	64,750	
Preferred shares and other equity instruments	6,052	6,052	
- of which: are qualifying Tier 1 capital		6,052	z
- of which: are subject to phase out and included in Tier 1 capital (10%) ⁽³⁾		(97)	aa
- of which: are subject to phase out and not included into Tier 1 capital		97	
Total equity attributable to equity holders of the Bank	70,802	70,802	
Non-controlling interests in subsidiaries	2,090	2,090	
- portion allowed for inclusion into CET1		1,322	bb
- portion allowed for inclusion into Tier 1 capital		200	cc
- portion allowed for inclusion into Tier 2 capital		157	dd
- portion not allowed for regulatory capital		411	
Total equity	72,892	72,892	
Total liabilities and equity	1,184,844	1,181,972	

(1) Consolidated Statement of Financial Position as reported in the 2021 Annual Report.

(2) Legal Entities that are within the accounting scope of consolidation but excluded from the regulatory scope of consolidation represent the Bank's insurance subsidiaries whose principle activities include insurance, reinsurance, property and casualty insurance. Key subsidiaries are Scotia Insurance Barbados Ltd (assets: \$250MM, equity: \$221MM), Scotia Life Insurance Company (assets: \$4MM, equity: \$20MM), Scotia Reinsurance Limited (assets: \$4MM, equity: \$63MM), Scotia Jamaica Life Insurance Co. Ltd (assets: \$458MM, equity: \$77MM), Scotia Life Trinidad and Tobago Ltd (assets: \$424MM, equity: \$67MM), Scotia Insurance Caribbean Ltd. (assets: \$2MM, equity: \$23MM), and MD Life Insurance Company (assets: \$2,200MM, equity: \$17MM).

(3) Capital Trust Securities are not reported in the preferred shares and other equity instruments balance, but are included as additional Tier 1 regulatory capital and are subject to the phase out requirements.

TLAC1: TLAC composition for G-SIBs (at resolution group level)


(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021 Amounts	Q3 2021 Amounts	Q2 2021 Amounts	Q1 2021 Amounts
Regulatory capital elements of TLAC and adjustments					
1	Common Equity Tier 1 capital (CET1)	51,010	50,465	49,697	49,542
2	Additional Tier 1 capital (AT1) before TLAC adjustments	6,905	6,165	5,455	5,751
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-	-	-	-
4	Other adjustments	-	-	-	-
5	AT1 instruments eligible under the TLAC framework	6,905	6,165	5,455	5,751
6	Tier 2 capital (T2) before TLAC adjustments	8,186	8,471	8,534	8,431
7	Amortized portion of T2 instruments where remaining maturity > 1 year	411	414	358	371
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	8,597	8,885	8,892	8,802
11	TLAC arising from regulatory capital	66,512	65,515	64,044	64,095
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.	49,327	39,451	34,101	31,127
14	Of which: amount eligible as TLAC after application of the caps	N/A	N/A	N/A	N/A
15	External TLAC instruments issued by funding vehicles prior to 1 January 2022	-	-	-	-
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution	N/A	N/A	N/A	N/A
17	TLAC arising from non-regulatory capital instruments before adjustments	49,327	39,451	34,101	31,127
Non-regulatory capital elements of TLAC: adjustments					
18	TLAC before deductions	115,839	104,966	98,145	95,222
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs)	N/A	N/A	N/A	N/A
20	Deduction of investments in own other TLAC liabilities	(158)	(207)	(275)	(255)
21	Other adjustments to TLAC	-	-	-	-
22	TLAC after deductions	115,681	104,759	97,870	94,967
Risk-weighted assets and leverage exposure measure for TLAC purposes					
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	416,105	414,169	404,727	406,780
24	Leverage exposure measure	1,201,766	1,191,993	1,180,223	1,179,755
TLAC ratios and buffers					
25	TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	27.8%	25.3%	24.2%	23.3%
26	TLAC (as a percentage of leverage exposure)	9.6%	8.8%	8.3%	8.0%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	N/A	N/A	N/A	N/A
28	Institution-specific buffer requirement (capital conservation buffer plus countercyclical buffer requirements plus higher loss absorbency requirement, expressed as a percentage of risk-weighted assets)	3.5%	3.5%	3.5%	3.5%
29	Of which: capital conservation buffer requirement	2.5%	2.5%	2.5%	2.5%
30	Of which: bank specific countercyclical buffer requirement	0.0%	0.0%	0.0%	0.0%
31	Of which: D-SIB / G-SIB buffer	1.0%	1.0%	1.0%	1.0%

Rows 14, 16, 19 and 27 are not applicable to Canadian D-SIBs.

TLAC3: Resolution entity – creditor ranking at legal entity level


(in \$MM)		Creditor ranking						Sum of 1 to 6
		1 (most junior)	2	3	4	5	6 (most senior)	
Q4 2021								
1	Description of creditor ranking	Common shares Book value	Preferred shares Stated value	Additional Tier 1 and Limited Recourse Capital Notes Stated value	Subordinated Debt Par value	Bail-in Debt ⁽¹⁾ Par value	Other Liabilities ⁽²⁾	Total
2	Total capital and liabilities net of credit risk mitigation	18,507	800	5,252	6,262	49,745	-	80,566
3	Subset of row 2 that are excluded liabilities	99	-	-	-	158	-	257
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,408	800	5,252	6,262	49,587	-	80,309
5	Subset of row 4 that are <i>potentially</i> eligible as TLAC	18,408	800	5,252	6,262	49,372	-	80,094
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	14,422	-	14,422
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,797	21,842	-	23,639
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,370	6,838	-	11,208
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	95	6,270	-	6,365
10	Subset of row 5 that is perpetual securities	18,408	800	5,252	-	-	-	24,460
Q3 2021								
1	Description of creditor ranking	Common shares Book value	Preferred shares Stated value	Additional Tier 1 and Limited Recourse Capital Notes Stated value	Subordinated Debt Par value	Bail-in Debt ⁽¹⁾ Par value	Other Liabilities ⁽²⁾	Total
2	Total capital and liabilities net of credit risk mitigation	18,493	800	4,499	6,315	40,007	-	70,114
3	Subset of row 2 that are excluded liabilities	70	-	-	-	207	-	277
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,423	800	4,499	6,315	39,800	-	69,837
5	Subset of row 4 that are potentially eligible as TLAC	18,423	800	4,499	6,315	39,584	-	69,621
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	9,557	-	9,557
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,810	17,460	-	19,270
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,410	5,765	-	10,175
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	95	6,802	-	6,897
10	Subset of row 5 that is perpetual securities	18,423	800	4,499	-	-	-	23,722

TLAC3: Resolution entity – creditor ranking at legal entity level


(in \$MM)		Creditor ranking						Sum of 1 to 6
		1 (most junior)	2	3	4	5	6 (most senior)	
Q2 2021								
1	Description of creditor ranking	Common shares Book value	Preferred shares Stated value	Additional Tier 1 Instruments Stated value	Subordinated Debt Par value	Bail-in Debt ⁽¹⁾ Par value	Other Liabilities ⁽²⁾	Total
2	Total capital and liabilities net of credit risk mitigation	18,377	1,300	3,249	6,323	35,050	-	64,299
3	Subset of row 2 that are excluded liabilities	50	-	-	-	275	-	325
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,327	1,300	3,249	6,323	34,775	-	63,974
5	Subset of row 4 that are potentially eligible as TLAC	18,327	1,300	3,249	6,323	34,564	-	63,763
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	3,120	-	3,120
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,787	21,673	-	23,460
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,442	4,072	-	8,514
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	94	5,699	-	5,793
10	Subset of row 5 that is perpetual securities	18,327	1,300	3,249	-	-	-	22,876
Q1 2021								
1	Description of creditor ranking	Common shares Book value	Preferred shares Stated value	Additional Tier 1 Instruments Stated value	Subordinated Debt Par value	Bail-in Debt ⁽¹⁾ Par value	Other Liabilities ⁽²⁾	Total
2	Total capital and liabilities net of credit risk mitigation	18,297	2,059	3,249	6,445	31,622	-	61,672
3	Subset of row 2 that are excluded liabilities	44	409	-	-	255	-	708
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,253	1,650	3,249	6,445	31,367	-	60,964
5	Subset of row 4 that are potentially eligible as TLAC	18,253	1,650	3,249	6,445	31,283	-	60,880
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	2,036	-	2,036
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,848	19,582	-	21,430
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,499	4,180	-	8,679
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	98	5,485	-	5,583
10	Subset of row 5 that is perpetual securities	18,253	1,650	3,249	-	-	-	23,152

(1) Under the Bank Recapitalization (Bail-In) Regime. Please refer to the Page 62 of the 2021 Annual Report, for a description of the requirements.

(2) Disclosure not currently required by OSFI.

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


(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
1	Total consolidated assets as per published financial statements	1,184,844	1,163,429	1,125,248	1,164,050
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(2,872)	(2,824)	(2,823)	(2,804)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference	(1,538)	(689)	(701)	(662)
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	(4,639)	(4,011)	3,338	5,667
6	Adjustment for securities financing transactions (i.e. repos and similar secured lending)	16,869	17,969	13,674	16,239
7	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	152,141	148,511	147,138	148,638
8	Other adjustments ⁽¹⁾	(143,039)	(130,392)	(105,651)	(151,373)
9	Leverage ratio exposure measure	1,201,766	1,191,993	1,180,223	1,179,755

(1) Commencing Q2 2020, amount includes temporary leverage ratio exposure exemptions (Q4 2021: sovereign-issued securities: \$53.9 billion and central bank reserves: \$73.6 billion; Q3 2021: sovereign-issued securities: \$50.1 billion and central bank reserves: \$64.1 billion) in accordance with OSFI's COVID-19 capital relief measures and asset amounts deducted in determining Basel III Tier 1 capital.

LR2: Leverage ratio common disclosure


(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
On-balance sheet exposures⁽¹⁾					
1	On-balance sheet exposures (excluding derivatives and securities financing transactions (SFTs), but including collateral)	882,887	874,788	860,475	860,556
2	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	-	-	-	-
3	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	(6,517)	(6,523)	(6,442)	(5,442)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(15,532)	(16,182)	(16,056)	(16,445)
5	Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of rows 1 to 4)	860,838	852,083	837,977	838,669
Derivative exposures					
6	Replacement cost associated with all derivatives transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)	22,297	23,800	24,697	28,250
7	Add-on amounts for PFE associated with all derivatives transactions	19,626	20,617	23,556	25,838
8	(Exempted CCP leg of client-cleared trade exposures)	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	2,687	-	2,853	4,159
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(431)	-	(753)	(869)
11	Total derivative exposures (sum of rows 6 to 10)	44,179	44,417	50,353	57,378
Securities financing transaction exposures					
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	160,621	159,790	163,608	146,339
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(32,882)	(30,777)	(32,527)	(27,508)
14	CCR exposure for SFT assets	16,869	17,969	13,674	16,239
15	Agent transaction exposures	-	-	-	-
16	Total securities financing transaction exposures (sum of rows 12 to 15)	144,608	146,982	144,755	135,070
Other off-balance sheet exposures					
17	Off-balance sheet exposure at gross notional amount	483,525	478,144	469,743	477,434
18	(Adjustments for conversion to credit equivalent amounts)	(331,384)	(329,633)	(322,605)	(328,796)
19	Off-balance sheet items (sum of rows 17 and 18)	152,141	148,511	147,138	148,638
Capital and total exposures					
20	Tier 1 capital	57,915	56,630	55,152	55,293
20a	Tier 1 capital with transitional arrangements for ECL provisioning not applied	57,680	56,248	54,590	54,408
21	Total exposures (sum of rows 5, 11, 16 and 19)	1,201,766	1,191,993	1,180,223	1,179,755
Leverage ratio					
22	Basel III leverage ratio	4.8%	4.8%	4.7%	4.7%
22a	Leverage Ratio with transitional arrangements for ECL provisioning not applied	4.8%	4.7%	4.6%	4.6%

(1) On-balance sheet items exclude securities purchased under resale agreements and securities borrowed (\$127,739MM), derivative financial instruments (\$42,302MM), assets outside the regulatory scope of consolidation (\$2,872MM).

CR1: Credit quality of assets ⁽¹⁾


(in \$MM)		a	b	c	d	e	f	g
		Gross carrying values of ⁽²⁾		Allowances/ impairments ⁽⁴⁾	Of which ECL accounting provisions for credit losses on SA exposures		Of which ECL accounting provisions for credit losses on IRB exposures	Net values (a+b-c)
		Defaulted exposures ⁽³⁾	Non-defaulted exposures		Allocated in regulatory category of Specific	Allocated in regulatory category of General		
Q4 2021								
1	Loans ⁽⁵⁾	4,426	734,831	5,568	1,320	2,418	1,830	733,689
2	Debt Securities	205	69,987	-	-	-	-	70,192
3	Off-balance sheet exposures ⁽⁶⁾	304	257,453	65	-	8	57	257,692
4	Total	4,935	1,062,271	5,633	1,320	2,426	1,887	1,061,573
Q3 2021								
1	Loans ⁽⁵⁾	4,968	712,164	6,034	1,417	2,604	2,013	711,098
2	Debt Securities	207	76,572	-	-	-	-	76,779
3	Off-balance sheet exposures ⁽⁶⁾	228	254,088	87	-	8	79	254,229
4	Total	5,403	1,042,824	6,121	1,417	2,612	2,092	1,042,106
Q2 2021								
1	Loans ⁽⁵⁾	5,192	668,043	6,663	1,537	3,006	2,120	666,572
2	Debt Securities	204	80,320	-	-	-	-	80,524
3	Off-balance sheet exposures ⁽⁶⁾	450	249,443	101	-	11	90	249,792
4	Total	5,846	997,806	6,764	1,537	3,017	2,210	996,888
Q1 2021								
1	Loans ⁽⁵⁾	5,272	701,079	7,486	1,593	3,761	2,132	698,865
2	Debt Securities	212	93,696	-	-	-	-	93,908
3	Off-balance sheet exposures ⁽⁶⁾	651	246,826	136	-	15	121	247,341
4	Total	6,135	1,041,601	7,622	1,593	3,776	2,253	1,040,114

(1) This table incorporates the BCBS Technical Amendments to Pillar 3 disclosure requirements - regulatory treatment of accounting provisions (August 2018). Consistent with the requirements for regulatory capital reporting and in accordance with OSFI Capital Adequacy Requirements (Chapter 2), General Allowances are defined as Stage 1 and Stage 2 allowances under IFRS 9 and Specific Allowances are defined as Stage 3 allowances under IFRS 9.

(2) The accounting value of on- and off-balance sheet exposures before any credit conversion factor (CCF) or credit risk mitigation (CRM), but after considering write-offs.

(3) Defaulted exposures include: (i) the Bank's reported Gross Impaired Loans, (ii) credit cards which meet the regulatory definition of default, and (iii) off-balance sheet commitments, LCs and/or LGs which meet the regulatory definition of default.

(4) Includes all three ECL Stages, net of allowances related to securitizations of bank originated credit card receivables and ECL related to entities outside the scope of regulatory consolidation.

(5) Includes bankers acceptances and deposits with banks.

(6) Excludes all revocable loan commitments.

CR2: Changes in stock of defaulted loans and debt securities⁽¹⁾



(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
1	Defaulted loans and debt securities - Beginning of Quarter ⁽²⁾	5,403	5,846	6,135	5,699
2	Loans and debt securities that have defaulted since the last reporting period	637	910	1,376	1,231
3	Returned to non-defaulted status ⁽³⁾	(120)	(123)	(66)	(145)
4	Amounts written off	(706)	(1,144)	(1,261)	(790)
5	Other changes ⁽⁴⁾	(279)	(86)	(338)	140
6	Defaulted loans and debt securities - End of Quarter ⁽²⁾	4,935	5,403	5,846	6,135

(1) Defaulted exposures include: (i) the Bank's reported Gross Impaired Loans, (ii) credit cards which meet the regulatory definition of default, and (iii) off-balance sheet commitments, LCs and/or LGs which meet the regulatory definition of default.

(2) Regulatory Definition of Default: when there is objective evidence that the Bank no longer has reasonable assurance as to the timely collection of interest and principal, or where a contractual payment is 90 days in arrears (including credit cards), or the customer is declared to be bankrupt.

(3) Includes returned to non-defaulted status and payments on defaulted accounts.

(4) Includes the impact from foreign currency translation and changes in credit cards and off-balance sheet exposures which meet the regulatory definition of default.

CR3: Credit risk mitigation techniques – overview



(in \$MM)		a	b1	b	d	f
		Unsecured exposures: carrying amount ⁽¹⁾	Exposures to be secured ⁽¹⁾	Exposures secured by collateral ^{(2) (3)}	Exposures secured by financial guarantees ⁽⁴⁾	Exposures secured by credit derivatives
Q4 2021						
1	Loans ⁽⁵⁾	265,637	468,052	376,982	91,070	-
2	Debt Securities	46,046	24,146	-	24,146	-
3	Total	311,683	492,198	376,982	115,216	-
4	Of which defaulted	1,617	1,345	1,057	288	-

Q3 2021						
1	Loans ⁽⁵⁾	254,426	456,672	363,128	93,544	-
2	Debt Securities	50,313	26,466	-	26,466	-
3	Total	304,739	483,138	363,128	120,010	-
4	Of which defaulted	1,831	1,574	1,265	309	-

Q2 2021						
1	Loans ⁽⁵⁾	227,399	439,173	345,796	93,377	-
2	Debt Securities	50,358	30,166	-	30,166	-
3	Total	277,757	469,339	345,796	123,543	-
4	Of which defaulted	1,789	1,659	1,337	322	-

Q1 2021						
1	Loans ⁽⁵⁾	268,323	430,542	335,675	94,867	-
2	Debt Securities	60,892	33,016	-	33,016	-
3	Total	329,215	463,558	335,675	127,883	-
4	Of which defaulted	1,880	1,579	1,276	303	-

(1) Carrying amounts of on-balance sheet exposures are net of all three ECL Stages and write-offs.

(2) Includes non-retail and retail AIRB exposures, where collateral is used within the estimation of LGD.

(3) Includes retail mortgages and real estate secured lines of credit under both AIRB and standardized approaches.

(4) Includes government insured mortgages.

(5) Includes bankers acceptances and deposits with banks.

**CR4: Standardized approach – credit risk exposures and
Credit Risk Mitigation (CRM) effects**



(in \$MM)		a	b	c	d	e	f
Asset classes		Exposures before CCF and CRM	Exposures post-CCF and CRM ⁽¹⁾	RWA and RWA density			
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
Q4 2021							
1	Bank	3,072	257	3,048	15	2,481	81%
2	Corporate	54,860	24,549	52,545	5,466	54,093	93%
3	Sovereign	8,641	557	8,641	-	737	9%
4	Real Estate Secured	54,617	822	54,617	-	21,458	39%
5	Other Retail	36,617	29,640	36,445	-	26,869	74%
6	Equity ⁽²⁾	3,249	-	3,249	-	3,444	106%
7	Other Assets ⁽³⁾	48,834	-	48,834	-	14,646	30%
8	Total	209,890	55,825	207,379	5,481	123,728	58%

Q3 2021							
1	Bank	2,753	665	2,753	6	2,348	85%
2	Corporate	54,713	23,908	52,500	5,364	54,264	94%
3	Sovereign	9,142	70	9,142	-	775	8%
4	Real Estate Secured	53,215	733	53,215	-	21,070	40%
5	Other Retail	36,776	29,365	36,596	-	26,930	74%
6	Equity ⁽²⁾	2,708	-	2,708	-	2,871	106%
7	Other Assets ⁽³⁾	48,049	-	48,049	-	15,149	32%
8	Total	207,356	54,741	204,963	5,370	123,407	59%

Q2 2021							
1	Bank	2,206	606	2,206	49	1,809	80%
2	Corporate	53,086	22,415	51,515	5,293	52,881	93%
3	Sovereign	9,321	81	9,321	1	789	8%
4	Real Estate Secured	50,394	657	50,394	-	19,661	39%
5	Other Retail	36,731	29,462	36,572	-	26,909	74%
6	Equity ⁽²⁾	2,355	-	2,355	-	2,496	106%
7	Other Assets ⁽³⁾	62,910	-	62,910	-	14,311	23%
8	Total	217,003	53,221	215,273	5,343	118,856	54%

Q1 2021							
1	Bank	2,415	828	2,415	120	1,733	68%
2	Corporate	53,030	22,319	53,030	5,773	54,355	92%
3	Sovereign	9,834	76	9,834	4	909	9%
4	Real Estate Secured	48,699	584	48,699	-	19,017	39%
5	Other Retail	38,355	29,891	38,355	-	28,090	73%
6	Equity ⁽²⁾	2,366	-	2,366	-	2,508	106%
7	Other Assets ⁽³⁾	61,659	-	61,659	-	15,251	25%
8	Total	216,358	53,698	216,358	5,897	121,863	55%

(1) Commencing Q2, 2021, includes adjustments for credit risk mitigation based on the application of the Comprehensive Approach for collateral.

(2) Includes equities under the AIRB Materiality Threshold which are risk weighted at 100% plus the 6% scalar requirement.

(3) Exposures to CCP and risk-weighted threshold deductions are excluded.

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


(in \$MM)	Risk weight Asset classes	a	b	c	d	e	f	g	h	i	j
		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post-CCF and post-CRM) ⁽¹⁾
Q4 2021											
1	Bank	-	-	759	-	8	-	2,238	58	-	3,063
2	Corporate	3,936	-	128	-	30	-	53,647	270	-	58,011
3	Sovereign	7,445	-	-	-	918	-	278	-	-	8,641
4	Real Estate Secured	5,083	-	-	39,644	-	9,235	651	4	-	54,617
5	Other Retail	384	-	490	-	-	35,258	285	28	-	36,445
6	Equity ⁽²⁾	-	-	-	-	-	-	3,249	-	-	3,249
7	Other Assets ⁽³⁾	35,694	-	-	-	-	-	13,009	-	131	48,834
8	Total	52,542	-	1,377	39,644	956	44,493	73,357	360	131	212,860
Q3 2021											
1	Bank	-	-	510	-	6	-	2,243	-	-	2,759
2	Corporate	3,662	-	110	-	60	-	53,673	359	-	57,864
3	Sovereign	7,884	-	2	-	962	-	294	-	-	9,142
4	Real Estate Secured	5,361	-	-	37,586	-	9,423	842	3	-	53,215
5	Other Retail	419	-	587	-	-	35,203	340	47	-	36,596
6	Equity ⁽²⁾	-	-	-	-	-	-	2,708	-	-	2,708
7	Other Assets ⁽³⁾	34,409	-	-	-	-	-	13,509	-	131	48,049
8	Total	51,735	-	1,209	37,586	1,028	44,626	73,609	409	131	210,333
Q2 2021											
1	Bank	-	-	588	-	12	-	1,596	59	-	2,255
2	Corporate	3,895	-	110	-	24	-	52,641	138	-	56,808
3	Sovereign	8,020	-	2	-	1,024	-	276	-	-	9,322
4	Real Estate Secured	5,891	-	-	34,825	-	8,829	846	3	-	50,394
5	Other Retail	462	-	583	-	-	35,107	336	84	-	36,572
6	Equity ⁽²⁾	-	-	-	-	-	-	2,355	-	-	2,355
7	Other Assets ⁽³⁾	50,276	-	-	-	-	-	12,489	-	145	62,910
8	Total	68,544	-	1,283	34,825	1,060	43,936	70,539	284	145	220,616
Q1 2021											
1	Bank	-	-	996	-	12	-	1,526	1	-	2,535
2	Corporate	4,149	-	459	-	38	-	53,985	172	-	58,803
3	Sovereign	8,289	-	2	-	1,278	-	269	-	-	9,838
4	Real Estate Secured	6,342	-	-	32,437	-	9,033	883	4	-	48,699
5	Other Retail	673	-	580	-	-	36,685	330	87	-	38,355
6	Equity ⁽²⁾	-	-	-	-	-	-	2,366	-	-	2,366
7	Other Assets ⁽³⁾	48,107	-	-	-	-	-	13,404	-	148	61,659
8	Total	67,560	-	2,037	32,437	1,328	45,718	72,763	264	148	222,255

(1) Exposure amount used for the calculation of capital requirements, including both on- and off-balance sheet amounts, net of allowances (ECL Stage 3) and write-offs.

The amounts are after application of credit risk mitigation (CRM) techniques and credit conversion factors (CCF). Commencing Q2, 2021 this also includes CRM adjustments to exposures based on the application of the Comprehensive Approach for collateral.

(2) Includes equities under the AIRB Materiality Threshold which are risk weighted at 100% plus the 6% scalar requirement.

(3) Exposures to CCPs and risk-weighted threshold deduction amounts are excluded.

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Q4 2021													
Retail - insured exposures secured by residential real estate													
	0.00 to <0.15	30,912	-	0%	75,805	0.00%	198,941	21.56%		258	0.3%	-	
	0.15 to <0.25	27,453	-	0%	1,877	0.18%	119,891	21.03%		158	8.4%	1	
	0.25 to <0.50	659	-	0%	-	0.00%	3,756	0.00%		-	0.0%	-	
	0.50 to <0.75	15,182	-	0%	474	0.75%	58,172	17.92%		93	19.6%	1	
	0.75 to <2.50	2,823	-	0%	6	1.95%	10,721	10.71%		1	16.7%	-	
	2.50 to <10.00	429	-	0%	-	0.00%	2,103	0.00%		-	0.0%	-	
	10.00 to <100.00	456	-	0%	-	0.00%	2,214	0.00%		-	0.0%	-	
	100.00 (Default)	248	-	0%	-	100.00%	1,361	105.00%		-	0.0%	-	
	Sub-total	78,162	-	0%	78,162	0.01%	397,159	21.52%		510	0.7%	2	20
Retail - uninsured exposures secured by residential real estate													
	0.00 to <0.15	74,443	53,476	36%	93,952	0.06%	862,580	18.36%		3,067	3.3%	11	
	0.15 to <0.25	72,755	-	0%	72,755	0.18%	223,280	17.49%		5,099	7.0%	23	
	0.25 to <0.50	864	-	0%	864	0.44%	2,995	40.95%		269	31.1%	2	
	0.50 to <0.75	41,100	-	0%	41,100	0.75%	108,474	18.45%		8,274	20.1%	57	
	0.75 to <2.50	12,947	678	63%	13,371	1.59%	72,416	22.86%		5,080	38.0%	45	
	2.50 to <10.00	892	60	79%	939	5.01%	8,876	24.10%		750	79.9%	11	
	10.00 to <100.00	551	3	115%	555	22.32%	3,199	17.53%		528	95.1%	21	
	100.00 (Default)	219	-	0%	219	100.00%	24,918	58.24%		966	441.1%	63	
	Sub-total	203,771	54,217	37%	223,755	0.49%	1,306,738	18.51%		24,033	10.7%	233	143

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Retail - qualifying revolving (QRRE)	0.00 to <0.15	928	18,759	57%	11,594	0.05%	804,478	77.71%		295	2.5%	4	
	0.15 to <0.25	1,032	15,146	58%	9,809	0.19%	1,819,073	76.62%		820	8.4%	14	
	0.25 to <0.50	3,312	5,096	67%	6,715	0.33%	338,518	83.53%		947	14.1%	18	
	0.50 to <0.75	211	336	103%	558	0.61%	18,261	66.41%		103	18.5%	2	
	0.75 to <2.50	5,222	5,383	67%	8,827	1.28%	1,045,420	84.32%		3,597	40.7%	96	
	2.50 to <10.00	3,104	593	87%	3,619	5.66%	535,782	87.49%		4,293	118.6%	179	
	10.00 to <100.00	524	16	270%	567	27.90%	112,660	84.76%		1,284	226.5%	133	
	100.00 (Default)	82	-	0%	82	100.00%	734,307	83.72%		394	480.5%	48	
	Sub-total	14,415	45,329	60%	41,771	1.46%	5,408,499	80.59%		11,733	28.1%	494	920
Other Retail Exposures	0.00 to <0.15	5,986	1,054	60%	6,615	0.09%	318,040	58.11%		902	13.6%	3	
	0.15 to <0.25	1	5	55%	3	0.19%	32	81.32%		1	33.3%	-	
	0.25 to <0.50	7,620	254	76%	7,813	0.32%	313,873	58.94%		2,667	34.1%	15	
	0.50 to <0.75	1,295	2,722	103%	4,099	0.61%	14,114	66.41%		2,319	56.6%	17	
	0.75 to <2.50	14,083	55	89%	14,132	1.17%	473,707	62.15%		9,880	69.9%	104	
	2.50 to <10.00	2,757	1	104%	2,758	4.83%	97,260	64.60%		2,781	100.8%	86	
	10.00 to <100.00	656	2	121%	658	27.25%	26,450	59.90%		979	148.8%	107	
	100.00 (Default)	129	-	0%	129	100.00%	11,619	85.48%		635	492.2%	123	
	Sub-total	32,527	4,093	90%	36,207	1.83%	1,255,095	61.43%		20,164	55.7%	455	430
Total		328,875	103,639	49%	379,895	0.63%	8,367,491	30.05%		56,440	14.9%	1,184	1,513

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Q3 2021													
Retail - insured exposures secured by residential real estate				-									
	0.00 to <0.15	31,439	-	0%	77,291	0.00%	203,444	21.40%		249	0.3%	-	
	0.15 to <0.25	27,963	-	0%	1,893	0.18%	123,126	20.83%		158	8.3%	1	
	0.25 to <0.50	698	-	0%	-	0.00%	3,998			-	0.0%	-	
	0.50 to <0.75	15,592	-	0%	520	0.75%	60,504	18.28%		104	20.0%	1	
	0.75 to <2.50	2,818	-	0%	6	1.95%	11,104	10.61%		1	16.7%	-	
	2.50 to <10.00	467	-	0%	-	0.00%	2,277			-	0.0%	-	
	10.00 to <100.00	479	-	0%	-	0.00%	2,301			-	0.0%	-	
	100.00 (Default)	254	-	0%	-	100.00%	1,383	105.00%		-	0.0%	-	
	Sub-total	79,710	-	0%	79,710	0.01%	408,137	21.37%		512	0.6%	2	20
Retail - uninsured exposures secured by residential real estate													
	0.00 to <0.15	71,736	52,274	36%	90,810	0.06%	857,535	18.25%		2,958	3.3%	11	
	0.15 to <0.25	69,195	-	0%	69,195	0.18%	215,832	17.23%		4,778	6.9%	22	
	0.25 to <0.50	824	-	0%	824	0.44%	3,044	40.93%		256	31.1%	1	
	0.50 to <0.75	39,906	-	0%	39,905	0.75%	107,290	18.14%		7,897	19.8%	54	
	0.75 to <2.50	11,005	411	61%	11,255	1.54%	66,754	22.49%		4,081	36.3%	36	
	2.50 to <10.00	859	37	79%	888	5.14%	8,255	22.64%		679	76.5%	10	
	10.00 to <100.00	527	3	113%	530	22.16%	3,184	17.45%		504	95.1%	20	
	100.00 (Default)	224	-	0%	224	100.00%	24,417	58.29%		944	421.4%	69	
	Sub-total	194,276	52,725	37%	213,631	0.49%	1,286,311	18.27%		22,097	10.3%	223	153

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Retail - qualifying revolving (QRRE)	0.00 to <0.15	955	18,305	57%	11,362	0.05%	784,556	72.44%		270	2.4%	4	
	0.15 to <0.25	1,224	14,828	58%	9,765	0.19%	1,787,988	76.68%		817	8.4%	14	
	0.25 to <0.50	3,352	5,171	67%	6,810	0.33%	340,671	81.06%		932	13.7%	18	
	0.50 to <0.75	213	332	103%	556	0.61%	17,873	60.27%		93	16.7%	2	
	0.75 to <2.50	5,368	5,228	66%	8,827	1.27%	993,181	83.78%		3,551	40.2%	95	
	2.50 to <10.00	3,418	593	86%	3,928	5.61%	529,938	87.10%		4,609	117.3%	192	
	10.00 to <100.00	591	15	278%	633	27.54%	111,254	84.25%		1,415	223.5%	145	
	100.00 (Default)	87	-	0%	87	100.00%	730,453	85.01%		422	485.1%	51	
	Sub-total	15,208	44,472	60%	41,968	1.53%	5,295,914	78.63%		12,109	28.9%	521	990
Other Retail Exposures	0.00 to <0.15	6,116	1,025	59%	6,725	0.09%	328,575	53.19%		840	12.5%	3	
	0.15 to <0.25	1	5	59%	4	0.19%	33	81.54%		1	25.0%	-	
	0.25 to <0.50	7,491	251	75%	7,679	0.32%	315,368	56.65%		2,519	32.8%	14	
	0.50 to <0.75	1,215	2,529	103%	3,820	0.61%	13,132	60.27%		1,961	51.3%	14	
	0.75 to <2.50	13,816	52	89%	13,863	1.17%	475,578	61.12%		9,542	68.8%	100	
	2.50 to <10.00	2,822	1	89%	2,824	4.85%	101,957	63.78%		2,812	99.6%	87	
	10.00 to <100.00	635	5	105%	640	27.35%	25,955	57.96%		921	143.9%	102	
	100.00 (Default)	140	-	0%	140	100.00%	13,017	86.32%		714	510.0%	138	
	Sub-total	32,236	3,868	89%	35,695	1.87%	1,273,615	58.83%		19,310	54.1%	458	469
Total		321,430	101,065	49%	371,004	0.64%	8,263,977	29.66%		54,028	14.6%	1,204	1,632

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Q2 2021													
Retail - insured exposures secured by residential real estate													
	0.00 to <0.15	32,093	-	0%	78,049	0.00%	208,648	21.14%		239	0.3%	-	
	0.15 to <0.25	28,033	-	0%	1,853	0.18%	125,672	20.41%		152	8.2%	1	
	0.25 to <0.50	736	-	0%	-	0.00%	4,179			-	0.0%	-	
	0.50 to <0.75	15,100	-	0%	535	0.75%	60,693	17.88%		104	19.4%	1	
	0.75 to <2.50	3,240	-	0%	7	1.95%	12,462	10.60%		2	28.6%	-	
	2.50 to <10.00	489	-	0%	-	0.00%	2,407			-	0.0%	-	
	10.00 to <100.00	473	-	0%	-	0.00%	2,237			-	0.0%	-	
	100.00 (Default)	280	-	0%	-	100.00%	1,526	105.00%		-	0.0%	-	
	Sub-total	80,444	-	-	80,444	0.01%	417,824	21.10%		497	0.6%	2	20
Retail - uninsured exposures secured by residential real estate													
	0.00 to <0.15	68,249	50,031	37%	86,563	0.06%	834,035	18.29%		2,695	3.1%	10	
	0.15 to <0.25	63,656	-	0%	63,656	0.18%	203,469	17.19%		4,383	6.9%	20	
	0.25 to <0.50	739	-	0%	739	0.44%	2,813	40.93%		230	31.1%	1	
	0.50 to <0.75	39,448	926	53%	39,937	0.73%	153,381	19.48%		8,228	20.6%	56	
	0.75 to <2.50	9,087	105	58%	9,148	1.93%	33,948	19.95%		3,679	40.2%	35	
	2.50 to <10.00	688	9	69%	694	5.75%	5,242	20.36%		519	74.8%	8	
	10.00 to <100.00	514	3	112%	517	21.11%	3,095	18.03%		507	98.1%	19	
	100.00 (Default)	240	-		240	100.00%	23,926	58.03%		939	391.3%	69	
	Sub-total	182,621	51,074	37%	201,494	0.51%	1,259,909	18.39%		21,180	10.5%	218	153

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


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF ⁽¹⁾	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽¹⁾⁽⁶⁾	j RWA density ⁽⁷⁾	k EL ⁽¹⁾	l Provisions ⁽⁸⁾
Retail - qualifying revolving (QRRE)	0.00 to <0.15	963	17,743	57%	11,034	0.04%	759,320	72.06%		253	2.3%	3	
	0.15 to <0.25	1,051	14,303	58%	9,285	0.18%	1,715,251	77.62%		757	8.2%	13	
	0.25 to <0.50	3,333	5,020	66%	6,668	0.31%	334,039	80.54%		860	12.9%	16	
	0.50 to <0.75	286	339	104%	637	0.61%	20,259	46.31%		82	12.9%	2	
	0.75 to <2.50	5,361	5,552	66%	9,018	1.18%	1,006,074	83.82%		3,435	38.1%	90	
	2.50 to <10.00	3,586	787	82%	4,229	5.13%	557,070	87.08%		4,686	110.8%	189	
	10.00 to <100.00	718	22	233%	770	25.25%	126,728	84.17%		1,641	213.1%	161	
	100.00 (Default)	103	-	0%	103	100.00%	722,268	83.15%		413	401.0%	74	
	Sub-total	15,401	43,766	60%	41,744	1.60%	5,241,009	78.57%		12,127	29.1%	548	1,015
Other Retail Exposures	0.00 to <0.15	6,153	957	59%	6,719	0.09%	337,770	53.01%		839	12.5%	3	
	0.15 to <0.25	-	6	60%	4	0.18%	33	82.23%		1	25.0%	-	
	0.25 to <0.50	7,483	230	76%	7,657	0.31%	320,465	56.51%		2,497	32.6%	14	
	0.50 to <0.75	1,288	2,375	103%	3,738	0.61%	13,046	46.31%		1,474	39.4%	11	
	0.75 to <2.50	13,253	58	90%	13,305	1.16%	472,993	60.86%		9,097	68.4%	95	
	2.50 to <10.00	2,709	1	95%	2,710	4.88%	101,659	63.50%		2,689	99.2%	84	
	10.00 to <100.00	555	-	634%	555	27.00%	21,966	57.93%		799	144.0%	87	
	100.00 (Default)	171	-	0%	171	100.00%	15,099	84.51%		887	518.7%	153	
	Sub-total	31,612	3,627	90%	34,859	1.89%	1,283,031	57.11%		18,283	52.4%	447	483
Total		310,078	98,467	49%	358,541	0.66%	8,201,773	29.77%		52,087	14.5%	1,215	1,671

(1) Includes the retail residential mortgage exposures insured by CMHC, Genworth Canada and Canada Guaranty Insurance.

(2) Post-CRM PD weighted by post-CRM EAD.

(3) Number of obligors represents the number of retail accounts.

(4) Post-CRM LGD weighted by post-CRM EAD.

(5) Average maturity is not used in RWA calculation for retail exposures except for the retail residential mortgages where a substitution approach was done to recognize the government guarantee and guarantee of insurance companies.

(6) After application of AIRB scalar of 1.06.

(7) RWA density is calculated as Risk-weighted Assets (column i) divided by EAD post-CRM and post-CCF (column d).

(8) Includes all three ECL stages under IFRS 9.

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF	e Average PD ⁽²⁾	f Number of obligors ⁽³⁾	g Average LGD ⁽⁴⁾	h Average maturity ⁽⁵⁾	i RWA ⁽⁶⁾	j RWA density ⁽⁷⁾	k EL	l Provisions ⁽⁸⁾
Q4 2021													
Sovereign													
	0.00 to <0.15	128,128	1,731	40%	129,068	0.02%	107	9.90%	1.50	2,299	1.8%	4	
	0.15 to <0.25	911	7	28%	913	0.20%	3	24.40%	3.42	280	30.7%	-	
	0.25 to <0.50	1,435	224	44%	1,533	0.33%	11	24.54%	2.41	493	32.2%	1	
	0.50 to <0.75	1,167	102	44%	1,212	0.65%	10	22.37%	1.27	411	33.9%	2	
	0.75 to <2.50	1,789	-	0%	1,789	1.33%	5	17.03%	1.45	654	36.6%	4	
	2.50 to <10.00	136	-	0%	136	2.56%	3	7.10%	1.48	29	21.4%	-	
	10.00 to <100.00	478	-	0%	478	17.86%	1	3.11%	0.08	73	15.2%	3	
	100.00 (Default)	206	-	0%	206	100.00%	1	25.00%	3.99	1	0.4%	52	
	Sub-total	134,250	2,064	40%	135,335	0.26%	141	10.36%	1.52	4,240	3.1%	66	-
Bank													
	0.00 to <0.15	11,240	9,628	63%	17,637	0.06%	310	31.46%	1.40	2,482	14.1%	3	
	0.15 to <0.25	1,233	495	47%	1,464	0.20%	35	37.19%	0.48	402	27.4%	1	
	0.25 to <0.50	1,482	734	54%	1,526	0.38%	63	38.40%	0.78	634	41.5%	2	
	0.50 to <0.75	1,443	207	35%	1,516	0.53%	18	38.84%	0.21	769	50.8%	3	
	0.75 to <2.50	214	9	65%	220	1.33%	12	34.25%	0.91	148	67.3%	1	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	-	-	100%	-	34.44%	2	3.00%	1.00	-	16.6%	-	
	100.00 (Default)	120	3	53%	121	100.00%	5	39.40%	2.75	-	0.3%	50	
	Sub-total	15,732	11,076	61%	22,484	0.67%	445	32.87%	1.22	4,435	19.7%	60	3

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g	h	i	j	k	l
		Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD ⁽²⁾	Number of obligors ⁽³⁾	Average LGD ⁽⁴⁾	Average maturity ⁽⁵⁾	RWA ⁽⁶⁾	RWA density ⁽⁷⁾	EL	Provisions ⁽⁸⁾
Corporate - Other ⁽⁹⁾													
	0.00 to <0.15	51,455	112,091	56%	122,550	0.08%	1,798	39.47%	2.14	28,418	23.2%	38	
	0.15 to <0.25	15,261	34,044	51%	30,317	0.17%	1,429	44.55%	2.27	12,210	40.3%	23	
	0.25 to <0.50	51,217	56,069	45%	73,382	0.37%	4,974	47.24%	2.07	45,048	61.4%	130	
	0.50 to <0.75	18,968	18,373	41%	25,326	0.64%	2,793	43.12%	1.90	17,340	68.5%	69	
	0.75 to <2.50	4,655	4,967	45%	6,052	1.33%	699	40.22%	1.98	5,243	86.6%	32	
	2.50 to <10.00	2,921	2,708	46%	3,368	4.43%	469	39.16%	1.69	3,852	114.4%	61	
	10.00 to <100.00	924	2,840	46%	1,671	23.76%	75	45.52%	2.17	4,093	245.0%	184	
	100.00 (Default)	652	194	78%	728	100.00%	72	44.06%	1.26	1,549	212.9%	292	
	Sub-total	146,053	231,286	51%	263,394	0.73%	12,309	42.64%	2.10	117,753	44.7%	829	624
Corporate – Specialized Lending													
	0.00 to <0.15	4,386	6,992	57%	9,375	0.09%	161	41.30%	2.08	2,194	23.4%	3	
	0.15 to <0.25	4,608	4,919	57%	7,411	0.16%	225	38.59%	1.79	2,242	30.3%	5	
	0.25 to <0.50	14,646	11,293	53%	19,830	0.32%	878	37.77%	1.76	8,446	42.6%	24	
	0.50 to <0.75	1,472	467	25%	1,504	0.65%	115	44.77%	1.88	1,118	74.4%	4	
	0.75 to <2.50	54	64	43%	73	1.33%	12	40.94%	2.66	74	101.1%	-	
	2.50 to <10.00	112	-	45%	81	2.56%	6	42.52%	2.66	102	125.4%	1	
	10.00 to <100.00	190	49	45%	212	20.17%	10	36.82%	1.63	419	197.3%	16	
	100.00 (Default)	175	23	100%	173	100.00%	3	52.48%	1.47	1,138	656.3%	5	
	Sub-total	25,643	23,807	55%	38,659	0.81%	1,410	39.13%	1.85	15,733	40.7%	58	20
Total		321,678	268,233	52%	459,872	0.60%	14,305	32.37%	1.87	142,161	30.9%	1,013	647

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF	e Average PD (2)	f Number of obligors (3)	g Average LGD (4)	h Average maturity (5)	i RWA (6)	j RWA density (7)	k EL	l Provisions (8)
Q3 2021													
Sovereign													
	0.00 to <0.15	124,160	2,100	44%	125,331	0.02%	105	10.49%	1.63	2,511	2.0%	4	
	0.15 to <0.25	1,018	7	26%	1,020	0.20%	3	25.00%	3.24	307	30.1%	1	
	0.25 to <0.50	1,480	248	45%	1,592	0.33%	11	24.55%	2.70	538	33.8%	1	
	0.50 to <0.75	1,105	116	44%	1,157	0.67%	10	21.70%	1.34	389	33.6%	2	
	0.75 to <2.50	1,837	-	0%	1,837	1.33%	5	17.23%	0.91	640	34.8%	4	
	2.50 to <10.00	146	-	0%	146	2.56%	4	9.63%	0.98	40	27.7%	-	
	10.00 to <100.00	465	-	0%	465	17.86%	1	3.12%	0.33	72	15.4%	3	
	100.00 (Default)	208	-	0%	208	100.00%	1	25.00%	4.04	2	0.8%	51	
	Sub-total	130,419	2,471	44%	131,756	0.27%	140	10.96%	1.65	4,499	3.4%	66	-
Bank													
	0.00 to <0.15	11,027	9,797	63%	17,579	0.06%	318	31.54%	1.43	2,495	14.2%	3	
	0.15 to <0.25	1,283	507	44%	1,508	0.20%	41	38.02%	0.67	453	30.0%	1	
	0.25 to <0.50	1,345	578	54%	1,275	0.37%	64	38.31%	0.94	530	41.6%	2	
	0.50 to <0.75	1,553	208	35%	1,626	0.53%	21	38.85%	0.46	885	54.4%	3	
	0.75 to <2.50	192	8	72%	198	1.33%	12	39.29%	0.75	145	73.5%	1	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	15	-	100%	-	34.44%	3	3.00%	1.00	-	16.6%	-	
	100.00 (Default)	166	3	53%	168	100.00%	5	36.67%	2.17	-	0.3%	63	
	Sub-total	15,581	11,101	61%	22,354	0.88%	464	33.00%	1.28	4,508	20.2%	73	9

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g	h	i	j	k	l
		Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD ⁽²⁾	Number of obligors ⁽³⁾	Average LGD ⁽⁴⁾	Average maturity ⁽⁵⁾	RWA ⁽⁶⁾	RWA density ⁽⁷⁾	EL	Provisions ⁽⁸⁾
Corporate - Other ⁽⁹⁾													
	0.00 to <0.15	48,758	112,808	55%	119,708	0.08%	1,711	39.37%	2.13	27,630	23.1%	37	
	0.15 to <0.25	15,360	34,215	51%	30,674	0.17%	1,384	44.70%	2.20	12,271	40.0%	23	
	0.25 to <0.50	49,883	53,284	46%	70,902	0.37%	4,950	47.20%	2.07	43,699	61.6%	126	
	0.50 to <0.75	20,059	18,002	41%	26,366	0.64%	2,789	44.34%	1.91	18,604	70.6%	74	
	0.75 to <2.50	4,833	5,498	45%	6,397	1.33%	734	39.88%	1.88	5,400	84.4%	34	
	2.50 to <10.00	3,285	2,884	46%	3,684	4.49%	506	40.46%	1.69	4,392	119.2%	69	
	10.00 to <100.00	1,092	2,435	45%	1,712	23.94%	77	43.42%	2.25	4,033	235.6%	184	
	100.00 (Default)	756	134	77%	826	100.00%	69	44.93%	1.31	1,803	218.4%	317	
	Sub-total	144,026	229,260	51%	260,269	0.79%	12,220	42.71%	2.09	117,832	45.3%	864	701
Corporate – Specialized Lending													
	0.00 to <0.15	3,850	6,466	57%	8,539	0.09%	147	41.17%	2.16	2,044	23.9%	3	
	0.15 to <0.25	4,771	4,226	57%	7,284	0.16%	218	38.96%	1.70	2,166	29.7%	5	
	0.25 to <0.50	14,150	10,839	53%	18,949	0.32%	862	37.63%	1.71	7,966	42.0%	22	
	0.50 to <0.75	1,377	571	27%	1,449	0.65%	108	45.20%	1.98	1,106	76.3%	4	
	0.75 to <2.50	69	115	40%	111	1.33%	18	43.21%	2.65	117	105.6%	1	
	2.50 to <10.00	143	-	46%	113	4.28%	7	42.37%	2.58	155	137.1%	2	
	10.00 to <100.00	161	11	47%	167	20.81%	9	39.62%	1.63	356	213.9%	14	
	100.00 (Default)	177	23	100%	175	100.00%	3	51.19%	1.53	1,117	638.4%	5	
	Sub-total	24,698	22,251	54%	36,787	0.83%	1,372	39.12%	1.83	15,027	40.8%	56	45
Total		314,724	265,083	51%	451,166	0.65%	14,196	32.66%	1.90	141,866	31.4%	1,059	755

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a Original on- balance sheet gross exposures	b Off- balance sheet exposures pre-CCF	c Average CCF	d EAD post- CRM and post-CCF	e Average PD (2)	f Number of obligors (3)	g Average LGD (4)	h Average maturity (5)	i RWA (6)	j RWA density (7)	k EL	l Provisions (8)
Q2 2021													
Sovereign													
	0.00 to <0.15	104,729	1,797	41%	105,723	0.02%	106	12.22%	1.81	2,839	2.7%	4	
	0.15 to <0.25	1,422	7	26%	1,424	0.20%	3	25.00%	2.79	393	27.6%	1	
	0.25 to <0.50	1,323	241	50%	1,443	0.33%	11	24.64%	2.75	495	34.3%	1	
	0.50 to <0.75	987	130	44%	1,044	0.67%	10	21.91%	1.43	359	34.4%	2	
	0.75 to <2.50	1,650	-	100%	1,650	1.33%	5	18.55%	1.18	637	38.6%	4	
	2.50 to <10.00	132	-	0%	132	2.56%	4	10.26%	1.25	40	30.0%	-	
	10.00 to <100.00	428	-	0%	428	17.86%	1	3.13%	0.59	67	15.6%	2	
	100.00 (Default)	205	-	0%	205	100.00%	1	25.00%	4.08	3	1.3%	51	
	Sub-total	110,876	2,175	42%	112,049	0.31%	141	12.71%	1.82	4,833	4.3%	65	1
Bank													
	0.00 to <0.15	10,092	14,136	62%	19,214	0.06%	336	28.77%	1.22	2,464	12.8%	3	
	0.15 to <0.25	1,340	1,310	53%	2,037	0.19%	47	35.67%	0.66	570	28.0%	1	
	0.25 to <0.50	1,318	803	54%	1,398	0.36%	72	38.28%	1.07	604	43.2%	2	
	0.50 to <0.75	1,519	202	39%	1,598	0.53%	21	38.90%	0.59	896	56.1%	3	
	0.75 to <2.50	170	12	53%	176	1.33%	12	39.22%	0.56	125	70.9%	1	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	28	-	100%	-	34.44%	3	3.00%	1.00	-	16.6%	-	
	100.00 (Default)	133	2	52%	134	100.00%	5	38.32%	2.83	-	0.2%	54	
	Sub-total	14,600	16,465	60%	24,557	0.67%	496	30.67%	1.13	4,659	19.0%	64	11

CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g	h	i	j	k	l
		Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD ⁽²⁾	Number of obligors ⁽³⁾	Average LGD ⁽⁴⁾	Average maturity ⁽⁵⁾	RWA ⁽⁶⁾	RWA density ⁽⁷⁾	EL	Provisions ⁽⁸⁾
Corporate - Other ⁽⁹⁾													
	0.00 to <0.15	46,579	110,097	55%	115,263	0.08%	1,679	39.43%	2.05	25,980	22.5%	36	
	0.15 to <0.25	14,106	29,741	51%	27,123	0.17%	1,296	44.07%	2.15	10,590	39.0%	20	
	0.25 to <0.50	49,472	52,234	45%	70,359	0.37%	4,806	47.35%	2.06	43,757	62.2%	126	
	0.50 to <0.75	21,219	18,290	41%	27,940	0.64%	2,809	44.37%	1.92	19,865	71.1%	78	
	0.75 to <2.50	4,991	4,971	45%	6,339	1.33%	773	40.45%	1.86	5,392	85.1%	34	
	2.50 to <10.00	3,665	2,867	44%	4,177	4.58%	539	39.14%	1.69	4,849	116.1%	76	
	10.00 to <100.00	1,241	2,518	46%	1,879	23.85%	71	43.65%	2.31	4,445	236.6%	203	
	100.00 (Default)	903	331	79%	1,001	100.00%	82	42.76%	1.36	2,201	219.8%	371	
	Sub-total	142,176	221,049	51%	254,081	0.91%	12,055	42.73%	2.04	117,079	46.1%	944	809
Corporate – Specialized Lending													
	0.00 to <0.15	3,248	6,321	56%	7,599	0.09%	139	41.09%	2.20	1,817	23.9%	3	
	0.15 to <0.25	4,353	4,168	56%	6,814	0.16%	206	38.95%	1.76	2,058	30.2%	4	
	0.25 to <0.50	13,553	10,137	53%	18,200	0.32%	832	37.75%	1.73	7,840	43.1%	23	
	0.50 to <0.75	1,320	724	31%	1,425	0.66%	112	45.06%	1.74	1,042	73.2%	4	
	0.75 to <2.50	34	35	21%	37	1.33%	13	49.35%	1.60	40	107.1%	-	
	2.50 to <10.00	149	5	24%	120	4.34%	9	42.53%	2.59	166	138.2%	2	
	10.00 to <100.00	205	9	49%	192	21.72%	10	39.00%	1.69	407	212.6%	16	
	100.00 (Default)	176	20	100%	172	100.00%	3	51.17%	1.62	1,097	637.1%	5	
	Sub-total	23,038	21,419	54%	34,559	0.88%	1,324	39.13%	1.84	14,467	41.9%	57	51
Total		290,690	261,108	52%	425,246	0.73%	14,016	33.83%	1.91	141,038	33.2%	1,130	872

(1) Excludes the retail residential mortgages insured by CMHC, Genworth Canada and Canada Guaranty Insurance.

(2) Post-CRM PD weighted by post-CRM EAD.

(3) Represents the number of individual borrowers.

(4) Post-CRM LGD weighted by post-CRM EAD.

(5) Effective remaining maturity in years.

(6) After application of AIRB scalar of 1.06.

(7) RWA density is calculated as Risk-weighted Assets (column i) divided by EAD post-CRM and post-CCF (column d).

(8) Includes all three ECL stages under IFRS 9, and partial write-offs.

(9) Includes purchased receivables portfolio totaling \$1.3 billion EAD, \$0.3 billion RWA (\$1.3 billion EAD, \$0.2 billion RWA in Q3 2021; and \$0.9 billion EAD, \$0.2 billion RWA in Q2 2021).

(in \$MM)		Q4 2021		Q3 2021		Q2 2021		Q1 2021	
		a	b	a ₂	b ₂	a ₃	b ₃	a ₄	b ₄
		Pre-credit derivatives RWA	Actual RWA ⁽¹⁾	Pre-credit derivatives RWA	Actual RWA ⁽¹⁾	Pre-credit derivatives RWA	Actual RWA ⁽¹⁾	Pre-credit derivatives RWA	Actual RWA ⁽¹⁾
1	Sovereign – FIRB	-	-	-	-	-	-	-	-
2	Sovereign – AIRB	4,240	4,240	4,499	4,499	4,833	4,833	5,032	5,032
3	Bank – FIRB	-	-	-	-	-	-	-	-
4	Bank – AIRB	4,435	4,435	4,508	4,508	4,659	4,659	4,551	4,551
5	Corporate – FIRB	-	-	-	-	-	-	-	-
6	Corporate – AIRB	117,484	117,484	117,621	117,621	116,925	116,925	117,071	117,071
7	Specialized lending – FIRB	-	-	-	-	-	-	-	-
8	Specialized lending – AIRB	15,733	15,733	15,027	15,027	14,467	14,467	13,234	13,234
9	Retail – qualifying revolving (QRRE)	11,733	11,733	12,109	12,109	12,127	12,127	12,887	12,887
10	Retail – residential mortgage exposures	24,543	24,543	22,609	22,609	21,677	21,677	20,977	20,977
11	Retail – SME	-	-	-	-	-	-	-	-
12	Other retail exposures	20,164	20,164	19,310	19,310	18,283	18,283	18,199	18,199
13	Equity – FIRB	-	-	-	-	-	-	-	-
14	Equity – AIRB	-	-	-	-	-	-	-	-
15	Purchased receivables – FIRB	-	-	-	-	-	-	-	-
16	Purchased receivables – AIRB	269	269	211	211	154	154	148	148
17	Total	198,601	198,601	195,894	195,894	193,125	193,125	192,099	192,099

(1) As at the reporting date, there was no impact on RWA from credit derivatives, used as a CRM technique, within the banking book.

CR8: RWA flow statements of credit risk exposures under IRB


(in \$MM)		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
1	RWA as at end of previous reporting period	195,894	193,125	192,099	202,084
2	Asset size ⁽¹⁾	5,147	4,086	5,110	(1,065)
3	Asset quality ⁽²⁾	(1,243)	(2,946)	(62)	(5,590)
4	Model updates ⁽³⁾	696	856	-	-
5	Methodology and policy ⁽⁴⁾	-	-	-	-
6	Acquisitions and disposals ⁽⁵⁾	(45)	-	(14)	-
7	Foreign exchange movements ⁽⁶⁾	(1,259)	773	(4,008)	(3,330)
8	Other ⁽⁷⁾	(589)	-	-	-
9	RWA as at end of reporting period	198,601	195,894	193,125	192,099

(1) Organic changes in book size and composition (including origination of new businesses and maturing loans) excluding acquisitions and disposal of entities.

(2) Changes in the assessed quality of the bank's assets due to changes in borrower risk, such as rating grade migration, parameter recalibration, or similar effects.

(3) Changes due to model implementation, changes in model scope, or any changes intended to address model weaknesses.

(4) Changes due to methodological changes in calculations driven by regulatory policy changes, including both revisions to existing regulations and new regulations.

(5) Changes in book size due to acquisitions and/or divestitures.

(6) Changes driven by market movements such as foreign exchange movements.

(7) This category captures changes that cannot be attributed to any other category.

CR9: IRB – Backtesting of probability of default (PD) per portfolio - Retail⁽¹⁾


a Portfolio	b PD Range	c External rating equivalent ⁽²⁾	d Weighted average PD ⁽³⁾	e Arithmetic average PD by obligors ⁽⁴⁾	f Number of obligors ⁽⁵⁾		g Defaulted obligors in the year ⁽⁸⁾	h of which: new defaulted obligors in the year	i Average historical annual default rate ⁽⁹⁾
					End of previous year ^{(6) (10)}	End of the year ^{(7) (10)}			
Q4 2021									
Retail - insured exposures secured by residential real estate									
	0.00 to <0.15		0.04%	0.04%	216,170	198,941	67	2	0.03%
	0.15 to <0.25		0.18%	0.18%	133,989	119,891	143	-	0.13%
	0.25 to <0.50		0.44%	0.44%	-	3,756	-	-	0.20%
	0.50 to <0.75		0.75%	0.75%	2,996	58,172	7	2	0.50%
	0.75 to <2.50		1.94%	1.93%	79,336	10,721	557	5	1.46%
	2.50 to <10.00		6.24%	6.26%	2,984	2,103	187	4	4.68%
	10.00 to <100.00		22.88%	22.75%	2,346	2,214	427	4	18.70%
Retail - uninsured exposures secured by residential real estate									
	0.00 to <0.15		0.06%	0.07%	616,145	862,580	112	11	0.04%
	0.15 to <0.25		0.18%	0.18%	386,248	223,280	191	2	0.13%
	0.25 to <0.50		0.44%	0.44%	1,208	2,995	2	1	0.20%
	0.50 to <0.75		0.75%	0.75%	60,870	108,474	117	15	0.50%
	0.75 to <2.50		1.59%	1.15%	131,979	72,416	517	3	0.83%
	2.50 to <10.00		5.01%	4.38%	7,813	8,876	231	7	3.11%
	10.00 to <100.00		22.32%	21.46%	3,918	3,199	682	2	17.40%

CR9: IRB – Backtesting of probability of default (PD) per portfolio - Retail⁽¹⁾


a Portfolio	b PD Range	c External rating equivalent ⁽²⁾	d Weighted average PD ⁽³⁾	e Arithmetic average PD by obligors ⁽⁴⁾	f Number of obligors ⁽⁵⁾		g Defaulted obligors in the year ⁽⁸⁾	h of which: new defaulted obligors in the year	i Average historical annual default rate ⁽⁹⁾
					End of previous year ^{(6) (10)}	End of the year ^{(7) (10)}			
Retail - qualifying revolving (QRRE)									
	0.00 to <0.15		0.05%	0.05%	1,026,556	804,478	166	4	0.03%
	0.15 to <0.25		0.19%	0.19%	1,831,723	1,819,073	1,080	46	0.14%
	0.25 to <0.50		0.33%	0.33%	335,832	338,518	577	38	0.23%
	0.50 to <0.75		0.61%	0.61%	20,663	18,261	33	-	0.43%
	0.75 to <2.50		1.27%	1.00%	1,031,729	1,045,420	4,003	325	0.80%
	2.50 to <10.00		5.65%	5.14%	599,685	535,782	10,056	207	3.56%
	10.00 to <100.00		27.92%	25.07%	154,551	112,660	22,156	106	20.62%
Other Retail Exposures									
	0.00 to <0.15		0.09%	0.09%	344,874	318,040	192	4	0.07%
	0.15 to <0.25		0.19%	0.19%	31	32	-	-	0.14%
	0.25 to <0.50		0.32%	0.31%	325,830	313,873	474	45	0.21%
	0.50 to <0.75		0.61%	0.61%	12,769	14,114	31	1	0.43%
	0.75 to <2.50		1.17%	1.14%	475,693	473,707	2,430	243	0.83%
	2.50 to <10.00		4.83%	4.94%	112,472	97,260	2,656	39	3.81%
	10.00 to <100.00		27.25%	27.88%	25,204	26,450	4,560	200	23.33%

(1) The following percentage of RWAs covered by back testing results: (a) "Retail - insured exposures secured by residential real estate" portfolio – 99.8% , (b) "Retail - uninsured exposures secured by residential real estate" portfolio – 99.9%, (c) "Retail - qualifying revolving (QRRE)" portfolio – 99.4%, (d) "Other Retail Exposures" portfolio – 99.9%.

(2) External rating equivalent is not available for retail portfolio.

(3) Obligor PD by pre-CRM EAD.

(4) Arithmetic average PD by obligors: PD within range by number of obligor within the range.

(5) Number of obligors is based on the number of accounts.

(6) Includes non-defaulted accounts at Q4 2020; PD Estimates as of Q4 2020.

(7) Includes all the non-defaulted accounts at Q4 2020 and all new accounts acquired during Q1-Q4 2021 which did not go into default during Q1-Q4 2021; PD Estimates as of Q4 2021.

(8) Includes accounts not in default at Q4 2020 which went into default during Q1-Q4 2021; PD Estimates as of Q4 2020.

(9) The 16-year average of the defaulted rate.

(10) Obligor migration is attributed to PD parameters update in Q1 and Q3 2021 and does not reflect true model migration.

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


a	b	c	d	e	f		g	h	i
Portfolio	PD Range	External rating equivalent (S&P) ⁽¹⁾	Weighted average PD ⁽²⁾	Arithmetic average PD by obligors ⁽³⁾	Number of obligors		Defaulted obligors in the year ⁽⁶⁾	of which: new defaulted obligors in the year ⁽⁷⁾	Average historical annual default rate ⁽⁸⁾
					End of previous year ⁽⁴⁾	End of the year ⁽⁵⁾			
Q4 2021									
Sovereign ⁽⁹⁾									
	0.00 to <0.15	AAA to BBB	0.03%	0.05%	191	188	-	-	0.00%
	0.15 to <0.25	BBB+ to BBB-	0.16%	0.18%	5	6	-	-	0.00%
	0.25 to <0.50	BBB to BB	0.40%	0.41%	17	17	-	-	0.00%
	0.50 to <0.75	BB to BB-	0.53%	0.62%	7	10	-	-	0.00%
	0.75 to <2.50	B+	1.33%	1.33%	4	5	-	-	0.00%
	2.50 to <10.00	B to CCC+	2.56%	2.56%	8	6	-	-	2.73%
	10.00 to <100.00	CCC and lower	17.86%	17.86%	1	1	-	-	15.56%
Bank									
	0.00 to <0.15	AAA to BBB	0.06%	0.07%	511	493	1	-	0.02%
	0.15 to <0.25	BBB+ to BBB-	0.17%	0.18%	83	75	-	-	0.04%
	0.25 to <0.50	BBB to BB	0.38%	0.37%	169	156	-	-	0.00%
	0.50 to <0.75	BB to BB-	0.53%	0.60%	41	37	-	-	0.15%
	0.75 to <2.50	B+	1.33%	1.33%	18	18	-	-	0.00%
	2.50 to <10.00	B to CCC+	2.59%	4.42%	11	3	-	-	0.18%
	10.00 to <100.00	CCC and lower	18.46%	30.30%	4	4	-	-	5.85%

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


a	b	c	d	e	f		g	h	i
Portfolio	PD Range	External rating equivalent (S&P) ⁽¹⁾	Weighted average PD ⁽²⁾	Arithmetic average PD by obligors ⁽³⁾	Number of obligors		Defaulted obligors in the year ⁽⁶⁾	of which: new defaulted obligors in the year ⁽⁷⁾	Average historical annual default rate ⁽⁸⁾
					End of previous year ⁽⁴⁾	End of the year ⁽⁵⁾			
Corporate - Other ⁽¹⁰⁾									
	0.00 to <0.15	AAA to BBB	0.08%	0.09%	3,893	4,011	-	-	0.00%
	0.15 to <0.25	BBB+ to BBB-	0.17%	0.17%	1,883	2,188	-	-	0.10%
	0.25 to <0.50	BBB to BB	0.37%	0.36%	6,219	6,521	3	-	0.04%
	0.50 to <0.75	BB to BB-	0.64%	0.67%	3,492	3,460	3	-	0.10%
	0.75 to <2.50	B+	1.33%	1.33%	947	929	2	-	0.40%
	2.50 to <10.00	B to CCC+	4.74%	4.12%	482	607	6	-	2.00%
	10.00 to <100.00	CCC and lower	24.65%	32.53%	116	100	19	-	14.13%
Corporate-Specialized Lending									
	0.00 to <0.15	AAA to BBB	0.08%	0.10%	182	207	-	-	0.00%
	0.15 to <0.25	BBB+ to BBB-	0.16%	0.16%	230	236	-	-	0.00%
	0.25 to <0.50	BBB to BB	0.33%	0.35%	789	935	-	-	0.07%
	0.50 to <0.75	BB to BB-	0.65%	0.67%	133	126	-	-	0.09%
	0.75 to <2.50	B+	1.33%	1.33%	14	17	-	-	0.35%
	2.50 to <10.00	B to CCC+	4.82%	3.92%	5	12	-	-	3.03%
	10.00 to <100.00	CCC and lower	34.97%	28.60%	15	11	2	-	8.54%

(1) External Ratings overlap across PD ranges as the Bank utilizes two risk rating systems for its AIRB portfolios, and each risk rating system has its own separate External Rating to PD mapping.

(2) Obligor PD as of Q3 2020 weighted by pre-CRM EAD as of Q3 2020.

(3) Obligor PD as of Q3 2020 weighted by number of obligors within the PD range as of Q3 2020.

(4) Number of non-defaulted obligors as of Q3 2020.

(5) Number of non-defaulted obligors as of Q3 2021.

(6) Number of defaulted obligors during the year ended Q3 2021.

(7) Number of defaulted obligors out of the new obligors during the year ended Q3 2021.

(8) 11-year average of the annual default rate (number of defaulted obligors during the year out of those non-defaulted obligors existed at the beginning of the year / number of non-defaulted obligors at the beginning of the year). The denominator of annual default rate calculation excludes obligors that were no longer on the book by the end of the year. All of the AIRB models were back-tested.

(9) Average historical annual default rate for Sovereign in the PD range: 2.5 to <10.00 is higher than the reported average PD due to a small number of obligors in this PD range.

(10) Includes purchased receivables, excludes specialized lending.

Specialized Lending ⁽¹⁾ - Q4 2021											
Other than HVCRE											
Regulatory Categories	Remaining Maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
					PF	OF	CF	IPRE	Total		
Strong	Less than 2.5 years	-	-	50%	-	-	-	-	-	-	
	Equal to or more than 2.5 years	-	-	70%	-	-	-	-	-	-	-
Good	Less than 2.5 years	-	-	70%	-	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	90%	-	-	-	-	-	-	-
Satisfactory		-	-	115%	-	-	-	-	-	-	-
Weak		-	-	250%	-	-	-	-	-	-	-
Default		-	-	-	-	-	-	-	-	-	-
Total		-	-		-	-	-	-	-	-	-
HVCRE											
Regulatory Categories	Remaining Maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
Strong	Less than 2.5 years	-	-	70%	-					-	-
	Equal to or more than 2.5 years	-	-	95%	-					-	-
Good	Less than 2.5 years	-	-	95%	-					-	-
	Equal to or more than 2.5 years	-	-	120%	-					-	-
Satisfactory		-	-	140%	-					-	-
Weak		-	-	250%	-					-	-
Default		-	-	-	-					-	-
Total		-	-		-					-	-
Equities under the simple risk-weight approach											
Categories		On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
Exchange-traded equity exposures		-	-	190%	-					-	
Private equity exposures		-	-	290%	-					-	
Other equity exposures		-	-	370%	-					-	
Total			-		-					-	

(1) As at the reporting date, specialized lending and equities under the simple risk-weight method are not applicable.

Specialized Lending ⁽¹⁾ - Q3 2021											
Other than HVCRE											
Regulatory Categories	Remaining Maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
					PF	OF	CF	IPRE	Total		
Strong	Less than 2.5 years	-	-	50%	-	-	-	-	-	-	
	Equal to or more than 2.5 years	-	-	70%	-	-	-	-	-	-	-
Good	Less than 2.5 years	-	-	70%	-	-	-	-	-	-	-
	Equal to or more than 2.5 years	-	-	90%	-	-	-	-	-	-	-
Satisfactory		-	-	115%	-	-	-	-	-	-	-
Weak		-	-	250%	-	-	-	-	-	-	-
Default		-	-	-	-	-	-	-	-	-	-
Total		-	-		-	-	-	-	-	-	-
HVCRE											
Regulatory Categories	Remaining Maturity	On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
Strong	Less than 2.5 Years	-	-	70%	-					-	-
	Equal to or more than 2.5 years	-	-	95%	-					-	-
Good	Less than 2.5 Years	-	-	95%	-					-	-
	Equal to or more than 2.5 years	-	-	120%	-					-	-
Satisfactory		-	-	140%	-					-	-
Weak		-	-	250%	-					-	-
Default		-	-	-	-					-	-
Total		-	-		-					-	-
Equities under the simple risk-weight approach											
Categories		On-balance sheet amount	Off-balance sheet amount	RW	Exposure Amount					RWA	Expected Losses
Exchange-traded equity exposures		-	-	190%	-					-	
Private equity exposures		-	-	290%	-					-	
Other equity exposures		-	-	370%	-					-	
Total		-	-		-					-	

(1) As at the reporting date, specialized lending and equities under the simple risk-weight method are not applicable.

CCR1: Analysis of counterparty credit risk (CCR) exposure by approach ⁽¹⁾


(in \$MM)		a	b	c	d	e	f
		Replacement cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post- CRM	RWA
Q4 2021							
1	CEM / SA-CCR (for derivatives)	458	1,437		1.40	2,654	1,026
2	Internal Model Method (for derivatives and SFTs) ⁽²⁾			18,045	1.40	25,082	6,203
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					30,118	4,519
5	VaR for SFTs ⁽³⁾					14,641	1,729
6	Total						13,477
Q3 2021							
1	CEM / SA-CCR (for derivatives)	756	1,572		1.40	3,258	1,341
2	Internal Model Method (for derivatives and SFTs) ⁽²⁾			18,578	1.40	25,804	6,860
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					31,500	4,463
5	VaR for SFTs					15,819	1,833
6	Total						14,497
Q2 2021							
1	CEM / SA-CCR (for derivatives)	697	2,244		1.40	4,115	1,473
2	Internal Model Method (for derivatives and SFTs) ⁽²⁾			16,835	1.40	23,353	6,383
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					58,045	7,622
5	VaR for SFTs					-	-
6	Total						15,478
Q1 2021							
1	CEM / SA-CCR (for derivatives)	648	1,637		1.40	3,196	1,197
2	Internal Model Method (for derivatives and SFTs) ⁽²⁾			16,761	1.40	23,180	6,687
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					50,013	6,078
5	VaR for SFTs					-	-
6	Total						13,962

(1) Excludes exposures cleared through a CCP and CVA charges.

(2) Includes OTC derivatives related transactions only.

(3) Commencing Q3 2021, includes SFT exposures risk-weighted using a VaR model.

CCR2: Credit valuation adjustment (CVA) capital charge


(in \$MM)		Q4 2021		Q3 2021		Q2 2021		Q1 2021	
		a	b	a ₂	b ₂	a ₃	b ₃	a ₄	b ₄
		EAD post-CRM	RWA	EAD post-CRM	RWA	EAD post-CRM	RWA	EAD post-CRM	RWA
	Total portfolios subject to the Advanced CVA capital charge	27,380	3,957	28,930	4,835	27,345	4,124	26,225	4,222
1	(i) VaR component (including the 3x multiplier)		883		962		2,854		2,772
2	(ii) Stressed VaR component (including the multiplier) ⁽¹⁾		3,074		3,873		1,270		1,450
3	All portfolios subject to the Standardized CVA capital charge	-	-	-	-	-	-	-	-
4	Total subject to the CVA capital charge	27,380	3,957	28,930	4,835	27,345	4,124	26,225	4,222

(1) Commencing Q3 2021, amount includes the impact on CVA RWA from OSFI's announced increase to the SVaR multiplier.

(in \$MM)	a	b	c	d	e	f	g	h	i
Risk weight	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure ⁽¹⁾
Regulatory portfolio									
Q4 2021									
Sovereigns	-	-	-	99	-	33	-	-	132
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	1	-	-	1
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,398	-	-	1,398
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets ⁽²⁾	-	-	-	-	-	-	-	-	-
Total	-	-	-	99	-	1,432	-	-	1,531
Q3 2021									
Sovereigns	-	-	-	69	-	24	-	-	93
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	9	-	-	9
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,791	-	-	1,791
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets ⁽²⁾	-	-	-	-	-	-	-	-	-
Total	-	-	-	69	-	1,824	-	-	1,893
Q2 2021									
Sovereigns	-	-	-	95	-	6	-	-	101
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	36	-	-	36
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,743	-	-	1,743
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets ⁽²⁾	-	-	-	-	-	-	-	-	-
Total	-	-	-	95	-	1,785	-	-	1,880
Q1 2021									
Sovereigns	-	-	-	38	-	26	-	-	64
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	41	-	-	41
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,791	-	-	1,791
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets ⁽²⁾	-	-	-	-	-	-	-	-	-
Total	-	-	-	38	-	1,858	-	-	1,896

(1) Total credit exposure: the amount relevant for the capital requirements calculation, having applied CRM techniques.

(2) Other assets: the amount excludes exposures to CCPs, which are reported in CCR8.

CCR4: IRB – CCR exposures by portfolio and PD scale ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD ⁽²⁾	Number of obligors	Average LGD ⁽³⁾	Average maturity ⁽⁴⁾	RWA ⁽⁵⁾	RWA density ⁽⁶⁾
Q4 2021								
Sovereign								
	0.00 to <0.15	4,754	0.03%	51	15.80%	3.22	107	2.2%
	0.15 to <0.25	23	0.17%	3	22.15%	0.72	3	13.6%
	0.25 to <0.50	142	0.43%	3	25.00%	0.28	33	23.5%
	0.50 to <0.75	-	0.69%	1	25.00%	1.39	-	36.3%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	1	2.56%	1	25.00%	1.00	-	61.3%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	4,920	0.04%	59	16.10%	3.12	143	2.9%
Bank								
	0.00 to <0.15	11,979	0.06%	173	30.57%	1.14	1,165	9.7%
	0.15 to <0.25	944	0.17%	25	31.70%	0.29	180	19.0%
	0.25 to <0.50	378	0.35%	47	36.01%	2.11	147	39.0%
	0.50 to <0.75	7	0.68%	3	30.80%	1.49	3	45.2%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	2.56%	1	40.00%	2.11	-	98.1%
	10.00 to <100.00	-	34.44%	1	40.00%	3.09	1	221.6%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	13,308	0.08%	250	30.81%	1.11	1,496	11.2%
Corporate								
	0.00 to <0.15	41,160	0.07%	3,674	45.24%	0.45	5,102	12.4%
	0.15 to <0.25	4,291	0.17%	414	44.40%	1.38	1,190	27.7%
	0.25 to <0.50	4,017	0.34%	704	45.27%	1.31	1,820	45.3%
	0.50 to <0.75	2,368	0.68%	291	42.59%	1.31	1,507	63.7%
	0.75 to <2.50	316	1.33%	67	33.81%	2.59	207	65.4%
	2.50 to <10.00	530	7.43%	51	23.48%	1.41	434	81.9%
	10.00 to <100.00	54	18.68%	11	35.10%	1.23	97	180.3%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	52,736	0.23%	5,212	44.76%	0.65	10,357	19.6%
Total		70,964	0.18%	5,521	40.15%	0.91	11,996	16.9%

CCR4: IRB – CCR exposures by portfolio and PD scale ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD ⁽²⁾	Number of obligors	Average LGD ⁽³⁾	Average maturity ⁽⁴⁾	RWA ⁽⁵⁾	RWA density ⁽⁶⁾
Q3 2021								
Sovereign								
	0.00 to <0.15	4,520	0.03%	52	15.80%	3.16	108	2.4%
	0.15 to <0.25	14	0.18%	2	25.00%	1.01	2	16.3%
	0.25 to <0.50	268	0.45%	3	25.00%	0.34	66	24.4%
	0.50 to <0.75	-	0.69%	1	25.00%	1.32	-	36.3%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	1	2.56%	1	25.00%	1.00	-	61.3%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	4,803	0.05%	59	16.35%	2.99	176	3.7%
Bank								
	0.00 to <0.15	11,601	0.06%	168	30.58%	1.14	1,110	9.6%
	0.15 to <0.25	2,268	0.16%	22	30.33%	0.15	400	17.7%
	0.25 to <0.50	635	0.31%	54	33.07%	1.73	228	36.0%
	0.50 to <0.75	9	0.68%	3	30.81%	1.37	4	44.6%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	2.56%	2	40.00%	1.97	-	98.1%
	10.00 to <100.00	-	34.44%	1	40.00%	3.37	1	221.6%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	14,513	0.09%	250	30.65%	1.02	1,743	12.0%
Corporate								
	0.00 to <0.15	44,104	0.07%	3,584	45.16%	0.47	5,535	12.6%
	0.15 to <0.25	3,818	0.17%	404	44.63%	1.20	1,065	27.9%
	0.25 to <0.50	4,218	0.35%	706	45.60%	1.88	1,958	46.4%
	0.50 to <0.75	1,991	0.68%	299	42.12%	1.55	1,237	62.1%
	0.75 to <2.50	524	1.33%	71	32.57%	2.19	330	63.0%
	2.50 to <10.00	350	7.51%	53	26.91%	1.65	324	92.6%
	10.00 to <100.00	167	18.69%	15	31.62%	1.18	271	161.7%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	55,172	0.24%	5,132	44.77%	0.69	10,720	19.4%
Total		74,488	0.19%	5,441	40.18%	0.90	12,639	17.0%

CCR4: IRB – CCR exposures by portfolio and PD scale ⁽¹⁾


(in \$MM)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD ⁽²⁾	Number of obligors	Average LGD ⁽³⁾	Average maturity ⁽⁴⁾	RWA ⁽⁵⁾	RWA density ⁽⁶⁾
Q2 2021								
Sovereign								
	0.00 to <0.15	4,764	0.02%	54	15.61%	2.30	92	1.9%
	0.15 to <0.25	9	0.17%	3	22.01%	0.72	1	13.6%
	0.25 to <0.50	216	0.43%	2	25.00%	0.35	52	23.9%
	0.50 to <0.75	-	0.69%	1	25.00%	1.48	-	36.3%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	1	2.56%	1	25.00%	1.00	1	61.3%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	4,990	0.04%	61	16.03%	2.21	146	2.9%
Bank								
	0.00 to <0.15	14,707	0.06%	166	30.45%	0.89	1,361	9.3%
	0.15 to <0.25	2,927	0.17%	26	30.52%	0.12	513	17.5%
	0.25 to <0.50	466	0.33%	57	34.90%	2.08	172	36.8%
	0.50 to <0.75	11	0.69%	3	30.21%	1.31	5	45.5%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	2.56%	2	40.00%	1.90	-	98.1%
	10.00 to <100.00	-	34.44%	1	40.00%	3.56	1	244.7%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	Sub-total	18,111	0.09%	255	30.58%	0.79	2,052	11.3%
Corporate								
	0.00 to <0.15	49,186	0.07%	3,531	45.31%	0.40	6,073	12.3%
	0.15 to <0.25	4,018	0.17%	391	44.46%	1.03	1,124	28.0%
	0.25 to <0.50	3,979	0.36%	720	46.42%	1.76	1,909	48.0%
	0.50 to <0.75	2,441	0.68%	303	44.09%	1.51	1,579	64.7%
	0.75 to <2.50	465	1.33%	77	32.50%	2.33	292	62.8%
	2.50 to <10.00	237	4.29%	57	32.50%	1.80	225	95.0%
	10.00 to <100.00	141	18.21%	18	34.26%	1.26	247	174.4%
	100.00 (Default)	65	100.00%	2	19.48%	1.84	-	0.0%
	Sub-total	60,532	0.30%	5,099	45.08%	0.60	11,449	18.9%
Total		83,633	0.24%	5,415	40.20%	0.74	13,647	16.3%

(1) Represents AIRB exposures for Derivatives and SFT.

(2) Post-CRM PD weighted by post-CRM EAD.

(3) Post-CRM LGD weighted by post-CRM EAD.

(4) Effective remaining maturity in years.

(5) After application of AIRB scalar of 1.06.

(6) RWA density is calculated as Risk-weighted Assets (column f) divided by EAD post-CRM (column a).

CCR5: Composition of collateral for CCR exposure ⁽¹⁾


(in \$MM)	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
	Segregated ⁽²⁾	Unsegregated ⁽²⁾	Segregated ⁽²⁾	Unsegregated ⁽²⁾		
Q4 2021						
Cash – domestic currency	12	1,017	-	607	7,030	1,231
Cash – other currencies	45	7,270	163	8,631	46,494	25,062
Domestic sovereign debt	109	312	604	2,271	774	4,884
Other sovereign debt	1,560	311	937	382	2,367	4,330
Government agency debt	706	113	1,763	2,284	1,851	10,325
Corporate bonds	1,832	232	55	305	22,962	39,064
Equity securities	1,270	-	3,162	274	36,509	24,514
Other collateral	-	-	-	-	33	-
Total	5,534	9,255	6,684	14,754	118,020	109,410
Q3 2021						
Cash – domestic currency	51	690	-	1,296	7,257	1,301
Cash – other currencies	34	6,524	190	8,254	44,608	24,529
Domestic sovereign debt	30	83	311	2,133	1,022	3,864
Other sovereign debt	1,599	342	927	13,759	2,424	5,454
Government agency debt	797	438	1,520	2,084	927	8,049
Corporate bonds	1,560	131	95	409	26,158	42,417
Equity securities	1,294	-	2,952	323	37,221	22,944
Other collateral	-	-	-	-	27	-
Total	5,365	8,208	5,995	28,258	119,644	108,558
Q2 2021						
Cash – domestic currency	48	626	-	1,385	8,027	1,627
Cash – other currencies	19	7,131	113	8,603	41,280	25,422
Domestic sovereign debt	-	411	-	1,890	504	4,704
Other sovereign debt	255	361	799	11,540	3,376	4,400
Government agency debt	-	552	400	2,253	1,514	11,813
Corporate bonds	136	130	-	526	25,740	39,975
Equity securities	-	-	4	374	34,232	23,007
Other collateral	-	-	-	-	19	-
Total	458	9,211	1,316	26,571	114,692	110,948
Q1 2021						
Cash – domestic currency	49	1,496	-	1,062	6,651	1,136
Cash – other currencies	42	8,702	130	9,627	41,937	20,639
Domestic sovereign debt	-	87	-	1,516	782	3,399
Other sovereign debt	334	671	737	28,854	3,117	6,103
Government agency debt	-	528	40	2,734	2,817	13,604
Corporate bonds	138	65	-	718	24,469	42,291
Equity securities	-	-	4	-	31,810	21,285
Other collateral	-	-	-	-	18	-
Total	563	11,549	911	44,511	111,601	108,457

(1) Provides breakdown of collateral posted or received for SFTs or derivative transactions, including transactions cleared through CCPs.

(2) Segregated refers to collateral which is held in a bankruptcy-remote manner. Unsegregated refers to collateral that is not held in a bankruptcy-remote manner. Commencing Q3, 2021, standardized SA-CCR EAD calculation recognized regulatory initial margin.

CCR6: Credit derivatives exposures


(in \$MM)	a	b
	Protection bought	Protection sold
Q4 2021		
Notionals		
Single-name credit default swaps	6,167	2,189
Index credit default swaps	-	-
Credit default swaps	6,167	2,189
Total return swaps	18,567	498
Credit options	-	-
Other credit derivatives	-	-
Total notionals	24,734	2,687
Fair values		
Positive fair value (asset)	237	8
Negative fair value (liability)	-	(30)
Q3 2021		
Notionals		
Single-name credit default swaps	7,240	2,314
Index credit default swaps	-	-
Credit default swaps	7,240	2,314
Total return swaps	17,585	440
Credit options	-	-
Other credit derivatives	-	-
Total notionals	24,825	2,754
Fair values		
Positive fair value (asset)	162	10
Negative fair value (liability)	-	(33)
Q2 2021		
Notionals		
Single-name credit default swaps	6,176	2,423
Index credit default swaps	-	-
Credit default swaps	6,176	2,423
Total return swaps	17,436	430
Credit options	-	-
Other credit derivatives	-	-
Total notionals	23,612	2,853
Fair values		
Positive fair value (asset)	174	12
Negative fair value (liability)	-	(37)
Q1 2021		
Notionals		
Single-name credit default swaps	8,581	2,594
Index credit default swaps	-	-
Credit default swaps	8,581	2,594
Total return swaps	20,702	1,565
Credit options	-	-
Other credit derivatives	-	-
Total notionals	29,283	4,159
Fair values		
Positive fair value (asset)	222	17
Negative fair value (liability)	-	(47)

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



(in \$MM) ⁽¹⁾		a	a ₂	a ₃	a ₄
		Q4 2021	Q3 2021	Q2 2021	Q1 2021
1	RWA as at end of previous reporting period	6,874	6,395	6,703	6,815
2	Asset size ⁽²⁾	(497)	336	(250)	145
3	Asset quality ⁽³⁾	(109)	42	(29)	(104)
4	Model updates ⁽⁴⁾	-	-	-	-
5	Methodology and policy ⁽⁵⁾	-	-	-	-
6	Acquisitions and disposals ⁽⁶⁾	-	-	-	-
7	Foreign exchange movements ⁽⁷⁾	(48)	101	(29)	(153)
8	Other ⁽⁸⁾	-	-	-	-
9	RWA as at end of current reporting period	6,220	6,874	6,395	6,703

(1) Includes exposures under IMM cleared through a CCP.

(2) Organic changes in book size and composition (including origination of new businesses) excluding acquisitions and disposal of entities.

(3) Changes in the assessed quality of the bank's assets due to changes in borrower risk, such as rating grade migration, parameter recalibrations, or similar effects.

(4) Changes due to model implementation, changes in model scope, or any changes intended to address model weaknesses.

(5) Changes due to methodological changes in calculations driven by changes in regulatory policy and/or regulatory oversight including interpretation.

(6) Changes in book sizes from acquisitions and/or divestitures.

(7) Changes driven by market movements such as foreign exchange movements.

(8) This category captures changes that cannot be attributed to any other category.

CCR8: Exposures to central counterparties


(in \$MM)		a		b		a ₂		b ₂		a ₃		b ₃		a ₄		b ₄	
		EAD (post-CRM)		RWA		EAD (post-CRM)		RWA		EAD (post-CRM)		RWA		EAD (post-CRM)		RWA	
		Q4 2021		Q3 2021		Q2 2021		Q1 2021									
1	Exposures to QCCPs (total)			612		615		693								628	
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	10,301		225		9,592		205		13,068		273		8,607		185	
3	(i) OTC derivatives	849		17		709		14		589		12		807		16	
4	(ii) Exchange-traded derivatives	5,200		123		4,621		106		7,592		164		3,925		92	
5	(iii) Securities financing transactions	4,252		85		4,262		85		4,887		97		3,875		77	
6	(iv) Netting sets where cross-product netting has been approved	-		-		-		-		-		-		-		-	
7	Segregated initial margin	5,929		-		5,602		-		6,078		-		4,934		-	
8	Non-segregated initial margin	-		-		-		-		-		-		-		-	
9	Pre-funded default fund contributions	663		387		756		410		758		420		740		443	
10	Unfunded default fund contributions ⁽¹⁾	2,061		-		2,094		-		1,878		-		1,823		-	
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%.

SEC1: Securitization exposures in the banking book


(in \$MM)		a ⁽¹⁾	a ⁽²⁾	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor ⁽³⁾			Bank acts as Investor ⁽⁴⁾		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
Q4 2021											
1	Retail (total)	378	76	-	454	10,207	-	10,207	3,141	-	3,141
	– of which										
2	Residential Mortgage ⁽⁵⁾	-	-	-	-	510	-	510	-	-	-
3	Credit Card	-	-	-	-	252	-	252	1,825	-	1,825
4	Consumer Receivables	-	-	-	-	2,221	-	2,221	303	-	303
5	Auto Loans/Leases	378	76	-	454	7,224	-	7,224	1,013	-	1,013
6	Wholesale (total)	-	-	-	-	6,142	-	6,142	1,097	-	1,097
	– of which										
7	Trade Receivables	-	-	-	-	2,965	-	2,965	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,193	-	1,193	298	-	298
10	Other Wholesale	-	-	-	-	1,984	-	1,984	754	-	754
11	Re-Securitization	-	-	-	-	-	-	-	45	-	45
Q3 2021											
1	Retail (total)	446	131	-	578	10,645	-	10,645	3,273	-	3,273
	– of which										
2	Residential Mortgage ⁽⁵⁾	-	-	-	-	510	-	510	-	-	-
3	Credit Card	-	-	-	-	255	-	255	1,826	-	1,826
4	Consumer Receivables	-	-	-	-	2,169	-	2,169	399	-	399
5	Auto Loans/Leases	446	131	-	578	7,711	-	7,711	1,048	-	1,048
6	Wholesale (total)	-	-	-	-	6,087	-	6,087	1,181	-	1,181
	– of which										
7	Trade Receivables	-	-	-	-	3,327	-	3,327	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,279	-	1,279	309	-	309
10	Other Wholesale	-	-	-	-	1,481	-	1,481	826	-	826
11	Re-Securitization	-	-	-	-	-	-	-	46	-	46

SEC1: Securitization exposures in the banking book


(in \$MM)		a ⁽¹⁾	a ⁽²⁾	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor ⁽³⁾			Bank acts as Investor ⁽⁴⁾		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
Q2 2021											
1	Retail (total) – of which	528	129	-	657	10,460	-	10,460	3,792	-	3,792
2	Residential Mortgage ⁽⁵⁾	-	-	-	-	510	-	510	-	-	-
3	Credit Card	-	-	-	-	364	-	364	2,075	-	2,075
4	Consumer Receivables	-	-	-	-	2,309	-	2,309	699	-	699
5	Auto Loans/Leases	528	129	-	657	7,277	-	7,277	1,018	-	1,018
6	Wholesale (total) – of which	-	-	-	-	6,786	-	6,786	1,348	-	1,348
7	Trade Receivables	-	-	-	-	4,218	-	4,218	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,278	-	1,278	396	-	396
10	Other Wholesale	-	-	-	-	1,290	-	1,290	907	-	907
11	Re-Securitization	-	-	-	-	-	-	-	45	-	45

Q1 2021											
1	Retail (total) – of which	669	105	-	774	10,660	-	10,660	4,069	-	4,069
2	Residential Mortgage ⁽⁵⁾	-	-	-	-	510	-	510	-	-	-
3	Credit Card	-	-	-	-	1,031	-	1,031	2,075	-	2,075
4	Consumer Receivables	-	-	-	-	2,375	-	2,375	945	-	945
5	Auto Loans/Leases	669	105	-	774	6,744	-	6,744	1,049	-	1,049
6	Wholesale (total) – of which	-	-	-	-	7,120	-	7,120	1,424	-	1,424
7	Trade Receivables	-	-	-	-	4,383	-	4,383	1	-	1
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,316	-	1,316	366	-	366
10	Other Wholesale	-	-	-	-	1,421	-	1,421	1,010	-	1,010
11	Re-Securitization	-	-	-	-	-	-	-	47	-	47

(1) Retained positions where the Bank acts as an originator and has achieved significant and effective risk transfer.

(2) Retained positions where the Bank acts as an originator and has not achieved significant and effective risk transfer.

(3) Retained positions where the Bank acts as sponsor include exposures to commercial paper conduits to which the bank provides liquidity facilities.

(4) Retained positions where the Bank acts as an investor are the investment positions purchased in third-party deals.

(5) Excludes mortgage-backed securities that do not involve the tranching of credit risk (e.g. NHA MBS) which are not considered securitizations as per OSFI Capital Adequacy Requirements Guideline, Chapter 7, paragraph 3.

SEC2: Securitization exposures in the trading book


(in \$MM)		a ⁽¹⁾	a ⁽²⁾	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor ⁽³⁾			Bank acts as Investor ⁽⁴⁾		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
Q4 2021											
1	Retail (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	99	-	99
2	Residential Mortgage ⁽⁶⁾	-	-	-	-	-	-	-	-	-	-
3	Credit Card	-	-	-	-	-	-	-	43	-	43
4	Consumer Receivables	-	-	-	-	-	-	-	5	-	5
5	Auto Loans/Leases	-	-	-	-	-	-	-	51	-	51
6	Wholesale (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	41	-	41
7	Trade Receivables	-	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	-	41	-	41
10	Other Wholesale	-	-	-	-	-	-	-	-	-	-
11	Re-Securitization	-	-	-	-	-	-	-	-	-	-
Q3 2021											
1	Retail (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	200	-	200
2	Residential Mortgage ⁽⁶⁾	-	-	-	-	-	-	-	-	-	-
3	Credit Card	-	-	-	-	-	-	-	110	-	110
4	Consumer Receivables	-	-	-	-	-	-	-	-	-	-
5	Auto Loans/Leases	-	-	-	-	-	-	-	90	-	90
6	Wholesale (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	9	-	9
7	Trade Receivables	-	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	-	9	-	9
10	Other Wholesale	-	-	-	-	-	-	-	-	-	-
11	Re-Securitization	-	-	-	-	-	-	-	-	-	-

SEC2: Securitization exposures in the trading book



(in \$MM)		a ⁽¹⁾	a ⁽²⁾	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor ⁽³⁾			Bank acts as Investor ⁽⁴⁾		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
Q2 2021											
1	Retail (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	58	-	58
2	Residential Mortgage ⁽⁶⁾	-	-	-	-	-	-	-	-	-	-
3	Credit Card	-	-	-	-	-	-	-	36	-	36
4	Consumer Receivables	-	-	-	-	-	-	-	-	-	-
5	Auto Loans/Leases	-	-	-	-	-	-	-	22	-	22
6	Wholesale (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	31	-	31
7	Trade Receivables	-	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	-	31	-	31
10	Other Wholesale	-	-	-	-	-	-	-	-	-	-
11	Re-Securitization	-	-	-	-	-	-	-	-	-	-

Q1 2021											
1	Retail (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	65	-	65
2	Residential Mortgage ⁽⁶⁾	-	-	-	-	-	-	-	1	-	1
3	Credit Card	-	-	-	-	-	-	-	45	-	45
4	Consumer Receivables	-	-	-	-	-	-	-	-	-	-
5	Auto Loans/Leases	-	-	-	-	-	-	-	19	-	19
6	Wholesale (total) ⁽⁵⁾ – of which	-	-	-	-	-	-	-	33	-	33
7	Trade Receivables	-	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	-	31	-	31
10	Other Wholesale	-	-	-	-	-	-	-	2	-	2
11	Re-Securitization	-	-	-	-	-	-	-	-	-	-

(1) Retained positions where the Bank acts as an originator and has achieved significant and effective risk transfer.

(2) Retained positions where the Bank acts as an originator and has not achieved significant and effective risk transfer.

(3) Retained positions where the Bank acts as sponsor include exposures to commercial paper conduits to which the bank provides liquidity facilities.

(4) Retained positions where the Bank acts as an investor are the investment positions purchased in third-party deals.

(5) Capital charges related to trading book securitization exposures are based upon the Bank's internal market risk models including its comprehensive risk measure.

(6) Excludes mortgage-backed securities that do not involve the tranching of credit risk (e.g. NHA MBS) which are not considered securitizations as per OSFI Capital Adequacy Requirements Guideline, Chapter 7, paragraph 3.

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



(in \$MM)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%
Q4 2021																	
1 Total exposures⁽¹⁾⁽²⁾	13,660	1,809	1,255	-	3	378	16,349	-	-	100	2,924	-	-	8	234	-	-
2 Traditional securitization	13,660	1,809	1,255	-	3	378	16,349	-	-	100	2,924	-	-	8	234	-	-
3 Of which securitization	13,660	1,809	1,255	-	3	378	16,349	-	-	100	2,924	-	-	8	234	-	-
4 Of which retail underlying	10,007	502	73	-	3	378	10,207	-	-	100	1,378	-	-	8	110	-	-
5 Of which wholesale	3,653	1,307	1,182	-	-	-	6,142	-	-	-	1,546	-	-	-	124	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q3 2021																	
1 Total exposures⁽¹⁾⁽²⁾	14,468	1,778	929	-	3	446	16,732	-	-	110	2,800	-	-	9	224	-	-
2 Traditional securitization	14,468	1,778	929	-	3	446	16,732	-	-	110	2,800	-	-	9	224	-	-
3 Of which securitization	14,468	1,778	929	-	3	446	16,732	-	-	110	2,800	-	-	9	224	-	-
4 Of which retail underlying	10,573	442	73	-	3	446	10,645	-	-	110	1,409	-	-	9	113	-	-
5 Of which wholesale	3,895	1,336	856	-	-	-	6,087	-	-	-	1,391	-	-	-	111	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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



(in \$MM)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%
Q2 2021																	
1 Total exposures⁽¹⁾⁽²⁾	14,583	3,188	-	-	3	528	17,246	-	-	122	2,764	-	-	10	221	-	-
2 Traditional securitization	14,583	3,188	-	-	3	528	17,246	-	-	122	2,764	-	-	10	221	-	-
3 Of which securitization	14,583	3,188	-	-	3	528	17,246	-	-	122	2,764	-	-	10	221	-	-
4 Of which retail underlying	10,372	613	-	-	3	528	10,460	-	-	122	1,290	-	-	10	103	-	-
5 Of which wholesale	4,211	2,575	-	-	-	-	6,786	-	-	-	1,474	-	-	-	118	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q1 2021																	
1 Total exposures⁽¹⁾⁽²⁾	15,045	2,247	1,154	-	3	669	17,780	-	-	143	3,132	-	-	11	251	-	-
2 Traditional securitization	15,045	2,247	1,154	-	3	669	17,780	-	-	143	3,132	-	-	11	251	-	-
3 Of which securitization	15,045	2,247	1,154	-	3	669	17,780	-	-	143	3,132	-	-	11	251	-	-
4 Of which retail underlying	10,726	525	75	-	3	669	10,660	-	-	143	1,427	-	-	11	114	-	-
5 Of which wholesale	4,319	1,722	1,079	-	-	-	7,120	-	-	-	1,705	-	-	-	137	-	-
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) Includes banking book on-balance sheet investments in asset backed securities (ABS), collateralized loan obligations (CLOs), collateralized debt obligations (CDOs), and off-balance sheet liquidity lines and credit enhancements to bank sponsored conduits.

(2) Includes retained positions in securitizations where the Bank acts as an originator and has achieved significant and effective risk transfer.

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


(in \$MM)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%
Q4 2021																	
1 Total exposures⁽¹⁾	2,653	147	1,419	-	19	-	3,630	608	-	-	1,049	280	-	-	83	23	-
2 Traditional securitization	2,653	147	1,419	-	19	-	3,630	608	-	-	1,049	280	-	-	83	23	-
3 Of which securitization	2,653	147	1,374	-	19	-	3,630	563	-	-	1,049	235	-	-	83	19	-
4 Of which retail underlying	2,110	136	895	-	-	-	3,141	-	-	-	793	-	-	-	63	-	-
5 Of which wholesale	543	11	479	-	19	-	489	563	-	-	256	235	-	-	20	19	-
6 Of which re-securitization	-	-	45	-	-	-	-	45	-	-	-	45	-	-	-	4	-
7 Of which senior	-	-	45	-	-	-	-	45	-	-	-	45	-	-	-	4	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q3 2021																	
1 Total exposures⁽¹⁾	2,736	232	1,396	69	21	-	3,770	684	-	-	1,115	303	-	-	89	25	-
2 Traditional securitization	2,736	232	1,396	69	21	-	3,770	684	-	-	1,115	303	-	-	89	25	-
3 Of which securitization	2,736	232	1,350	69	21	-	3,770	638	-	-	1,115	257	-	-	89	21	-
4 Of which retail underlying	2,119	232	853	69	-	-	3,273	-	-	-	850	-	-	-	68	-	-
5 Of which wholesale	617	-	497	-	21	-	497	638	-	-	265	257	-	-	21	21	-
6 Of which re-securitization	-	-	46	-	-	-	-	46	-	-	-	46	-	-	-	4	-
7 Of which senior	-	-	46	-	-	-	-	46	-	-	-	46	-	-	-	4	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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


(in \$MM)	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
	Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
	≤20% RW	>20% to 50% RW	>50% to 100% RW	>100% to <1250% RW	1250% RW	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%	IRBA	ERBA / IAA	SA	1250%
Q2 2021																	
1 Total exposures⁽¹⁾	3,078	1,118	881	40	23	-	4,340	800	-	-	1,370	337	-	-	110	27	-
2 Traditional securitization	3,078	1,118	881	40	23	-	4,340	800	-	-	1,370	337	-	-	110	27	-
3 Of which securitization	3,078	1,118	836	40	23	-	4,340	755	-	-	1,370	292	-	-	110	23	-
4 Of which retail underlying	2,347	1,063	382	-	-	-	3,792	-	-	-	938	-	-	-	75	-	-
5 Of which wholesale	731	55	454	40	23	-	548	755	-	-	432	292	-	-	35	23	-
6 Of which re-securitization	-	-	45	-	-	-	-	45	-	-	-	45	-	-	-	4	-
7 Of which senior	-	-	45	-	-	-	-	45	-	-	-	45	-	-	-	4	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Q1 2021																	
1 Total exposures⁽¹⁾	3,150	1,020	1,215	83	25	-	4,631	862	-	-	1,440	354	-	-	115	28	-
2 Traditional securitization	3,150	1,020	1,215	83	25	-	4,631	862	-	-	1,440	354	-	-	115	28	-
3 Of which securitization	3,150	1,020	1,168	83	25	-	4,631	815	-	-	1,440	307	-	-	115	24	-
4 Of which retail underlying	2,359	927	700	83	-	-	4,069	-	-	-	1,066	-	-	-	85	-	-
5 Of which wholesale	791	93	468	-	25	-	562	815	-	-	374	307	-	-	30	24	-
6 Of which re-securitization	-	-	47	-	-	-	-	47	-	-	-	47	-	-	-	4	-
7 Of which senior	-	-	47	-	-	-	-	47	-	-	-	47	-	-	-	4	-
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) Includes banking book investments in asset backed securities (ABS), collateralized loan obligations (CLOs), collateralized debt obligations (CDOs).

FLOW STATEMENT FOR REGULATORY CAPITAL



(in \$MM)	Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2020
Common Equity Tier 1 (CET1) capital					
Opening amount	50,465	49,697	49,542	49,165	48,689
Net income attributable to equity holders of the Bank	2,489	2,461	2,366	2,308	1,827
Dividends paid to equity holders of the Bank	(1,173)	(1,128)	(1,169)	(1,134)	(1,173)
Shares issued	14	116	80	58	3
Shared repurchased/redeemed	-	-	-	-	-
Removal of own credit spread (net of tax)	23	(55)	91	163	124
ECL transitional adjustment	(147)	(180)	(323)	(419)	132
Movements in other comprehensive income (OCI), excluding cash flow hedges	(668)	(232)	(978)	(478)	(541)
Currency translation differences	(804)	(166)	(1,382)	(1,030)	(512)
Debt and equity investments fair valued through OCI	(145)	(51)	(136)	186	(97)
Employee Benefits	292	(72)	643	466	218
Other	(11)	57	(103)	(100)	(150)
Goodwill and other intangible assets (deduction, net of related tax liability)	108	79	145	17	131
Other, including regulatory adjustments and transitional arrangements	(101)	(293)	(57)	(138)	(27)
Deferred tax assets that rely on future probability	21	12	44	(25)	21
Threshold deductions	-	-	-	-	-
Other	(122)	(305)	(101)	(113)	(48)
Closing Amount	51,010	50,465	49,697	49,542	49,165
Other Additional Tier 1 capital					
Opening amount	6,165	5,455	5,751	6,197	6,209
Capital issuances	753	1,250	-	-	-
Redeemed capital (Qualifying and Non-Qualifying)	-	(500)	(759)	-	-
Other, capital including regulatory adjustments and transitional arrangements (NVCC)	(13)	(40)	463	(446)	(12)
Closing Amount	6,905	6,165	5,455	5,751	6,197
Total Tier 1 capital	57,915	56,630	55,152	55,293	55,362
Tier 2 capital					
Opening amount	8,471	8,534	8,431	9,150	9,276
Capital issuances	-	-	-	-	-
Redeemed capital	-	-	-	(750)	(1)
Amortization adjustments	3	(5)	13	(270)	-
Other, including regulatory adjustments and transitional adjustments (NVCC)	(288)	(58)	90	301	(125)
Closing Amount	8,186	8,471	8,534	8,431	9,150
Total regulatory capital	66,101	65,101	63,686	63,724	64,512

RISK-WEIGHTED ASSETS AND CAPITAL RATIOS



(in \$billions)	Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2020
RISK-WEIGHTED ASSETS: ⁽¹⁾					
On-Balance Sheet Assets					
Cash Resources	2.7	2.4	2.6	2.7	2.9
Securities	10.2	10.1	10.2	10.8	12.0
Residential Mortgages	40.6	38.5	36.3	35.1	38.7
Loans					
- Personal Loans	55.1	55.0	54.3	55.9	56.8
- Non-Personal Loans	131.7	132.7	131.3	132.3	134.6
All Other	33.8	34.2	34.3	34.1	33.1
	274.1	272.9	269.0	270.9	278.1
Off-Balance Sheet Assets					
Indirect Credit Instruments	61.5	59.5	57.3	56.8	58.8
Derivative Instruments	11.0	12.8	11.8	11.9	12.9
	72.5	72.3	69.1	68.7	71.7
Total Credit Risk before AIRB scaling factor	346.6	345.2	338.1	339.6	349.8
AIRB Scaling factor ⁽²⁾	12.2	12.0	11.9	11.7	12.2
Total Credit Risk after AIRB scaling factor	358.8	357.2	350.0	351.3	362.0
Market Risk - Risk Assets Equivalent	8.1	8.0	6.2	7.2	7.3
Operational Risk - Risk Assets Equivalent	49.2	49.0	48.5	48.3	47.8
Regulatory Capital Floor Adjustment to RWA ⁽³⁾	-	-	-	-	-
Risk-Weighted Assets ⁽³⁾	416.1	414.2	404.7	406.8	417.1
REGULATORY CAPITAL RATIOS (%):					
Common Equity Tier 1	12.3	12.2	12.3	12.2	11.8
Tier 1	13.9	13.7	13.6	13.6	13.3
Total	15.9	15.7	15.7	15.7	15.5

(1) For purposes of this presentation only, Risk-weighted Assets (RWA) are shown by balance sheet categories. Details by Basel III exposure type are shown on tab EAD_RWA (page 5), "Exposure at Default and Risk-Weighted Assets for Credit Risk Portfolios".

(2) The Basel Framework requires an additional 6% scaling factor to AIRB credit risk portfolios (excluding CVA and Securitizations).

(3) The Bank did not have a regulatory capital floor add-on for CET1, Tier 1 and Total capital risk-weighted assets from April 30, 2018 onwards.

MOVEMENT OF RISK-WEIGHTED ASSETS BY RISK TYPE


Credit Risk RWA (in \$MM)	Q4 2021		Q3 2021	
	Credit Risk	Of which Counterparty Credit Risk	Credit Risk	Of which Counterparty Credit Risk ⁽⁵⁾
Credit risk-weighted assets as at beginning of Quarter	357,242	19,947	350,030	20,295
Book size ⁽¹⁾	7,169	(1,652)	7,645	(2,029)
Book quality ⁽²⁾	(1,355)	(112)	(3,099)	(152)
Model updates ⁽³⁾	696	-	(127)	(983)
Methodology and policy ⁽⁴⁾	-	-	2,540	2,540
Acquisitions and disposals	(183)	-	-	-
Foreign exchange movements	(4,198)	(137)	253	276
Other	(589)	-	-	-
Credit risk-weighted assets as at end of Quarter	358,782	18,046	357,242	19,947

(1) Book size is defined as organic changes in book size and composition (including new business and maturing loans).

(2) Changes in the assessed quality of the bank's assets due to changes in borrower risk, such as rating grade migration, parameter recalibration, or similar effects.

(3) Model updates are defined as model implementation, change in model scope or any change to address model enhancement.

(4) Methodology and policy is defined as methodology changes to the calculations driven by regulatory policy changes, such as new regulation (e.g. Basel III), including regulatory interpretation.

(5) For Q3, 2021, Model Updates include RWA changes arising from the implementation of a VaR model for SFTs while Methodology and Policy amounts include the impact on CVA RWA from OSFI's announced reversal of the stressed VaR multiplier to pre-pandemic levels.

Market Risk RWA (in \$MM)	Q4 2021	Q3 2021
Market risk-weighted assets as at beginning of Quarter	7,968	6,180
Movement in risk levels ⁽¹⁾	(178)	(450)
Model updates ⁽²⁾	323	(896)
Methodology and policy ^{(3) (4)}	-	3,134
Acquisitions and disposals	(1)	-
Other	-	-
Market risk-weighted assets as at end of Quarter	8,112	7,968

(1) Movement in risk levels is defined as changes in risk due to position changes and market movements. Foreign exchange movements are embedded within Movement in risk levels.

(2) Model updates are defined as updates to the model to reflect recent experience and change in model scope.

(3) Methodology and policy is defined as methodology changes to the calculations driven by regulatory policy changes (e.g. Basel III).

(4) For Q3 2021, the amount represents the impact on market risk RWA from OSFI's reversal of the stressed VaR multiplier to pre-pandemic levels.

Operational Risk RWA (in \$MM)	Q4 2021	Q3 2021
Operational risk-weighted assets as at beginning of Quarter	48,958	48,517
Acquisitions and disposals	(51)	-
Higher Revenue	303	441
Operational risk-weighted assets as at end of Quarter	49,210	48,958

RISK-WEIGHTED ASSETS ARISING FROM THE ACTIVITIES OF THE BANK'S BUSINESSES



(in \$billions)	Q4 2021					
Risk-weighted Assets (RWA)	Canadian Banking	International Banking	Global Banking & Markets	Global Wealth Management	Other	All Bank
RWA	\$132.5	\$149.1	\$101.6	\$18.8	\$14.1	\$416.1
Proportion of Bank	32%	36%	24%	5%	3%	100%
Comprised of:						
Credit risk	88%	88%	85%	63%	93%	86%
Market risk	- %	1%	5%	- %	9%	2%
Operational risk	12%	11%	10%	37%	-2%	12%

(in \$billions)	Q3 2021					
Risk-weighted Assets (RWA)	Canadian Banking	International Banking	Global Banking & Markets	Global Wealth Management	Other	All Bank
RWA	\$128.4	\$150.8	\$103.4	\$18.2	\$13.4	\$414.2
Proportion of Bank	31%	36%	25%	4%	4%	100%
Comprised of:						
Credit risk	88%	88%	86%	63%	93%	86%
Market risk	- %	1%	5%	- %	10%	2%
Operational risk	12%	11%	9%	37%	-3%	12%

CREDIT RISK EXPOSURES BY GEOGRAPHY⁽¹⁾⁽²⁾



Exposure at Default

(in \$MM)	Q4 2021					Q3 2021				
	Non-Retail			Retail	Total	Non-Retail			Retail	Total
	Drawn	Undrawn	Other ⁽³⁾			Drawn	Undrawn	Other ⁽³⁾		
Canada	134,334	57,420	38,100	409,894	639,748	142,742	57,295	38,702	399,066	637,805
USA	109,493	40,452	44,479	-	194,424	92,163	38,988	46,293	-	177,444
Chile	25,136	1,449	4,070	24,122	54,777	25,892	1,419	3,958	25,088	56,357
Mexico	22,264	1,483	2,476	12,199	38,422	22,871	1,837	2,503	12,187	39,398
Peru	16,319	1,134	2,976	7,723	28,152	16,139	1,055	3,570	7,517	28,281
Colombia	7,102	534	1,073	5,737	14,446	5,850	547	1,069	5,394	12,860
Other International										
Europe	21,091	7,116	18,972	-	47,179	22,594	6,826	20,506	-	49,926
Caribbean	14,616	1,411	981	10,665	27,673	14,640	1,397	1,078	10,963	28,078
Latin America (other)	11,742	1,241	513	584	14,080	12,370	1,208	722	566	14,866
All Other	23,815	4,973	6,283	33	35,104	23,858	4,708	6,144	34	34,744
Total	385,912	117,213	119,923	470,957	1,094,005	379,119	115,280	124,545	460,815	1,079,759

(in \$MM)	Q2 2021	Q1 2021	Q4 2020	Q3 2020	Q2 2020
Canada	617,120	632,303	621,409	622,267	621,264
USA	163,088	184,650	188,210	178,059	230,083
Chile	58,698	57,225	56,738	59,104	58,814
Mexico	38,298	38,540	39,187	39,304	39,230
Peru	28,757	33,229	33,931	34,932	36,183
Colombia	12,350	14,091	13,123	14,540	14,613
Other International					
Europe	53,967	50,765	51,770	48,954	52,053
Caribbean	28,018	30,182	31,420	33,128	35,639
Latin America (other)	14,308	13,569	13,647	14,956	15,932
All Other	32,961	35,902	34,789	34,699	36,122
Total	1,047,565	1,090,456	1,084,224	1,079,943	1,139,933

(1) AIRB Exposure at default is after credit risk mitigation. Standardized Exposure at default is after related IFRS 9 (Stage 3) allowances for credit losses, and commencing Q2, 2021, also includes the collateral impact under the Comprehensive Approach. This excludes equity investment securities and other assets. Residential Mortgages include insured mortgages.

(2) Geographic segmentation is based upon the location of the ultimate risk of the credit exposure.

(3) Includes off-balance sheet lending instruments such as letters of credit and letters of guarantee, OTC derivatives, securitization and repo-style transactions net of related collateral.

AIRB CREDIT RISK EXPOSURES BY MATURITY ⁽¹⁾⁽²⁾



Exposure at Default

(in \$MM)	Q4 2021				Q3 2021			
	Drawn	Undrawn	Other ⁽³⁾	Total	Drawn	Undrawn	Other ⁽³⁾	Total
Non-Retail								
Less than 1 year	174,909	35,047	80,094	290,050	170,173	35,639	82,467	288,279
1 to 5 years	129,437	75,518	26,019	230,974	125,886	72,906	27,220	226,012
Over 5 Years	17,332	3,158	6,050	26,540	18,665	3,297	6,580	28,542
Total Non-Retail	321,678	113,723	112,163	547,564	314,724	111,842	116,267	542,833
Retail								
Less than 1 year	26,316	23,664	-	49,980	25,332	22,815	-	48,147
1 to 5 years	249,195	-	-	249,195	242,214	-	-	242,214
Over 5 Years	16,230	-	-	16,230	16,163	-	-	16,163
Revolving Credits ⁽⁴⁾	37,134	27,356	-	64,490	37,720	26,760	-	64,480
Total Retail	328,875	51,020	-	379,895	321,429	49,575	-	371,004
Total	650,553	164,743	112,163	927,459	636,153	161,417	116,267	913,837

(in \$MM)	Q2 2021	Q1 2021	Q4 2020	Q3 2020
Non-Retail				
Less than 1 year	267,498	310,970	295,172	278,141
1 to 5 years	229,644	228,208	238,071	252,316
Over 5 Years	29,511	28,453	32,344	37,183
Total Non-Retail	526,653	567,631	565,587	567,640
Retail				
Less than 1 year	47,909	52,913	54,638	54,685
1 to 5 years	229,994	221,586	215,271	208,029
Over 5 Years	16,494	14,944	14,892	15,441
Revolving Credits ⁽⁴⁾	64,144	67,764	68,978	68,707
Total Retail	358,541	357,207	353,779	346,862
Total	885,194	924,838	919,366	914,502

(1) Before credit risk mitigation, excluding equity investment securities and other assets.

(2) Remaining term to maturity of the credit exposure.

(3) Off-balance sheet lending instruments such as letters of credit and letters of guarantee, securitization, derivatives and repo-style transactions net of related collateral.

(4) Credit cards and lines of credit with unspecified maturity.

AIRB CREDIT LOSSES



Exposure Type	Q4 2021		Q3 2021		Q2 2021		Q1 2021		Q4 2020	
	Actual Loss Rate	Expected Loss Rate	Actual Loss Rate	Expected Loss Rate	Actual Loss Rate	Expected Loss Rate	Actual Loss Rate	Expected Loss Rate	Actual Loss Rate	Expected Loss Rate
	%	%	%	%	%	%	%	%	%	%
Non-Retail ⁽¹⁾⁽³⁾										
Corporate	0.05	0.48	0.10	0.37	0.12	0.34	0.12	0.32	0.14	0.36
Sovereign	-	0.05	-	0.05	-	0.04	-	0.06	-	0.07
Bank	-	0.15	-	0.25	-	0.08	-	0.06	-	0.13
Retail ⁽²⁾⁽³⁾										
Real Estate Secured	-	0.10	0.01	0.10	0.01	0.11	0.01	0.10	0.01	0.16
QRRE	2.06	3.12	2.26	3.28	2.56	3.56	2.84	3.65	3.15	3.80
Other Retail	0.52	1.40	0.59	1.34	0.63	1.60	0.64	1.48	0.63	1.60

- (1) Non-retail actual loss rates represent the credit losses net of recoveries for the current and prior three quarters divided by the 5-point average of outstanding loan balances for the same four-quarter period beginning 12 months ago. Expected loss rates represent the expected losses that were predicted at the beginning of the four-quarter period divided by outstanding loan balances at the beginning of the four-quarter period.
- (2) Retail actual loss rates represent write-offs net of recoveries for the current and prior three quarters divided by the 5-point average of outstanding loan balances for the same four-quarter period beginning 12 months ago. Expected loss rates represent the expected losses that were predicted at the beginning of the four-quarter period divided by outstanding loan balances at the beginning of the four-quarter period.
- (3) Expected losses are calculated using "through the business cycle" Basel risk parameters (PD, LGD, and EAD) on AIRB portfolio, which are estimated to include a long term time horizon. Actual losses are a "point in time" representation and reflect the current economic conditions. During an economic downturn PCL on impaired loans may exceed expected losses, and may fall below expected losses during times of economic growth.

ESTIMATED AND ACTUAL LOSS PARAMETERS - NON-RETAIL AND RETAIL AIRB PORTFOLIOS



Exposure Type	Q4 2021						Q3 2021					
	Average estimated PD %	Actual default rate %	Average estimated LGD %	Actual LGD %	Average estimated CCF ⁽²⁾ %	Actual CCF ⁽²⁾ %	Average estimated PD %	Actual default rate %	Average estimated LGD %	Actual LGD %	Average estimated CCF ⁽²⁾ %	Actual CCF ⁽²⁾ %
Non-Retail ⁽¹⁾	0.60	0.22	39.86	42.95	48.70	18.15	0.59	0.33	39.88	46.85	48.84	15.06

(1) Reporting is on a one quarter lag basis. For reporting as of Q4/21, estimated parameters are based on portfolio averages at Q3/20 whereas actual parameters are based on averages of realized parameters during the subsequent four quarters (Q4/20 – Q3/21).

(2) EAD back-testing is performed through Credit Conversion Factor (CCF) back-testing, as EAD is computed using the sum of the drawn exposure and undrawn exposure multiplied by the estimated CCF.

(in \$MM) ⁽¹⁾	Four-quarter period ending Q4 2021						Four-quarter period ending Q3 2021					
	Average estimated PD ⁽²⁾⁽⁷⁾ %	Actual default rate ⁽²⁾⁽⁵⁾ %	Average estimated LGD ⁽³⁾⁽⁷⁾ %	Actual LGD ⁽³⁾⁽⁶⁾ %	Estimated EAD ⁽⁴⁾⁽⁷⁾ \$	Actual EAD ⁽⁴⁾⁽⁵⁾ \$	Average estimated PD ⁽²⁾⁽⁷⁾ %	Actual default rate ⁽²⁾⁽⁵⁾ %	Average estimated LGD ⁽³⁾⁽⁷⁾ %	Actual LGD ⁽³⁾⁽⁶⁾ %	Estimated EAD ⁽⁴⁾⁽⁷⁾ \$	Actual EAD ⁽⁴⁾⁽⁵⁾ \$
Residential real estate secured												
Residential mortgages												
Insured mortgages ⁽⁸⁾	0.55	0.29	-	-	-	-	0.62	0.31	-	-	-	-
Uninsured mortgages	0.47	0.18	17.54	12.94	-	-	0.52	0.18	16.88	17.54	-	-
Secured lines of credit	0.28	0.11	31.19	19.70	49	46	0.34	0.13	30.68	19.25	57	53
Qualifying revolving retail exposures	1.70	0.88	82.67	76.60	475	418	1.90	0.95	82.50	76.05	532	466
Other retail	1.61	0.80	60.18	60.31	8	8	1.99	1.03	60.28	59.39	4	4

(1) Estimates and Actual Values are recalculated to align with new models implemented during the period.

(2) Account weighted aggregation.

(3) Default weighted aggregation.

(4) EAD is estimated for revolving products only.

(5) Actual based on accounts not at default as at four quarters prior to reporting date.

(6) Actual LGD calculated based on 24-month recovery period after default and therefore excludes any recoveries received after the 24-month period.

(7) Estimates are based on the four quarters prior to the reporting date.

(8) Actual and Estimated LGD for insured mortgages are not shown. Actual LGD includes the insurance benefit, whereas estimated LGD may not.

DERIVATIVES - COUNTERPARTY CREDIT RISK ⁽¹⁾



(in \$MM)	Q4 2021				Q3 2021				Q2 2021				Q1 2021			
Contract Types	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount ⁽²⁾	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount ⁽²⁾	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount ⁽²⁾	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount ⁽²⁾
Interest Rate Contracts:																
Futures and Forward Rate Agreements	343,189	32	143	69	317,766	-	132	52	423,110	-	218	65	537,518	-	279	71
Swaps	4,361,426	3,951	4,760	1,120	3,820,001	4,784	6,141	1,698	3,667,429	4,684	5,569	1,702	3,585,261	6,431	7,539	2,359
Options Purchased	40,860	70	44	10	40,051	61	41	11	35,678	65	46	12	30,079	108	48	15
Options Written	41,785	-	11	3	40,876	-	26	7	36,016	-	18	3	32,529	-	18	5
Total	4,787,260	4,053	4,958	1,202	4,218,694	4,845	6,340	1,768	4,162,233	4,749	5,851	1,782	4,185,387	6,539	7,884	2,450
Foreign Exchange Contracts:																
Futures and Forwards	442,804	1,604	4,603	1,407	407,962	1,814	4,988	1,459	363,982	1,564	4,397	1,250	421,525	1,539	3,542	1,208
Swaps	571,933	1,151	7,342	1,715	567,138	1,200	7,379	2,032	547,520	1,367	7,079	2,104	545,770	916	6,989	1,977
Options Purchased	16,256	351	247	118	20,131	402	267	125	21,723	544	304	159	28,113	680	347	174
Options Written	16,495	-	14	2	21,165	-	17	3	22,218	-	13	2	27,391	-	18	3
Total	1,047,488	3,106	12,206	3,242	1,016,396	3,416	12,651	3,619	955,443	3,475	11,793	3,515	1,022,799	3,135	10,896	3,362
Other Derivatives Contracts:																
Equity	145,352	1,423	9,707	1,340	136,376	1,569	9,414	1,381	132,704	1,536	9,751	1,446	131,022	1,029	8,423	1,235
Credit	27,421	197	304	59	27,579	124	308	58	26,464	82	380	61	33,442	112	363	81
Other	61,329	4,562	6,610	1,182	58,933	3,877	5,678	1,112	57,595	3,675	7,873	866	59,684	3,255	3,542	512
Total	234,102	6,182	16,621	2,581	222,888	5,570	15,400	2,551	216,763	5,293	18,004	2,373	224,148	4,396	12,328	1,828
Credit Valuation Adjustment				3,957				4,835				4,124				4,222
Total Derivatives after Netting and Collateral	6,068,850	13,341	33,785	10,982	5,457,978	13,831	34,391	12,773	5,334,439	13,517	35,648	11,794	5,432,334	14,070	31,108	11,862

(1) The impact of Master Netting Agreements and Collateral has been incorporated within the various contracts. As a result, risk-weighted amounts are reported net of impact of collateral and master netting arrangements.

(2) Includes derivative exposures cleared through CCPs. Excludes (i) risk-weighted assets for default fund contributions to a CCP and (ii) the 6% AIRB scalar.

TOTAL MARKET RISK-WEIGHTED ASSETS



(in \$MM)	Q4 2021	Q3 2021	Q2 2021	Q1 2021	Q4 2020
All Bank VaR	1,160	1,422	1,981	2,100	1,966
All Bank stressed VaR ⁽¹⁾	4,410	4,142	1,591	1,775	1,486
Incremental risk charge	1,881	1,715	1,901	2,535	2,833
Comprehensive risk measure	-	-	-	-	-
Standardized approach	661	689	707	796	1,042
Market risk-weighted assets as at end of Quarter	8,112	7,968	6,180	7,206	7,327

(1) Commencing Q3 2021, amount includes the impact on market risk RWA from OSFI's announced reversal of the stressed VaR multiplier back to pre-pandemic levels.

IMPAIRED LOANS BY REGION⁽¹⁾



(in \$MM)	Gross impaired loans	Allowance for credit losses	Net impaired loans	Net write-offs ⁽²⁾
Q4 2021				
Residential mortgages ⁽³⁾	1,331	374	957	(84)
Personal loans ⁽³⁾	833	626	207	(1,559)
Credit cards ⁽³⁾	-	-	-	(1,340)
Business and government ⁽⁴⁾	2,292	655	1,637	(375)
Total	4,456	1,655	2,801	(3,358)
By geography:				
Canada	1,090	446	644	(730)
United States	24	4	20	-
Mexico	758	269	489	(365)
Peru	699	350	349	(1,102)
Chile	512	180	332	(210)
Colombia	418	88	330	(516)
Other International	955	318	637	(435)
Total	4,456	1,655	2,801	(3,358)
Q4 2020				
Residential mortgages ⁽³⁾	1,490	392	1,098	(79)
Personal loans ⁽³⁾	1,032	820	212	(1,381)
Credit cards ⁽³⁾	-	-	-	(975)
Business and government ⁽⁴⁾	2,531	745	1,786	(506)
Total	5,053	1,957	3,096	(2,941)
By geography:				
Canada	1,127	487	640	(1,079)
United States	116	4	112	(4)
Mexico	570	222	348	(341)
Peru	824	498	326	(284)
Chile	775	233	542	(534)
Colombia	459	102	357	(335)
Other International	1,182	411	771	(364)
Total	5,053	1,957	3,096	(2,941)

(1) Amounts have been prepared in accordance with IFRS 9.

(2) Whole year fiscal net write-offs are net of recoveries.

(3) Allowance for credit losses for residential mortgages, personal loans and credit card loans is assessed on a collective basis.

(4) Allowance for credit losses for business and government loans is individually assessed.

IMPAIRED LOANS BY INDUSTRY⁽¹⁾



(in \$MM)	Gross impaired loans	Allowance for credit losses	Net impaired loans	Net write-offs ⁽²⁾
Q4 2021				
Residential mortgages ⁽³⁾	1,331	374	957	(84)
Personal loans ⁽³⁾	833	626	207	(1,559)
Credit cards ⁽³⁾	-	-	-	(1,340)
Personal loans	2,164	1,000	1,164	(2,983)
Financial services				
Non-bank	34	6	28	(4)
Bank	2	2	-	-
Wholesale and retail	473	209	264	(107)
Real estate and construction	339	67	272	(31)
Energy	86	18	68	(37)
Transportation	79	21	58	(49)
Automotive	36	20	16	(4)
Agriculture	207	72	135	(39)
Hospitality and leisure	85	7	78	(2)
Mining	21	2	19	-
Metals	96	35	61	(29)
Utilities	129	4	125	(7)
Health care	68	25	43	(2)
Technology and media	58	20	38	(5)
Chemicals	6	3	3	(1)
Food and beverage	91	34	57	(25)
Forest products	94	25	69	(10)
Other	166	81	85	(22)
Sovereign	222	4	218	(1)
Business and government loans⁽⁴⁾	2,292	655	1,637	(375)
Total	4,456	1,655	2,801	(3,358)

IMPAIRED LOANS BY INDUSTRY⁽¹⁾



(in \$MM)	Gross impaired loans	Allowance for credit losses	Net impaired loans	Net write-offs ⁽²⁾
Q4 2020				
Residential mortgages ⁽³⁾	1,490	392	1,098	(79)
Personal loans ⁽³⁾	1,032	820	212	(1,381)
Credit cards ⁽³⁾	-	-	-	(975)
Personal loans	2,522	1,212	1,310	(2,435)
Financial services				
Non-bank	44	9	35	(4)
Bank	2	2	-	-
Wholesale and retail	516	229	287	(115)
Real estate and construction	268	62	206	(62)
Energy	279	49	230	(62)
Transportation	183	53	130	(47)
Automotive	47	25	22	(11)
Agriculture	263	98	165	(14)
Hospitality and leisure	20	2	18	(1)
Mining	30	3	27	(2)
Metals	120	39	81	(12)
Utilities	110	4	106	(26)
Health care	68	22	46	(42)
Technology and media	34	10	24	(22)
Chemicals	6	2	4	(2)
Food and beverage	112	45	67	(33)
Forest products	28	11	17	(14)
Other	162	75	87	(36)
Sovereign	239	5	234	(1)
Business and government loans⁽⁴⁾	2,531	745	1,786	(506)
Total	5,053	1,957	3,096	(2,941)

(1) Amounts have been prepared in accordance with IFRS 9.

(2) Whole year fiscal net write-offs are net of recoveries.

(3) Allowance for credit losses for residential mortgages, personal loans and credit card loans is assessed on a collective basis.

(4) Allowance for credit losses for business and government loans is individually assessed.

GLOSSARY



Credit Risk Parameters	
Exposure at Default (EAD)	Generally represents the expected gross exposures at default and includes outstanding amounts for on-balance sheet exposures and loan equivalent amounts for off-balance sheet exposures.
Probability of Default (PD)	Measures the likelihood that a borrower will default within a 1-year time horizon, expressed as a percentage.
Loss Given Default (LGD)	Measures the severity of loss on a facility in the event of a borrower's default, expressed as a percentage of exposure at default.
Exposure Types	
Non-retail	
Corporate	Debt obligation of a corporation, partnership, or proprietorship.
Bank	Debt obligation of a bank or bank equivalent (including certain public sector entities (PSEs) treated as Bank equivalent exposures).
Sovereign	Debt obligation of a sovereign, central bank, certain Multilateral Development Banks (MDBs) and certain PSEs treated as Sovereign.
Securitization	On-balance sheet investments in asset backed securities (ABS), mortgage backed securities (MBS), collateralized loan obligations (CLOs) and collateralized debt obligations (CDOs). Off-balance sheet liquidity lines include credit enhancements to Bank's sponsored ABCP conduits and liquidity lines to non-bank sponsored ABCP conduits.
Retail	
Real Estate Secured	
Residential Mortgages	Loans to individuals against residential property (four units or less).
Secured Lines Of Credit	Revolving personal lines of credit secured by first charge on residential real estate.
Qualifying Revolving Retail Exposures (QRRE)	Credit cards and unsecured line of credit for individuals.
Other Retail	All other personal loans.
Exposure Sub-types	
Drawn	Outstanding amounts for loans, leases, acceptances, deposits with banks and available-for-sale debt securities.
Undrawn	Unutilized portion of an authorized credit line.
Repo-Style Transactions	Reverse repurchase agreements (reverse repos) and repurchase agreements (repos), securities lending and borrowing.
Over-the-counter (OTC) Derivatives	Over-the-counter derivatives contracts.
Exchange-traded derivatives (ETD)	Derivative contracts (e.g. futures contracts and options) that are transacted on an organized futures exchange. These include Futures contracts (both Long and Short positions), Purchased Options and Written Options.
Other Off-Balance Sheet	Direct credit substitutes such as standby letters of credits and guarantees, trade letters of credits, and performance letters of credits and guarantees.
Qualifying central counterparty (QCCP)	A qualifying central counterparty (QCCP) is licensed as a central counterparty and is also considered as "qualifying" when it is compliant with CPSS-IOSCO standards and is able to assist clearing member banks in properly capitalizing for CCP exposures by either undertaking the calculations and/or making available sufficient information to its clearing members, or others, to enable the completion of capital calculations.
Non-qualifying central counterparties (NQCCP)	Defined as those central counterparties which are not compliant with CPSS-IOSCO standards as outlined under qualifying CCP's. The exposures to NQCCP will follow standardized treatment under the Basel accord.
Other	
Asset Value Correlation Multiplier (AVC)	Basel III has increased the risk-weights on exposures to certain Financial Institutions (FIs) relative to the non-financial corporate sector by introducing an Asset Value Correlation multiplier (AVC). The correlation factor in the risk-weight formula is multiplied by this AVC factor of 1.25 for all exposures to regulated FIs whose total assets are greater than or equal to US \$100 billion and all exposures to unregulated FIs.
Regulatory Capital Floor	A minimum capital floor requirement is prescribed for institutions that use the AIRB approach for credit risk. Effective Q2 2018, OSFI has replaced the Basel I regulatory capital floor with a capital floor based on the Basel II standardized approach for credit risk. The capital floor add-on is determined by comparing capital requirement calculated by reference to Basel II standardized approach against the Basel III calculation, as prescribed by OSFI. A shortfall in the Basel III capital requirement compared with the Basel II standardized capital floor added to RWAs. Revised capital floor requirements also include risk-weighted assets for market risk and CVA, but excludes operational risk.
Specific Wrong-Way Risk (WWR)	Specific Wrong-Way Risk arises when the exposure to a particular counterparty is positively correlated with the probability of default of the counterparty due to the nature of the transactions with the counterparty.
Credit Valuation Adjustment (CVA)	Credit Valuation Adjustment (CVA) is the difference between the risk free value of a portfolio and the true value of that portfolio, accounting for the possible default of a counterparty. CVA adjustment aims to identify the impact of Counterparty Risk.