



# Supplementary Regulatory Capital Disclosures

**Q3 2022**

**For the period ended: July 31, 2022**

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## Supplementary Regulatory Capital Disclosures

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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.

#### Total Loss Absorbing Capacity (TLAC)

Effective November 1, 2021, D-SIBs are required to maintain a minimum risk-based TLAC ratio and a minimum TLAC leverage ratio. TLAC is defined as the aggregate of Tier 1 capital, Tier 2 capital, and other TLAC instruments that are subject to conversion in whole or in part into common shares under the CDIC Act and meet all of the eligibility criteria under the guidelines. The Bank's minimum TLAC ratio requirements consist of 21.5% of risk-weighted assets (plus a Domestic Stability Buffer requirement) and 6.75% of leverage ratio exposures. OSFI may subsequently vary the minimum TLAC requirements for individual D-SIBs or groups of D-SIBs.

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>

<b>Regulatory Capital Highlights</b>					
<b>(in \$ millions)</b>	<b>Q3 2022</b>	<b>Q2 2022</b>	<b>Q1 2022</b>	<b>Q4 2021</b>	<b>Q3 2021</b>
<b>Common Equity Tier 1 capital<sup>(1)</sup></b>	<b>51,639</b>	51,547	52,150	51,010	50,465
<b>Tier 1 capital<sup>(1)</sup></b>	<b>58,801</b>	57,201	57,911	57,915	56,630
<b>Total capital<sup>(1)</sup></b>	<b>68,086</b>	66,628	65,527	66,101	65,101
<b>Total loss absorbing capacity (TLAC)<sup>(2)</sup></b>	<b>128,800</b>	133,841	122,613	115,681	104,759
<b>Risk-weighted Assets<sup>(1)</sup></b>					
Capital Risk-weighted Assets	<b>452,800</b>	445,273	433,682	416,105	414,169
<b>Capital Ratios (%)<sup>(1)</sup></b>					
Common Equity Tier 1 (as a percentage of risk-weighted assets)	<b>11.4</b>	11.6	12.0	12.3	12.2
Tier 1 (as a percentage of risk-weighted assets)	<b>13.0</b>	12.8	13.4	13.9	13.7
Total capital (as a percentage of risk-weighted assets)	<b>15.0</b>	15.0	15.1	15.9	15.7
Total loss absorbing capacity (as a percentage of risk-weighted assets) <sup>(2)</sup>	<b>28.4</b>	30.1	28.3	27.8	25.3
<b>Leverage<sup>(3)</sup>:</b>					
Leverage Exposures	<b>1,388,823</b>	1,360,184	1,308,247	1,201,766	1,191,993
Leverage Ratio (%)	<b>4.2</b>	4.2	4.4	4.8	4.8
TLAC Leverage Ratio (%) <sup>(2)</sup>	<b>9.3</b>	9.8	9.4	9.6	8.8
<b>OSFI Pillar 1 Target (%)</b>					
Common Equity Tier 1 minimum ratio	<b>8.0</b>	8.0	8.0	8.0	8.0
Tier 1 capital minimum ratio	<b>9.5</b>	9.5	9.5	9.5	9.5
Total capital minimum ratio	<b>11.5</b>	11.5	11.5	11.5	11.5
Leverage minimum ratio	<b>3.0</b>	3.0	3.0	3.0	3.0
Total loss absorbing capacity minimum ratio	<b>21.5</b>	21.5	21.5	N/A	N/A
TLAC Leverage minimum ratio	<b>6.75</b>	6.75	6.75	N/A	N/A
<b>Capital instruments subject to phase-out arrangements</b>					
Current cap on Additional Tier 1 (AT1) instruments subject to phase-out arrangements (%)	-	-	-	10	10
Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	<b>750</b>	750	750	97	97
Current cap on Tier 2 (T2) instruments subject to phase-out arrangements (%)	-	-	-	10	10
Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	<b>197</b>	250	250	-	-

(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 - Total Loss Absorbing Capacity (September 2018).

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

N/A - not applicable

**Exposure at Default and Risk-Weighted Assets for Credit Risk Portfolios**

(in \$ millions)		Sub-type	Q3 2022								Q2 2022	
			AIRB		Standardized		Total		% AIRB		Total	
Exposure Type			EAD <sup>(1)</sup>	RWA <sup>(2)</sup>	EAD <sup>(1)</sup>	RWA <sup>(2)</sup>	EAD <sup>(1)</sup>	RWA <sup>(2)</sup>	EAD <sup>(1)</sup>	RWA <sup>(2)</sup>	EAD <sup>(1)</sup>	RWA <sup>(2)</sup>
<b>Non-Retail</b>												
Corporate	Drawn		213,922	89,584	47,910	44,882	261,832	134,466	82%	67%	253,454	139,925
	Undrawn		115,818	42,758	2,836	2,811	118,654	45,569	98%	94%	114,281	43,013
	Other <sup>(3)</sup>		60,411	13,481	2,158	2,156	62,569	15,637	97%	86%	59,932	14,598
	<b>Total</b>		390,151	145,823	52,904	49,849	443,055	195,672	88%	75%	427,667	197,536
Bank	Drawn		15,538	2,944	3,140	2,470	18,678	5,414	83%	54%	21,121	6,342
	Undrawn		5,136	1,254	128	127	5,264	1,381	98%	91%	4,987	1,094
	Other <sup>(3)</sup>		6,557	792	5	5	6,562	797	100%	99%	6,587	674
	<b>Total</b>		27,231	4,990	3,273	2,602	30,504	7,592	89%	66%	32,695	8,110
Sovereign	Drawn		149,957	4,053	8,703	566	158,660	4,619	95%	88%	167,335	4,626
	Undrawn		1,246	68	-	-	1,246	68	100%	100%	1,433	63
	Other <sup>(3)</sup>		1,028	39	480	246	1,508	285	68%	14%	1,836	56
	<b>Total</b>		152,231	4,160	9,183	812	161,414	4,972	94%	84%	170,604	4,745
<b>Total Non-Retail</b>			379,417	96,581	59,753	47,918	439,170	144,499			441,910	150,893
	Undrawn		122,200	44,080	2,964	2,938	125,164	47,018			120,701	44,170
	Other <sup>(3)</sup>		67,996	14,312	2,643	2,407	70,639	16,719			68,355	15,328
	<b>Total</b>		569,613	154,973	65,360	53,263	634,973	208,236			630,966	210,391
<b>Retail</b>												
Residential Mortgages <sup>(1)</sup>	Drawn		280,962	23,354	59,760	24,119	340,722	47,473	82%	49%	334,383	46,813
	Undrawn		-	-	-	-	-	-			-	-
	<b>Total</b>		280,962	23,354	59,760	24,119	340,722	47,473	82%	49%	334,383	46,813
Secured Lines Of Credit	Drawn		21,612	3,457	-	-	21,612	3,457	100%	100%	20,985	3,184
	Undrawn		21,964	1,062	-	-	21,964	1,062	100%	100%	21,458	1,056
	<b>Total</b>		43,576	4,519	-	-	43,576	4,519	100%	100%	42,443	4,240
Qualifying Revolving Retail Exposures (QRRE)	Drawn		15,531	8,812	-	-	15,531	8,812	100%	100%	15,165	8,472
	Undrawn		29,619	3,285	-	-	29,619	3,285	100%	100%	29,156	3,334
	<b>Total</b>		45,150	12,097	-	-	45,150	12,097	100%	100%	44,321	11,806
Other Retail	Drawn		32,945	19,019	46,071	33,878	79,016	52,897	42%	36%	71,552	47,119
	Undrawn/Other		3,947	1,822	821	631	4,768	2,453	83%	74%	3,707	1,708
	<b>Total</b>		36,892	20,841	46,892	34,509	83,784	55,350	44%	38%	75,259	48,827
<b>Total Retail</b>			351,050	54,642	105,831	57,997	456,881	112,639			442,085	105,588
	Undrawn/Other		55,530	6,169	821	631	56,351	6,800			54,321	6,098
	<b>Total</b>		406,580	60,811	106,652	58,628	513,232	119,439			496,406	111,686
Securitized			20,523	3,665	3,887	1,272	24,410	4,937	84%	74%	21,225	4,626
Trading Derivatives			28,407	5,491	1,283	1,281	29,690	6,772	96%	81%	28,702	6,976
Derivatives - credit valuation adjustment (CVA)			-	5,844	-	-	-	5,844			-	5,919
<b>Total Credit Risk (Excluding Equities &amp; Other Assets)</b>			1,025,123	230,784	177,182	114,444	1,202,305	345,228			1,177,299	339,598
Equities			5,719	5,681	-	-	5,719	5,681	100%	100%	5,552	5,495
Other Assets <sup>(4)</sup>			-	-	77,832	28,902	77,832	28,902			70,348	28,778
<b>Total Credit Risk (Before Scaling Factor)</b>			1,030,842	236,465	255,014	143,346	1,285,856	379,811			1,253,199	373,871
Add-on for 6% Scaling Factor <sup>(5)</sup>			-	13,617	-	-	-	13,617			-	13,193
<b>Total Credit Risk</b>			1,030,842	250,082	255,014	143,346	1,285,856	393,428			1,253,199	387,064

(1) AIRB Exposure at default is post credit risk mitigation. Standardized Exposure at default is after related IFRS 9 (ECL Stage 3) allowances 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 Securitized).

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

(in \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
<b>Resolution group</b>					
1	Total loss absorbing capacity (TLAC) available	128,800	133,841	122,613	115,681
1a	Total loss-absorbing capacity (TLAC) available with transitional arrangements for ECL provisioning not applied	128,800	133,841	122,613	115,681
2	Total RWA at the level of the resolution group	452,800	445,273	433,682	416,105
3	TLAC as a percentage of RWA (row 1 / row 2) (%)	28.4%	30.1%	28.3%	27.8%
3a	TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) available with transitional arrangements for ECL provisioning not applied	28.4%	30.1%	28.3%	27.8%
4	Leverage exposure measure at the level of the resolution group	1,388,823	1,360,184	1,308,247	1,201,766
5	TLAC as a percentage of leverage exposure measure (row 1 / row 4) (%)	9.3%	9.8%	9.4%	9.6%
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) (%)	9.3%	9.8%	9.4%	9.6%
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
<b>Part 2 - OVA – Bank risk management approach</b>		<b>Annual</b>					
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	<a href="#">79-117</a>				
(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	<a href="#">79-85</a>				
(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	<a href="#">79-85</a>				
(d)	The scope and main features of risk measurement systems.	Annual	<a href="#">80-84, 89-94, 99-101, 117</a>				
(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	<a href="#">79-83, 99</a>				
(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	<a href="#">82-83, 99-101, 104</a>	<a href="#">234, 239</a>			
(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	<a href="#">79-83, 89, 87-91, 99-101</a>	<a href="#">160-162, 181-185</a>			
<b>Part 3 - LIA – Explanations of differences between accounting and regulatory exposures amounts</b>		<b>Annual</b>					
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				<a href="#">LI1</a>	
(b)	Banks must explain the origins of differences between carrying values and amounts considered for regulatory purposes shown in LI2.	Annual				<a href="#">LI2</a>	
(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	<a href="#">89-90, 119-120</a>	<a href="#">175-180, 234</a>			
	• Description of the independent price verification process.	Annual	<a href="#">119-120</a>	<a href="#">175-176</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
	<ul style="list-style-type: none"> <li>Procedures for valuation adjustments or reserves (including a description of the process and the methodology for valuing trading positions by type of instrument).</li> </ul>	Annual	<a href="#">119-120</a>	<a href="#">161-162</a> <a href="#">181-182</a>			
	<b>Part 4 - CRA – General qualitative information about credit risk</b>	<b>Annual</b>					
	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	<a href="#">79, 83-85, 87-92</a>				
(b)	Criteria and approach used for defining credit risk management policy and for setting credit risk limits	Annual	<a href="#">82-85, 87, 96-97</a>				
(c)	Structure and organization of the credit risk management and control function	Annual	<a href="#">79-80, 90-92</a>				
(d)	Relationships between the credit risk management, risk control, compliance and internal audit functions	Annual	<a href="#">79-81</a>				
(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	<a href="#">79-83, 90-92</a>				
	<b>Part 4 - CRB – Additional disclosure related to the credit quality of assets</b>	<b>Annual</b>					
	Banks must provide the following disclosures:						
	<b>Qualitative disclosures</b>	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		<a href="#">163-165</a>	<a href="#">Overview</a>		
(b)	The extent of past-due exposures (more than 90 days) that are not considered to be impaired and the reasons for this.	Annual		<a href="#">163-165, 204</a>			
(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		<a href="#">163-165</a>	<a href="#">CR1</a>		
(d)	The bank’s own definition of a restructured exposure. (i.e. modified loans not derecognized)	Annual		<a href="#">163-165</a>			
	<b>Quantitative disclosures</b>	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	<a href="#">125, 130</a>	<a href="#">226</a>				
	(ii) Industry	Annual	<a href="#">127</a>	<a href="#">227</a>				
	(iii) Residual Maturity	Annual	<a href="#">111, 130</a>	<a href="#">196</a>				
(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			<a href="#">Q4, 2021 - Impaired by Region</a>			
	(ii) Industry	Annual			<a href="#">Q4, 2021 - Impaired by Industry</a>			
(g)	Ageing analysis of accounting past-due exposures;	Annual		<a href="#">204</a>				
(h)	Breakdown of restructured exposures between impaired and not impaired	Annual		<a href="#">201</a>				
<b>Part 4 - Table CRC: Qualitative disclosure requirements related to credit risk mitigation techniques</b>		<b>Annual</b>						
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	<a href="#">90-91</a>	<a href="#">185, 191-192</a>				
(b)	Core features of policies and processes for collateral evaluation and management.	Annual	<a href="#">90-91</a>	<a href="#">185</a>				
(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	<a href="#">84, 90-91, 94-95</a>	<a href="#">191-192, 234</a>				
<b>Part 4 - CRD: Qualitative disclosures on banks' use of external credit ratings under the standardized approach for credit risk</b>		<b>Annual</b>						
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	<a href="#">69-70</a>	<a href="#">237</a>				
(b)	The asset classes for which each ECAI or ECA is used;	Annual	<a href="#">69-70</a>	<a href="#">237</a>	<a href="#">EAD RWA</a>			
(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	<a href="#">69-70</a>	<a href="#">237</a>				
(d)	The alignment of the alphanumerical 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	<a href="#">69-70</a>	<a href="#">237</a>				
<b>Part 4 - CRE: Qualitative disclosures related to IRB models</b>		<b>Annual</b>						
Banks must provide the following information on their use of IRB models:		Annual						
(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	<a href="#">69-72, 85, 89</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			
(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	<a href="#">69-72</a>			
(c)	Scope and main content of the reporting related to credit risk models.	Annual	<a href="#">69-72</a>	<a href="#">234, 236-237</a>	<a href="#">Overview</a>	
(d)	Scope of the supervisor's acceptance of approach.	Annual	<a href="#">69-72</a>			
(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	<a href="#">69-72</a>		<a href="#">Overview</a>	<a href="#">EAD_RWA</a>
(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	<a href="#">69-72</a>	<a href="#">234, 236-237</a>		
(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	<a href="#">69-72</a>	<a href="#">234, 236-237</a>		
<b>Part 5 - CCRA: Qualitative disclosure related to counterparty credit risk</b>		<b>Annual</b>				
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	<a href="#">80-81, 90-91</a>	<a href="#">184-185</a>		
(c)	Policies relating to guarantees and other risk mitigants and assessments concerning counterparty risk, including exposures towards CCPs;	Annual	<a href="#">82-83, 90-91</a>	<a href="#">184-185</a>		
(d)	Policies with respect to wrong-way risk exposures;	Annual	<a href="#">91</a>			
(e)	The impact in terms of the amount of collateral that the bank would be required to provide given a credit rating downgrade.	Annual	<a href="#">106</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
<b>Part 6 - SECA: Qualitative disclosure requirements related to securitization exposures</b>		<b>Annual</b>					
<b>Qualitative disclosures</b>		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	<a href="#">74-75, 120</a>	<a href="#">205-207</a>			
(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	<a href="#">74-75</a>	<a href="#">205-207</a>			
	• 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	<a href="#">74-75</a>	<a href="#">205-207</a>			
	• 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	<a href="#">120</a>	<a href="#">205-207</a>			
(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					<a href="#">Overview</a>
(e)	If applicable, describe the process for implementing the Basel internal assessment approach (IAA). The description should include:	Annual					<a href="#">Overview</a>
	• 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					<a href="#">Overview</a>
	• control mechanisms for the internal assessment process including discussion of independence, accountability, and internal assessment process review; and	Annual					<a href="#">Overview</a>
	• the exposure type to which the internal assessment process is applied; and stress factors used for determining credit enhancement levels, by exposure type.	Annual					<a href="#">Overview</a>
(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
<b>Part 7 - Market risk</b>							
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. <b>As a result, the Bank's Market Risk disclosures continue to be based on Basel 2.5 disclosure requirements.</b>			n/a				
OSFI's requirements for Pillar 3 Requirements may be found in ( <a href="http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gld/Pages/plr3.aspx">http://www.osfi-bsif.gc.ca/Eng/fi-if/rg-ro/gdn-ort/gld/Pages/plr3.aspx</a> ).							
<b>Part 8 - Operational risk</b>							
(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	<a href="#">73, 113</a>				
(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.			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				
<b>Part 9 - Interest rate risk in the banking book (IRRBB)</b>							
(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	<a href="#">99-101</a>	<a href="#">239</a>			

**OV1: Overview of RWA**

(in \$ millions)	a	b	b <sub>2</sub>	b <sub>3</sub>	c
	RWA <sup>(1)</sup>				Minimum capital requirements <sup>(2)</sup>
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Q3 2022
1 Credit risk (excluding counterparty credit risk)	<b>353,663</b>	<b>348,877</b>	<b>336,834</b>	<b>322,329</b>	<b>28,293</b>
2 Of which: standardized approach (SA) <sup>(3)</sup>	130,916	132,449	129,729	123,728	10,473
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	222,747	216,428	207,105	198,601	17,820
6 Counterparty credit risk (CCR)	<b>14,732</b>	<b>13,458</b>	<b>14,061</b>	<b>14,089</b>	<b>1,179</b>
7 Of which: standardized approach for counterparty credit risk (SA-CCR)	1,014	2,031	1,865	1,150	81
8 Of which: Internal Model Method (IMM)	6,495	5,631	5,303	6,220	520
9 Of which: other CCR <sup>(4)</sup>	7,223	5,796	6,893	6,719	578
10 Credit valuation adjustment (CVA)	5,844	5,919	4,312	3,957	467
11 Equity positions under the simple risk weight approach	-	-	-	-	-
12 Equity investments in funds – look-through approach	1,359	1,244	1,127	997	109
13 Equity investments in funds – mandate-based approach	157	192	219	152	13
14 Equity investments in funds – fall-back approach	146	148	132	109	12
15 Settlement risk	-	-	-	-	-

**OV1: Overview of RWA**

(in \$ millions)	a	b	b <sub>2</sub>	b <sub>3</sub>	c	
	RWA <sup>(1)</sup>				Minimum capital requirements <sup>(2)</sup>	
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Q3 2022	
16	Securitization exposures in banking book	4,938	4,626	4,629	4,353	395
17	Of which: securitization internal ratings-based approach (SEC-IRBA)	76	84	91	100	6
18	Of which: securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	4,600	4,264	4,248	3,973	368
19	Of which: securitization standardized approach (SEC-SA)	262	278	290	280	21
20	Market risk	9,108	8,181	9,423	8,112	728
21	Of which: standardized approach (SA)	754	879	865	661	60
22	Of which: internal model approaches (IMA)	8,354	7,302	8,558	7,451	668
23	Capital charge for switch between trading book and banking book	-	-	-	-	-
24	Operational risk	50,263	50,027	49,673	49,210	4,021
25	Amounts below the thresholds for deduction (subject to 250% risk weight)	12,590	12,601	13,272	12,797	1,007
26	Floor adjustment	-	-	-	-	-
27	<b>Total (1 + 6 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 20 + 23 + 24 + 25 + 26)</b>	<b>452,800</b>	<b>445,273</b>	<b>433,682</b>	<b>416,105</b>	<b>36,224</b>

(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 <sup>(1)</sup>**

Q3 2022 (in \$ millions)	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: <sup>(2)</sup>				
			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 <sup>(3)</sup>
<b>Assets</b>							
Cash and deposits with financial institutions	67,715	67,596	67,596	-	-	-	-
Precious metals	837	837	837	-	-	837	-
Trading assets	-	-	-	-	-	-	-
Securities	108,538	108,526	-	-	-	108,526	-
Loans	8,295	8,295	1,202	-	-	7,472	-
Other	1,772	1,772	-	-	-	1,772	-
Financial instruments designated at fair value through profit or loss	-	-	-	-	-	-	-
Securities purchased under resale agreements and securities borrowed	155,217	155,217	-	155,217	-	-	-
Derivative financial instruments	47,139	47,139	-	47,139	-	40,317	-
Investment securities	108,222	107,381	107,381	-	-	-	-
Loans	-	-	-	-	-	-	-
Residential mortgages <sup>(4)</sup>	343,965	343,896	343,896	-	-	-	-
Personal loans	96,561	96,555	94,094	-	2,461	-	-
Credit cards	13,871	13,871	12,523	-	314	-	1,034
Business and government	264,128	264,124	256,260	-	7,812	-	52
Allowance for credit loss	(5,147)	(5,146)	(5,096)	-	-	-	(50)
Customers' liability under acceptances, net of allowance	19,817	19,817	19,817	-	-	-	-
Property and equipment	5,529	5,528	5,528	-	-	-	-
Investments in associates	2,733	3,023	3,023	-	-	-	-
Goodwill and other intangible assets	16,580	16,906	1,744	-	-	-	15,162
Deferred tax assets	905	900	830	-	-	-	70
Other assets	35,425	33,405	16,007	16,558	-	-	840
<b>Total assets</b>	<b>1,292,102</b>	<b>1,289,642</b>	<b>925,642</b>	<b>218,914</b>	<b>10,587</b>	<b>158,924</b>	<b>17,108</b>



**LI1: Differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories <sup>(1)</sup>**

Q3 2022 (in \$ millions)	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: <sup>(2)</sup>				
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 <sup>(3)</sup>	
<b>Liabilities</b>							
Deposits							
Personal	259,503	259,503	-	-	-	-	259,503
Business and government	566,966	566,966	-	-	-	-	566,966
Financial institutions	53,113	53,113	-	-	-	-	53,113
Financial instruments designated at fair value through profit or loss	22,876	22,876	-	-	-	-	22,876
Acceptances	19,844	19,844	-	-	-	-	19,844
Obligations related to securities sold short	44,220	44,220	-	-	-	44,220	-
Derivative financial instruments	56,880	56,880	-	56,880	-	39,461	-
Obligations related to securities sold under repurchase agreements and securities lent	128,145	128,145	-	128,145	-	-	-
Subordinated debentures	8,413	8,413	-	-	-	-	8,413
Other liabilities	58,557	56,097	-	-	-	385	55,712
<b>Total liabilities</b>	<b>1,218,517</b>	<b>1,216,057</b>	<b>-</b>	<b>185,025</b>	<b>-</b>	<b>84,066</b>	<b>986,427</b>

(1) Based on the Consolidated Statement of Financial Position as reported in the Bank's Q3 2022 Quarterly 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 \$75.2 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**

Q3 2022 (in \$ millions)		a	b	c	d	e
		Total	Items subject to: <sup>(1)</sup>			
			Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework
1	<b>Asset carrying value amount under scope of regulatory consolidation (as per template LI1)</b>	<b>1,272,534</b>	<b>925,642</b>	<b>10,587</b>	<b>218,914</b>	<b>158,924</b>
2	Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1)	269,091	-	-	185,025	84,066
3	Total net amount under regulatory scope of consolidation	1,003,443	925,642	10,587	33,889	74,858
4	Off-balance sheet amounts <sup>(2)</sup>	229,318	213,492	13,823	2,003	-
5	Differences in valuations <sup>(3)</sup>	2,737	2,737	-	-	-
6	Differences due to different netting rules, other than those already included in row 2	112,361	1,483	-	110,878	-
7	Differences due to considerations of provisions <sup>(4)</sup>	3,644	3,978	-	(334)	-
8	Collateral offsetting <sup>(5)</sup>	(136,248)	(2,984)	-	(133,264)	-
9	Differences due to Potential Future Exposures and Collateral Haircut	87,838	-	-	87,838	-
10	Differences due to deconsolidated subsidiaries	-	-	-	-	-
11	Other differences not classified above	15	15	-	-	-
12	<b>Exposure amounts considered for regulatory purposes <sup>(6)</sup></b>	<b>1,303,108</b>	<b>1,144,363</b>	<b>24,410</b>	<b>101,010</b>	<b>74,858</b>

(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 \$ millions)	a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation <sup>(1)</sup>
<b>Common Equity Tier 1 capital: instruments and reserves</b>					
1 Directly issued qualifying common share capital (and equivalent for non-joint stock companies) plus related stock surplus	18,576	18,658	18,504	18,585	u+y
2 Retained earnings	53,151	52,209	51,848	51,354	v
3 Accumulated other comprehensive income (and other reserves)	(6,684)	(6,034)	(4,324)	(5,333)	w
4 <i>Directly issued capital subject to phase-out from CET1 (only applicable to non-joint stock companies)</i>	-	-	-	-	
5 Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	693	760	1,327	1,322	aa
6 <b>Common Equity Tier 1 capital before regulatory adjustments</b>	65,736	65,593	67,355	65,928	
<b>Common Equity Tier 1 capital: regulatory adjustments</b>					
7 Prudential valuation adjustments	-	-	-	-	
8 Goodwill (net of related tax liability)	(9,081)	(9,232)	(9,294)	(9,175)	g
9 Other intangibles other than mortgage servicing rights (net of related tax liability)	(6,081)	(6,108)	(6,028)	(5,981)	h-q+i-r
10 Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	(70)	(77)	(184)	(174)	k
11 Cash flow hedge reserve	2,853	2,804	454	214	x
12 Shortfall of provisions to expected losses	-	-	-	-	dd
13 Securitization gain on sale	-	-	-	-	
14 Gains and losses due to changes in own credit risk on fair valued liabilities	(906)	(458)	188	381	p
15 Defined benefit pension fund net assets (net of related tax liability)	(840)	(1,012)	(391)	(316)	l-s
16 Investments in own shares (if not already netted off paid-in capital on reported balance sheet)	(17)	(14)	(34)	(99)	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	45	51	84	232	ff-o
27 Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions	-	-	-	-	
28 <b>Total regulatory adjustments to Common Equity Tier 1</b>	(14,097)	(14,046)	(15,205)	(14,918)	
29 <b>Common Equity Tier 1 capital (CET1)</b>	51,639	51,547	52,150	51,010	
29a <b>Common Equity Tier 1 capital (CET1)</b> with transitional arrangements for ECL provisioning not applied	51,591	51,493	52,062	50,775	

**CC1: Composition of regulatory capital**

(in \$ millions)	a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation <sup>(1)</sup>
<b>Additional Tier 1 capital: instruments</b>					
30 Directly issued qualifying Additional Tier 1 instruments plus related stock surplus	7,052	5,552	5,552	6,052	z
31 of which: classified as equity under applicable accounting standards	7,052	5,552	5,552	6,052	
32 of which: classified as liabilities under applicable accounting standards	-	-	-	-	
33 <i>Directly issued capital instruments subject to phase out from additional Tier 1</i>	-	-	-	653	Footnote (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)	110	102	209	200	bb
35 of which: instruments issued by subsidiaries subject to phase out	-	-	-	-	
36 Additional Tier 1 capital before regulatory adjustments	7,162	5,654	5,761	6,905	
<b>Additional Tier 1 capital: regulatory adjustments</b>					
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 <b>Total regulatory adjustments to Additional Tier 1 capital</b>	-	-	-	-	
44 <b>Additional Tier 1 capital (AT1)</b>	7,162	5,654	5,761	6,905	
45 <b>Tier 1 capital (T1 = CET1 + AT1)</b>	58,801	57,201	57,911	57,915	
45a <b>Tier 1 capital (T1 = CET1 + AT1) with transitional arrangements for ECL provisioning not applied</b>	58,753	57,147	57,823	57,680	

**CC1: Composition of regulatory capital**

(in \$ millions)	a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation <sup>(1)</sup>
<b>Tier 2 capital: instruments and provisions</b>					
46 Directly issued qualifying Tier 2 instruments plus related stock surplus	7,424	7,451	5,351	5,675	<i>m</i>
47 <i>Directly issued capital instruments subject to phase out from Tier 2</i>	-	-	-	248	
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)	91	91	191	157	<i>cc</i>
49 <i>of which: instruments issued by subsidiaries subject to phase out</i>	-	-	-	-	
50 General allowances	1,770	1,885	2,074	2,106	<i>c+d</i>
51 <b>Tier 2 capital before regulatory adjustments</b>	9,285	9,427	7,616	8,186	
<b>Tier 2 capital: regulatory adjustments</b>					
52 Investments in own Tier 2 instruments	-	-	-	-	<i>ee</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 <b>Total regulatory adjustments to Tier 2 capital</b>	-	-	-	-	
58 <b>Tier 2 capital (T2)</b>	9,285	9,427	7,616	8,186	
59 <b>Total capital (TC = T1 + T2)</b>	68,086	66,628	65,527	66,101	
59a <b>Total Capital</b> with transitional arrangements for ECL provisioning not applied	68,086	66,628	65,526	66,101	
60 <b>Total risk-weighted assets</b>	452,800	445,273	433,682	416,105	
60a <b>Common Equity Tier 1 (CET1) Capital RWA</b>	452,800	445,273	433,682	416,105	
60b <b>Tier 1 Capital RWA</b>	452,800	445,273	433,682	416,105	
60c <b>Total Capital RWA</b>	452,800	445,273	433,682	416,105	

**CC1: Composition of regulatory capital**

(in \$ millions)	a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>	b
	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Source based on reference numbers/letters of the balance sheet under the regulatory scope of consolidation <sup>(1)</sup>
<b>Capital ratios</b>					
61 Common Equity Tier 1 (as a percentage of risk-weighted assets)	11.4%	11.6%	12.0%	12.3%	
61a CET1 Ratio with transitional arrangements for ECL provisioning not applied	11.4%	11.6%	12.0%	12.2%	
62 Tier 1 (as a percentage of risk-weighted assets)	13.0%	12.8%	13.4%	13.9%	
62a Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied	13.0%	12.8%	13.3%	13.9%	
63 Total capital (as a percentage of risk-weighted assets)	15.0%	15.0%	15.1%	15.9%	
63a Total Capital Ratio with transitional arrangements for ECL provisioning not applied	15.0%	15.0%	15.1%	15.9%	
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)	11.4%	11.6%	12.0%	12.3%	
OSFI target (minimum + capital conservation buffer + D-SIB buffer (if applicable)) <sup>(3)</sup>					
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%	
<b>Amounts below the thresholds for deduction (before risk weighting)</b>					
72 Non-significant investments in the capital and other TLAC-eligible instruments of other financial entities	3,856	3,557	3,202	3,968	
73 Significant investments in the common stock of financial entities	2,854	2,861	2,838	2,631	
74 Mortgage servicing rights (net of related tax liability)	-	-	-	-	
75 Deferred tax assets arising from temporary differences (net of related tax liability)	2,182	2,179	2,471	2,488	
<b>Applicable caps on the inclusion of allowances in Tier 2</b>					
76 Allowances eligible for inclusion in Tier 2 in respect of exposures subject to standardized approach (prior to application of cap)	1,170	1,221	1,304	1,335	
77 Cap on inclusion of allowances in Tier 2 under standardized approach	1,569	1,592	1,568	1,488	
78 Allowances eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	649	719	859	1,006	
79 Cap on inclusion of allowances in Tier 2 under internal ratings-based approach	1,607	1,558	1,495	1,438	
<b>Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)</b>					
80 Current cap on CET1 instruments subject to phase out arrangements	0%	0%	0%	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	0%	0%	0%	10%	
83 Amounts excluded from AT1 due to cap (excess over cap after redemptions and maturities)	750	750	750	97	
84 Current cap on T2 instruments subject to phase out arrangements	0%	0%	0%	10%	
85 Amounts excluded from T2 due to cap (excess over cap after redemptions and maturities)	197	250	250	-	

(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 included \$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.

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

**CC2: Reconciliation of regulatory capital to balance sheet**

Condensed balance sheet (in \$ millions)	a	b	c
	Balance sheet as in published financial statements <sup>(1)</sup>	Under regulatory scope of consolidation <sup>(2)</sup>	Cross-reference to Definition of Capital Components
	Q3 2022	Q3 2022	
<b>Assets</b>			
Cash and deposits with financial institutions	67,715	67,596	
Precious metals	837	837	
<b>Trading assets</b>			
Securities	108,538	108,526	
- Investment in own shares		17	a
- Other trading securities		108,509	
Loans	8,295	8,295	
Other	1,772	1,772	
	118,605	118,593	
Financial instruments designated at fair value through profit and loss	-	-	
Securities purchased under resale agreements and securities borrowed	155,217	155,217	
Derivative financial instruments	47,139	47,139	
Investment securities	108,222	107,381	
- Significant investments in Additional Tier 1 capital and other financial institutions reflected in regulatory capital		-	b
- Other securities		107,381	
<b>Loans</b>			
Residential mortgages	343,965	343,896	
Personal loans	96,561	96,555	
Credit cards	13,871	13,871	
Business and government	264,128	264,124	
	718,525	718,446	
Allowance for credit losses	(5,147)	(5,146)	
- General Allowance reflected in Tier 2 capital		(1,168)	c
- Shortfall of allowances to expected loss		-	dd
- Excess of allowances to expected loss		(602)	d
- ECL transitional adjustment		(48)	ff
- Allowances not reflected in regulatory capital		(3,328)	

**CC2: Reconciliation of regulatory capital to balance sheet**

Condensed balance sheet (in \$ millions)	a	b	c
	Balance sheet as in published financial statements <sup>(1)</sup>	Under regulatory scope of consolidation <sup>(2)</sup>	Cross-reference to Definition of Capital Components
	Q3 2022	Q3 2022	
<b>Other</b>			
Customers' liability under acceptances, net of allowance	19,817	19,817	
Property and equipment	5,529	5,528	
Investments in associates	2,733	3,023	
- 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		3,023	
Goodwill and other intangible assets	16,580	16,906	
- Goodwill		8,755	g
- Imputed goodwill for Significant Investments		326	g
- Intangibles (excl computer software)		5,096	h
- Computer software intangibles		2,729	i
Deferred tax assets	905	900	
- Deferred tax assets arising from temporary differences exceeding the regulatory threshold		-	j
- Deferred tax assets that rely on future profitability		70	k
- Deferred tax assets not deducted from regulatory capital		830	
Other Assets	35,425	33,405	
- Defined pension fund assets		1,161	l
- Other assets		32,244	
Total other	80,989	79,579	
<b>Total assets</b>	<b>1,292,102</b>	<b>1,289,642</b>	



**CC2: Reconciliation of regulatory capital to balance sheet**

Condensed balance sheet (in \$ millions)	a	b	c
	Balance sheet as in published financial statements <sup>(1)</sup>	Under regulatory scope of consolidation <sup>(2)</sup>	Cross-reference to Definition of Capital Components
	Q3 2022	Q3 2022	
<b>Liabilities</b>			
Deposits			
Personal	259,503	259,503	
Business and government	566,966	566,966	
- Investment in own Tier 2 instruments		-	ee
- Other deposits from Business and government		566,966	
Financial institutions	53,113	53,113	
	879,582	879,582	
Financial instruments designated at fair value through profit and loss	22,876	22,876	
<b>Other</b>			
Acceptances	19,844	19,844	
Obligations related to securities sold short	44,220	44,220	
Derivative financial instruments	56,880	56,880	
Obligations related to securities sold under repurchase agreements and securities lent	128,145	128,145	
Subordinated debentures	8,413	8,413	
- Regulatory capital amortization of maturing debentures		792	
- Subordinated debentures used for regulatory capital		7,621	
- of which: are included in Tier 2 capital		7,424	m
- of which: are subject to phase out not included in Tier 2 capital		197	
Other liabilities	58,557	56,097	
- Liquidity reserves		3	o
- Gains/losses due to changes in own credit risk including DVA on derivatives		906	p
- Deferred tax liabilities		1,076	
- Intangible assets (excl. computer software and mortgage servicing rights)		1,412	q
- Intangible assets - computer software		332	r
- Defined benefit pension fund assets		321	s
- Other deferred tax liabilities		(989)	
- Other liabilities		54,112	
Total other	316,059	313,599	
<b>Total liabilities</b>	<b>1,218,517</b>	<b>1,216,057</b>	

**CC2: Reconciliation of regulatory capital to balance sheet**

Condensed balance sheet (in \$ millions)	a	b	c
	Balance sheet as in published financial statements <sup>(1)</sup>	Under regulatory scope of consolidation <sup>(2)</sup>	Cross-reference to Definition of Capital Components
	Q3 2022	Q3 2022	
<b>Equity</b>			
Common equity			
Common shares	18,728	18,728	<i>u</i>
- of which: amount eligible for CET1		18,728	
- of which: amount eligible for AT1		-	
Retained earnings	53,151	53,151	<i>v</i>
Accumulated other comprehensive income	(6,684)	(6,684)	<i>w</i>
- Cash flow hedging reserve		(2,853)	<i>x</i>
- Other		(3,831)	
Other reserves	(152)	(152)	
- portion allowed for inclusion into CET1		(152)	<i>y</i>
- portion not allowed for regulatory capital		-	
Total common equity	65,043	65,043	
Preferred shares and other equity instruments	7,052	7,052	
- of which: are qualifying Tier 1 capital		7,052	<i>z</i>
Total equity attributable to equity holders of the Bank	72,095	72,095	
Non-controlling interests in subsidiaries	1,490	1,490	
- portion allowed for inclusion into CET1		693	<i>aa</i>
- portion allowed for inclusion into Tier 1 capital		110	<i>bb</i>
- portion allowed for inclusion into Tier 2 capital		91	<i>cc</i>
- portion not allowed for regulatory capital		596	
Total equity	73,585	73,585	
<b>Total liabilities and equity</b>	<b>1,292,102</b>	<b>1,289,642</b>	

(1) Consolidated Statement of Financial Position as reported in the Third Quarter 2022 Quarterly 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: \$252MM, equity: \$291MM), Scotia Life Insurance Company (assets: \$3MM, equity: \$20MM), Scotia Reinsurance Limited (assets: \$18MM, equity: \$78MM), Scotia Jamaica Life Insurance Co. Ltd (assets: \$456MM, equity: \$99MM), Scotia Life Trinidad and Tobago Ltd (assets: \$393MM, equity: \$71MM), Scotia Insurance Caribbean Ltd. (assets: \$6MM, equity: \$16MM), and MD Life Insurance Company (assets: \$1,909MM, equity: \$18MM).

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

(in \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022 Amounts	Q2 2022 Amounts	Q1 2022 Amounts	Q4 2021 Amounts
<b>Regulatory capital elements of TLAC and adjustments</b>					
1	Common Equity Tier 1 capital (CET1)	51,639	51,547	52,150	51,010
2	Additional Tier 1 capital (AT1) before TLAC adjustments	7,162	5,654	5,761	6,905
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-	-	-	-
4	Other adjustments	-	-	-	-
5	AT1 instruments eligible under the TLAC framework	7,162	5,654	5,761	6,905
6	Tier 2 capital (T2) before TLAC adjustments	9,285	9,427	7,616	8,186
7	Amortized portion of T2 instruments where remaining maturity > 1 year	640	641	635	411
8	T2 capital ineligible as TLAC as issued out of subsidiaries to third parties	-	-	-	-
9	Other adjustments	-	-	-	-
10	T2 instruments eligible under the TLAC framework	9,925	10,068	8,251	8,597
11	TLAC arising from regulatory capital	68,726	67,269	66,162	66,512
<b>Non-regulatory capital elements of TLAC</b>					
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.	60,344	67,072	56,821	49,327
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	60,344	67,072	56,821	49,327
<b>Non-regulatory capital elements of TLAC: adjustments</b>					
18	TLAC before deductions	129,070	134,341	122,983	115,839
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	(270)	(500)	(370)	(158)
21	Other adjustments to TLAC	-	-	-	-
22	TLAC available after deductions	128,800	133,841	122,613	115,681
<b>Risk-weighted assets and leverage exposure measure for TLAC purposes</b>					
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	452,800	445,273	433,682	416,105
24	Leverage exposure measure	1,388,823	1,360,184	1,308,247	1,201,766
<b>TLAC ratios and buffers</b>					
25	TLAC (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	28.4%	30.1%	28.3%	27.8%
26	TLAC (as a percentage of leverage exposure)	9.3%	9.8%	9.4%	9.6%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	6.9%	7.0%	7.10%	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, and 19 are not applicable to Canadian D-SIBs.

**TLAC3: Resolution entity – creditor ranking at legal entity level**

(in \$ millions)		Creditor ranking						Sum of 1 to 6
		1 (most junior)	2	3	4	5	6 (most senior)	
<b>Q3 2022</b>								
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 <sup>(1)</sup> Par value	Other Liabilities <sup>(2)</sup>	Total
2	Total capital and liabilities net of credit risk mitigation	18,728	300	6,752	8,467	70,143	-	104,390
3	Subset of row 2 that are excluded liabilities	17	-	-	-	514	-	531
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,711	300	6,752	8,467	69,629	-	103,859
5	Subset of row 4 that are <i>potentially</i> eligible as TLAC	18,711	300	6,752	8,467	61,085	-	95,315
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	14,167	-	14,167
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,851	33,042	-	34,893
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,933	6,222	-	11,155
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	1,683	7,654	-	9,337
10	Subset of row 5 that is perpetual securities	18,711	300	6,752	-	-	-	25,763
<b>Q2 2022</b>								
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 <sup>(1)</sup> Par value	Other Liabilities <sup>(2)</sup>	Total
2	Total capital and liabilities net of credit risk mitigation	18,799	300	5,252	8,510	71,009	-	103,870
3	Subset of row 2 that are excluded liabilities	14	-	-	-	502	-	516
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,785	300	5,252	8,510	70,507	-	103,354
5	Subset of row 4 that are <i>potentially</i> eligible as TLAC	18,785	300	5,252	8,510	67,269	-	100,116
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	11,924	-	11,924
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,853	35,127	-	36,980
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	3,241	11,310	-	14,551
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	3,416	8,908	-	12,324
10	Subset of row 5 that is perpetual securities	18,785	300	5,252	-	-	-	24,337

**TLAC3: Resolution entity – creditor ranking at legal entity level**

(in \$ millions)		Creditor ranking						Sum of 1 to 6
		1 (most junior)	2	3	4	5	6 (most senior)	
<b>Q1 2022</b>								
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 <sup>(1)</sup> Par value	Other Liabilities <sup>(2)</sup>	Total
2	Total capital and liabilities net of credit risk mitigation	18,421	300	5,252	6,281	58,949	-	89,203
3	Subset of row 2 that are excluded liabilities	34	-	-	-	370	-	404
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	18,387	300	5,252	6,281	58,579	-	88,799
5	Subset of row 4 that are potentially eligible as TLAC	18,387	300	5,252	6,281	56,536	-	86,756
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	-	-	-	-	13,229	-	13,229
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	-	-	-	1,837	29,154	-	30,991
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	-	-	-	4,347	5,565	-	9,912
9	Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	-	-	-	97	8,588	-	8,685
10	Subset of row 5 that is perpetual securities	18,387	300	5,252	-	-	-	23,939
<b>Q4 2021</b>								
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 <sup>(1)</sup> Par value	Other Liabilities <sup>(2)</sup>	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 potentially 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

(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 \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
1	Total consolidated assets as per published financial statements	1,292,102	1,288,506	1,245,474	1,184,844
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(2,460)	(2,544)	(2,663)	(2,872)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference	(1,086)	(1,089)	(1,099)	(1,538)
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	(13,469)	(17,492)	(3,715)	(4,639)
6	Adjustment for securities financing transactions (i.e. repos and similar secured lending)	16,046	21,032	16,194	16,869
7	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	166,579	157,975	155,281	152,141
8	Other adjustments <sup>(1)</sup>	(68,889)	(86,204)	(101,225)	(143,039)
9	<b>Leverage ratio exposure measure</b>	<b>1,388,823</b>	<b>1,360,184</b>	<b>1,308,247</b>	<b>1,201,766</b>

(1) Commencing Q2 2020, amount includes temporary leverage ratio exposure exemptions (Q3 2022: central bank reserves: \$55.6 billion; Q2 2022: central bank reserves: \$72.6 billion; Q1 2022: central bank reserves: \$85.7 billion; Q4 2021: sovereign-issued securities: \$53.9 billion and central bank reserves: \$73.6 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 \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
<b>On-balance sheet exposures <sup>(1)</sup></b>					
1	On-balance sheet exposures (excluding derivatives and securities financing transactions (SFTs), but including collateral)	1,030,551	1,008,998	982,598	882,887
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)	(15,054)	(9,552)	(5,518)	(6,517)
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(13,239)	(13,644)	(15,481)	(15,532)
5	<b>Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of rows 1 to 4)</b>	<b>1,002,258</b>	<b>985,802</b>	<b>961,599</b>	<b>860,838</b>
<b>Derivative exposures</b>					
6	Replacement cost associated with <i>all</i> derivatives transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)	25,976	24,842	20,880	22,297
7	Add-on amounts for PFE associated with <i>all</i> derivatives transactions	21,406	19,886	19,303	19,626
8	(Exempted CCP leg of client-cleared trade exposures)	-	-	-	-
9	Adjusted effective notional amount of written credit derivatives	1,708	2,404	2,818	2,687
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(367)	(463)	(542)	(431)
11	<b>Total derivative exposures (sum of rows 6 to 10)</b>	<b>48,723</b>	<b>46,669</b>	<b>42,459</b>	<b>44,179</b>
<b>Securities financing transaction exposures</b>					
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	198,468	190,175	176,631	160,621
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(43,251)	(41,469)	(43,917)	(32,882)
14	CCR exposure for SFT assets	16,046	21,032	16,194	16,869
15	Agent transaction exposures	-	-	-	-
16	<b>Total securities financing transaction exposures (sum of rows 12 to 15)</b>	<b>171,263</b>	<b>169,738</b>	<b>148,908</b>	<b>144,608</b>
<b>Other off-balance sheet exposures</b>					
17	Off-balance sheet exposure at gross notional amount	515,775	500,492	494,737	483,525
18	(Adjustments for conversion to credit equivalent amounts)	(349,196)	(342,517)	(339,456)	(331,384)
19	<b>Off-balance sheet items (sum of rows 17 and 18)</b>	<b>166,579</b>	<b>157,975</b>	<b>155,281</b>	<b>152,141</b>
<b>Capital and total exposures</b>					
20	<b>Tier 1 capital</b>	<b>58,801</b>	<b>57,201</b>	<b>57,911</b>	<b>57,915</b>
20a	<b>Tier 1 capital with transitional arrangements for ECL provisioning not applied</b>	<b>58,753</b>	<b>57,147</b>	<b>57,823</b>	<b>57,680</b>
21	<b>Total exposures (sum of rows 5, 11, 16 and 19)</b>	<b>1,388,823</b>	<b>1,360,184</b>	<b>1,308,247</b>	<b>1,201,766</b>
<b>Leverage ratio</b>					
22	<b>Basel III leverage ratio</b>	<b>4.2%</b>	<b>4.2%</b>	<b>4.4%</b>	<b>4.8%</b>
22a	<b>Leverage Ratio with transitional arrangements for ECL provisioning not applied</b>	<b>4.2%</b>	<b>4.2%</b>	<b>4.4%</b>	<b>4.8%</b>

(1) On-balance sheet items exclude securities purchased under resale agreements and securities borrowed (\$155,217MM), derivative financial instruments (\$47,139MM), assets outside the regulatory scope of consolidation (\$2,460MM).

**CR1: Credit quality of assets <sup>(1)</sup>**

(in \$ millions)		a	b	c	d		e	f	g
		Gross carrying values of <sup>(2)</sup>		Allowances/ impairments <sup>(4)</sup>	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 <sup>(3)</sup>	Non-defaulted exposures		Allocated in regulatory category of Specific	Allocated in regulatory category of General			
<b>Q3 2022</b>									
1	Loans <sup>(5)</sup>	4,039	791,327	5,084	1,269	2,341	1,474	790,282	
2	Debt Securities	212	103,888	1	-	-	1	104,099	
3	Off-balance sheet exposures <sup>(6)</sup>	260	276,885	109	-	39	70	277,036	
<b>4</b>	<b>Total</b>	<b>4,511</b>	<b>1,172,100</b>	<b>5,194</b>	<b>1,269</b>	<b>2,380</b>	<b>1,545</b>	<b>1,171,417</b>	
<b>Q2 2022</b>									
1	Loans <sup>(5)</sup>	4,093	786,835	5,224	1,311	2,390	1,523	785,704	
2	Debt Securities	213	96,501	-	-	-	-	96,714	
3	Off-balance sheet exposures <sup>(6)</sup>	295	264,672	49	-	9	40	264,918	
<b>4</b>	<b>Total</b>	<b>4,601</b>	<b>1,148,008</b>	<b>5,273</b>	<b>1,311</b>	<b>2,399</b>	<b>1,563</b>	<b>1,147,336</b>	
<b>Q1 2022</b>									
1	Loans <sup>(5)</sup>	4,285	777,049	5,420	1,302	2,412	1,706	775,914	
2	Debt Securities	211	76,509	-	-	-	-	76,720	
3	Off-balance sheet exposures <sup>(6)</sup>	294	262,308	55	-	9	46	262,547	
<b>4</b>	<b>Total</b>	<b>4,790</b>	<b>1,115,866</b>	<b>5,475</b>	<b>1,302</b>	<b>2,421</b>	<b>1,752</b>	<b>1,115,181</b>	
<b>Q4 2021</b>									
1	Loans <sup>(5)</sup>	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 <sup>(6)</sup>	304	257,453	65	-	8	57	257,692	
<b>4</b>	<b>Total</b>	<b>4,935</b>	<b>1,062,271</b>	<b>5,633</b>	<b>1,320</b>	<b>2,426</b>	<b>1,887</b>	<b>1,061,573</b>	

(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<sup>(1)</sup>**

(in \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
1	Defaulted loans and debt securities - Beginning of Quarter <sup>(2)</sup>	4,601	4,790	4,935	5,403
2	Loans and debt securities that have defaulted since the last reporting period	1,338	1,154	1,162	1,237
3	Returned to non-defaulted status <sup>(3)</sup>	(695)	(795)	(682)	(720)
4	Amounts written off	(577)	(550)	(593)	(706)
5	Other changes <sup>(4)</sup>	(156)	2	(32)	(279)
6	<b>Defaulted loans and debt securities - End of Quarter<sup>(2)</sup></b>	<b>4,511</b>	<b>4,601</b>	<b>4,790</b>	<b>4,935</b>

(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 \$ millions)		a	b1	b	d	f
		Unsecured exposures: carrying amount <sup>(1)</sup>	Exposures to be secured <sup>(1)</sup>	Exposures secured by collateral <sup>(2) (3)</sup>	Exposures secured by financial guarantees <sup>(4)</sup>	Exposures secured by credit derivatives
<b>Q3 2022</b>						
1	Loans <sup>(5)</sup>	282,875	507,407	420,808	86,599	-
2	Debt Securities	76,696	27,403	-	27,403	-
3	<b>Total</b>	<b>359,571</b>	<b>534,810</b>	<b>420,808</b>	<b>114,002</b>	-
4	Of which defaulted	1,413	1,272	1,021	251	-
<b>Q2 2022</b>						
1	Loans <sup>(5)</sup>	287,424	498,280	409,856	88,424	-
2	Debt Securities	71,600	25,114	-	25,114	-
3	<b>Total</b>	<b>359,024</b>	<b>523,394</b>	<b>409,856</b>	<b>113,538</b>	-
4	Of which defaulted	1,408	1,286	1,035	251	-
<b>Q1 2022</b>						
1	Loans <sup>(5)</sup>	291,909	484,005	393,877	90,128	-
2	Debt Securities	50,870	25,850	-	25,850	-
3	<b>Total</b>	<b>342,779</b>	<b>509,855</b>	<b>393,877</b>	<b>115,978</b>	-
4	Of which defaulted	1,514	1,346	1,072	274	-
<b>Q4 2021</b>						
1	Loans <sup>(5)</sup>	265,637	468,052	376,982	91,070	-
2	Debt Securities	46,046	24,146	-	24,146	-
3	<b>Total</b>	<b>311,683</b>	<b>492,198</b>	<b>376,982</b>	<b>115,216</b>	-
4	Of which defaulted	1,617	1,345	1,057	288	-

(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 \$ millions)	a	b	c	d	e	f
	Exposures before CCF and CRM		Exposures post-CCF and CRM <sup>(1)</sup>		RWA and RWA density	
	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
<b>Q3 2022</b>						
1 Bank	3,161	475	3,140	128	2,597	80%
2 Corporate	49,970	21,624	47,910	4,488	49,342	94%
3 Sovereign	8,703	575	8,703	-	566	7%
4 Real Estate Secured	59,760	1,048	59,760	-	24,119	40%
5 Other Retail	46,268	34,593	46,070	821	34,509	74%
6 Equity <sup>(2)</sup>	4,115	-	4,114	-	4,362	106%
7 Other Assets <sup>(3)</sup>	66,773	-	66,773	-	15,421	23%
<b>8 Total</b>	<b>238,750</b>	<b>58,315</b>	<b>236,470</b>	<b>5,437</b>	<b>130,916</b>	<b>55%</b>
<b>Q2 2022</b>						
1 Bank	4,262	306	4,240	42	3,034	71%
2 Corporate	56,287	25,876	53,988	5,611	56,135	94%
3 Sovereign	8,520	582	8,520	-	535	6%
4 Real Estate Secured	60,314	982	60,314	-	24,196	40%
5 Other Retail	39,294	30,882	39,107	-	28,880	74%
6 Equity <sup>(2)</sup>	4,000	-	4,000	-	4,240	106%
7 Other Assets <sup>(3)</sup>	62,036	-	62,036	-	15,429	25%
<b>8 Total</b>	<b>234,713</b>	<b>58,628</b>	<b>232,205</b>	<b>5,653</b>	<b>132,449</b>	<b>56%</b>
<b>Q1 2022</b>						
1 Bank	3,180	370	3,157	12	2,662	84%
2 Corporate	56,122	26,117	53,681	5,708	55,777	94%
3 Sovereign	8,848	819	8,848	49	797	9%
4 Real Estate Secured	58,769	883	58,769	-	23,440	40%
5 Other Retail	38,168	31,047	37,985	-	28,013	74%
6 Equity <sup>(2)</sup>	3,547	-	3,547	-	3,759	106%
7 Other Assets <sup>(3)</sup>	61,833	-	61,833	-	15,281	25%
<b>8 Total</b>	<b>230,467</b>	<b>59,236</b>	<b>227,820</b>	<b>5,769</b>	<b>129,729</b>	<b>56%</b>
<b>Q4 2021</b>						
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 <sup>(2)</sup>	3,249	-	3,249	-	3,444	106%
7 Other Assets <sup>(3)</sup>	48,834	-	48,834	-	14,646	30%
<b>8 Total</b>	<b>209,890</b>	<b>55,825</b>	<b>207,379</b>	<b>5,481</b>	<b>123,728</b>	<b>58%</b>

(1) 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**

	Risk weight	a	b	c	d	e	f	g	h	i	j
		0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post-CCF and post-CRM) <sup>(1)</sup>
<b>(in \$ millions)</b>											
<b>Asset classes</b>											
<b>Q3 2022</b>											
1	Bank	-	-	837	-	2	-	2,429	-	-	3,268
2	Corporate	3,126	-	151	-	6	-	48,725	390	-	52,398
3	Sovereign	7,577	-	-	-	1,120	-	6	-	-	8,703
4	Real Estate Secured	3,755	-	75	44,969	62	10,268	628	3	-	59,760
5	Other Retail	646	-	487	-	-	45,434	299	25	-	46,891
6	Equity <sup>(2)</sup>	-	-	-	-	-	-	4,114	-	-	4,114
7	Other Assets <sup>(3)</sup>	52,855	-	-	-	-	-	13,788	-	130	66,773
<b>8</b>	<b>Total</b>	<b>67,959</b>	<b>-</b>	<b>1,550</b>	<b>44,969</b>	<b>1,190</b>	<b>55,702</b>	<b>69,989</b>	<b>418</b>	<b>130</b>	<b>241,907</b>
<b>Q2 2022</b>											
1	Bank	-	-	1,557	-	3	-	2,722	-	-	4,282
2	Corporate	3,540	-	139	-	28	-	55,489	403	-	59,599
3	Sovereign	7,463	-	-	-	1,045	-	12	-	-	8,520
4	Real Estate Secured	4,167	-	-	45,192	-	10,316	636	3	-	60,314
5	Other Retail	320	-	468	-	-	38,166	136	17	-	39,107
6	Equity <sup>(2)</sup>	-	-	-	-	-	-	4,000	-	-	4,000
7	Other Assets <sup>(3)</sup>	48,096	-	-	-	-	-	13,811	-	129	62,036
<b>8</b>	<b>Total</b>	<b>63,586</b>	<b>-</b>	<b>2,164</b>	<b>45,192</b>	<b>1,076</b>	<b>48,482</b>	<b>76,806</b>	<b>423</b>	<b>129</b>	<b>237,858</b>
<b>Q1 2022</b>											
1	Bank	-	-	664	-	6	-	2,443	56	-	3,169
2	Corporate	3,624	-	134	-	28	-	55,335	268	-	59,389
3	Sovereign	7,593	-	-	-	1,016	-	288	-	-	8,897
4	Real Estate Secured	4,604	-	-	43,365	-	10,163	633	4	-	58,769
5	Other Retail	358	-	491	-	-	36,938	173	25	-	37,985
6	Equity <sup>(2)</sup>	-	-	-	-	-	-	3,547	-	-	3,547
7	Other Assets <sup>(3)</sup>	48,188	-	-	-	-	-	13,502	-	143	61,833
<b>8</b>	<b>Total</b>	<b>64,367</b>	<b>-</b>	<b>1,289</b>	<b>43,365</b>	<b>1,050</b>	<b>47,101</b>	<b>75,921</b>	<b>353</b>	<b>143</b>	<b>233,589</b>
<b>Q4 2021</b>											
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 <sup>(2)</sup>	-	-	-	-	-	-	3,249	-	-	3,249
7	Other Assets <sup>(3)</sup>	35,694	-	-	-	-	-	13,009	-	131	48,834
<b>8</b>	<b>Total</b>	<b>52,542</b>	<b>-</b>	<b>1,377</b>	<b>39,644</b>	<b>956</b>	<b>44,493</b>	<b>73,357</b>	<b>360</b>	<b>131</b>	<b>212,860</b>

(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). 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 \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Q3 2022</b>													
<b>Retail - insured exposures secured by residential real estate</b>													
	0.00 to <0.15	30,414	-	0%	74,135	0.00%	192,367	22.28%		285	0.4%	-	
	0.15 to <0.25	27,251	-	0%	1,805	0.18%	115,914	23.32%		169	9.3%	1	
	0.25 to <0.50	546	-	0%	-	0.00%	3,060	0.00%		-	0.0%	-	
	0.50 to <0.75	14,419	-	0%	427	0.67%	54,150	19.09%		83	19.4%	1	
	0.75 to <2.50	2,703	-	0%	12	1.95%	9,730	11.73%		3	24.0%	-	
	2.50 to <10.00	389	-	0%	-	0.00%	1,834	0.00%		-	0.0%	-	
	10.00 to <100.00	457	-	0%	-	0.00%	2,183	0.00%		-	0.0%	-	
	100.00 (Default)	201	-	0%	-	100.00%	1,134	105.00%		-	11.4%	-	
	<b>Sub-total</b>	<b>76,380</b>	<b>-</b>	<b>0.00%</b>	<b>76,379</b>	<b>0.01%</b>	<b>380,372</b>	<b>22.28%</b>		<b>540</b>	<b>0.7%</b>	<b>2</b>	<b>17</b>
<b>Retail - uninsured exposures secured by residential real estate</b>													
	0.00 to <0.15	81,639	58,906	36%	103,083	0.06%	891,173	19.53%		3,589	3.5%	13	
	0.15 to <0.25	80,111	-	0%	80,111	0.18%	236,937	19.34%		6,206	7.7%	29	
	0.25 to <0.50	928	-	0%	928	0.44%	2,873	41.05%		289	31.2%	2	
	0.50 to <0.75	46,158	-	0%	46,158	0.67%	114,188	20.44%		9,584	20.8%	63	
	0.75 to <2.50	15,501	780	61%	15,979	1.62%	75,881	26.15%		7,096	44.4%	63	
	2.50 to <10.00	1,050	49	81%	1,090	4.83%	8,657	26.18%		938	86.1%	13	
	10.00 to <100.00	608	3	111%	611	22.11%	3,322	18.57%		622	101.7%	24	
	100.00 (Default)	200	-	0%	200	100.00%	26,655	57.28%		921	460.7%	56	
	<b>Sub-total</b>	<b>226,195</b>	<b>59,738</b>	<b>37%</b>	<b>248,160</b>	<b>0.47%</b>	<b>1,359,686</b>	<b>20.20%</b>		<b>29,245</b>	<b>11.8%</b>	<b>263</b>	<b>142</b>

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

(in \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Retail - qualifying revolving (QRRE)</b>	0.00 to <0.15	914	20,415	57%	12,570	0.05%	878,768	80.48%		332	2.6%	5	
	0.15 to <0.25	1,332	16,202	58%	10,750	0.17%	1,957,003	74.49%		807	7.5%	14	
	0.25 to <0.50	3,350	5,643	67%	7,145	0.33%	376,363	87.92%		1,061	14.8%	21	
	0.50 to <0.75	186	251	104%	446	0.61%	15,679	66.41%		82	18.4%	2	
	0.75 to <2.50	5,663	5,783	68%	9,574	1.27%	1,100,496	86.41%		4,007	41.9%	107	
	2.50 to <10.00	3,421	600	89%	3,956	5.38%	555,471	89.26%		4,634	117.2%	191	
	10.00 to <100.00	569	17	259%	614	28.50%	112,121	85.42%		1,400	227.9%	149	
	100.00 (Default)	94	-	0%	94	100.00%	761,705	88.07%		500	529.5%	50	
	<b>Sub-total</b>	<b>15,529</b>	<b>48,911</b>	<b>61%</b>	<b>45,149</b>	<b>1.45%</b>	<b>5,757,606</b>	<b>82.20%</b>		<b>12,823</b>	<b>28.4%</b>	<b>539</b>	<b>696</b>
<b>Other Retail Exposures</b>	0.00 to <0.15	5,485	1,189	60%	6,201	0.09%	290,004	59.90%		858	13.8%	3	
	0.15 to <0.25	1	6	59%	4	0.17%	37	79.88%		1	31.1%	-	
	0.25 to <0.50	7,147	305	77%	7,381	0.32%	286,407	61.86%		2,646	35.8%	14	
	0.50 to <0.75	1,338	2,840	103%	4,263	0.61%	14,306	66.41%		2,411	56.6%	17	
	0.75 to <2.50	14,756	71	90%	14,820	1.19%	458,827	64.74%		10,847	73.2%	115	
	2.50 to <10.00	3,269	1	114%	3,270	4.80%	103,628	66.69%		3,402	104.0%	104	
	10.00 to <100.00	810	2	120%	812	28.92%	28,520	61.96%		1,261	155.2%	146	
	100.00 (Default)	141	-	0%	141	100.00%	13,902	84.93%		665	473.1%	117	
	<b>Sub-total</b>	<b>32,947</b>	<b>4,414</b>	<b>89%</b>	<b>36,892</b>	<b>2.07%</b>	<b>1,195,631</b>	<b>63.73%</b>		<b>22,091</b>	<b>59.9%</b>	<b>516</b>	<b>372</b>
<b>Total</b>		<b>351,051</b>	<b>113,063</b>	<b>49%</b>	<b>406,580</b>	<b>0.64%</b>	<b>8,693,295</b>	<b>31.43%</b>		<b>64,699</b>	<b>15.9%</b>	<b>1,320</b>	<b>1,227</b>

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

(in \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Q2 2022</b>													
<b>Retail - insured exposures secured by residential real estate</b>													
	0.00 to <0.15	30,162	-	0%	72,811	0.00%	193,460	22.37%		264	0.4%	-	
	0.15 to <0.25	26,192	-	0%	1,816	0.18%	113,761	22.12%		161	8.9%	1	
	0.25 to <0.50	607	-	0%	-	0.00%	3,424	0.00%		-	0.0%	-	
	0.50 to <0.75	14,311	-	0%	399	0.75%	54,302	17.86%		78	19.5%	1	
	0.75 to <2.50	2,766	-	0%	4	1.95%	9,995	10.77%		1	25.0%	-	
	2.50 to <10.00	380	-	0%	-	0.00%	1,816	0.00%		-	0.0%	-	
	10.00 to <100.00	409	-	0%	-	0.00%	1,984	0.00%		-	0.0%	-	
	100.00 (Default)	203	-	0%	-	100.00%	1,164	105.00%		-	0.0%	-	
	<b>Sub-total</b>	<b>75,030</b>	<b>-</b>	<b>0%</b>	<b>75,030</b>	<b>0.01%</b>	<b>379,906</b>	<b>22.34%</b>		<b>504</b>	<b>0.7%</b>	<b>2</b>	<b>11</b>
<b>Retail - uninsured exposures secured by residential real estate</b>													
	0.00 to <0.15	80,786	56,955	36%	101,576	0.06%	888,401	18.93%		3,415	3.4%	13	
	0.15 to <0.25	76,731	-	0%	76,731	0.18%	233,582	18.45%		5,672	7.4%	26	
	0.25 to <0.50	919	-	0%	919	0.44%	2,880	41.01%		286	31.1%	2	
	0.50 to <0.75	43,497	-	0%	43,497	0.75%	111,458	19.51%		9,261	21.3%	63	
	0.75 to <2.50	16,447	990	64%	17,078	1.65%	78,647	24.90%		7,334	42.9%	66	
	2.50 to <10.00	946	45	80%	981	5.05%	8,478	24.88%		813	82.9%	11	
	10.00 to <100.00	492	2	126%	494	21.88%	2,970	18.10%		488	98.8%	19	
	100.00 (Default)	206	-	0%	206	100.00%	26,125	59.24%		916	444.7%	61	
	<b>Sub-total</b>	<b>220,024</b>	<b>57,992</b>	<b>37%</b>	<b>241,482</b>	<b>0.49%</b>	<b>1,352,541</b>	<b>19.45%</b>		<b>28,185</b>	<b>11.7%</b>	<b>261</b>	<b>139</b>

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

(in \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Retail - qualifying revolving (QRRE)</b>	0.00 to <0.15	997	20,132	57%	12,448	0.05%	866,205	80.06%		327	2.6%	5	
	0.15 to <0.25	1,233	16,067	58%	10,601	0.19%	1,928,635	76.51%		884	8.3%	16	
	0.25 to <0.50	3,405	5,377	67%	7,018	0.33%	366,936	87.60%		1,037	14.8%	20	
	0.50 to <0.75	231	258	104%	499	0.61%	17,348	66.41%		92	18.4%	2	
	0.75 to <2.50	5,433	5,743	68%	9,320	1.27%	1,100,444	86.69%		3,886	41.7%	103	
	2.50 to <10.00	3,249	592	89%	3,775	5.59%	540,899	89.43%		4,549	120.5%	190	
	10.00 to <100.00	523	16	271%	566	27.30%	106,006	85.77%		1,287	227.4%	132	
	100.00 (Default)	94	-	0%	94	100.00%	749,514	86.00%		452	480.9%	49	
	<b>Sub-total</b>	<b>15,165</b>	<b>48,185</b>	<b>61%</b>	<b>44,321</b>	<b>1.42%</b>	<b>5,675,987</b>	<b>82.53%</b>		<b>12,514</b>	<b>28.2%</b>	<b>517</b>	<b>750</b>
<b>Other Retail Exposures</b>	0.00 to <0.15	5,503	1,143	60%	6,187	0.09%	298,487	59.83%		857	13.9%	3	
	0.15 to <0.25	1	6	56%	4	0.19%	35	81.80%		1	25.0%	-	
	0.25 to <0.50	7,350	273	76%	7,558	0.32%	298,871	61.41%		2,690	35.6%	15	
	0.50 to <0.75	1,402	2,674	103%	4,159	0.61%	14,183	66.41%		2,354	56.6%	17	
	0.75 to <2.50	14,627	60	89%	14,681	1.17%	468,304	64.92%		10,723	73.0%	112	
	2.50 to <10.00	2,740	1	112%	2,740	4.86%	93,468	66.31%		2,840	103.6%	88	
	10.00 to <100.00	691	-	204%	692	27.88%	25,440	61.89%		1,069	154.5%	119	
	100.00 (Default)	131	-	0%	131	100.00%	12,877	84.73%		610	465.6%	117	
	<b>Sub-total</b>	<b>32,445</b>	<b>4,157</b>	<b>89%</b>	<b>36,152</b>	<b>1.89%</b>	<b>1,211,665</b>	<b>63.61%</b>		<b>21,144</b>	<b>58.5%</b>	<b>471</b>	<b>371</b>
<b>Total</b>		<b>342,664</b>	<b>110,334</b>	<b>49%</b>	<b>396,985</b>	<b>0.63%</b>	<b>8,620,099</b>	<b>31.06%</b>		<b>62,347</b>	<b>15.7%</b>	<b>1,251</b>	<b>1,271</b>



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

(in \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Q1 2022</b>													
<b>Retail - insured exposures secured by residential real estate</b>	0.00 to <0.15	30,096	-	0%	74,274	0.00%	194,195	21.41%		263	0.4%	-	
	0.15 to <0.25	26,751	-	0%	1,839	0.18%	116,869	20.84%		154	8.4%	1	
	0.25 to <0.50	643	-	0%	-	0.00%	3,607	0.00%		-	0.0%	-	
	0.50 to <0.75	15,015	-	0%	458	0.75%	57,125	17.74%		89	19.4%	1	
	0.75 to <2.50	2,974	-	0%	5	1.95%	10,791	10.77%		1	20.0%	-	
	2.50 to <10.00	401	-	0%	-	0.00%	1,964	0.00%		-	0.0%	-	
	10.00 to <100.00	464	-	0%	-	0.00%	2,210	0.00%		-	0.0%	-	
	100.00 (Default)	231	-	0%	-	100.00%	1,304	105.00%		-	0.0%	-	
	<b>Sub-total</b>	<b>76,575</b>	<b>-</b>	<b>0%</b>	<b>76,576</b>	<b>0.01%</b>	<b>388,065</b>	<b>21.38%</b>		<b>507</b>	<b>0.7%</b>	<b>2</b>	<b>14</b>
<b>Retail - uninsured exposures secured by residential real estate</b>	0.00 to <0.15	76,486	55,251	37%	96,705	0.06%	870,346	18.20%		3,150	3.3%	12	
	0.15 to <0.25	75,298	-	0%	75,298	0.18%	228,867	16.47%		4,970	6.6%	23	
	0.25 to <0.50	845	-	0%	845	0.44%	2,761	40.96%		263	31.1%	2	
	0.50 to <0.75	43,489	-	0%	43,489	0.75%	113,206	17.43%		8,269	19.0%	57	
	0.75 to <2.50	15,004	842	64%	15,540	1.62%	76,500	22.45%		5,874	37.8%	52	
	2.50 to <10.00	926	62	78%	975	5.00%	8,909	24.39%		784	80.4%	11	
	10.00 to <100.00	555	3	104%	559	22.69%	3,254	16.76%		513	91.8%	21	
	100.00 (Default)	232	-	0%	232	100.00%	25,584	55.10%		964	415.5%	62	
	<b>Sub-total</b>	<b>212,835</b>	<b>56,158</b>	<b>37%</b>	<b>233,643</b>	<b>0.51%</b>	<b>1,329,427</b>	<b>17.92%</b>		<b>24,787</b>	<b>10.6%</b>	<b>240</b>	<b>138</b>

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

(in \$ millions)	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 <sup>(1)</sup>	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(1)(6)</sup>	RWA density <sup>(7)</sup>	EL <sup>(1)</sup>	Provisions <sup>(8)</sup>
<b>Retail - qualifying revolving (QRRE)</b>	0.00 to <0.15	916	19,345	57%	11,911	0.05%	829,674	80.19%		313	2.6%	4	
	0.15 to <0.25	1,096	15,942	59%	10,487	0.19%	1,903,832	76.34%		873	8.3%	15	
	0.25 to <0.50	3,288	5,204	67%	6,768	0.33%	349,598	87.75%		1,003	14.8%	19	
	0.50 to <0.75	225	264	104%	499	0.61%	17,312	66.41%		92	18.4%	2	
	0.75 to <2.50	5,349	5,629	68%	9,156	1.27%	1,080,796	86.67%		3,835	41.9%	103	
	2.50 to <10.00	3,335	585	88%	3,851	5.66%	547,145	89.53%		4,684	121.6%	196	
	10.00 to <100.00	566	16	277%	610	27.82%	113,052	85.92%		1,393	228.4%	145	
	100.00 (Default)	88	-	0%	88	100.00%	743,709	86.59%		446	506.8%	45	
	<b>Sub-total</b>	<b>14,863</b>	<b>46,985</b>	<b>61%</b>	<b>43,370</b>	<b>1.48%</b>	<b>5,585,118</b>	<b>82.57%</b>		<b>12,639</b>	<b>29.1%</b>	<b>529</b>	<b>821</b>
<b>Other Retail Exposures</b>	0.00 to <0.15	5,657	1,099	60%	6,315	0.09%	305,195	59.51%		875	13.9%	3	
	0.15 to <0.25	-	5	56%	3	0.19%	33	80.89%		1	33.3%	-	
	0.25 to <0.50	7,308	269	77%	7,514	0.32%	301,825	61.44%		2,674	35.6%	15	
	0.50 to <0.75	1,347	2,681	103%	4,110	0.61%	14,046	66.41%		2,325	56.6%	17	
	0.75 to <2.50	14,157	52	88%	14,203	1.17%	470,459	64.60%		10,328	72.7%	108	
	2.50 to <10.00	2,942	1	92%	2,943	4.84%	101,180	66.35%		3,049	103.6%	94	
	10.00 to <100.00	707	-	228%	708	28.13%	26,334	61.84%		1,093	154.4%	123	
	100.00 (Default)	135	-	0%	135	100.00%	12,559	84.99%		654	484.4%	117	
	<b>Sub-total</b>	<b>32,253</b>	<b>4,107</b>	<b>90%</b>	<b>35,931</b>	<b>1.94%</b>	<b>1,231,631</b>	<b>63.42%</b>		<b>20,999</b>	<b>58.4%</b>	<b>477</b>	<b>398</b>
<b>Total</b>		<b>336,526</b>	<b>107,250</b>	<b>49%</b>	<b>389,520</b>	<b>0.65%</b>	<b>8,534,241</b>	<b>30.00%</b>		<b>58,932</b>	<b>15.1%</b>	<b>1,248</b>	<b>1,371</b>

(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 <sup>(1)</sup>**

(in \$ millions)	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 <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Q3 2022</b>													
<b>Sovereign</b>													
	0.00 to <0.15	144,165	2,815	46%	145,669	0.02%	117	12.25%	2.15	2,638	1.8%	5	
	0.15 to <0.25	411	87	11%	420	0.20%	4	23.69%	0.21	52	12.3%	-	
	0.25 to <0.50	351	1	45%	351	0.37%	5	25.06%	1.23	97	27.6%	-	
	0.50 to <0.75	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	0.75 to <2.50	4,096	2	45%	4,098	1.20%	15	18.68%	1.15	1,494	36.5%	9	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	581	-	0%	581	18.06%	1	3.10%	0.50	90	15.5%	3	
	100.00 (Default)	212	-	0%	212	100.00%	1	25.00%	3.82	-	0.0%	53	
	<b>Sub-total</b>	<b>149,816</b>	<b>2,905</b>	<b>45%</b>	<b>151,331</b>	<b>0.26%</b>	<b>143</b>	<b>12.47%</b>	<b>2.11</b>	<b>4,371</b>	<b>2.9%</b>	<b>70</b>	<b>3</b>
<b>Bank</b>													
	0.00 to <0.15	12,709	11,074	60%	19,433	0.07%	361	31.88%	1.54	3,417	17.6%	5	
	0.15 to <0.25	562	622	62%	951	0.20%	35	36.14%	1.38	290	30.5%	1	
	0.25 to <0.50	1,882	332	44%	2,013	0.35%	47	39.16%	0.46	845	42.0%	3	
	0.50 to <0.75	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	0.75 to <2.50	222	11	59%	228	1.35%	21	34.20%	0.46	141	61.9%	1	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	46	-	100%	47	34.78%	3	39.98%	0.50	101	217.7%	6	
	100.00 (Default)	107	2	50%	108	100.00%	5	39.99%	2.29	7	6.5%	43	
	<b>Sub-total</b>	<b>15,528</b>	<b>12,041</b>	<b>60%</b>	<b>22,780</b>	<b>0.66%</b>	<b>472</b>	<b>32.78%</b>	<b>1.43</b>	<b>4,801</b>	<b>21.1%</b>	<b>59</b>	<b>2</b>

**CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail <sup>(1)</sup>**

	a	b	c	d	e	f	g	h	i	j	k	l	
(in \$ millions)	PD scale	Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Corporate - Other <sup>(9)</sup></b>	0.00 to <0.15	78,313	145,677	59%	166,013	0.10%	2,234	41.59%	2.18	45,860	27.6%	67	
	0.15 to <0.25	35,466	37,738	45%	53,127	0.20%	1,769	47.24%	2.31	24,665	46.4%	49	
	0.25 to <0.50	43,153	41,948	43%	60,003	0.32%	5,184	43.57%	2.13	31,259	52.1%	83	
	0.50 to <0.75	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	0.75 to <2.50	21,548	19,630	33%	27,266	1.15%	3,394	41.51%	1.95	22,397	82.1%	129	
	2.50 to <10.00	451	114	72%	473	9.26%	81	44.87%	1.57	814	172.0%	20	
	10.00 to <100.00	814	1,170	27%	1,086	29.71%	55	52.47%	1.72	3,058	281.6%	174	
	100.00 (Default)	577	154	67%	606	100.00%	74	47.13%	1.89	2,306	380.3%	173	
	<b>Sub-total</b>	<b>180,322</b>	<b>246,431</b>	<b>52%</b>	<b>308,574</b>	<b>0.56%</b>	<b>12,791</b>	<b>42.99%</b>	<b>2.17</b>	<b>130,359</b>	<b>42.2%</b>	<b>695</b>	<b>438</b>
<b>Corporate – Specialized Lending</b>	0.00 to <0.15	7,092	7,369	66%	12,661	0.11%	197	41.87%	2.06	3,431	27.1%	5	
	0.15 to <0.25	11,780	9,134	54%	16,888	0.20%	399	38.06%	1.95	5,889	34.9%	13	
	0.25 to <0.50	13,289	9,356	50%	17,265	0.30%	855	38.49%	1.71	7,267	42.1%	20	
	0.50 to <0.75	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	0.75 to <2.50	1,274	263	24%	1,304	1.21%	121	46.55%	1.58	1,213	93.0%	7	
	2.50 to <10.00	37	13	43%	34	9.26%	3	26.04%	1.00	36	104.4%	1	
	10.00 to <100.00	192	80	34%	128	32.84%	10	39.63%	1.21	258	201.9%	18	
	100.00 (Default)	87	28	100%	115	100.00%	2	48.24%	1.67	423	369.2%	23	
	<b>Sub-total</b>	<b>33,751</b>	<b>26,243</b>	<b>56%</b>	<b>48,395</b>	<b>0.57%</b>	<b>1,587</b>	<b>39.46%</b>	<b>1.88</b>	<b>18,517</b>	<b>38.3%</b>	<b>87</b>	<b>39</b>
<b>Total</b>		<b>379,417</b>	<b>287,620</b>	<b>53%</b>	<b>531,080</b>	<b>0.48%</b>	<b>14,993</b>	<b>33.54%</b>	<b>2.09</b>	<b>158,048</b>	<b>29.8%</b>	<b>911</b>	<b>482</b>

**CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail <sup>(1)</sup>**

(in \$ millions)	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 <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Q2 2022</b>													
<b>Sovereign</b>													
	0.00 to <0.15	150,953	3,016	48%	152,628	0.01%	106	10.87%	1.71	2,061	1.4%	5	
	0.15 to <0.25	992	7	30%	994	0.20%	5	22.31%	3.52	298	30.0%	-	
	0.25 to <0.50	1,322	166	38%	1,384	0.34%	11	24.60%	2.18	431	31.1%	1	
	0.50 to <0.75	2,519	3	46%	2,520	0.65%	10	21.11%	1.18	791	31.4%	3	
	0.75 to <2.50	1,924	-	44%	1,924	1.33%	5	17.54%	1.04	687	35.7%	4	
	2.50 to <10.00	151	-	0%	151	2.56%	3	12.05%	1.17	50	33.0%	-	
	10.00 to <100.00	561	-	0%	561	17.86%	1	3.10%	0.76	88	15.6%	3	
	100.00 (Default)	213	-	0%	213	100.00%	1	25.00%	3.88	-	0.0%	54	
	<b>Sub-total</b>	<b>158,635</b>	<b>3,192</b>	<b>47%</b>	<b>160,375</b>	<b>0.24%</b>	<b>142</b>	<b>11.30%</b>	<b>1.71</b>	<b>4,406</b>	<b>2.7%</b>	<b>70</b>	<b>1</b>
<b>Bank</b>													
	0.00 to <0.15	11,960	10,328	63%	18,431	0.06%	296	31.32%	1.39	2,556	13.9%	3	
	0.15 to <0.25	1,708	493	52%	1,965	0.19%	35	36.64%	0.74	565	28.7%	1	
	0.25 to <0.50	1,457	494	53%	1,725	0.40%	55	39.61%	0.61	754	43.7%	3	
	0.50 to <0.75	1,419	166	42%	1,489	0.52%	15	38.96%	0.60	833	55.9%	3	
	0.75 to <2.50	165	13	52%	172	1.33%	13	37.46%	0.68	119	69.6%	1	
	2.50 to <10.00	-	-	0%	-	0.00%	-	0.00%	-	-	0.0%	-	
	10.00 to <100.00	55	-	100%	55	34.44%	3	39.98%	0.76	121	219.7%	8	
	100.00 (Default)	107	2	50%	109	100.00%	3	39.98%	2.51	1	0.8%	43	
	<b>Sub-total</b>	<b>16,871</b>	<b>11,496</b>	<b>61%</b>	<b>23,946</b>	<b>0.66%</b>	<b>420</b>	<b>32.94%</b>	<b>1.23</b>	<b>4,949</b>	<b>20.7%</b>	<b>62</b>	<b>2</b>

**CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail <sup>(1)</sup>**

		a	b	c	d	e	f	g	h	i	j	k	l
(in \$ millions)	PD scale	Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Corporate - Other <sup>(9)</sup></b>	0.00 to <0.15	59,962	124,823	56%	138,221	0.08%	1,952	39.82%	2.23	33,054	23.9%	43	
	0.15 to <0.25	21,706	30,672	51%	35,668	0.17%	1,532	44.28%	2.31	14,374	40.3%	27	
	0.25 to <0.50	58,356	53,901	46%	79,942	0.37%	5,186	47.01%	2.09	49,083	61.4%	141	
	0.50 to <0.75	21,663	16,591	42%	26,465	0.64%	2,743	44.43%	1.97	18,978	71.7%	75	
	0.75 to <2.50	3,517	4,767	44%	4,931	1.33%	602	39.93%	2.20	4,299	87.2%	26	
	2.50 to <10.00	2,615	2,510	45%	2,901	3.97%	431	40.12%	1.70	3,288	113.3%	48	
	10.00 to <100.00	820	1,468	52%	1,263	26.27%	58	51.44%	1.70	3,427	271.3%	174	
	100.00 (Default)	495	190	69%	564	100.00%	64	43.03%	1.31	1,125	199.6%	225	
	<b>Sub-total</b>	<b>169,134</b>	<b>234,922</b>	<b>52%</b>	<b>289,955</b>	<b>0.59%</b>	<b>12,568</b>	<b>42.83%</b>	<b>2.17</b>	<b>127,628</b>	<b>44.0%</b>	<b>759</b>	<b>479</b>
<b>Corporate – Specialized Lending</b>	0.00 to <0.15	5,760	7,754	56%	11,441	0.09%	185	41.28%	2.09	2,759	24.1%	4	
	0.15 to <0.25	10,136	7,773	57%	14,579	0.16%	368	37.75%	1.83	4,378	30.0%	9	
	0.25 to <0.50	12,506	9,386	54%	16,348	0.31%	830	38.37%	1.75	7,060	43.2%	21	
	0.50 to <0.75	1,317	488	31%	1,431	0.65%	116	47.25%	1.71	1,082	75.6%	4	
	0.75 to <2.50	305	87	31%	328	1.33%	14	57.00%	1.66	404	123.4%	2	
	2.50 to <10.00	170	15	37%	230	3.90%	8	44.44%	1.11	279	121.3%	4	
	10.00 to <100.00	149	60	44%	73	20.55%	9	36.35%	1.41	141	193.8%	5	
	100.00 (Default)	179	21	100%	173	100.00%	2	52.33%	2.63	995	576.4%	15	
	<b>Sub-total</b>	<b>30,522</b>	<b>25,584</b>	<b>55%</b>	<b>44,603</b>	<b>0.66%</b>	<b>1,532</b>	<b>39.42%</b>	<b>1.86</b>	<b>17,098</b>	<b>38.3%</b>	<b>64</b>	<b>30</b>
<b>Total</b>		<b>375,162</b>	<b>275,194</b>	<b>52%</b>	<b>518,879</b>	<b>0.49%</b>	<b>14,662</b>	<b>32.34%</b>	<b>1.96</b>	<b>154,081</b>	<b>29.7%</b>	<b>955</b>	<b>512</b>

**CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail <sup>(1)</sup>**

(in \$ millions)	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 <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Q1 2022</b>													
<b>Sovereign</b>													
	0.00 to <0.15	145,949	2,022	42%	147,064	0.01%	107	9.55%	1.38	2,286	1.6%	4	
	0.15 to <0.25	902	7	30%	904	0.20%	4	21.99%	3.45	264	29.2%	-	
	0.25 to <0.50	1,420	123	46%	1,478	0.33%	11	24.51%	2.25	462	31.3%	1	
	0.50 to <0.75	1,268	4	46%	1,270	0.64%	8	22.84%	1.33	439	34.6%	2	
	0.75 to <2.50	1,768	-	44%	1,768	1.33%	5	17.67%	1.25	655	37.1%	4	
	2.50 to <10.00	162	-	0%	162	2.56%	3	7.61%	1.21	36	21.9%	-	
	10.00 to <100.00	499	-	0%	499	17.86%	1	3.11%	1.00	79	15.9%	3	
	100.00 (Default)	211	-	0%	211	100.00%	1	25.00%	3.94	-	0.0%	53	
	<b>Sub-total</b>	<b>152,179</b>	<b>2,156</b>	<b>42%</b>	<b>153,356</b>	<b>0.24%</b>	<b>140</b>	<b>9.97%</b>	<b>1.41</b>	<b>4,221</b>	<b>2.8%</b>	<b>67</b>	<b>-</b>
<b>Bank</b>													
	0.00 to <0.15	11,577	9,949	63%	18,199	0.06%	303	30.95%	1.37	2,448	13.5%	3	
	0.15 to <0.25	1,461	489	50%	1,703	0.19%	33	37.26%	0.95	560	32.9%	1	
	0.25 to <0.50	1,320	797	59%	1,467	0.38%	63	38.72%	0.98	642	43.8%	2	
	0.50 to <0.75	1,334	177	40%	1,405	0.52%	19	38.84%	0.68	802	57.1%	3	
	0.75 to <2.50	207	11	58%	213	1.33%	14	31.50%	0.75	130	60.8%	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)	113	3	55%	114	100.00%	3	39.97%	2.66	1	0.5%	46	
	<b>Sub-total</b>	<b>16,012</b>	<b>11,426</b>	<b>62%</b>	<b>23,101</b>	<b>0.62%</b>	<b>437</b>	<b>32.44%</b>	<b>1.28</b>	<b>4,583</b>	<b>19.8%</b>	<b>56</b>	<b>2</b>

**CR6: IRB – Credit risk exposures by portfolio and PD range - Non-Retail <sup>(1)</sup>**

		a	b	c	d	e	f	g	h	i	j	k	l
(in \$ millions)	PD scale	Original on-balance sheet gross exposures	Off-balance sheet exposures pre-CCF	Average CCF	EAD post-CRM and post-CCF	Average PD <sup>(2)</sup>	Number of obligors <sup>(3)</sup>	Average LGD <sup>(4)</sup>	Average maturity <sup>(5)</sup>	RWA <sup>(6)</sup>	RWA density <sup>(7)</sup>	EL	Provisions <sup>(8)</sup>
<b>Corporate - Other <sup>(9)</sup></b>	0.00 to <0.15	57,303	118,386	55%	131,783	0.08%	1,881	39.66%	2.19	31,151	23.6%	41	
	0.15 to <0.25	18,445	35,473	50%	34,140	0.17%	1,504	44.41%	2.35	13,935	40.8%	26	
	0.25 to <0.50	53,683	54,567	45%	74,943	0.37%	5,080	47.24%	2.10	46,289	61.8%	133	
	0.50 to <0.75	21,412	17,755	41%	26,952	0.65%	2,771	43.79%	1.90	18,705	69.4%	75	
	0.75 to <2.50	3,980	4,227	46%	5,277	1.33%	667	39.82%	1.99	4,451	84.4%	28	
	2.50 to <10.00	2,784	3,024	46%	3,361	4.04%	448	39.48%	1.84	3,739	111.2%	54	
	10.00 to <100.00	676	2,182	45%	1,093	23.81%	60	49.00%	2.09	2,884	263.8%	130	
	100.00 (Default)	637	204	78%	739	100.00%	69	43.71%	1.19	1,456	197.0%	324	
	<b>Sub-total</b>	<b>158,920</b>	<b>235,818</b>	<b>51%</b>	<b>278,288</b>	<b>0.65%</b>	<b>12,480</b>	<b>42.73%</b>	<b>2.15</b>	<b>122,610</b>	<b>44.1%</b>	<b>811</b>	<b>628</b>
<b>Corporate – Specialized Lending</b>	0.00 to <0.15	4,639	7,007	57%	9,971	0.09%	157	41.55%	2.03	2,341	23.5%	4	
	0.15 to <0.25	5,482	5,150	57%	8,118	0.16%	244	38.50%	1.74	2,414	29.7%	5	
	0.25 to <0.50	15,975	11,302	54%	21,136	0.31%	914	38.10%	1.75	9,057	42.9%	25	
	0.50 to <0.75	1,588	510	25%	1,660	0.65%	126	45.13%	1.71	1,203	72.4%	5	
	0.75 to <2.50	115	44	40%	128	1.33%	11	32.61%	1.66	93	72.0%	1	
	2.50 to <10.00	88	-	44%	59	2.56%	5	42.35%	3.03	76	129.7%	1	
	10.00 to <100.00	194	62	45%	222	20.08%	10	36.84%	1.44	434	195.6%	16	
	100.00 (Default)	179	21	100%	174	100.00%	3	52.35%	1.54	1,141	654.6%	5	
	<b>Sub-total</b>	<b>28,260</b>	<b>24,096</b>	<b>55%</b>	<b>41,468</b>	<b>0.77%</b>	<b>1,470</b>	<b>39.33%</b>	<b>1.81</b>	<b>16,759</b>	<b>40.4%</b>	<b>62</b>	<b>20</b>
<b>Total</b>		<b>355,371</b>	<b>273,496</b>	<b>51%</b>	<b>496,213</b>	<b>0.53%</b>	<b>14,527</b>	<b>31.84%</b>	<b>1.85</b>	<b>148,173</b>	<b>29.9%</b>	<b>996</b>	<b>650</b>

(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 \$2.3 billion EAD, \$0.5 billion RWA (\$1.6 billion EAD, \$0.3 billion RWA in Q2 2022; and \$1.5 billion EAD, \$0.3 billion RWA in Q1 2022).



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

(in \$ millions)		Q3 2022		Q2 2022		Q1 2022		Q4 2021	
		a	b	a <sub>2</sub>	b <sub>2</sub>	a <sub>3</sub>	b <sub>3</sub>	a <sub>4</sub>	b <sub>4</sub>
		Pre-credit derivatives RWA	Actual RWA <sup>(1)</sup>	Pre-credit derivatives RWA	Actual RWA <sup>(1)</sup>	Pre-credit derivatives RWA	Actual RWA <sup>(1)</sup>	Pre-credit derivatives RWA	Actual RWA <sup>(1)</sup>
1	Sovereign – FIRB	-	-	-	-	-	-	-	-
2	Sovereign – AIRB	4,371	4,371	4,406	4,406	4,221	4,221	4,240	4,240
3	Bank – FIRB	-	-	-	-	-	-	-	-
4	Bank – AIRB	4,801	4,801	4,949	4,949	4,583	4,583	4,435	4,435
5	Corporate – FIRB	-	-	-	-	-	-	-	-
6	Corporate – AIRB	129,840	129,840	127,330	127,330	122,293	122,293	117,484	117,484
7	Specialized lending – FIRB	-	-	-	-	-	-	-	-
8	Specialized lending – AIRB	18,517	18,517	17,098	17,098	16,759	16,759	15,733	15,733
9	Retail – qualifying revolving (QRRE)	12,823	12,823	12,514	12,514	12,639	12,639	11,733	11,733
10	Retail – residential mortgage exposures	29,785	29,785	28,689	28,689	25,294	25,294	24,543	24,543
11	Retail – SME	-	-	-	-	-	-	-	-
12	Other retail exposures	22,091	22,091	21,144	21,144	20,999	20,999	20,164	20,164
13	Equity – FIRB	-	-	-	-	-	-	-	-
14	Equity – AIRB	-	-	-	-	-	-	-	-
15	Purchased receivables – FIRB	-	-	-	-	-	-	-	-
16	Purchased receivables – AIRB	519	519	298	298	317	317	269	269
<b>17</b>	<b>Total</b>	<b>222,747</b>	<b>222,747</b>	<b>216,428</b>	<b>216,428</b>	<b>207,105</b>	<b>207,105</b>	<b>198,601</b>	<b>198,601</b>

(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 \$ millions)		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
1	RWA as at end of previous reporting period	216,428	207,105	198,601	195,894
2	Asset size <sup>(1)</sup>	14,505	11,222	7,476	5,147
3	Asset quality <sup>(2)</sup>	(1,516)	(2,342)	(2,835)	(1,243)
4	Model updates <sup>(3)</sup>	(5,408)	-	919	696
5	Methodology and policy <sup>(4)</sup>	-	-	-	-
6	Acquisitions and disposals <sup>(5)</sup>	-	-	-	(45)
7	Foreign exchange movements <sup>(6)</sup>	(1,040)	443	2,631	(1,259)
8	Other <sup>(7)</sup>	(222)	-	313	(589)
<b>9</b>	<b>RWA as at end of reporting period</b>	<b>222,747</b>	<b>216,428</b>	<b>207,105</b>	<b>198,601</b>

(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.

**CR10: IRB (Specialized lending and equities under the simple risk-weight method)**
**Specialized Lending<sup>(1)</sup> - Q3 2022**
**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		
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.

**CR10: IRB (Specialized lending and equities under the simple risk-weight method)**
**Specialized Lending<sup>(1)</sup> - Q2 2022**
**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		
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 <sup>(1)</sup>**

(in \$ millions)		a	b	c	d	e	f
		Replacement cost	Potential future exposure	EEPE	Alpha used for computing regulatory EAD	EAD post- CRM	RWA
<b>Q3 2022</b>							
1	CEM / SA-CCR (for derivatives)	613	937		1.4	2,169	835
2	Internal Model Method (for derivatives and SFTs) <sup>(2)</sup>			20,560	1.4	28,452	6,443
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					22,990	4,504
5	VaR for SFTs					15,604	2,059
6	<b>Total</b>						<b>13,841</b>
<b>Q2 2022</b>							
1	CEM / SA-CCR (for derivatives)	1,294	909		1.4	3,084	1,916
2	Internal Model Method (for derivatives and SFTs) <sup>(2)</sup>			19,182	1.4	26,574	5,576
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					20,705	3,155
5	VaR for SFTs					18,025	2,061
6	<b>Total</b>						<b>12,708</b>
<b>Q1 2022</b>							
1	CEM / SA-CCR (for derivatives)	926	1,372		1.4	3,217	1,750
2	Internal Model Method (for derivatives and SFTs) <sup>(2)</sup>			16,437	1.4	22,790	5,285
3	Simple Approach for credit risk mitigation (for SFTs)					-	-
4	Comprehensive Approach for credit risk mitigation (for SFTs)					29,715	4,289
5	VaR for SFTs					16,284	1,933
6	<b>Total</b>						<b>13,257</b>
<b>Q4 2021</b>							
1	CEM / SA-CCR (for derivatives)	458	1,437		1.4	2,654	1,026
2	Internal Model Method (for derivatives and SFTs) <sup>(2)</sup>			18,045	1.4	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					14,641	1,729
6	<b>Total</b>						<b>13,477</b>

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

(2) Includes OTC derivatives related transactions only.

**CCR2: Credit valuation adjustment (CVA) capital charge**

(in \$ millions)	Q3 2022		Q2 2022		Q1 2022		Q4 2021	
	a	b	a <sub>2</sub>	b <sub>2</sub>	a <sub>3</sub>	b <sub>3</sub>	a <sub>4</sub>	b <sub>4</sub>
	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	30,508	5,844	29,458	5,919	25,883	4,312	27,380	3,957
1 (i) VaR component (including the 3×multiplier)		1,533		1,587		872		883
2 (ii) Stressed VaR component (including the multiplier)		4,311		4,332		3,440		3,074
3 All portfolios subject to the Standardized CVA capital charge	-	-	-	-	-	-	-	-
<b>4 Total subject to the CVA capital charge</b>	<b>30,508</b>	<b>5,844</b>	<b>29,458</b>	<b>5,919</b>	<b>25,883</b>	<b>4,312</b>	<b>27,380</b>	<b>3,957</b>

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

(in \$ millions)	a	b	c	d	e	f	g	h	i
Risk weight	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure <sup>(1)</sup>
<b>Regulatory portfolio</b>									
<b>Q3 2022</b>									
Sovereigns	-	-	-	471	-	11	-	-	482
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	1	-	-	4	-	-	5
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,784	2	-	1,786
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets <sup>(2)</sup>	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	<b>1</b>	<b>471</b>	-	<b>1,799</b>	<b>2</b>	-	<b>2,273</b>
<b>Q2 2022</b>									
Sovereigns	-	-	-	32	-	15	-	-	47
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	5	-	-	5
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	1,851	2	-	1,853
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets <sup>(2)</sup>	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>32</b>	-	<b>1,871</b>	<b>2</b>	-	<b>1,905</b>
<b>Q1 2022</b>									
Sovereigns	-	-	-	5	-	24	-	-	29
Non-central government public sector entities (PSEs)	-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)	-	-	-	-	-	-	-	-	-
Banks	-	-	-	-	-	3	-	-	3
Securities firms	-	-	-	-	-	-	-	-	-
Corporates	-	-	-	-	-	2,108	-	-	2,108
Regulatory retail portfolios	-	-	-	-	-	-	-	-	-
Other assets <sup>(2)</sup>	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>5</b>	-	<b>2,135</b>	-	-	<b>2,140</b>
<b>Q4 2021</b>									
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 <sup>(2)</sup>	-	-	-	-	-	-	-	-	-
<b>Total</b>	-	-	-	<b>99</b>	-	<b>1,432</b>	-	-	<b>1,531</b>

(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 <sup>(1)</sup>**

(in \$ millions)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD <sup>(2)</sup>	Number of obligors	Average LGD <sup>(3)</sup>	Average maturity <sup>(4)</sup>	RWA <sup>(5)</sup>	RWA density <sup>(6)</sup>
<b>Q3 2022</b>								
<b>Sovereign</b>	0.00 to <0.15	6,221	0.04%	55	15.85%	3.18	176	2.8%
	0.15 to <0.25	79	0.20%	2	16.59%	0.17	9	11.0%
	0.25 to <0.50	-	0.00%	-	0.00%	-	-	0.0%
	0.50 to <0.75	-	0.00%	-	0.00%	-	-	0.0%
	0.75 to <2.50	24	0.94%	1	25.00%	1.00	10	41.9%
	2.50 to <10.00	-	0.00%	-	0.00%	-	-	0.0%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>6,324</b>	<b>0.04%</b>	<b>58</b>	<b>15.90%</b>	<b>3.14</b>	<b>195</b>	<b>3.1%</b>
<b>Bank</b>	0.00 to <0.15	10,979	0.08%	183	30.92%	1.36	1,400	12.8%
	0.15 to <0.25	540	0.20%	24	30.81%	0.49	114	21.0%
	0.25 to <0.50	372	0.28%	24	32.18%	2.30	130	35.0%
	0.50 to <0.75	-	0.00%	-	0.00%	-	-	0.0%
	0.75 to <2.50	13	0.96%	3	30.16%	1.46	8	59.8%
	2.50 to <10.00	-	0.00%	-	0.00%	-	-	0.0%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>11,904</b>	<b>0.09%</b>	<b>234</b>	<b>30.95%</b>	<b>1.35</b>	<b>1,652</b>	<b>13.9%</b>
<b>Corporate</b>	0.00 to <0.15	39,771	0.09%	4,061	44.92%	0.51	6,131	15.4%
	0.15 to <0.25	4,193	0.20%	485	45.86%	1.60	1,380	32.9%
	0.25 to <0.50	2,801	0.31%	645	39.41%	1.17	1,004	35.9%
	0.50 to <0.75	-	0.00%	-	0.00%	-	-	0.0%
	0.75 to <2.50	1,922	1.11%	340	39.39%	1.08	1,362	70.9%
	2.50 to <10.00	-	9.26%	2	44.00%	3.35	-	176.4%
	10.00 to <100.00	25	33.92%	5	56.12%	3.55	78	309.5%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>48,712</b>	<b>0.17%</b>	<b>5,538</b>	<b>44.47%</b>	<b>0.67</b>	<b>9,955</b>	<b>20.4%</b>
<b>Total</b>		<b>66,940</b>	<b>0.14%</b>	<b>5,830</b>	<b>39.37%</b>	<b>1.02</b>	<b>11,802</b>	<b>17.6%</b>



**CCR4: IRB – CCR exposures by portfolio and PD scale <sup>(1)</sup>**

(in \$ millions)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD <sup>(2)</sup>	Number of obligors	Average LGD <sup>(3)</sup>	Average maturity <sup>(4)</sup>	RWA <sup>(5)</sup>	RWA density <sup>(6)</sup>
<b>Q2 2022</b>								
<b>Sovereign</b>	0.00 to <0.15	5,732	0.03%	54	15.50%	3.13	120	2.1%
	0.15 to <0.25	43	0.16%	3	16.75%	0.19	4	9.6%
	0.25 to <0.50	91	0.43%	2	25.00%	0.46	22	24.6%
	0.50 to <0.75	4	0.69%	2	25.00%	1.00	1	36.3%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	0.00%	-	0.00%	-	-	0.0%
	10.00 to <100.00	-	0.00%	-	0.00%	-	-	0.0%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>5,870</b>	<b>0.03%</b>	<b>61</b>	<b>15.66%</b>	<b>3.06</b>	<b>147</b>	<b>2.5%</b>
<b>Bank</b>	0.00 to <0.15	10,619	0.06%	160	30.75%	1.37	1,084	10.2%
	0.15 to <0.25	636	0.19%	27	36.00%	0.42	141	22.2%
	0.25 to <0.50	350	0.35%	52	36.80%	2.19	133	38.1%
	0.50 to <0.75	6	0.68%	4	30.71%	1.55	3	47.6%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	2.56%	2	40.00%	1.76	-	98.1%
	10.00 to <100.00	1	34.44%	1	40.00%	2.57	1	221.6%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>11,612</b>	<b>0.07%</b>	<b>246</b>	<b>31.22%</b>	<b>1.34</b>	<b>1,362</b>	<b>11.7%</b>
<b>Corporate</b>	0.00 to <0.15	38,948	0.07%	4,141	44.91%	0.49	4,981	12.8%
	0.15 to <0.25	3,593	0.17%	460	43.96%	1.38	998	27.8%
	0.25 to <0.50	4,370	0.37%	718	43.98%	1.56	1,952	44.7%
	0.50 to <0.75	1,419	0.66%	277	46.89%	1.62	969	68.3%
	0.75 to <2.50	292	1.33%	57	25.91%	1.58	146	50.2%
	2.50 to <10.00	362	2.95%	39	22.90%	1.36	225	62.2%
	10.00 to <100.00	18	18.35%	6	43.66%	1.09	39	222.6%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>49,002</b>	<b>0.16%</b>	<b>5,698</b>	<b>44.54%</b>	<b>0.69</b>	<b>9,310</b>	<b>19.0%</b>
<b>Total</b>		<b>66,484</b>	<b>0.13%</b>	<b>6,005</b>	<b>39.66%</b>	<b>1.02</b>	<b>10,819</b>	<b>16.3%</b>

**CCR4: IRB – CCR exposures by portfolio and PD scale <sup>(1)</sup>**

(in \$ millions)	PD scale	a	b	c	d	e	f	g
		EAD post-CRM	Average PD <sup>(2)</sup>	Number of obligors	Average LGD <sup>(3)</sup>	Average maturity <sup>(4)</sup>	RWA <sup>(5)</sup>	RWA density <sup>(6)</sup>
<b>Q1 2022</b>								
<b>Sovereign</b>	0.00 to <0.15	5,492	0.02%	56	15.46%	2.74	89	1.6%
	0.15 to <0.25	21	0.16%	3	16.85%	0.20	2	9.7%
	0.25 to <0.50	23	0.43%	1	25.00%	1.00	6	28.2%
	0.50 to <0.75	1	0.69%	1	25.00%	1.01	-	36.3%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	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%
	<b>Sub-total</b>	<b>5,537</b>	<b>0.02%</b>	<b>62</b>	<b>15.51%</b>	<b>2.72</b>	<b>97</b>	<b>1.8%</b>
<b>Bank</b>	0.00 to <0.15	10,892	0.06%	174	30.67%	1.21	1,052	9.7%
	0.15 to <0.25	457	0.18%	23	33.42%	0.61	95	20.9%
	0.25 to <0.50	392	0.35%	50	36.55%	2.06	150	38.2%
	0.50 to <0.75	8	0.68%	4	30.55%	1.27	4	44.6%
	0.75 to <2.50	-	0.00%	-	0.00%	-	-	0.0%
	2.50 to <10.00	-	2.56%	1	40.00%	1.76	-	98.1%
	10.00 to <100.00	-	34.44%	1	40.00%	3.08	1	221.6%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>11,749</b>	<b>0.08%</b>	<b>253</b>	<b>30.97%</b>	<b>1.21</b>	<b>1,302</b>	<b>11.1%</b>
<b>Corporate</b>	0.00 to <0.15	42,262	0.07%	3,961	45.31%	0.42	5,289	12.5%
	0.15 to <0.25	4,693	0.16%	445	44.24%	1.31	1,333	28.4%
	0.25 to <0.50	2,993	0.35%	690	44.96%	1.49	1,363	45.6%
	0.50 to <0.75	2,074	0.68%	283	43.28%	1.28	1,351	65.1%
	0.75 to <2.50	263	1.33%	66	31.58%	2.45	161	61.1%
	2.50 to <10.00	271	2.79%	43	25.21%	1.34	172	63.5%
	10.00 to <100.00	24	18.81%	7	42.45%	1.32	52	218.4%
	100.00 (Default)	-	0.00%	-	0.00%	-	-	0.0%
	<b>Sub-total</b>	<b>52,580</b>	<b>0.15%</b>	<b>5,495</b>	<b>44.94%</b>	<b>0.61</b>	<b>9,721</b>	<b>18.5%</b>
<b>Total</b>		<b>69,866</b>	<b>0.12%</b>	<b>5,810</b>	<b>40.26%</b>	<b>0.88</b>	<b>11,120</b>	<b>15.9%</b>

(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 <sup>(1)</sup>**

(in \$ millions)	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 <sup>(2)</sup>	Unsegregated <sup>(2)</sup>	Segregated <sup>(2)</sup>	Unsegregated <sup>(2)</sup>	Segregated <sup>(2)</sup>	Unsegregated <sup>(2)</sup>	Segregated <sup>(2)</sup>	Unsegregated <sup>(2)</sup>	Segregated <sup>(2)</sup>	Unsegregated <sup>(2)</sup>	Segregated <sup>(2)</sup>	Unsegregated <sup>(2)</sup>
<b>Q3 2022</b>												
Cash – domestic currency	13	1,253	-	1,209	6,945	1,079						
Cash – other currencies	100	9,292	146	18,587	38,035	24,531						
Domestic sovereign debt	108	547	240	1,301	1,023	4,930						
Other sovereign debt	1,528	452	1,445	733	3,260	6,127						
Government agency debt	2,776	485	379	3,325	1,844	14,402						
Corporate bonds	1,630	178	1,030	134	26,403	31,009						
Equity securities	1,105	-	4,724	169	39,803	24,997						
Other collateral	-	-	-	-	90	-						
<b>Total</b>	<b>7,260</b>	<b>12,207</b>	<b>7,964</b>	<b>25,458</b>	<b>117,403</b>	<b>107,075</b>						
<b>Q2 2022</b>												
Cash – domestic currency	13	1,406	-	714	7,990	753						
Cash – other currencies	89	10,057	5	13,592	49,212	23,500						
Domestic sovereign debt	84	640	188	1,370	890	2,734						
Other sovereign debt	1,769	446	1,630	789	3,016	4,498						
Government agency debt	2,244	789	2,684	3,185	2,005	15,149						
Corporate bonds	1,809	72	316	120	26,213	40,796						
Equity securities	1,273	-	3,832	222	40,062	28,563						
Other collateral	-	-	-	-	91	-						
<b>Total</b>	<b>7,281</b>	<b>13,410</b>	<b>8,655</b>	<b>19,992</b>	<b>129,479</b>	<b>115,993</b>						
<b>Q1 2022</b>												
Cash – domestic currency	13	1,717	-	412	7,655	918						
Cash – other currencies	41	7,997	106	7,567	48,892	23,812						
Domestic sovereign debt	96	248	287	1,346	1,134	5,076						
Other sovereign debt	2,520	465	1,257	568	3,005	4,786						
Government agency debt	1,325	394	3,040	1,882	1,641	11,653						
Corporate bonds	2,446	215	126	83	23,038	46,545						
Equity securities	2,332	-	4,871	243	41,101	23,036						
Other collateral	-	-	-	-	42	-						
<b>Total</b>	<b>8,773</b>	<b>11,036</b>	<b>9,687</b>	<b>12,101</b>	<b>126,508</b>	<b>115,826</b>						
<b>Q4 2021</b>												
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	-						
<b>Total</b>	<b>5,534</b>	<b>9,255</b>	<b>6,684</b>	<b>14,754</b>	<b>118,020</b>	<b>109,410</b>						

(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.

**CCR6: Credit derivatives exposures**

(in \$ millions)	a	b
	Protection bought	Protection sold
<b>Q3 2022</b>		
<b>Notionals</b>		
Single-name credit default swaps	5,754	1,507
Index credit default swaps	-	-
Credit default swaps	5,754	1,507
Total return swaps	17,098	201
Credit options	-	-
Other credit derivatives	-	-
<b>Total notionals</b>	<b>22,852</b>	<b>1,708</b>
<b>Fair values</b>		
Positive fair value (asset)	559	15
Negative fair value (liability)	-	(23)
<b>Q2 2022</b>		
<b>Notionals</b>		
Single-name credit default swaps	4,424	1,964
Index credit default swaps	-	-
Credit default swaps	4,424	1,964
Total return swaps	17,886	440
Credit options	-	-
Other credit derivatives	-	-
<b>Total notionals</b>	<b>22,310</b>	<b>2,404</b>
<b>Fair values</b>		
Positive fair value (asset)	472	15
Negative fair value (liability)	-	(27)
<b>Q1 2022</b>		
<b>Notionals</b>		
Single-name credit default swaps	5,860	2,005
Index credit default swaps	-	-
Credit default swaps	5,860	2,005
Total return swaps	19,181	813
Credit options	-	-
Other credit derivatives	-	-
<b>Total notionals</b>	<b>25,041</b>	<b>2,818</b>
<b>Fair values</b>		
Positive fair value (asset)	335	7
Negative fair value (liability)	-	(26)
<b>Q4 2021</b>		
<b>Notionals</b>		
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	-	-
<b>Total notionals</b>	<b>24,734</b>	<b>2,687</b>
<b>Fair values</b>		
Positive fair value (asset)	237	8
Negative fair value (liability)	-	(30)

CCR7: RWA flow statements of CCR exposures under Internal Model Method (IMM)					
(in \$ millions) <sup>(1)</sup>		a	a <sub>2</sub>	a <sub>3</sub>	a <sub>4</sub>
		Q3 2022	Q2 2022	Q1 2022	Q4 2021
1	RWA as at end of previous reporting period	5,631	5,303	6,220	6,874
2	Asset size <sup>(2)</sup>	65	355	(1,013)	(497)
3	Asset quality <sup>(3)</sup>	(105)	(70)	(60)	(109)
4	Model updates <sup>(4)</sup>	947	-	-	-
5	Methodology and policy <sup>(5)</sup>	-	-	-	-
6	Acquisitions and disposals <sup>(6)</sup>	-	-	-	-
7	Foreign exchange movements <sup>(7)</sup>	(43)	43	156	(48)
8	Other <sup>(8)</sup>	-	-	-	-
<b>9</b>	<b>RWA as at end of current reporting period</b>	<b>6,495</b>	<b>5,631</b>	<b>5,303</b>	<b>6,220</b>

(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 size 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 \$ millions)	a		b		a <sub>2</sub>		b <sub>2</sub>		a <sub>3</sub>		b <sub>3</sub>		a <sub>4</sub>		b <sub>4</sub>	
	EAD (post-CRM)		RWA		EAD (post-CRM)		RWA		EAD (post-CRM)		RWA		EAD (post-CRM)		RWA	
	Q3 2022		Q2 2022		Q1 2022		Q4 2021									
<b>1 Exposures to QCCPs (total)</b>			<b>891</b>		<b>750</b>		<b>804</b>		<b>612</b>							
2 Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	13,268	280			11,860	252	10,285	226	10,301	225						
3 (i) OTC derivatives	2,608	52			2,728	55	929	19	849	17						
4 (ii) Exchange-traded derivatives	8,214	179			5,033	115	4,744	115	5,200	123						
5 (iii) Securities financing transactions	2,446	49			4,099	82	4,612	92	4,252	85						
6 (iv) Netting sets where cross-product netting has been approved	-	-			-	-	-	-	-	-						
7 Segregated initial margin	15,206				9,553		5,170		5,929							
8 Non-segregated initial margin	-	-			-	-	-	-	-	-						
9 Pre-funded default fund contributions	1,319	611			844	498	814	578	663	387						
10 Unfunded default fund contributions <sup>(1)</sup>	2,003	-			1,950	-	1,969	-	2,061	-						
<b>11 Exposures to non-QCCPs (total)</b>																
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 \$ millions)		a <sup>(1)</sup>	a <sup>(2)</sup>	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor <sup>(3)</sup>			Bank acts as Investor <sup>(4)</sup>		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
<b>Q3 2022</b>											
1	<b>Retail (total)</b>	<b>221</b>	<b>9</b>	-	<b>230</b>	<b>13,562</b>	-	<b>13,562</b>	<b>2,985</b>	-	<b>2,985</b>
	– of which										
2	Residential Mortgage <sup>(5)</sup>	-	-	-	-	2,550	-	<b>2,550</b>	-	-	-
3	Credit Card	-	-	-	-	435	-	<b>435</b>	1,825	-	<b>1,825</b>
4	Consumer Receivables	-	-	-	-	2,342	-	<b>2,342</b>	244	-	<b>244</b>
5	Auto Loans/Leases	221	9	-	<b>230</b>	8,235	-	<b>8,235</b>	916	-	<b>916</b>
6	<b>Wholesale (total)</b>	-	-	-	-	<b>6,699</b>	-	<b>6,699</b>	<b>943</b>	-	<b>943</b>
	– of which										
7	Trade Receivables	-	-	-	-	3,425	-	<b>3,425</b>	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,409	-	<b>1,409</b>	251	-	<b>251</b>
10	Other Wholesale	-	-	-	-	1,865	-	<b>1,865</b>	646	-	<b>646</b>
11	Re-Securitization	-	-	-	-	-	-	-	46	-	<b>46</b>
<b>Q2 2022</b>											
1	<b>Retail (total)</b>	<b>272</b>	<b>12</b>	-	<b>284</b>	<b>10,221</b>	-	<b>10,221</b>	<b>2,982</b>	-	<b>2,982</b>
	– of which										
2	Residential Mortgage <sup>(5)</sup>	-	-	-	-	510	-	<b>510</b>	-	-	-
3	Credit Card	-	-	-	-	436	-	<b>436</b>	1,825	-	<b>1,825</b>
4	Consumer Receivables	-	-	-	-	2,396	-	<b>2,396</b>	227	-	<b>227</b>
5	Auto Loans/Leases	272	12	-	<b>284</b>	6,879	-	<b>6,879</b>	930	-	<b>930</b>
6	<b>Wholesale (total)</b>	-	-	-	-	<b>6,717</b>	-	<b>6,717</b>	<b>1,033</b>	-	<b>1,033</b>
	– of which										
7	Trade Receivables	-	-	-	-	3,500	-	<b>3,500</b>	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,412	-	<b>1,412</b>	252	-	<b>252</b>
10	Other Wholesale	-	-	-	-	1,805	-	<b>1,805</b>	735	-	<b>735</b>
11	Re-Securitization	-	-	-	-	-	-	-	46	-	<b>46</b>

**SEC1: Securitization exposures in the banking book**

(in \$ millions)		a <sup>(1)</sup>	a <sup>(2)</sup>	b	c	e	f	g	i	j	k
		Bank acts as Originator				Bank acts as Sponsor <sup>(3)</sup>			Bank acts as Investor <sup>(4)</sup>		
		Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
<b>Q1 2022</b>											
1	<b>Retail (total)</b>	<b>323</b>	<b>73</b>	-	<b>396</b>	<b>10,582</b>	-	<b>10,582</b>	<b>3,117</b>	-	<b>3,117</b>
	– of which										
2	Residential Mortgage <sup>(5)</sup>	-	-	-	-	510	-	<b>510</b>	-	-	-
3	Credit Card	-	-	-	-	259	-	<b>259</b>	1,826	-	<b>1,826</b>
4	Consumer Receivables	-	-	-	-	2,756	-	<b>2,756</b>	259	-	<b>259</b>
5	Auto Loans/Leases	323	73	-	<b>396</b>	7,057	-	<b>7,057</b>	1,032	-	<b>1,032</b>
6	<b>Wholesale (total)</b>	-	-	-	-	<b>6,574</b>	-	<b>6,574</b>	<b>1,087</b>	-	<b>1,087</b>
	– of which										
7	Trade Receivables	-	-	-	-	3,479	-	<b>3,479</b>	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,217	-	<b>1,217</b>	305	-	<b>305</b>
10	Other Wholesale	-	-	-	-	1,878	-	<b>1,878</b>	736	-	<b>736</b>
11	Re-Securitization	-	-	-	-	-	-	-	46	-	<b>46</b>
<b>Q4 2021</b>											
1	<b>Retail (total)</b>	<b>378</b>	<b>76</b>	-	<b>454</b>	<b>10,207</b>	-	<b>10,207</b>	<b>3,141</b>	-	<b>3,141</b>
	– of which										
2	Residential Mortgage <sup>(5)</sup>	-	-	-	-	510	-	<b>510</b>	-	-	-
3	Credit Card	-	-	-	-	252	-	<b>252</b>	1,825	-	<b>1,825</b>
4	Consumer Receivables	-	-	-	-	2,221	-	<b>2,221</b>	303	-	<b>303</b>
5	Auto Loans/Leases	378	76	-	<b>454</b>	7,224	-	<b>7,224</b>	1,013	-	<b>1,013</b>
6	<b>Wholesale (total)</b>	-	-	-	-	<b>6,142</b>	-	<b>6,142</b>	<b>1,097</b>	-	<b>1,097</b>
	– of which										
7	Trade Receivables	-	-	-	-	2,965	-	<b>2,965</b>	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	1,193	-	<b>1,193</b>	298	-	<b>298</b>
10	Other Wholesale	-	-	-	-	1,984	-	<b>1,984</b>	754	-	<b>754</b>
11	Re-Securitization	-	-	-	-	-	-	-	45	-	<b>45</b>

(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 \$ millions)	a <sup>(1)</sup>	a <sup>(2)</sup>	b	c	e	f	g	i	j	k
	Bank acts as Originator				Bank acts as Sponsor <sup>(3)</sup>			Bank acts as Investor <sup>(4)</sup>		
	Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
<b>Q3 2022</b>										
1	<b>Retail (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	153	-	153
	– of which	-	-	-	-	-	-	-	-	-
2	Residential Mortgage <sup>(6)</sup>	-	-	-	-	-	-	80	-	80
3	Credit Card	-	-	-	-	-	-	47	-	47
4	Consumer Receivables	-	-	-	-	-	-	2	-	2
5	Auto Loans/Leases	-	-	-	-	-	-	24	-	24
6	<b>Wholesale (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	46	-	46
	– of which	-	-	-	-	-	-	-	-	-
7	Trade Receivables	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	46	-	46
10	Other Wholesale	-	-	-	-	-	-	-	-	-
11	Re-Securitization	-	-	-	-	-	-	-	-	-
<b>Q2 2022</b>										
1	<b>Retail (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	105	-	105
	– of which	-	-	-	-	-	-	-	-	-
2	Residential Mortgage <sup>(6)</sup>	-	-	-	-	-	-	-	-	-
3	Credit Card	-	-	-	-	-	-	58	-	58
4	Consumer Receivables	-	-	-	-	-	-	3	-	3
5	Auto Loans/Leases	-	-	-	-	-	-	44	-	44
6	<b>Wholesale (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	54	-	54
	– of which	-	-	-	-	-	-	-	-	-
7	Trade Receivables	-	-	-	-	-	-	-	-	-
8	Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-
9	Auto Wholesale/Rentals	-	-	-	-	-	-	54	-	54
10	Other Wholesale	-	-	-	-	-	-	-	-	-
11	Re-Securitization	-	-	-	-	-	-	-	-	-

**SEC2: Securitization exposures in the trading book**

(in \$ millions)	a <sup>(1)</sup>	a <sup>(2)</sup>	b	c	e	f	g	i	j	k
	Bank acts as Originator				Bank acts as Sponsor <sup>(3)</sup>			Bank acts as Investor <sup>(4)</sup>		
	Traditional	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total
<b>Q1 2022</b>										
1 <b>Retail (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	-	88	-	88
– of which										
2 Residential Mortgage <sup>(6)</sup>	-	-	-	-	-	-	-	-	-	-
3 Credit Card	-	-	-	-	-	-	-	31	-	31
4 Consumer Receivables	-	-	-	-	-	-	-	6	-	6
5 Auto Loans/Leases	-	-	-	-	-	-	-	51	-	51
6 <b>Wholesale (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	-	48	-	48
– of which										
7 Trade Receivables	-	-	-	-	-	-	-	-	-	-
8 Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9 Auto Wholesale/Rentals	-	-	-	-	-	-	-	48	-	48
10 Other Wholesale	-	-	-	-	-	-	-	-	-	-
11 Re-Securitization	-	-	-	-	-	-	-	-	-	-
<b>Q4 2021</b>										
1 <b>Retail (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	-	99	-	99
– of which										
2 Residential Mortgage <sup>(6)</sup>	-	-	-	-	-	-	-	-	-	-
3 Credit Card	-	-	-	-	-	-	-	43	-	43
4 Consumer Receivables	-	-	-	-	-	-	-	5	-	5
5 Auto Loans/Leases	-	-	-	-	-	-	-	51	-	51
6 <b>Wholesale (total)</b> <sup>(5)</sup>	-	-	-	-	-	-	-	41	-	41
– of which										
7 Trade Receivables	-	-	-	-	-	-	-	-	-	-
8 Diversified Asset-Backed Securities	-	-	-	-	-	-	-	-	-	-
9 Auto Wholesale/Rentals	-	-	-	-	-	-	-	41	-	41
10 Other Wholesale	-	-	-	-	-	-	-	-	-	-
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 \$ millions)	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%
<b>Q3 2022</b>																	
<b>1 Total exposures <sup>(1)(2)</sup></b>	<b>16,693</b>	<b>2,598</b>	<b>1,106</b>	<b>82</b>	<b>3</b>	<b>221</b>	<b>20,261</b>	-	-	<b>76</b>	<b>3,583</b>	-	-	<b>6</b>	<b>286</b>	-	-
2 Traditional securitization	16,693	2,598	1,106	82	3	221	20,261	-	-	76	3,583	-	-	6	286	-	-
3 Of which securitization	16,693	2,598	1,106	82	3	221	20,261	-	-	76	3,583	-	-	6	286	-	-
4 Of which retail underlying	12,652	1,087	41	-	3	221	13,562	-	-	76	1,854	-	-	6	148	-	-
5 Of which wholesale	4,041	1,511	1,065	82	-	-	6,699	-	-	-	1,729	-	-	-	138	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Q2 2022</b>																	
<b>1 Total exposures <sup>(1)(2)</sup></b>	<b>13,463</b>	<b>2,541</b>	<b>1,121</b>	<b>82</b>	<b>3</b>	<b>272</b>	<b>16,938</b>	-	-	<b>84</b>	<b>3,234</b>	-	-	<b>7</b>	<b>258</b>	-	-
2 Traditional securitization	13,463	2,541	1,121	82	3	272	16,938	-	-	84	3,234	-	-	7	258	-	-
3 Of which securitization	13,463	2,541	1,121	82	3	272	16,938	-	-	84	3,234	-	-	7	258	-	-
4 Of which retail underlying	9,383	1,055	52	-	3	272	10,221	-	-	84	1,506	-	-	7	120	-	-
5 Of which wholesale	4,080	1,486	1,069	82	-	-	6,717	-	-	-	1,728	-	-	-	138	-	-
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 \$ millions)	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%
<b>Q1 2022</b>																	
<b>1 Total exposures <sup>(1)(2)</sup></b>	<b>13,810</b>	<b>2,390</b>	<b>1,276</b>	<b>-</b>	<b>3</b>	<b>323</b>	<b>17,156</b>	<b>-</b>	<b>-</b>	<b>91</b>	<b>3,171</b>	<b>-</b>	<b>-</b>	<b>7</b>	<b>254</b>	<b>-</b>	<b>-</b>
2 Traditional securitization	13,810	2,390	1,276	-	3	323	17,156	-	-	91	3,171	-	-	7	254	-	-
3 Of which securitization	13,810	2,390	1,276	-	3	323	17,156	-	-	91	3,171	-	-	7	254	-	-
4 Of which retail underlying	9,847	980	75	-	3	323	10,582	-	-	91	1,544	-	-	7	124	-	-
5 Of which wholesale	3,963	1,410	1,201	-	-	-	6,574	-	-	-	1,627	-	-	-	130	-	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Q4 2021</b>																	
<b>1 Total exposures <sup>(1)(2)</sup></b>	<b>13,660</b>	<b>1,809</b>	<b>1,255</b>	<b>-</b>	<b>3</b>	<b>378</b>	<b>16,349</b>	<b>-</b>	<b>-</b>	<b>100</b>	<b>2,924</b>	<b>-</b>	<b>-</b>	<b>8</b>	<b>234</b>	<b>-</b>	<b>-</b>
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(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 \$ millions)	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%
<b>Q3 2022</b>																	
<b>1 Total exposures<sup>(1)</sup></b>	<b>2,496</b>	<b>32</b>	<b>1,314</b>	<b>69</b>	<b>17</b>	-	<b>3,498</b>	<b>430</b>	-	-	<b>1,017</b>	<b>262</b>	-	-	<b>82</b>	<b>21</b>	-
2 Traditional securitization	2,496	32	1,314	69	17	-	3,498	430	-	-	1,017	262	-	-	82	21	-
3 Of which securitization	2,496	32	1,268	69	17	-	3,498	384	-	-	1,017	216	-	-	82	17	-
4 Of which retail underlying	2,119	32	765	69	-	-	2,985	-	-	-	748	-	-	-	60	-	-
5 Of which wholesale	377	-	503	-	17	-	513	384	-	-	269	216	-	-	22	17	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Q2 2022</b>																	
<b>1 Total exposures<sup>(1)</sup></b>	<b>2,557</b>	<b>54</b>	<b>1,316</b>	<b>69</b>	<b>19</b>	-	<b>3,497</b>	<b>518</b>	-	-	<b>1,030</b>	<b>278</b>	-	-	<b>83</b>	<b>23</b>	-
2 Traditional securitization	2,557	54	1,316	69	19	-	3,497	518	-	-	1,030	278	-	-	83	23	-
3 Of which securitization	2,557	54	1,270	69	19	-	3,497	472	-	-	1,030	232	-	-	83	19	-
4 Of which retail underlying	2,093	54	766	69	-	-	2,982	-	-	-	758	-	-	-	61	-	-
5 Of which wholesale	464	-	504	-	19	-	515	472	-	-	272	232	-	-	22	19	-
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 \$ millions)	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%
<b>Q1 2022</b>																	
<b>1 Total exposures<sup>(1)</sup></b>	<b>2,645</b>	<b>87</b>	<b>1,356</b>	<b>96</b>	<b>20</b>	-	<b>3,607</b>	<b>597</b>	-	-	<b>1,077</b>	<b>290</b>	-	-	<b>86</b>	<b>24</b>	-
2 Traditional securitization	2,645	87	1,356	96	20	-	3,607	597	-	-	1,077	290	-	-	86	24	-
3 Of which securitization	2,645	87	1,310	96	20	-	3,607	551	-	-	1,077	244	-	-	86	20	-
4 Of which retail underlying	2,114	87	820	96	-	-	3,117	-	-	-	814	-	-	-	65	-	-
5 Of which wholesale	531	-	490	-	20	-	490	551	-	-	263	244	-	-	21	20	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Q4 2021</b>																	
<b>1 Total exposures<sup>(1)</sup></b>	<b>2,653</b>	<b>147</b>	<b>1,419</b>	-	<b>19</b>	-	<b>3,630</b>	<b>608</b>	-	-	<b>1,049</b>	<b>280</b>	-	-	<b>83</b>	<b>23</b>	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) Includes banking book investments in asset backed securities (ABS), collateralized loan obligations (CLOs), collateralized debt obligations (CDOs).

## Flow Statement for Regulatory Capital

(in \$ millions)	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Q3 2021
<b>Common Equity Tier 1 (CET1) capital</b>					
<b>Opening amount</b>	51,547	52,150	51,010	50,465	49,697
Net income attributable to equity holders of the Bank	2,540	2,669	2,652	2,489	2,461
Dividends paid to equity holders of the Bank	(1,265)	(1,269)	(1,251)	(1,173)	(1,128)
Shares issued	7	590	104	14	116
Shares repurchased/redeemed	(409)	(1,250)	(1,086)	-	-
Removal of own credit spread (net of tax)	(448)	(646)	(193)	23	(55)
ECL transitional adjustment	(6)	(34)	(147)	(147)	(180)
Movements in other comprehensive income (OCI), excluding cash flow hedges	(601)	640	1,249	(668)	(232)
Currency translation differences	(753)	(264)	1,030	(804)	(166)
Debt and equity investments fair valued through OCI	(148)	(473)	(30)	(145)	(51)
Employee Benefits	(135)	778	74	292	(72)
Other	435	599	175	(11)	57
Goodwill and other intangible assets (deduction, net of related tax liability)	178	(18)	(166)	108	79
Other, including regulatory adjustments and transitional arrangements	96	(1,285)	(22)	(101)	(293)
Deferred tax assets that rely on future probability	7	107	(10)	21	12
Threshold deductions	-	-	-	-	-
Other	89	(1,392)	(12)	(122)	(305)
<b>Closing Amount</b>	<b>51,639</b>	<b>51,547</b>	<b>52,150</b>	<b>51,010</b>	<b>50,465</b>
<b>Other Additional Tier 1 capital</b>					
<b>Opening amount</b>	5,654	5,761	6,905	6,165	5,455
Capital issuances	1,500	-	-	753	1,250
Redeemed capital (Qualifying and Non-Qualifying)	-	-	(500)	-	(500)
Phase out of non-qualifying capital	-	-	(750)	-	-
Other, capital including regulatory adjustments and transitional arrangements (NVCC)	8	(107)	106	(13)	(40)
<b>Closing Amount</b>	<b>7,162</b>	<b>5,654</b>	<b>5,761</b>	<b>6,905</b>	<b>6,165</b>
<b>Total Tier 1 capital</b>	<b>58,801</b>	<b>57,201</b>	<b>57,911</b>	<b>57,915</b>	<b>56,630</b>
<b>Tier 2 capital</b>					
<b>Opening amount</b>	9,427	7,616	8,186	8,471	8,534
Capital issuances	-	3,356	-	-	-
Redeemed capital	(2)	(1,251)	-	-	-
Phase out of non-qualifying capital	-	-	(250)	-	-
Amortization adjustments	1	(5)	(327)	3	(5)
Other, including regulatory adjustments and transitional adjustments (NVCC)	(141)	(289)	7	(288)	(58)
<b>Closing Amount</b>	<b>9,285</b>	<b>9,427</b>	<b>7,616</b>	<b>8,186</b>	<b>8,471</b>
<b>Total regulatory capital</b>	<b>68,086</b>	<b>66,628</b>	<b>65,527</b>	<b>66,101</b>	<b>65,101</b>

<b>Risk-Weighted Assets and Capital Ratios</b>					
(in \$ billions)	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Q3 2021
<b>RISK-WEIGHTED ASSETS: <sup>(1)</sup></b>					
<b>On-Balance Sheet Assets</b>					
Cash Resources	2.6	3.1	2.7	2.7	2.4
Securities	12.6	12.2	11.5	10.2	10.1
Residential Mortgages	47.5	46.8	43.0	40.6	38.5
Loans					
- Retail Loans	65.2	58.8	57.9	55.1	55.0
- Non-Personal Loans	137.6	143.6	138.4	131.7	132.7
All Other	34.9	33.6	35.1	33.8	34.2
	<b>300.4</b>	<b>298.1</b>	<b>288.6</b>	<b>274.1</b>	<b>272.9</b>
<b>Off-Balance Sheet Assets</b>					
Indirect Credit Instruments	66.4	62.6	62.1	61.5	59.5
Derivative Instruments	13.0	13.2	11.2	11.0	12.8
	<b>79.4</b>	<b>75.8</b>	<b>73.3</b>	<b>72.5</b>	<b>72.3</b>
<b>Total Credit Risk before AIRB scaling factor</b>	<b>379.8</b>	<b>373.9</b>	<b>361.9</b>	<b>346.6</b>	<b>345.2</b>
AIRB Scaling factor <sup>(2)</sup>	13.6	13.2	12.7	12.2	12.0
<b>Total Credit Risk after AIRB scaling factor</b>	<b>393.4</b>	<b>387.1</b>	<b>374.6</b>	<b>358.8</b>	<b>357.2</b>
Market Risk - Risk Assets Equivalent	9.1	8.2	9.4	8.1	8.0
Operational Risk - Risk Assets Equivalent	50.3	50.0	49.7	49.2	49.0
Regulatory Capital Floor Adjustment to RWA <sup>(3)</sup>	-	-	-	-	-
<b>Risk-Weighted Assets <sup>(3)</sup></b>	<b>452.8</b>	<b>445.3</b>	<b>433.7</b>	<b>416.1</b>	<b>414.2</b>
<b>REGULATORY CAPITAL RATIOS (%):</b>					
Common Equity Tier 1	11.4	11.6	12.0	12.3	12.2
Tier 1	13.0	12.8	13.4	13.9	13.7
Total	15.0	15.0	15.1	15.9	15.7

(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 \$ millions)	Q3 2022		Q2 2022	
	Credit Risk	Of which Counterparty Credit Risk	Credit Risk	Of which Counterparty Credit Risk
Credit risk-weighted assets as at beginning of Quarter	387,064	19,377	374,586	18,374
Book size <sup>(1)</sup>	18,873	1,432	15,246	1,276
Book quality <sup>(2)</sup>	(1,678)	(162)	(2,393)	(52)
Model updates <sup>(3)</sup>	(5,521)	(112)	(360)	(360)
Methodology and policy <sup>(4)</sup>	(1,601)	-	-	-
Acquisitions and disposals	-	-	(353)	-
Foreign exchange movements	(3,487)	40	338	139
Other	(222)	-	-	-
<b>Credit risk-weighted assets as at end of Quarter</b>	<b>393,428</b>	<b>20,575</b>	<b>387,064</b>	<b>19,377</b>

(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.

Market Risk RWA (in \$ millions)	Q3 2022	Q2 2022
Market risk-weighted assets as at beginning of Quarter	8,181	9,423
Movement in risk levels <sup>(1)</sup>	929	(1,845)
Model updates <sup>(2)</sup>	(2)	603
Methodology and policy <sup>(3)</sup>	-	-
Acquisitions and disposals	-	-
Other	-	-
<b>Market risk-weighted assets as at end of Quarter</b>	<b>9,108</b>	<b>8,181</b>

(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).

Operational Risk RWA (in \$ millions)	Q3 2022	Q2 2022
Operational risk-weighted assets as at beginning of Quarter	50,027	49,673
Acquisitions and disposals	-	-
Higher Revenue	236	354
<b>Operational risk-weighted assets as at end of Quarter</b>	<b>50,263</b>	<b>50,027</b>

**Risk-weighted Assets Arising from the Activities of the Bank's Businesses**

<b>(in \$ billions)</b>						
<b>Q3 2022</b>						
<b>Risk-weighted Assets (RWA)</b>	<b>Canadian Banking</b>	<b>International Banking</b>	<b>Global Banking &amp; Markets</b>	<b>Global Wealth Management</b>	<b>Other</b>	<b>All Bank</b>
RWA	\$148.0	\$149.2	\$118.5	\$21.6	\$15.5	\$452.8
Proportion of Bank	33%	33%	26%	5%	3%	100%
Comprised of:						
Credit risk	89%	89%	86%	66%	93%	87%
Market risk	- %	1%	5%	- %	5%	2%
Operational risk	11%	10%	9%	34%	2%	11%

<b>(in \$ billions)</b>						
<b>Q2 2022</b>						
<b>Risk-weighted Assets (RWA)</b>	<b>Canadian Banking</b>	<b>International Banking</b>	<b>Global Banking &amp; Markets</b>	<b>Global Wealth Management</b>	<b>Other</b>	<b>All Bank</b>
RWA	\$140.8	\$161.6	\$107.4	\$20.8	\$14.7	\$445.3
Proportion of Bank	32%	36%	24%	5%	3%	100%
Comprised of:						
Credit risk	88%	89%	86%	65%	94%	87%
Market risk	- %	1%	5%	- %	5%	2%
Operational risk	12%	10%	9%	35%	1%	11%

**Credit Risk Exposures by Geography <sup>(1)(2)</sup>**

Exposure at Default										
(in \$ millions)	Q3 2022					Q2 2022				
	Non-Retail			Retail	Total	Non-Retail			Retail	Total
	Drawn	Undrawn	Other <sup>(3)</sup>			Drawn	Undrawn	Other <sup>(3)</sup>		
Canada	152,973	59,428	40,739	445,384	698,524	147,712	57,526	40,708	429,576	675,522
USA	133,200	45,338	47,331	-	225,869	141,609	44,014	40,643	-	226,266
Chile	25,836	1,628	4,061	26,149	57,674	25,646	1,335	3,954	26,159	57,094
Mexico	27,260	1,982	3,016	13,918	46,176	25,345	1,618	2,325	13,520	42,808
Peru	18,033	1,053	3,008	9,465	31,559	17,584	1,131	2,943	8,917	30,575
Colombia	6,621	337	989	5,893	13,840	7,135	311	1,072	6,204	14,722
Other International										
Europe	20,105	7,411	17,219	-	44,735	22,950	7,392	18,140	-	48,482
Caribbean	15,855	1,422	1,081	11,658	30,016	15,422	1,294	874	11,278	28,868
Latin America (other)	14,854	1,302	1,415	746	18,317	13,379	1,638	2,023	721	17,761
All Other	24,433	5,263	5,880	19	35,595	25,128	4,442	5,600	31	35,201
<b>Total</b>	<b>439,170</b>	<b>125,164</b>	<b>124,739</b>	<b>513,232</b>	<b>1,202,305</b>	<b>441,910</b>	<b>120,701</b>	<b>118,282</b>	<b>496,406</b>	<b>1,177,299</b>

(in \$ millions)	Q1 2022	Q4 2021	Q3 2021	Q2 2021	Q1 2021
Canada	659,312	639,748	637,805	617,120	632,303
USA	219,938	194,424	177,444	163,088	184,650
Chile	58,183	54,777	56,357	58,698	57,225
Mexico	40,294	38,422	39,398	38,298	38,540
Peru	29,278	28,152	28,281	28,757	33,229
Colombia	13,908	14,446	12,860	12,350	14,091
Other International					
Europe	47,448	47,179	49,926	53,967	50,765
Caribbean	28,194	27,673	28,078	28,018	30,182
Latin America (other)	15,710	14,080	14,866	14,308	13,569
All Other	35,367	35,104	34,744	32,961	35,902
<b>Total</b>	<b>1,147,632</b>	<b>1,094,005</b>	<b>1,079,759</b>	<b>1,047,565</b>	<b>1,090,456</b>

(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 <sup>(1)(2)</sup>**

Exposure at Default								
(in \$ millions)	Q3 2022				Q2 2022			
	Drawn	Undrawn	Other <sup>(3)</sup>	Total	Drawn	Undrawn	Other <sup>(3)</sup>	Total
<b>Non-Retail</b>								
Less than 1 year	179,661	38,893	77,128	295,682	184,206	35,380	76,715	296,301
1 to 5 years	169,005	79,714	33,306	282,025	166,191	75,518	28,084	269,793
Over 5 Years	30,751	3,593	6,492	40,836	24,765	5,997	5,712	36,474
<b>Total Non-Retail</b>	<b>379,417</b>	<b>122,200</b>	<b>116,926</b>	<b>618,543</b>	<b>375,162</b>	<b>116,895</b>	<b>110,511</b>	<b>602,568</b>
<b>Retail</b>								
Less than 1 year	27,399	25,911	-	53,310	23,209	25,165	-	48,374
1 to 5 years	267,101	-	-	267,101	264,220	-	-	264,220
Over 5 Years	16,720	-	-	16,720	16,529	-	-	16,529
Revolving Credits <sup>(4)</sup>	39,830	29,619	-	69,449	38,707	29,156	-	67,863
<b>Total Retail</b>	<b>351,050</b>	<b>55,530</b>	<b>-</b>	<b>406,580</b>	<b>342,665</b>	<b>54,321</b>	<b>-</b>	<b>396,986</b>
<b>Total</b>	<b>730,467</b>	<b>177,730</b>	<b>116,926</b>	<b>1,025,123</b>	<b>717,827</b>	<b>171,216</b>	<b>110,511</b>	<b>999,554</b>

(in \$ millions)	Q1 2022	Q4 2021	Q3 2021	Q2 2021
<b>Non-Retail</b>				
Less than 1 year	315,086	290,050	288,279	267,498
1 to 5 years	241,767	230,974	226,012	229,644
Over 5 Years	26,690	26,540	28,542	29,511
<b>Total Non-Retail</b>	<b>583,543</b>	<b>547,564</b>	<b>542,833</b>	<b>526,653</b>
<b>Retail</b>				
Less than 1 year	49,899	49,980	48,147	47,909
1 to 5 years	256,766	249,195	242,214	229,994
Over 5 Years	16,631	16,230	16,163	16,494
Revolving Credits <sup>(4)</sup>	66,224	64,490	64,480	64,144
<b>Total Retail</b>	<b>389,520</b>	<b>379,895</b>	<b>371,004</b>	<b>358,541</b>
<b>Total</b>	<b>973,063</b>	<b>927,459</b>	<b>913,837</b>	<b>885,194</b>

(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	Q3 2022		Q2 2022		Q1 2022		Q4 2021		Q3 2021	
	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
	%	%	%	%	%	%	%	%	%	%
<b>Non-Retail</b> <sup>(1)(3)</sup>										
Corporate <sup>(4)</sup>	0.01	0.44	0.03	0.50	0.04	0.47	0.05	0.48	0.10	0.37
Sovereign	-	0.05	-	0.06	-	0.04	-	0.05	-	0.05
Bank	-	0.46	-	0.42	-	0.37	-	0.15	-	0.25
<b>Retail</b> <sup>(2)(3)</sup>										
Real Estate Secured	-	0.08	-	0.08	-	0.08	-	0.10	0.01	0.10
QRRE	1.92	2.89	1.79	3.03	1.93	3.14	2.06	3.12	2.26	3.28
Other Retail	0.34	1.38	0.39	1.38	0.45	1.38	0.52	1.40	0.59	1.34

- (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.
- (4) Actual Loss Rate for Corporate class in Q3, 2022, represents high recoveries made during the quarter.

**Estimated and Actual Loss Parameters - Non-Retail and Retail AIRB Portfolios**

Exposure Type	Q3 2022						Q2 2022					
	Average estimated PD %	Actual default rate %	Average estimated LGD %	Actual LGD %	Average estimated CCF <sup>(2)</sup> %	Actual CCF <sup>(2)</sup> %	Average estimated PD %	Actual default rate %	Average estimated LGD %	Actual LGD %	Average estimated CCF <sup>(2)</sup> %	Actual CCF <sup>(2)</sup> %
Non-Retail <sup>(1)</sup>	0.59	0.14	39.48	47.16	48.76	40.37	0.60	0.19	39.50	48.91	48.61	37.11

(1) Reporting is on a one quarter lag basis. For reporting as of Q3/22, estimated parameters are based on portfolio averages at Q2/21 whereas actual parameters are based on averages of realized parameters during the subsequent four quarters (Q3/21 – Q2/22).

(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 \$ millions) <sup>(1)</sup>	Four-quarter period ending Q3 2022						Four-quarter period ending Q2 2022					
	Average estimated PD <sup>(2)(7)</sup> %	Actual default rate <sup>(2)(5)</sup> %	Average estimated LGD <sup>(3)(7)</sup> %	Actual LGD <sup>(3)(6)</sup> %	Estimated EAD <sup>(4)(7)</sup> \$	Actual EAD <sup>(4)(5)</sup> \$	Average estimated PD <sup>(2)(7)</sup> %	Actual default rate <sup>(2)(5)</sup> %	Average estimated LGD <sup>(3)(7)</sup> %	Actual LGD <sup>(3)(6)</sup> %	Estimated EAD <sup>(4)(7)</sup> \$	Actual EAD <sup>(4)(5)</sup> \$
Residential real estate secured												
Residential mortgages												
Insured mortgages <sup>(8)</sup>	0.44	0.29	-	-	-	-	0.46	0.30	-	-	-	-
Uninsured mortgages	0.35	0.17	16.48	17.18	-	-	0.36	0.18	16.49	16.49	-	-
Secured lines of credit	0.14	0.10	26.98	20.13	45	41	0.15	0.10	27.29	19.45	44	41
Qualifying revolving retail exposures	1.37	0.88	84.71	76.12	399	351	1.34	0.81	84.77	77.32	409	361
Other retail	1.41	0.78	60.77	61.77	5	5	1.45	0.80	60.26	62.05	5	5

(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<sup>(1)</sup>**

(in \$ millions)

Contract Types	Q3 2022				Q2 2022				Q1 2022				Q4 2021			
	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount <sup>(2)</sup>	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount <sup>(2)</sup>	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount <sup>(2)</sup>	Notional Amount	Credit Risk Amount	Credit Risk Equivalent Amount	Risk-weighted Amount <sup>(2)</sup>
<b>Interest Rate Contracts:</b>																
Futures and Forward Rate Agreements	327,045	113	78	38	257,582	45	132	65	282,912	41	106	53	343,189	32	143	69
Swaps	5,486,990	4,670	5,844	760	5,149,814	3,813	5,777	640	5,239,714	3,584	4,289	888	4,361,426	3,951	4,760	1,120
Options Purchased	37,276	118	106	30	35,784	106	96	24	28,642	79	41	11	40,860	70	44	10
Options Written	42,200	-	14	3	40,696	-	8	2	31,434	-	8	2	41,785	-	11	3
<b>Total</b>	<b>5,893,511</b>	<b>4,901</b>	<b>6,042</b>	<b>831</b>	<b>5,483,876</b>	<b>3,964</b>	<b>6,013</b>	<b>731</b>	<b>5,582,702</b>	<b>3,704</b>	<b>4,444</b>	<b>954</b>	<b>4,787,260</b>	<b>4,053</b>	<b>4,958</b>	<b>1,202</b>
<b>Foreign Exchange Contracts:</b>																
Futures and Forwards	493,215	980	5,199	1,374	471,897	1,771	5,152	1,560	516,668	1,529	4,878	1,459	442,804	1,604	4,603	1,407
Swaps	674,852	1,017	9,519	2,180	659,038	1,935	9,448	2,592	631,286	1,231	7,094	2,051	571,933	1,151	7,342	1,715
Options Purchased	19,270	272	277	85	19,151	275	305	95	18,308	318	278	105	16,256	351	247	118
Options Written	20,448	-	15	3	20,059	-	12	2	18,699	-	15	4	16,495	-	14	2
<b>Total</b>	<b>1,207,785</b>	<b>2,269</b>	<b>15,010</b>	<b>3,642</b>	<b>1,170,145</b>	<b>3,981</b>	<b>14,917</b>	<b>4,249</b>	<b>1,184,961</b>	<b>3,078</b>	<b>12,265</b>	<b>3,619</b>	<b>1,047,488</b>	<b>3,106</b>	<b>12,206</b>	<b>3,242</b>
<b>Other Derivatives Contracts:</b>																
Equity	123,592	1,167	7,659	1,179	141,072	1,230	7,428	994	145,212	1,390	8,839	1,367	145,352	1,423	9,707	1,340
Credit	24,560	439	687	253	24,714	235	405	79	27,859	268	426	79	27,421	197	304	59
Other	65,163	5,144	12,045	1,268	73,524	5,707	8,656	1,269	64,675	4,502	5,707	851	61,329	4,562	6,610	1,182
<b>Total</b>	<b>213,315</b>	<b>6,750</b>	<b>20,391</b>	<b>2,700</b>	<b>239,310</b>	<b>7,172</b>	<b>16,489</b>	<b>2,342</b>	<b>237,746</b>	<b>6,160</b>	<b>14,972</b>	<b>2,297</b>	<b>234,102</b>	<b>6,182</b>	<b>16,621</b>	<b>2,581</b>
<b>Credit Valuation Adjustment</b>				<b>5,844</b>				<b>5,919</b>				<b>4,312</b>				<b>3,957</b>
<b>Total Derivatives after Netting and Collateral</b>	<b>7,314,611</b>	<b>13,920</b>	<b>41,443</b>	<b>13,017</b>	<b>6,893,331</b>	<b>15,117</b>	<b>37,419</b>	<b>13,241</b>	<b>7,005,409</b>	<b>12,942</b>	<b>31,681</b>	<b>11,182</b>	<b>6,068,850</b>	<b>13,341</b>	<b>33,785</b>	<b>10,982</b>

(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.

<b>Total Market Risk-Weighted Assets</b>					
(in \$ millions)	Q3 2022	Q2 2022	Q1 2022	Q4 2021	Q3 2021
All Bank VaR	1,854	1,400	1,476	1,160	1,422
All Bank stressed VaR	3,309	3,156	4,691	4,410	4,142
Incremental risk charge	3,191	2,746	2,391	1,881	1,715
Comprehensive risk measure	-	-	-	-	-
Standardized approach	754	879	865	661	689
<b>Market risk-weighted assets as at end of Quarter</b>	<b>9,108</b>	<b>8,181</b>	<b>9,423</b>	<b>8,112</b>	<b>7,968</b>



## Glossary

<b>Credit Risk Parameters</b>	
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.
<b>Exposure Types</b>	
<b>Non-retail</b>	
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.
<b>Retail</b>	
<b>Real Estate Secured</b>	
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, including Small Business Enterprise treated as Other Retail under regulatory disclosure requirements.
<b>Exposure Sub-types</b>	
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.
<b>Other</b>	
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.