



Supplemental Regulatory Disclosure

For the Fourth Quarter Ended October 31, 2019

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Introduction

The information contained in this package is designed to facilitate the readers' understanding of the capital requirements of TD Bank Group ("TD" or the "Bank"). This information should be used in conjunction with the Bank's fourth quarter 2019 Earnings News Release (ENR), Investor Presentation, Supplemental Financial Information package, the 2019 Management's Discussion and Analysis, and the Bank's Consolidated Financial Statements for the year ended October 31, 2019. For Basel-related terms and acronyms used in this package, refer to the "Glossary – Basel" and "Acronyms" pages, respectively.

How the Bank Reports

The Bank prepares its Consolidated Financial Statements in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board, the current generally accepted accounting principles, and refers to results prepared in accordance with IFRS as "reported" results.

Basel III Reporting

The Office of the Superintendent of Financial Institutions Canada (OSFI) has implemented a phased-in approach to the Credit Valuation Adjustment (CVA) component included in credit risk-weighted assets (RWA). The CVA capital charge phase-in is based on a scalar approach whereby a CVA capital charge of 80%, applicable in 2018 for the Common Equity Tier 1 (CET1) calculation, has increased to 100% in 2019. A different scalar applies to the CET1, Tier 1, and Total Capital ratios. Therefore, each capital ratio has its own RWA measure. For fiscal 2018, the scalars for inclusion of CVA for CET1, Tier 1, and Total Capital RWA were 80%, 83%, and 86%, respectively. For fiscal 2019, the corresponding scalars are all 100%. Effective in the second quarter of 2018, OSFI implemented a revised methodology for calculating the regulatory capital floor. The revised floor is based on the Basel II standardized approach, with the floor factor transitioned in over three quarters. The factor increases from 70% in the second quarter of 2018, to 72.5% in the third quarter, and 75% in the fourth quarter. Under the revised methodology, the Bank is no longer constrained by the capital floor. All three RWA measures are disclosed as part of the RWA disclosures on page 10, as well as the Capital Position disclosures on pages 1 to 3.

OSFI approved the Bank i) to use the Advanced Measurement Approach, and ii) to calculate the majority of the retail portfolio credit RWA in the U.S. Retail segment using the Advanced Internal Ratings-Based (AIRB) Approach.

Effective the fourth quarter of 2018, the Bank implemented the new Pillar 3 disclosure requirements. As noted in the Pillar 3 disclosure Index on the following pages, the disclosures are grouped by topic. Of note, Part 4 – Credit Risk consists of credit risk exposures excluding counterparty credit risk (CCR) and includes drawn, undrawn and other off-balance sheet exposures whereas CCR for Part 5 – CCR includes repo-style transactions and derivative exposures. The glossary provides additional details of items included in these exposure types.

RWA disclosed in each disclosure include the 6% OSFI prescribed scaling factor, where applicable.

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Pillar 3 Disclosure Requirements – In January 2015, the Basel Committee on Banking Supervision (BCBS) published the standard for the *Revised Pillar 3 Disclosure Requirements* (Revised Basel Pillar 3 standard). The Revised Basel Pillar 3 standard aim to address the problems identified through the financial crisis and to improve comparability and consistency of financial regulatory disclosures through more standardized formats between banks and across jurisdictions. Furthermore, OSFI issued the Pillar 3 Disclosure Requirements guideline April 2017, effective October 31, 2018. The index below includes disclosure requirement per the BCBS document (and required by OSFI) and lists the location of the related disclosures presented in the fourth quarter 2019, Report to Shareholders (RTS), or Supplemental Financial Information (SFI), or Supplemental Regulatory Disclosures (SRD). Information on TD's website, SFI, and SRD is not and should not be considered incorporated herein by reference into the 2019 Annual Report, Management's Discussion and Analysis, or the Consolidated Financial Statements.

Topic	Pillar 3 Disclosure Requirements	Frequency	Page		
			SFI Fourth Quarter 2019	SRD Fourth Quarter 2019	Annual Report 2019
Overview of risk management	OVA – Bank risk management approach.	Annual			61, 68-78, 86, 103, 220
	OV1 – Overview of RWA.	Quarterly		10	
Linkages between financial statements and regulatory exposures	LI1 – Differences between accounting and regulatory scopes of consolidation and mapping of financial statements with regulatory risk categories.	Quarterly		13	
	LI2 – Main sources of differences between regulatory exposure amounts and carrying values in financial statements.	Quarterly		14	
	LIA – Explanations of differences between accounting and regulatory exposure amounts.	Quarterly		14	
Composition of capital and TLAC ¹	CC1 – Composition of regulatory capital.	Quarterly		1-3	
	CC2 – Reconciliation of regulatory capital to balance sheet.	Quarterly		5	
	CCA – Main features of regulatory capital instruments and of other TLAC-eligible instruments ² .	Quarterly			
	TLAC1 – TLAC composition (at resolution group level).	Quarterly		8	
	TLAC2 – Material subgroup entity – creditor ranking at legal entity level.	N/A ³	Not applicable to TD.		
	TLAC3 – Resolution entity – creditor ranking at legal entity level.	Quarterly		9	
Leverage ratio	LR1 – Summary comparison of accounting assets versus leverage ratio exposure measure.	Quarterly		6	
	LR2 – Leverage ratio common disclosure template.	Quarterly		6	
Credit risk	CRA – General information about credit risk.	Annual			74-76, 78-81
	CR1 – Credit quality of assets.	Quarterly		15	
	CR2 – Changes in stock of defaulted loans and debt securities ⁴ .	Quarterly			
	CRB – Additional disclosure related to the credit quality of assets a) to d).	Annual			82, 136, 143, 169
	CRB – Additional disclosure related to the credit quality of assets – e) Breakdown of exposures by geographical areas, industry and residual maturity ⁴ .	Quarterly		17-19	

Topic	Pillar 3 Disclosure Requirements	Frequency	Page		
			SFI Fourth Quarter 2019	SRD Fourth Quarter 2019	Annual Report 2019
Credit risk	CRB – Additional disclosure related to the credit quality of assets – f) Amounts of impaired exposures (according to definition used by the bank for accounting purposes) and related allowances and write-offs broken down by geographical areas and industry.	Quarterly	20-22, 25-27		
	CRB – Additional disclosure related to the credit quality of assets – g) Ageing analysis of accounting past-due exposures ⁴ .	Quarterly			169
	CRB – Additional disclosure related to the credit quality of assets – h) Breakdown of restructured exposures between impaired and not impaired exposures.	Quarterly		15	
	CRC – Qualitative disclosure requirements related to credit risk mitigation techniques.	Annual			82
	CR3 – Credit risk mitigation techniques – overview.	Quarterly		16	
	CRD – Qualitative disclosures on banks' use of external credit ratings under the standardized approach (SA) for credit risk.	Annual			81
	CR4 – Standardized approach – credit risk exposure and Credit Risk Mitigation (CRM) effects.	Quarterly		20	
	CR5 – Standardized approach – exposures by asset classes and risk weights.	Quarterly		21	
	CRE – Qualitative disclosures related to IRB models.	Annual			74-76, 79-83, 91-92
	CR6 – IRB – Credit risk exposures by portfolio and probability of default (PD) range.	Quarterly		22-36	
	CR7 – IRB – Effect on RWA of credit derivatives used as CRM techniques.	N/A	Impact is immaterial and has been disclosed in CR3, footnote 3.		
	CR8 – RWA flow statements of credit risk exposures under IRB.	Quarterly		11	
	CR9 – IRB – Backtesting of PD per portfolio.	Annual		59-60	
CR10 – IRB (specialized lending and equities under the simple risk weight method).	N/A	TD does not use this approach.			
Counterparty credit risk	CCRA – Qualitative disclosure related to CCR.	Annual			81-82, 97
	CCR1 – Analysis of CCR exposure by approach.	Quarterly		37-38	
	CCR2 – CVA capital charge.	Quarterly		39	
	CCR3 – Standardized approach of CCR exposures by regulatory portfolio and risk weights.	Quarterly		39	
	CCR4 – IRB – CCR exposures by portfolio and PD scale.	Quarterly		40-45	
	CCR5 – Composition of collateral for CCR exposure.	Quarterly		46	
	CCR6 – Credit derivatives exposures.	Quarterly		47	
	CCR7 – RWA flow statements of CCR exposures under the Internal Model Method (IMM).	N/A	TD does not use IMM.		
	CCR8 – Exposures to central counterparties.	Quarterly		47	

Topic	Pillar 3 Disclosure Requirements	Frequency	Page		
			SFI Fourth Quarter 2019	SRD Fourth Quarter 2019	Annual Report 2019
Securitization	SECA – Qualitative disclosure requirements related to securitization exposures.	Annual			65-66, 83, 139-140, 171-172
	SEC1 – Securitization exposures in the banking book.	Quarterly		52	
	SEC2 – Securitization exposures in the trading book.	Quarterly		53	
	SEC3 – Securitization exposures in the banking book and associated regulatory capital requirements – bank acting as originator or as sponsor.	Quarterly		54-55	
	SEC4 – Securitization exposures in the banking book and associated capital requirements – bank acting as investor.	Quarterly		56-57	
Market risk ⁴	MRA – Qualitative disclosure requirements related to market risk.		TD has deferred these disclosures as allowed per OSFI's Pillar 3 guideline issued April 2017.		
	MRB – Qualitative disclosures for banks using the Internal Models Approach (IMA).				
	MR1 – Market risk under standardized approach.				
	MR2 – RWA flow statements of market risk exposures under an IMA.				
	MR3 – IMA values for trading portfolios.				
	MR4 – Comparison of VaR ⁵ estimates with gains/losses.				

¹ Total loss absorbing capacity (TLAC).

² CCA is available at <https://www.td.com/investor-relations/ir-homepage/regulatory-disclosures/main-features-of-capital-instruments/main-features-of-capital-instruments.jsp>.

³ Not applicable.

⁴ Current disclosures in SFI and annual report do not contain any exposures related to the deconsolidated insurance entities, therefore the Pillar 3 requirements are fulfilled based on current disclosure.

⁵ Value-at-Risk.

Capital Position – Basel III (CC1)

(\$ millions) As at	Line #	2019				2018	Cross Reference ¹
		Q4	Q3	Q2	Q1	Q4	
Common Equity Tier 1 Capital							
Common shares plus related contributed surplus	1	\$ 21,828	\$ 21,834	\$ 21,830	\$ 21,679	\$ 21,267	A1+A2+B
Retained earnings	2	49,497	48,818	47,980	46,660	46,145	C
Accumulated other comprehensive income (loss)	3	10,581	9,933	9,743	7,983	6,639	D
Directly issued capital subject to phase out from CET1	4	–	–	–	–	–	
Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	5	–	–	–	–	–	
Common Equity Tier 1 Capital before regulatory adjustments	6	81,906	80,585	79,553	76,322	74,051	
Common Equity Tier 1 Capital regulatory adjustments							
Prudential valuation adjustments	7	–	–	–	–	–	
Goodwill (net of related tax liability)	8	(19,712)	(19,752)	(20,022)	(19,681)	(19,285)	E1+E2-E3
Intangibles (net of related tax liability)	9	(2,389)	(2,388)	(2,417)	(2,402)	(2,236)	F1-F2
Deferred tax assets excluding those arising from temporary differences	10	(245)	(221)	(248)	(279)	(317)	G
Cash flow hedge reserve	11	(1,389)	(606)	389	1,122	2,568	H
Shortfall of provisions to expected losses	12	(1,148)	(1,236)	(1,233)	(977)	(953)	I
Securitization gain on sale	13	–	–	–	–	–	
Gains and losses due to changes in own credit risk on fair valued liabilities	14	(132)	(154)	(116)	(111)	(115)	J
Defined benefit pension fund net assets (net of related tax liability)	15	(13)	(10)	(10)	(9)	(113)	K
Investment in own shares	16	(22)	(23)	(31)	(14)	(123)	
Reciprocal cross holdings in common equity	17	–	–	–	–	–	
Non-significant investments in the capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)	18	–	–	–	–	–	
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)	19	(1,814)	(1,717)	(1,596)	(1,303)	(1,088)	L1+L2+L3
Mortgage servicing rights (amount above 10% threshold)	20	–	–	–	–	–	
Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability)	21	–	–	–	–	–	
Amount exceeding the 15% threshold	22	–	–	–	–	–	
<i>of which: significant investments in the common stock of financials</i>	23	–	–	–	–	–	
<i>of which: mortgage servicing rights</i>	24	–	–	–	–	–	
<i>of which: deferred tax assets arising from temporary differences</i>	25	–	–	–	–	–	
Other deductions or regulatory adjustments to CET1 as determined by OSFI	26	–	–	–	–	–	
Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions	27	–	–	–	–	–	
Total regulatory adjustments to Common Equity Tier 1 Capital	28	(26,864)	(26,107)	(25,284)	(23,654)	(21,662)	
Common Equity Tier 1 Capital	29	55,042	54,478	54,269	52,668	52,389	
Additional Tier 1 capital instruments							
Directly issued qualifying Additional Tier 1 instruments plus stock surplus	30	5,795	5,797	5,345	5,348	4,996	M+N+O
<i>of which: classified as equity under applicable accounting standards</i>	31	5,795	5,797	5,345	5,348	4,996	
<i>of which: classified as liabilities under applicable accounting standards</i>	32	–	–	–	–	–	
Directly issued capital instruments subject to phase out from Additional Tier 1	33	1,196	1,189	1,744	1,730	2,455	P
Additional Tier 1 instruments issued by subsidiaries and held by third parties	34	–	–	–	–	245	
<i>of which: instruments issued by subsidiaries subject to phase out</i>	35	–	–	–	–	–	
Additional Tier 1 capital instruments before regulatory adjustments	36	6,991	6,986	7,089	7,078	7,696	
Additional Tier 1 capital instruments regulatory adjustments							
Investment in own Additional Tier 1 instruments	37	–	–	–	–	–	
Reciprocal cross holdings in Additional Tier 1 instruments	38	–	–	–	–	–	
Non-significant investments in the capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)	39	–	–	–	–	–	
Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions	40	(350)	(350)	(350)	(350)	(350)	Q
Other deductions from Tier 1 capital as determined by OSFI	41	–	–	–	–	–	
<i>of which: Reverse mortgages</i>	41a	–	–	–	–	–	
Regulatory adjustments applied to Additional Tier 1 due to insufficient Tier 2 to cover deductions	42	–	–	–	–	–	
Total regulatory adjustments to Additional Tier 1 Capital	43	(350)	(350)	(350)	(350)	(350)	
Additional Tier 1 Capital	44	6,641	6,636	6,739	6,728	7,346	
Tier 1 Capital	45	\$ 61,683	\$ 61,114	\$ 61,008	\$ 59,396	\$ 59,735	

¹ Cross referenced to the Reconciliation with Balance Sheet Under Regulatory Scope of Consolidation table on page 5.

Capital Position – Basel III (CC1) (Continued)

(\$ millions) As at	Line #	2019				2018	Cross Reference ¹
		Q4	Q3	Q2	Q1	Q4	
Tier 2 capital instruments and provisions							
Directly issued qualifying Tier 2 instruments plus related stock surplus	46	\$ 10,527	\$ 10,398	\$ 8,770	\$ 8,695	\$ 8,927	R
Directly issued capital instruments subject to phase out from Tier 2	47	198	198	198	198	198	S
Tier 2 instruments issued by subsidiaries and held by third parties	48	–	–	–	–	–	
<i>of which: instruments issued by subsidiaries subject to phase out</i>	49	–	–	–	–	–	
Collective allowance	50	1,874	1,819	1,811	1,862	1,734	T
Tier 2 Capital before regulatory adjustments	51	12,599	12,415	10,779	10,755	10,859	
Tier 2 regulatory adjustments							
Investments in own Tier 2 instruments	52	–	–	(7)	(23)	–	
Reciprocal cross holding in Tier 2 instruments and Other TLAC-eligible instruments	53	–	–	–	–	–	
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)	54	–	–	–	–	–	
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	54a	–	–	–	–	–	
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	55	(160)	(160)	(160)	(160)	(160)	U
Other deductions from Tier 2 capital	56	–	–	–	–	–	
Total regulatory adjustments to Tier 2 Capital	57	(160)	(160)	(167)	(183)	(160)	
Tier 2 Capital	58	12,439	12,255	10,612	10,572	10,699	
Total Capital	59	74,122	73,369	71,620	69,968	70,434	
Total risk-weighted assets	60	455,977	454,881	452,267	439,324	n/a	
Common Equity Tier 1 Capital RWA²	60a	n/a	n/a	n/a	n/a	435,632	
Tier 1 Capital RWA²	60b	n/a	n/a	n/a	n/a	435,780	
Total Capital RWA²	60c	\$ n/a	\$ n/a	\$ n/a	\$ n/a	\$ 435,927	
Capital Ratios							
Common Equity Tier 1 Capital (as percentage of RWA)	61	12.1 %	12.0 %	12.0 %	12.0 %	12.0 %	
Tier 1 (as percentage of RWA)	62	13.5	13.4	13.5	13.5	13.7	
Total Capital (as percentage of RWA)	63	16.3	16.1	15.8	15.9	16.2	
Buffer requirement (minimum CET1 requirement plus capital conservation buffer plus global systemically important banks (G-SIBs) buffer plus domestic systemically important banks (D-SIBs) buffer requirement expressed as percentage of RWA) ^{3,4}	64	8.0	8.0	8.0	8.0	8.0	
<i>of which: capital conservation buffer requirement</i>	65	2.5	2.5	2.5	2.5	2.5	
<i>of which: bank-specific countercyclical buffer requirement⁵</i>	66	–	–	–	–	–	
<i>of which: G-SIB buffer requirement</i>	67	–	–	–	–	–	
<i>of which: D-SIB buffer requirement⁶</i>	67a	1.0	1.0	1.0	1.0	1.0	
Common Equity Tier 1 available to meet buffers (as percentage of RWA)	68	12.1	12.0	12.0	12.0	12.0	
OSFI target (minimum plus conservation buffer plus D-SIB surcharge (if applicable))⁷							
Common Equity Tier 1 target ratio	69	8.0	8.0	8.0	8.0	8.0	
Tier 1 target ratio	70	9.5	9.5	9.5	9.5	9.5	
Total Capital target ratio	71	11.5	11.5	11.5	11.5	11.5	

¹ Cross referenced to the Reconciliation with Balance Sheet Under Regulatory Scope of Consolidation table on page 5.

² Prior to fiscal 2019, each capital ratio had its own RWA measure due to the OSFI prescribed scalar for inclusion of the CVA. For fiscal 2019, CVA is fully phased in, therefore there is only one RWA measure for all ratios.

For fiscal 2018, the corresponding scalars were 80%, 83%, and 86%, respectively.

³ The minimum CET1 requirement prior to the buffers is 4.5%.

⁴ The Financial Stability Board (FSB), in consultation with BCBS and national authorities, has identified the 2018 list of global systemically important banks (G-SIBs), using 2017 fiscal year-end data. The Bank was not identified as a G-SIB.

⁵ The countercyclical buffer surcharge is in effect.

⁶ Common equity capital domestic systemically important bank (D-SIB) surcharge is in effect.

⁷ Reflects Pillar 1 targets and does not include Pillar 2 domestic stability buffer. Effective the fourth quarter of 2019, the buffer is 2.00%

Capital Position – Basel III (CC1) (Continued)

(\$ millions, except as noted)

As at

Amounts below the thresholds for deduction (before risk weighting)

Non-significant investments in the capital and Other TLAC-eligible instruments of other financial entities

Significant investments in the common stock of financials

Mortgage servicing rights (net of related tax liability)

Deferred tax assets arising from temporary differences (net of related tax liability)

Applicable caps on the inclusion of allowances in Tier 2

Allowance eligible for inclusion in Tier 2 in respect of exposures subject to standardized approach (prior to application of cap)

Cap on inclusion of allowances in Tier 2 under standardized approach

Allowance eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)

Cap on inclusion of allowances in Tier 2 under internal ratings-based approach

Capital instruments subject to phase-out arrangements (only applicable between January 1, 2013 to January 1, 2022)

Current cap on CET1 instruments subject to phase out arrangements

Amounts excluded from CET1 due to cap (excess over cap after redemptions and maturities)

Current cap on Additional Tier 1 instruments subject to phase out arrangements

Amounts excluded from Additional Tier 1 due to cap (excess over cap after redemptions and maturities)

Current cap on Tier 2 instruments subject to phase out arrangements

Amounts excluded from Tier 2 due to cap (excess over cap after redemptions and maturities)

Capital Ratios for significant bank subsidiaries

TD Bank, National Association (TD Bank, N.A.)⁸

Common Equity Tier 1 Capital

Tier 1 Capital

Total Capital

TD Mortgage Corporation

Common Equity Tier 1 Capital

Tier 1 Capital

Total Capital

Line #	2019				2018
	Q4	Q3	Q2	Q1	Q4
72	\$ 2,204	\$ 1,777	\$ 1,541	\$ 1,682	\$ 4,273
73	5,685	5,620	5,586	5,397	5,348
74	52	47	43	41	39
75	778	797	897	944	885
76	1,874	1,819	1,811	1,862	1,734
77	2,127	2,135	2,129	2,152	2,070
78	–	–	–	–	–
79	–	–	–	–	–
80	–	–	–	–	–
81	–	–	–	–	–
82	2,025	2,025	2,025	2,025	2,700
83	–	–	–	–	31
84	2,629	2,629	2,629	2,629	3,505
85	–	–	–	–	–
86	14.8 %	15.3 %	15.3 %	15.0 %	14.9 %
87	14.8	15.3	15.3	15.0	14.9
88	15.6	16.2	16.2	15.9	15.7
89	43.1	42.8	41.2	41.1	40.7
90	43.1	42.8	41.2	41.1	40.7
91	43.8	43.4	41.9	41.8	41.6

⁸ On a stand-alone basis, TD Bank, N.A. reports regulatory capital to the Office of the Comptroller of the Currency on calendar quarter ends.

Flow Statement for Regulatory Capital¹

(\$ millions)

Common Equity Tier 1

Balance at beginning of period	1	\$ 54,478	\$ 54,269	\$ 52,668	\$ 52,389	\$ 50,096
New capital issues	2	27	45	24	394	28
Redeemed capital ²	3	(642)	(865)	(415)	(313)	–
Gross dividends (deductions)	4	(1,406)	(1,409)	(1,412)	(1,287)	(1,274)
Shares issued in lieu of dividends (add back)	5	68	92	98	99	94
Profit attributable to shareholders of the parent company ³	6	2,856	3,248	3,172	2,392	2,942
Removal of own credit spread (net of tax)	7	22	(38)	(5)	4	(6)
Movements in other comprehensive income						
Currency translation differences	8	(104)	(837)	1,020	(112)	596
Available-for-sale investments	9	n/a	n/a	n/a	n/a	n/a
Financial assets at fair value through other comprehensive income	10	(35)	20	1	11	(113)
Other	11	4	12	6	(1)	(2)
Goodwill and other intangible assets (deduction, net of related tax liability)	12	39	299	(356)	(562)	(188)
Other, including regulatory adjustments and transitional arrangements						
Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	13	(24)	27	31	38	(69)
Prudential valuation adjustments	14	–	–	–	–	–
Other	15	(241)	(385)	(563)	(384)	285
Balance at end of period	16	55,042	54,478	54,269	52,668	52,389

Additional Tier 1 Capital

Balance at beginning of period	17	6,636	6,739	6,728	7,346	6,951
New additional Tier 1 eligible capital issues	18	–	450	–	350	400
Redeemed capital	19	–	(550)	–	(298)	–
Other, including regulatory adjustments and transitional arrangements	20	5	(3)	11	(670)	(5)
Balance at end of period	21	6,641	6,636	6,739	6,728	7,346
Total Tier 1 Capital	22	61,683	61,114	61,008	59,396	59,735

Tier 2 Capital

Balance at beginning of period	23	12,255	10,612	10,572	10,699	8,886
New Tier 2 eligible capital issues	24	–	1,750	–	–	1,750
Redeemed capital	25	–	–	–	–	–
Amortization adjustments	26	–	–	–	–	–
Allowable collective allowance	27	55	8	(51)	128	69
Other, including regulatory adjustments and transitional arrangements	28	129	(115)	91	(255)	(6)
Balance at end of period	29	12,439	12,255	10,612	10,572	10,699
Total Regulatory Capital	30	\$ 74,122	\$ 73,369	\$ 71,620	\$ 69,968	\$ 70,434

Line #	2019					2018
	Q4	Q3	Q2	Q1	Q4	
1	\$ 54,478	\$ 54,269	\$ 52,668	\$ 52,389	\$ 50,096	
2	27	45	24	394	28	
3	(642)	(865)	(415)	(313)	–	
4	(1,406)	(1,409)	(1,412)	(1,287)	(1,274)	
5	68	92	98	99	94	
6	2,856	3,248	3,172	2,392	2,942	
7	22	(38)	(5)	4	(6)	
8	(104)	(837)	1,020	(112)	596	
9	n/a	n/a	n/a	n/a	n/a	
10	(35)	20	1	11	(113)	
11	4	12	6	(1)	(2)	
12	39	299	(356)	(562)	(188)	
13	(24)	27	31	38	(69)	
14	–	–	–	–	–	
15	(241)	(385)	(563)	(384)	285	
16	55,042	54,478	54,269	52,668	52,389	
17	6,636	6,739	6,728	7,346	6,951	
18	–	450	–	350	400	
19	–	(550)	–	(298)	–	
20	5	(3)	11	(670)	(5)	
21	6,641	6,636	6,739	6,728	7,346	
22	61,683	61,114	61,008	59,396	59,735	
23	12,255	10,612	10,572	10,699	8,886	
24	–	1,750	–	–	1,750	
25	–	–	–	–	–	
26	–	–	–	–	–	
27	55	8	(51)	128	69	
28	129	(115)	91	(255)	(6)	
29	12,439	12,255	10,612	10,572	10,699	
30	\$ 74,122	\$ 73,369	\$ 71,620	\$ 69,968	\$ 70,434	

¹ The statement is based on the applicable regulatory rules in force at the period end.

² Represents impact of shares repurchased for cancellation.

³ Profit attributable to shareholders of the parent company reconciles to the income statement.

Reconciliation with Balance Sheet Under Regulatory Scope of Consolidation (CC2)

(\$ millions)
As at

Line #	2019 Q4		Cross Reference ³
	Balance Sheet ¹	Under Regulatory scope of consolidation ²	
Cash and due from banks	\$ 4,863	\$ 4,863	
Interest-bearing deposits with banks	25,583	25,518	
Trading loans, securities, and other	146,000	146,000	
Non-trading financial assets at fair value through profit or loss	6,503	5,948	
Derivatives	48,894	48,891	
Financial assets designated at fair value through profit or loss	4,040	1,599	
Financial assets at fair value through other comprehensive income	111,104	109,071	
Debt securities at amortized cost, net of allowance for credit losses	130,497	130,262	
Securities purchased under reverse repurchase agreements	165,935	165,935	
Loans	689,055	689,055	
Allowance for loan losses	(4,447)	(4,447)	
Eligible allowance reflected in Tier 2 regulatory capital		(1,874)	T
Shortfall of allowance to expected loss		(1,148)	I
Allowances not reflected in regulatory capital		(1,425)	
Other	87,263	85,071	
Investment in TD Ameritrade			
Significant investments exceeding regulatory thresholds		1,505	L1
Significant investments not exceeding regulatory thresholds		4,962	
Imputed goodwill		2,849	E1
Goodwill		16,976	E2
Other intangibles		2,451	F1
Other intangibles (Mortgage Servicing Rights)		52	
Deferred tax assets			
Deferred tax assets (DTA) excluding those arising from temporary differences		245	G
DTA's (net of associated deferred tax liabilities (DTL)) realizable through net operating loss (NOL) carryback		778	
DTA's (net of associated DTL's) arising from temporary differences but not realizable through NOL carryback		1,554	
DTA's (net of associated DTL's) arising from temporary differences but not realizable through NOL carryback exceeding regulatory thresholds		–	
Other DTA/DTL adjustments ⁵		(873)	
Significant investments in financials (excluding TD Ameritrade)			
Significant investments exceeding regulatory thresholds		20	L2
Significant investments not exceeding regulatory thresholds		62	
Defined pension benefits		13	K
Other Assets		54,477	
TOTAL ASSETS	1,415,290	1,407,766	
LIABILITIES AND EQUITY⁴			
Trading deposits	26,885	26,885	
Derivatives	50,051	50,051	
Securitization liabilities at fair value	13,058	13,058	
Financial liabilities designated at fair value through profit or loss	105,131	105,131	
Deposits	886,977	886,977	
Other	234,762	227,238	
Deferred tax liabilities			
Goodwill		113	E3
Intangible assets (excluding mortgage servicing rights)		62	F2
Other deferred tax liabilities (Cash flow hedges and other DTL's)		891	
Other DTA/DTL adjustments ⁵		(873)	
Gains and losses due to changes in own credit risk on fair value liabilities		132	J
Other liabilities		226,913	
Subordinated notes and debentures	10,725	10,725	
Directly issued qualifying Tier 2 instruments		10,527	R
Directly issued capital instruments subject to phase out from Tier 2		198	S
Capital instruments not allowed for regulatory capital		–	
Liabilities	1,327,589	1,320,065	
Common Shares	21,713	21,713	A1
Preferred Shares	5,800	5,800	
Directly issued qualifying Additional Tier 1 instruments		5,800	M
Treasury Shares – Common	(41)	(41)	A2
Treasury Shares – Preferred	(6)	(6)	
Treasury Shares – non-viability contingent capital (NVCC) Preferred Shares		(6)	N
Treasury Shares – non-NVCC Preferred Shares		–	
Contributed Surplus	157	157	
Contributed surplus – Common Shares		156	B
Contributed surplus – Preferred Shares		1	O
Retained Earnings	49,497	49,497	C
Accumulated other comprehensive income (AOCI)	10,581	10,581	D
Cash flow hedges requiring derecognition		1,389	H
Net AOCI included as capital		9,192	
TOTAL LIABILITIES AND EQUITY	\$ 1,415,290	\$ 1,407,766	

¹ As per Balance Sheet on page 12 in the Supplemental Financial Information Package.

² Legal entities excluded from the regulatory scope of consolidation included the following insurance subsidiaries: Meloche Monnex Inc. (consolidated), TD Life Insurance Company, and TD Reinsurance (Barbados) Inc. which have total assets included in the consolidated Bank of \$7.5 billion and total equity of \$1.7 billion, of which \$289 million is deducted from CET1, \$350 million is deducted from additional Tier 1, and \$160 million is deducted from Tier 2 Capital. Cross referenced (L3, Q, U) respectively, to the Capital Position – Basel III on pages 1 and 2.

³ Cross referenced to the current period on the Capital Position – Basel III on pages 1 to 3.

⁴ This adjustment is related to deferred tax assets/liabilities netted for financial accounting purposes.

⁵ Included in current cap on additional Tier 1 instruments is \$1.2 billion related to TD Capital Trust IV (no longer consolidated as the Bank is not the primary beneficiary of the trust) (P– cross referenced to Capital Position – Basel III on page 1).

Leverage Ratio

(\$ millions, except as noted)
As at

Summary comparison of accounting assets vs. leverage ratio exposure measure (LR1)

Total consolidated assets as per published financial statements
 Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation
 Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference
 Adjustments for fiduciary assets recognized on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure
 Adjustments for derivative financial instruments
 Adjustment for securities financing transactions (SFT)
 Adjustment for off-balance sheet items (credit equivalent amounts)
 Other adjustments

Leverage Ratio Exposure

Leverage Ratio Common Disclosure Template (LR2)

On-balance sheet exposures

On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures but including collateral)
 Gross up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework
 Deductions of receivables assets for cash variation margin provided in derivative transactions
 Less: Asset amounts deducted in determining Tier 1 Capital

Total on-balance sheet exposures (excluding derivatives and SFTs)

Derivative exposures

Replacement cost associated with all derivative transactions (such as net of eligible cash variation margin)
 Add-on amounts for potential future exposure (PFE) associated with all derivative transactions
 Exempted central counterparty (CCP)-leg of client cleared trade exposures
 Adjusted effective notional amount of written credit derivatives
 Adjusted effective notional offsets and add-on deductions for written credit derivatives

Total derivative exposures

Securities financing transaction exposures

Gross SFT assets recognized for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions
 Netted amounts of cash payables and cash receivables of gross SFT assets
 Counterparty credit risk (CCR) exposure for SFTs
 Agent transaction exposures

Total securities financing transaction exposures

Other off-balance sheet exposures

Off-balance sheet exposure at gross notional amount
 Adjustments for conversion to credit equivalent amounts
 Off-balance sheet items

Capital on total exposures

Tier 1 Capital – "All-in" basis (line 45 on page 1)

Total Exposures (sum of lines 14, 20, 25 and 28) – All-in basis

Leverage Ratio

Line #	2019				2018 Q4	OSFI Template
	Q4	Q3	Q2	Q1		
1	\$ 1,415,290	\$ 1,405,442	\$ 1,356,588	\$ 1,322,506	\$ 1,334,903	1
2	(6,460)	(6,149)	(5,970)	(5,963)	(5,800)	2
3	(5,686)	(5,341)	(5,341)	(5,726)	–	3
4	–	–	–	–	–	4
5	3,809	1,423	13,667	17,107	(7,378)	5
6	(17,171)	(28,158)	(25,510)	(22,889)	(19,658)	6
7	162,881	160,433	159,414	152,743	150,910	7
8	(26,733)	(25,986)	(25,251)	(23,707)	(22,039)	8
9	\$ 1,525,930	\$ 1,501,664	\$ 1,467,597	\$ 1,434,071	\$ 1,430,938	9
10	\$ 1,188,667	\$ 1,179,069	\$ 1,151,972	\$ 1,133,480	\$ 1,144,580	1
11	–	–	–	–	–	2
12	(8,600)	(9,244)	(5,970)	(6,246)	(5,662)	3
13	(27,082)	(26,302)	(25,519)	(23,893)	(21,897)	4
14	1,152,985	1,143,523	1,120,483	1,103,341	1,117,021	5
15	15,755	18,007	18,015	21,603	12,381	6
16	44,762	44,544	44,573	46,295	42,349	7
17	–	–	–	–	–	8
18	1,112	1,222	860	1,836	1,121	9
19	(329)	(550)	(187)	(1,288)	(566)	10
20	61,300	63,223	63,261	68,446	55,285	11
21	165,935	162,644	149,949	132,430	127,379	12
22	(20,220)	(31,170)	(28,279)	(25,212)	(21,631)	13
23	3,049	3,012	2,769	2,323	1,974	14
24	–	–	–	–	–	15
25	148,764	134,486	124,439	109,541	107,722	16
26	588,689	580,511	577,581	555,650	550,977	17
27	(425,808)	(420,079)	(418,167)	(402,907)	(400,067)	18
28	162,881	160,432	159,414	152,743	150,910	19
29	61,683	61,114	61,008	59,396	59,735	20
30	\$ 1,525,930	\$ 1,501,664	\$ 1,467,597	\$ 1,434,071	\$ 1,430,938	21
31	4.0 %	4.1 %	4.2 %	4.1 %	4.2 %	22

Key Metrics – TLAC Requirements (KM2)¹

(\$ millions, except as noted)

Line #	2019				OSFI Template
	Q4	Q3	Q2	Q1	
Resolution group 1					
1	\$ 90,637	\$ 85,976	\$ 78,206	\$ 70,603	1
2	455,977	454,881	452,267	439,324	2
3	19.9 %	18.9 %	17.3 %	16.1 %	3
4	\$ 1,525,930	\$ 1,501,664	\$ 1,467,597	\$ 1,434,071	4
5	5.9 %	5.7 %	5.3 %	4.9 %	5
6	Yes	Yes	Yes	Yes	6a
7	No	No	No	No	6b
8	n/a	n/a	n/a	n/a	6c

¹ Lines 1, 3, and 5 incorporate the impact of expected credit loss accounting on regulatory capital as OSFI did not provide transitional arrangement. Therefore, lines 1a, 3a, and 5a from the Pillar 3 template, which required a fully loaded expected credit loss (ECL) view, have been excluded from this table since line 1, 3, and 5 already reflect this requirement.

TLAC Composition (TLAC1)

(\$ millions, except as noted)

Line #	2019			
	Q4	Q3	Q2	Q1
Regulatory capital elements of TLAC and adjustments				
Common Equity Tier 1 capital (CET1)	\$ 55,042	\$ 54,478	\$ 54,269	\$ 52,668
Additional Tier 1 capital (AT1) before TLAC adjustments	6,641	6,636	6,739	6,728
AT1 ineligible as TLAC as issued out of subsidiaries to third parties	-	-	-	-
Other adjustments	-	-	-	-
AT1 instruments eligible under the TLAC framework (sum of lines 2 to 4)	6,641	6,636	6,739	6,728
Tier 2 capital (T2) before TLAC adjustments	12,439	12,255	10,612	10,572
Amortized portion of T2 instruments where remaining maturity > 1 year	-	-	-	-
T2 capital ineligible as TLAC as issued out of subsidiaries to third parties	-	-	-	-
Other adjustments	-	-	-	-
T2 instruments eligible under the TLAC framework (sum of lines 6 to 9)	12,439	12,255	10,612	10,572
TLAC arising from regulatory capital (sum of lines 1, 5 and 10)	74,122	73,369	71,620	69,968
Non-regulatory capital elements of TLAC				
External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	n/a	n/a	n/a	n/a
External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC term sheet requirements	16,540	12,609	6,587	635
Of which: amount eligible as TLAC after application of the caps	n/a	n/a	n/a	n/a
External TLAC instruments issued by funding vehicles prior to January 1, 2022	-	-	-	-
Eligible ex ante commitments to recapitalize a G-SIB in resolution	n/a	n/a	n/a	n/a
TLAC arising from non-regulatory capital instruments before adjustments (sum of lines 12, 13, 15 and 16)	16,540	12,609	6,587	635
Non-regulatory capital elements of TLAC: adjustments				
TLAC before deductions (sum of lines 11 and 17)	90,662	85,978	78,207	70,603
Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs and D-SIBs) ¹	n/a	n/a	n/a	n/a
Deduction of investments in own other TLAC liabilities	(25)	(2)	(1)	-
Other adjustments to TLAC	-	-	-	-
TLAC available after deductions (sum of lines 18 to 21)	90,637	85,976	78,206	70,603
Risk-weighted assets and leverage exposure measure for TLAC purposes				
Total risk-weighted assets adjusted as permitted under the TLAC regime	455,977	454,881	452,267	439,324
Leverage exposure measure	1,525,930	1,501,664	1,467,597	1,434,071
TLAC ratios and buffers				
TLAC Ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime) (line 22/line 23)	19.9 %	18.9 %	17.3 %	16.1 %
TLAC Leverage Ratio (as a percentage of leverage exposure) (line 22/line 24)	5.9	5.7	5.3	4.9
CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements ²	n/a	n/a	n/a	n/a
Institution-specific buffer (capital conservation buffer plus countercyclical buffer plus higher loss absorbency, expressed as a percentage of risk-weighted assets)	3.5 %	3.5 %	3.5 %	3.5 %
Of which: capital conservation buffer	2.5	2.5	2.5	2.5
Of which: bank specific countercyclical buffer	-	-	-	-
Of which: D-SIB / G-SIB buffer	1.0	1.0	1.0	1.0

¹ Multiple point of entry (MPE); Single point of entry (SPE).

² Not applicable until the first quarter of 2022.

Creditor Ranking at Legal Entity Level (TLAC3)

(\$ millions) As at	Line #	2019 Q4					2019 Q3														
		Creditor Ranking					Creditor Ranking														
		1	2	3	4	5	Sum of 1 to 5	1	2	3	4	5	Sum of 1 to 5								
		(most junior)					(most senior)					(most junior)					(most senior)				
		Common Shares	Preferred shares & Tier 1 notes	Subordinated debts	Bail-in debts ¹	Other liabilities ²	Sum	Common Shares	Preferred shares & Tier 1 notes	Subordinated debts	Bail-in debts ¹	Other liabilities ²	Sum								
Description of creditor ranking (free text)	1																				
Total capital and liabilities net of credit risk mitigation	2	21,713	5,800	10,923	16,500		54,936	21,722	5,800	10,926	12,566		51,014								
Subset of row 2 that are excluded liabilities	3	63	6	22	73		164	67	4	128	25		224								
Total capital and liabilities less excluded liabilities (row 2 minus row 3)	4	21,650	5,794	10,901	16,427		54,772	21,655	5,796	10,798	12,541		50,790								
Subset of row 4 that are potentially eligible as TLAC	5	21,650	5,794	10,901	16,427		54,772	21,655	5,796	10,798	12,541		50,790								
Subset of row 5 with 1 year ≤ residual maturity < 2 years	6				2,759		2,759				930		930								
Subset of row 5 with 2 years ≤ residual maturity < 5 years	7				11,690		11,690				9,665		9,665								
Subset of row 5 with 5 years ≤ residual maturity < 10 years	8			5,937	1,895		7,832			5,890	1,863		7,753								
Subset of row 5 with residual maturity ≥ 10 years, but excluding perpetual securities	9			4,964	83		5,047			4,908	83		4,991								
Subset of row 5 that is perpetual securities	10	21,650	5,794				27,444	21,655	5,796				27,451								

		2019 Q2					2019 Q1														
		Creditor Ranking					Creditor Ranking														
		1	2	3	4	5	Sum of 1 to 5	1	2	3	4	5	Sum of 1 to 5								
		(most junior)					(most senior)					(most junior)					(most senior)				
		Common Shares	Preferred shares & Tier 1 notes	Subordinated debts	Bail-in debts ¹	Other liabilities ²	Sum	Common Shares	Preferred shares & Tier 1 notes	Subordinated debts	Bail-in debts ¹	Other liabilities ²	Sum								
Description of creditor ranking (free text)	11																				
Total capital and liabilities net of credit risk mitigation	12	21,718	5,350	9,207	6,598		42,873	21,661	5,350	9,168	632		36,811								
Subset of row 12 that are excluded liabilities	13	80	6	23	1		110	153	3	2	-		158								
Total capital and liabilities less excluded liabilities (row 12 minus row 13)	14	21,638	5,344	9,184	6,597		42,763	21,508	5,347	9,166	632		36,653								
Subset of row 14 that are potentially eligible as TLAC	15	21,638	5,344	9,184	6,597		42,763	21,508	5,347	9,166	632		36,653								
Subset of row 15 with 1 year ≤ residual maturity < 2 years	16				199		199				112		112								
Subset of row 15 with 2 years ≤ residual maturity < 5 years	17				6,339		6,339				494		494								
Subset of row 15 with 5 years ≤ residual maturity < 10 years	18			4,428	59		4,487			4,448	26		4,474								
Subset of row 15 with residual maturity ≥ 10 years, but excluding perpetual securities	19			4,756			4,756			4,718			4,718								
Subset of row 15 that is perpetual securities	20	21,638	5,344				26,982	21,508	5,347				26,855								

¹ Consistent with the scope of the Canadian statutory Bail-in Regime, Bail-in Debt is subordinated to Other Liabilities. Under the Bail-in Regime, Bail-in Debt which would ordinarily rank equally to Other Liabilities in liquidation, is subject to conversion under statutory resolution powers whereas Other Liabilities are not subject to such conversion.

² Completion of this column is not required by OSFI at this time.

Overview of Risk-Weighted Assets (OVA)¹

(\$ millions) As at	Line #	Risk-Weighted Assets (RWA) ²					Minimum capital requirements ³					OSFI Template
		2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	2019 Q4	2019 Q3	2019 Q2	2019 Q1	2018 Q4	
Credit risk (excluding counterparty credit risk) (CCR)	1	\$ 344,914	\$ 344,213	\$ 342,045	\$ 328,625	\$ 325,936	\$ 27,593	\$ 27,537	\$ 27,364	\$ 26,290	\$ 26,075	1
Of which: standardized approach (SA) ⁴	2	163,250	163,881	163,721	162,318	160,732	13,060	13,110	13,098	12,985	12,859	2
Of which: internal ratings-based (IRB) approach	3	181,664	180,332	178,324	166,307	165,204	14,533	14,427	14,266	13,305	13,216	3
Counterparty credit risk	4	14,510	15,193	14,655	14,388	14,267	1,161	1,215	1,172	1,151	1,141	4
Of which: standardized approach for counterparty credit risk (SA-CCR)	5	7,079	7,290	7,358	6,974	—	566	583	588	558	—	5
Of which: current exposure method (CEM)	6	—	—	—	—	5,209	—	—	—	—	417	n/a
Of which: internal model method (IMM)	7	—	—	—	—	—	—	—	—	—	—	6
Of which: other CCR ⁵	8	7,431	7,903	7,297	7,414	9,058	595	632	584	593	724	n/a
Equity positions in banking book under market-based approach	9	—	—	—	—	—	—	—	—	—	—	7
Equity investments in funds – look-through approach	10	350	398	331	299	212	28	32	26	24	17	8
Equity investments in funds – mandate-based approach	11	51	49	48	46	45	4	4	4	4	4	9
Equity investments in funds – fall-back approach	12	506	538	375	298	260	40	43	30	24	21	10
Settlement risk	13	20	9	55	27	124	2	1	4	2	10	11
Securitization exposures in banking book ⁶	14	11,533	11,392	11,455	10,946	13,520	923	911	917	876	1,082	12
Of which: grandfathered	15	(1,544)	(1,544)	(1,544)	(1,544)	—	(123)	(123)	(123)	(123)	—	12a
Of which: securitization internal ratings-based approach (SEC-IRBA)	16	—	—	—	—	9,205	—	—	—	—	737	13
Of which: securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)	17	13,025	12,936	12,999	12,490	—	1,042	1,034	1,040	999	—	14
Of which: securitization standardized approach (SEC-SA)	18	52	—	—	—	4,315	4	—	—	—	345	15
Market risk	19	12,200	12,072	13,028	15,735	13,213	976	966	1,042	1,259	1,057	16
Of which: standardized approach (SA)	20	1,013	647	574	483	183	81	52	46	39	15	17
Of which: internal model approaches (IMA)	21	11,187	11,425	12,454	15,252	13,030	895	914	996	1,220	1,042	18
Operational risk	22	55,606	54,857	53,959	53,006	52,375	4,448	4,389	4,317	4,240	4,190	19
Of which: basic indicator approach	23	—	—	—	—	—	—	—	—	—	—	20
Of which: standardized approach	24	—	—	—	—	4,249	—	—	—	—	340	21
Of which: advanced measurement approach	25	55,606	54,857	53,959	53,006	48,126	4,448	4,389	4,317	4,240	3,850	22
Amounts below the thresholds for deduction (subject to 250% risk weight)	26	16,287	16,160	16,316	15,954	15,680	1,303	1,293	1,305	1,276	1,254	23
Floor adjustment	27	—	—	—	—	—	—	—	—	—	—	24
Total (lines 1+4+9+10+11+12+13+14+19+22+26+27)	28	\$ 455,977	\$ 454,881	\$ 452,267	\$ 439,324	\$ 435,632	\$ 36,478	\$ 36,391	\$ 36,181	\$ 35,146	\$ 34,851	25

¹ Prior to fiscal 2019, represents CET1 RWA which includes CVA at 80%.

² RWA include 6% scalar when appropriate.

³ Minimum capital requirements equal 8% of RWA.

⁴ Includes other assets and equities which use a regulatory prescribed risk weight.

⁵ Includes qualifying central counterparties (QCCPs), CVA and repo style transactions.

⁶ Prior to implementation of the new securitization framework as of the first quarter of 2019, the lines for SEC-IRBA represented IRB-RBA (including IAA), SEC-ERBA and IAA represented IRB-SFA and SEC-SA represented SA/SSFA.

Flow Statements for Risk-Weighted Assets – Credit Risk

(\$ millions) As at	LINE #	2019 Q4				2019 Q3			
		Non-counterparty credit risk ¹	Of which internal ratings-based(IRB) approach ²	Counterparty credit risk ³	Of which IRB approach	Non-counterparty credit risk ¹	Of which internal ratings-based(IRB) approach ²	Counterparty credit risk ³	Of which IRB approach
RWA, balance at beginning of period	1	\$ 372,759	\$ 180,332	\$ 15,193	\$ 9,039	\$ 370,625	\$ 178,324	\$ 14,655	\$ 9,217
Asset size ⁴	2	1,591	1,889	(780)	(401)	7,501	3,709	989	96
Asset quality ⁵	3	(171)	(171)	83	54	(503)	(503)	(199)	(128)
Model updates ⁶	4	(284)	(284)	–	–	(123)	(123)	–	–
Methodology and policy ⁷	5	–	–	–	–	–	–	–	–
Acquisitions and disposals	6	–	–	–	–	–	–	–	–
Foreign exchange movements ⁸	7	(460)	(102)	14	11	(3,693)	(1,075)	(252)	(146)
Other ⁹	8	226	–	–	–	(1,048)	–	–	–
RWA, balance at end of period	9	\$ 373,661	\$ 181,664	\$ 14,510	\$ 8,703	\$ 372,759	\$ 180,332	\$ 15,193	\$ 9,039

		2019 Q2				2019 Q1			
		Non-counterparty credit risk ¹	Of which internal ratings-based(IRB) approach ²	Counterparty credit risk ³	Of which IRB approach	Non-counterparty credit risk ¹	Of which internal ratings-based(IRB) approach ²	Counterparty credit risk ³	Of which IRB approach
RWA, balance at beginning of period	10	\$ 356,195	\$ 166,307	\$ 14,388	\$ 8,612	\$ 355,777	\$ 165,204	\$ 14,267	\$ 6,878
Asset size ⁴	11	5,226	3,098	76	600	(307)	1,121	(662)	(228)
Asset quality ⁵	12	1,958	1,957	36	24	(299)	(299)	(27)	(18)
Model updates ⁶	13	2,162	6,114	–	–	368	368	–	–
Methodology and policy ⁷	14	–	–	–	–	–	–	767	2,000
Acquisitions and disposals	15	–	–	–	–	288	3	–	–
Foreign exchange movements ⁸	16	4,637	848	155	(19)	(417)	(90)	43	(20)
Other ⁹	17	447	–	–	–	785	–	–	–
RWA, balance at end of period	18	\$ 370,625	\$ 178,324	\$ 14,655	\$ 9,217	\$ 356,195	\$ 166,307	\$ 14,388	\$ 6,812

		2018 Q4			
		Non-counterparty credit risk ¹	Of which internal ratings-based(IRB) approach ²	Counterparty credit risk ³	Of which IRB approach
RWA, balance at beginning of period	19	\$ 349,350	\$ 162,458	\$ 13,673	\$ 6,694
Asset size ⁴	20	3,857	2,585	535	154
Asset quality ⁵	21	(701)	(701)	24	16
Model updates ⁶	22	131	131	–	–
Methodology and policy ⁷	23	–	–	–	–
Acquisitions and disposals	24	–	–	–	–
Foreign exchange movements ⁸	25	2,750	731	35	14
Other ⁹	26	390	–	–	–
RWA, balance at end of period	27	\$ 355,777	\$ 165,204	\$ 14,267	\$ 6,878

¹ Non-counterparty credit risk includes loans and advances to individuals and small business retail customers, wholesale and commercial corporate customers, and banks and governments, as well as holdings of debt, equity securities, and other assets including prepaid expenses, deferred income taxes, land, building, equipment, and other depreciable property.

² Reflects Pillar 3 requirements for RWA flow statements of credit risk exposures under IRB (CR8) which excludes securitization and equity.

³ CCR is comprised of over-the-counter (OTC) derivatives, repo-style transactions, trades cleared through central counterparties, and fully phased-in CVA RWA. In fiscal 2018, CVA RWA was phased in at 80%.

⁴ The Asset size category consists of organic changes in book size and composition (including new business and maturing loans), and for the fourth quarter of 2019, increased due to growth in various portfolios in the Canadian Retail and U.S. Retail segments.

⁵ The Asset quality category includes quality of book changes caused by experience such as underlying customer behaviour or demographics, including changes through model calibrations/realignments.

⁶ The Model updates category relates to model implementation, changes in model scope, or any changes to address model malfunctions.

⁷ The Methodology and policy category impacts reflect newly adopted methodology changes to the calculations driven by regulatory policy changes, such as new regulations.

⁸ Foreign exchange movements are mainly due to a change in the U.S. dollar foreign exchange rate for the U.S. portfolios in the U.S. Retail and Wholesale Banking segments.

⁹ The Other category consists of items not described in the above categories, including changes in exposures not included under advanced or standardized methodologies, such as prepaid expenses, deferred income taxes, land, building, equipment and other depreciable property, and other assets.

Flow Statements for Risk-Weighted Assets – Market Risk

(\$ millions)

As at

RWA, balance at beginning of period

Movement in risk levels¹
 Model updates/changes²
 Methodology and policy³
 Acquisitions and disposals
 Foreign exchange movements and other⁴
RWA, balance at end of period

LINE #	2019				2018
	Q4	Q3	Q2	Q1	Q4
1	\$ 12,072	\$ 13,028	\$ 15,735	\$ 13,213	\$ 14,670
2	128	94	(2,197)	2,522	(1,457)
3	–	(1,050)	(510)	–	–
4	–	–	–	–	–
5	–	–	–	–	–
6	n/m ⁵	n/m	n/m	n/m	n/m
7	\$ 12,200	\$ 12,072	\$ 13,028	\$ 15,735	\$ 13,213

¹ The Movement in risk levels category reflects changes in risk due to position changes and market movements. The RWA remained relatively flat quarter-over-quarter.

² The Model updates category reflects updates to the model to reflect recent experience and change in model scope.

³ The Methodology and policy category reflects newly adopted methodology changes to the calculations driven by regulatory policy changes.

⁴ Foreign exchange movements and other are deemed not meaningful since RWA exposure measures are calculated in Canadian dollars. Therefore, no foreign exchange translation is required.

⁵ Not meaningful.

Flow Statement for Risk-Weighted Assets – Operational Risk

(\$ millions)

As at

Disclosure for Operational Risk Risk-Weighted Assets Movement by Key Driver

RWA, balance at beginning of period

Revenue generation¹
 Movement in risk levels²
 Model updates³
 Methodology and policy⁴
 Acquisitions and disposals
 Foreign exchange movements and other⁵
RWA, balance at end of period

LINE #	2019				2018
	Q4	Q3	Q2	Q1	Q4
1	\$ 54,857	\$ 53,959	\$ 53,006	\$ 52,375	\$ 51,250
2	–	–	–	–	159
3	804	1,315	412	2,417	706
4	–	–	–	(1,739)	–
5	–	–	–	–	–
6	–	–	–	–	–
7	(55)	(417)	541	(47)	260
8	\$ 55,606	\$ 54,857	\$ 53,959	\$ 53,006	\$ 52,375

¹ The movement in the Revenue generation category is due to a change in gross income.

² The Movement in risk levels category primarily reflects changes in risk due to operational loss experience, business environment, internal control factors, and scenario analysis.

³ The Model updates category relates to model implementation, changes in model scope, or any changes to address model malfunctions. Entities that were previously reported under TSA have been transitioned to the advanced measurement approach effective the first quarter of 2019.

⁴ The Methodology and policy category reflects newly adopted methodology changes to the calculations driven by regulatory policy changes.

⁵ Foreign exchange movements are mainly due to a change in the U.S. dollar foreign exchange rate for the U.S. portfolios in the U.S. Retail segment.

Differences Between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statements with Regulatory Risk Categories (LI1)

(\$ millions) As at	LINE #	2019 Q4						
		Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation ²	Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Carrying values of items ¹ Not subject to capital requirements or subject to deduction from capital
Assets								
Cash and due from banks	1	\$ 4,863	\$ 4,863	\$ 5,109	\$ -	\$ -	\$ -	\$ (246)
Interest-bearing deposits with banks	2	25,583	25,518	25,303	-	-	215	-
Trading loans, securities, and other	3	146,000	146,000	64	-	-	143,342	2,594
Non-trading financial assets at fair value through profit or loss	4	6,503	5,948	1,623	-	4,686	-	(361)
Derivatives	5	48,894	48,891	-	48,891	-	45,716	-
Financial assets designated at fair value through profit or loss	6	4,040	1,599	1,599	-	-	-	-
Financial assets at fair value through other comprehensive income	7	111,104	109,071	92,781	-	16,135	-	155
Debt securities at amortized cost, net of allowance for credit losses	8	130,497	130,262	85,153	-	44,999	-	110
Securities purchased under reverse repurchase agreements	9	165,935	165,935	-	165,935	-	4,843	-
Residential mortgages	10	235,640	235,640	235,614	-	-	-	26
Consumer instalment and other personal	11	180,334	180,334	179,765	-	-	-	569
Credit card	12	36,564	36,564	31,585	-	-	-	4,979
Business and government	13	236,517	236,517	227,227	-	9,566	-	(276)
Allowance for loan losses	14	(4,447)	(4,447)	(127)	-	-	-	(4,320)
Customers' liability under acceptances	15	13,494	13,494	13,494	-	-	-	-
Investment in TD Ameritrade	16	9,316	9,316	-	-	-	-	9,316
Goodwill	17	16,976	16,976	-	-	-	-	16,976
Other intangibles	18	2,503	2,503	-	-	-	-	2,503
Land, buildings, equipment, and other depreciable assets	19	5,513	5,449	5,449	-	-	-	-
Deferred tax assets	20	1,799	1,704	1,971	-	-	-	(267)
Amounts receivable from brokers, dealers and clients	21	20,575	20,575	1,070	-	-	-	19,505
Other assets	22	17,087	15,054	5,628	9,087	326	-	13
Total assets	23	\$ 1,415,290	\$ 1,407,766	\$ 913,308	\$ 223,913	\$ 75,712	\$ 194,116	\$ 51,276
Liabilities								
Trading deposits	24	\$ 26,885	\$ 26,885	\$ -	\$ -	\$ -	\$ 10,182	\$ 16,703
Derivatives	25	50,051	50,051	-	50,051	-	45,361	-
Securitization liabilities at fair value	26	13,058	13,058	-	-	-	13,058	-
Financial liabilities designated at fair value through profit or loss	27	105,131	105,131	-	-	-	9	105,122
Deposits	28	886,977	886,977	-	-	-	-	886,977
Acceptances	29	13,494	13,494	-	-	-	-	13,494
Obligations related to securities sold short	30	29,656	29,656	-	-	-	28,419	1,237
Obligations related to securities sold under repurchase agreements	31	125,856	125,856	-	125,856	-	2,973	-
Securitization liabilities at amortized cost	32	14,086	14,086	-	-	-	-	14,086
Amounts payable to brokers, dealers, and clients	33	23,746	23,746	-	-	-	-	23,746
Insurance-related liabilities	34	6,920	22	-	-	-	-	22
Other liabilities	35	21,004	20,378	-	-	-	-	20,378
Subordinated notes and debentures	36	10,725	10,725	-	-	-	-	10,725
Total liabilities	37	\$ 1,327,589	\$ 1,320,065	\$ -	\$ 175,907	\$ -	\$ 100,002	\$ 1,092,490

¹ Certain exposures may be included in more than one column if subject to both credit and market risk.

² Excludes assets and liabilities of insurance subsidiaries.

Main Sources of Differences Between Regulatory Exposure Amounts and Carrying Values in Financial Statements (LI2)

(\$ millions) As at	LINE #	2019 Q4				
		Items subject to				
		Total	Credit risk framework	Counterparty credit risk framework ¹	Securitization framework	Market risk framework
Asset carrying value amount under scope of regulatory consolidation	1	\$ 1,407,049	\$ 913,308	\$ 223,913	\$ 75,712	\$ 194,116
Liabilities carrying value amount under regulatory scope of consolidation	2	275,909	-	175,907	-	100,002
Total net amount under regulatory scope of consolidation	3	1,131,140	913,308	48,006	75,712	94,114
Off-balance sheet amounts	4	296,755	275,132	-	21,623	-
Differences due to different netting rules, other than those already included in line 2	5	39,523	-	39,523	-	-
Adjustment for derivatives and PFE	6	52,676	-	52,676	-	-
Gross up for repo-style transactions	7	251,711	-	251,711	-	-
Exposure amounts considered for regulatory purposes	8	\$ 1,771,805	\$ 1,188,440	\$ 391,916	\$ 97,335	\$ 94,114

¹ Collateral for repo-style transactions is reflected in the loss given default (LGD) as opposed to exposure at default (EAD).

Credit Quality of Assets (CR1)^{1,2}

(\$ millions) As at	LINE #	2019 Q4						
		Gross carrying values of:			Of which ECL accounting provisions for credit losses on SA exposures:		Of which ECL accounting provisions for credit losses on IRB exposures:	
		Defaulted exposures ³	Non-defaulted exposures	Allowances/impairments ⁴	Allocated in regulatory category of Specific ⁵	Allocated in regulatory category of General ⁵		Net values
Loans	1	\$ 3,032	\$ 686,536	\$ (4,435)	\$ (128)	\$ (1,168)	\$ (3,139)	\$ 685,133
Debt securities	2	–	174,512	(1)	–	(1)	–	174,511
Off-balance sheet exposures	3	108	499,783	(585)	(7)	(144)	(434)	499,306
Total	4	\$ 3,140	\$ 1,360,831	\$ (5,021)	\$ (135)	\$ (1,313)	\$ (3,573)	\$ 1,358,950

	2019 Q3				2019 Q2				
	Gross carrying values of:		Allowances/impairments ⁴	Net values	Gross carrying values of:		Allowances/impairments ⁴	Net values	
	Defaulted exposures ³	Non-defaulted exposures			Defaulted exposures ³	Non-defaulted exposures			
Loans	5	\$ 2,945	\$ 679,068	\$ (3,755)	\$ 678,258	\$ 3,296	\$ 668,876	\$ (3,762)	\$ 668,410
Debt securities	6	–	168,389	(1)	168,388	–	168,920	(1)	168,919
Off-balance sheet exposures	7	101	492,987	(1,085)	492,003	–	491,731	(1,105)	490,626
Total	8	\$ 3,046	\$ 1,340,444	\$ (4,841)	\$ 1,338,649	\$ 3,296	\$ 1,329,527	\$ (4,868)	\$ 1,327,955

	2019 Q1				2018 Q4				
	Gross carrying values of:		Allowances/impairments ⁴	Net values	Gross carrying values of:		Allowances/impairments ⁴	Net values	
	Defaulted exposures ³	Non-defaulted exposures			Defaulted exposures ³	Non-defaulted exposures			
Loans	9	\$ 3,534	\$ 654,217	\$ (3,713)	\$ 654,038	\$ 3,154	\$ 652,241	\$ (3,531)	\$ 651,864
Debt securities	10	–	166,316	(1)	166,315	–	169,461	–	169,461
Off-balance sheet exposures	11	–	480,440	(1,069)	479,371	–	478,016	(1,029)	476,987
Total	12	\$ 3,534	\$ 1,300,973	\$ (4,783)	\$ 1,299,724	\$ 3,154	\$ 1,299,718	\$ (4,560)	\$ 1,298,312

¹ Excludes insurance subsidiaries, securitization exposures, assets at fair value through profit or loss, and acquired credit-impaired loans.

² Restructured exposures as at October 31, 2019 are \$1,068 million (July 31, 2019 – \$1,106 million; April 30, 2019 – \$1,129 million; January 31, 2019 – \$1,091 million; October 31, 2018 – \$1,089 million), of which \$545 million (July 31, 2019 – \$582 million; April 30, 2019 – \$619 million; January 31, 2019 – \$868 million; October 31, 2018 – \$879 million) is considered impaired.

³ Includes total impaired exposures, of which \$1,535 million as at October 31, 2019 (July 31, 2019 – \$1,704 million; April 30, 2019 – \$1,978 million; January 31, 2019 – \$1,656 million; October 31, 2018 – \$1,590 million) is in the default category and \$1,497 million as at October 31, 2019 (July 31, 2019 – \$1,241 million; April 30, 2019 – \$1,318 million; January 31, 2019 – \$1,878 million; October 31, 2018 – \$1,564 million) is in the high risk/watch and classified categories.

⁴ Includes Stage 1, 2, and 3 allowances.

⁵ Specific consists of Stage 3 expected credit loss allowances. General consists of Stage 1 and Stage 2 expected credit loss allowances.

Credit Risk Mitigation Techniques – Overview (CR3)¹

(\$ millions) As at	LINE #	2019 Q4					2019 Q3				
		Exposures unsecured carrying amount	Exposures secured	Exposures secured by collateral ²	Exposures secured by financial guarantees	Exposures secured by credit derivatives ³	Exposures unsecured carrying amount	Exposures secured	Exposures secured by collateral ²	Exposures secured by financial guarantees	Exposures secured by credit derivatives ³
Loans	1	\$ 248,372	\$ 441,196	\$ 326,571	\$ 114,625	\$ –	\$ 248,287	\$ 433,726	\$ 317,273	\$ 116,453	\$ –
Debt securities	2	172,729	1,783	35	35	1,713	166,734	1,655	–	49	1,606
Total	3	\$ 421,101	\$ 442,979	\$ 326,606	\$ 114,660	\$ 1,713	\$ 415,021	\$ 435,381	\$ 317,273	\$ 116,502	\$ 1,606
<i>Of which: defaulted</i>	4	1,455	1,577	1,320	257	–	1,420	1,525	1,274	251	–
		2019 Q2					2019 Q1				
		Exposures unsecured carrying amount	Exposures secured	Exposures secured by collateral ²	Exposures secured by financial guarantees	Exposures secured by credit derivatives ³	Exposures unsecured carrying amount	Exposures secured	Exposures secured by collateral ²	Exposures secured by financial guarantees	Exposures secured by credit derivatives ³
Loans	5	\$ 245,427	\$ 426,745	\$ 308,182	\$ 118,563	\$ –	\$ 235,941	\$ 421,810	\$ 301,249	\$ 120,561	\$ –
Debt securities	6	167,173	1,747	–	65	1,682	164,431	1,885	–	76	1,809
Total	7	\$ 412,600	\$ 428,492	\$ 308,182	\$ 118,628	\$ 1,682	\$ 400,372	\$ 423,695	\$ 301,249	\$ 120,637	\$ 1,809
<i>Of which: defaulted</i>	8	1,755	1,541	1,292	249	–	2,007	1,527	1,286	241	–
		2018 Q4									
		Exposures unsecured carrying amount	Exposures secured	Exposures secured by collateral ²	Exposures secured by financial guarantees	Exposures secured by credit derivatives ³					
Loans	9	\$ 233,061	\$ 422,334	\$ 299,846	\$ 122,488	\$ –					
Debt securities	10	167,768	1,693	–	91	1,602					
Total	11	\$ 400,829	\$ 424,027	\$ 299,846	\$ 122,579	\$ 1,602					
<i>Of which: defaulted</i>	12	1,622	1,532	1,307	225	–					

¹ Represent collateral, financial guarantees, and credit derivatives only when such result in reduced capital requirements.

² For retail exposures reflects collateral as at origination and for non-retail only reflects financial collateral.

³ As at October 31, 2019, the impact to RWA from credit derivatives used as CRM techniques is a decrease of \$1.4 billion (July 31, 2019 – a decrease of \$1.5 billion; April 30, 2019 – a decrease of \$1.4 billion; January 31, 2019 – a decrease of \$1.3 billion; October 31, 2018 – a decrease of \$1.3 billion) (CR7).

Gross Credit Risk Exposures^{1,2}

(\$ millions) As at	LINE #	2019 Q4						2019 Q3					
By Counterparty Type		Drawn	Undrawn ³	Repo-style transactions	OTC derivatives	Other off-balance sheet	Total	Drawn	Undrawn ³	Repo-style transactions	OTC derivatives	Other off-balance sheet	Total
Retail													
Residential secured	1	\$ 337,924	\$ 53,296	\$ –	\$ –	\$ –	\$ 391,220	\$ 332,529	\$ 52,908	\$ –	\$ –	\$ –	\$ 385,437
Qualifying revolving retail	2	36,383	95,480	–	–	–	131,863	36,562	94,734	–	–	–	131,296
Other retail	3	85,460	7,176	–	–	37	92,673	84,657	7,003	–	–	36	91,696
	4	459,767	155,952	–	–	37	615,756	453,748	154,645	–	–	36	608,429
Non-retail													
Corporate	5	216,546	87,484	195,536	19,766	17,047	536,379	216,474	85,178	186,707	19,383	16,903	524,645
Sovereign	6	188,072	1,452	40,953	12,648	1,591	244,716	189,659	1,460	30,735	13,072	1,797	236,723
Bank	7	24,298	5,422	87,022	15,131	4,710	136,583	23,234	5,052	93,398	17,215	4,681	143,580
	8	428,916	94,358	323,511	47,545	23,348	917,678	429,367	91,690	310,840	49,670	23,381	904,948
Total	9	\$ 888,683	\$ 250,310	\$ 323,511	\$ 47,545	\$ 23,385	\$ 1,533,434	\$ 883,115	\$ 246,335	\$ 310,840	\$ 49,670	\$ 23,417	\$ 1,513,377
By Country of Risk													
Canada	10	\$ 496,371	\$ 143,532	\$ 128,239	\$ 14,395	\$ 8,740	\$ 791,277	\$ 489,421	\$ 142,642	\$ 122,899	\$ 13,831	\$ 8,613	\$ 777,406
United States	11	332,812	102,286	101,348	14,533	13,492	564,471	337,621	99,913	100,872	14,378	13,578	566,362
Other International													
Europe	12	37,926	3,772	72,219	13,964	606	128,487	36,757	2,901	71,258	16,827	671	128,414
Other	13	21,574	720	21,705	4,653	547	49,199	19,316	879	15,811	4,634	555	41,195
	14	59,500	4,492	93,924	18,617	1,153	177,686	56,073	3,780	87,069	21,461	1,226	169,609
Total	15	\$ 888,683	\$ 250,310	\$ 323,511	\$ 47,545	\$ 23,385	\$ 1,533,434	\$ 883,115	\$ 246,335	\$ 310,840	\$ 49,670	\$ 23,417	\$ 1,513,377
By Residual Contractual Maturity													
Within 1 year	16	\$ 286,615	\$ 174,570	\$ 323,457	\$ 25,755	\$ 9,543	\$ 819,940	\$ 290,293	\$ 170,703	\$ 310,788	\$ 26,977	\$ 10,172	\$ 808,933
Over 1 year to 5 years	17	401,333	72,519	54	11,987	12,946	498,839	400,154	73,002	52	12,484	12,296	497,988
Over 5 years	18	200,735	3,221	–	9,803	896	214,655	192,668	2,630	–	10,209	949	206,456
Total	19	\$ 888,683	\$ 250,310	\$ 323,511	\$ 47,545	\$ 23,385	\$ 1,533,434	\$ 883,115	\$ 246,335	\$ 310,840	\$ 49,670	\$ 23,417	\$ 1,513,377
Non-Retail Exposures by Industry Sector													
Real estate													
Residential	20	\$ 26,681	\$ 2,400	\$ 1	\$ 305	\$ 1,428	\$ 30,815	\$ 26,040	\$ 2,477	\$ 1	\$ 236	\$ 1,421	\$ 30,175
Non-residential	21	40,853	6,261	9	1,394	540	49,057	40,630	6,050	10	1,136	474	48,300
Total real-estate	22	67,534	8,661	10	1,699	1,968	79,872	66,670	8,527	11	1,372	1,895	78,475
Agriculture	23	7,601	368	4	37	21	8,031	7,514	360	5	35	22	7,936
Automotive	24	11,510	6,189	16	798	98	18,611	12,360	5,834	14	789	93	19,090
Financial	25	35,117	14,120	279,088	24,075	1,889	354,289	34,366	14,116	276,043	27,190	1,821	353,536
Food, beverage, and tobacco	26	5,993	3,324	–	866	515	10,698	6,165	3,330	–	494	491	10,480
Forestry	27	1,334	795	–	25	56	2,210	1,336	756	–	26	59	2,177
Government, public sector entities, and education	28	202,292	4,926	41,118	13,460	5,891	267,687	203,915	4,638	31,382	13,786	6,239	259,960
Health and social services	29	19,051	2,088	144	255	2,061	23,599	18,542	2,982	150	234	2,998	24,906
Industrial construction and trade contractors	30	4,611	1,749	47	40	990	7,437	4,627	1,695	79	38	997	7,436
Metals and mining	31	4,074	3,289	192	426	842	8,823	4,268	3,269	145	396	735	8,813
Pipelines, oil, and gas	32	9,370	11,954	356	1,365	1,423	24,468	8,568	12,013	1,208	1,339	1,399	24,527
Power and utilities	33	5,126	8,017	1	671	3,877	17,692	5,480	7,196	9	646	2,967	16,298
Professional and other services	34	14,997	6,572	790	370	886	23,615	15,035	5,321	771	367	980	22,474
Retail sector	35	7,376	2,906	157	138	215	10,792	6,960	2,986	238	119	211	10,514
Sundry manufacturing and wholesale	36	10,782	8,269	9	413	409	19,882	10,515	7,613	112	424	518	19,182
Telecommunications, cable, and media	37	5,404	6,220	1	851	402	12,878	5,809	6,246	–	800	407	13,262
Transportation	38	12,089	2,265	3	805	1,348	16,510	12,212	2,123	34	816	1,094	16,279
Other	39	4,655	2,646	1,575	1,251	457	10,584	5,025	2,685	639	799	455	9,603
Total	40	\$ 428,916	\$ 94,358	\$ 323,511	\$ 47,545	\$ 23,348	\$ 917,678	\$ 429,367	\$ 91,690	\$ 310,840	\$ 49,670	\$ 23,381	\$ 904,948

¹ Certain comparative amounts have been reclassified to conform with the presentation adopted in the current period.

² Gross credit risk exposure is before credit risk mitigants. This table excludes securitization, equity, and other credit RWA.

³ Gross exposure on undrawn commitments is EAD which is the amount currently undrawn but expected to be drawn assuming a default on the underlying committed loan agreement.

Gross Credit Risk Exposures (Continued)^{1,2}

(\$ millions) As at	LINE #	2019 Q2						2019 Q1					
By Counterparty Type		Drawn	Undrawn ³	Repo-style transactions	OTC derivatives	Other off-balance sheet	Total	Drawn	Undrawn ³	Repo-style transactions	OTC derivatives	Other off-balance sheet	Total
Retail													
Residential secured	1	\$ 326,839	\$ 53,074	\$ –	\$ –	\$ –	\$ 379,913	\$ 323,751	\$ 52,451	\$ –	\$ –	\$ –	\$ 376,202
Qualifying revolving retail	2	36,060	94,279	–	–	–	130,339	30,408	81,852	–	–	–	112,260
Other retail	3	82,351	6,891	–	–	41	89,283	85,950	6,795	–	–	38	92,783
	4	445,250	154,244	–	–	41	599,535	440,109	141,098	–	–	38	581,245
Non-retail													
Corporate	5	214,622	84,558	181,736	18,638	16,157	515,711	209,135	81,639	160,675	15,899	16,441	483,789
Sovereign	6	186,351	1,304	35,073	14,837	2,760	240,325	186,752	1,340	31,872	16,127	2,678	238,769
Bank	7	24,830	5,108	80,509	16,093	4,606	131,146	27,354	5,033	64,434	18,564	4,328	119,713
	8	425,803	90,970	297,318	49,568	23,523	887,182	423,241	88,012	256,981	50,590	23,447	842,271
Total	9	\$ 871,053	\$ 245,214	\$ 297,318	\$ 49,568	\$ 23,564	\$ 1,486,717	\$ 863,350	\$ 229,110	\$ 256,981	\$ 50,590	\$ 23,485	\$ 1,423,516
By Country of Risk													
Canada	10	\$ 481,966	\$ 141,505	\$ 117,722	\$ 14,499	\$ 9,312	\$ 765,004	\$ 474,051	\$ 128,932	\$ 99,799	\$ 12,366	\$ 9,683	\$ 724,831
United States	11	330,155	100,028	99,442	14,429	13,285	557,339	324,966	96,978	81,646	17,386	12,702	533,678
Other International													
Europe	12	38,742	2,835	67,230	15,053	738	124,598	42,489	2,354	60,535	15,620	729	121,727
Other	13	20,190	846	12,924	5,587	229	39,776	21,844	846	15,001	5,218	371	43,280
	14	58,932	3,681	80,154	20,640	967	164,374	64,333	3,200	75,536	20,838	1,100	165,007
Total	15	\$ 871,053	\$ 245,214	\$ 297,318	\$ 49,568	\$ 23,564	\$ 1,486,717	\$ 863,350	\$ 229,110	\$ 256,981	\$ 50,590	\$ 23,485	\$ 1,423,516
By Residual Contractual Maturity													
Within 1 year	16	\$ 285,882	\$ 171,894	\$ 297,318	\$ 25,959	\$ 10,723	\$ 791,776	\$ 288,469	\$ 158,058	\$ 256,981	\$ 27,207	\$ 9,784	\$ 740,499
Over 1 year to 5 years	17	398,311	70,954	–	13,445	11,819	494,529	395,354	68,743	–	13,240	12,811	490,148
Over 5 years	18	186,860	2,366	–	10,164	1,022	200,412	179,527	2,309	–	10,143	890	192,869
Total	19	\$ 871,053	\$ 245,214	\$ 297,318	\$ 49,568	\$ 23,564	\$ 1,486,717	\$ 863,350	\$ 229,110	\$ 256,981	\$ 50,590	\$ 23,485	\$ 1,423,516
Non-Retail Exposures by Industry Sector													
Real estate													
Residential	20	\$ 25,597	\$ 2,192	\$ 1	\$ 142	\$ 1,443	\$ 29,375	\$ 25,080	\$ 2,795	\$ 1	\$ 89	\$ 1,426	\$ 29,391
Non-residential	21	39,599	5,655	10	748	414	46,426	38,440	5,321	20	669	417	44,867
Total real-estate	22	65,196	7,847	11	890	1,857	75,801	63,520	8,116	21	758	1,843	74,258
Agriculture	23	7,426	335	5	36	21	7,823	7,184	399	5	28	20	7,636
Automotive	24	12,894	5,628	41	896	95	19,554	11,976	5,103	2	965	89	18,135
Financial	25	34,635	14,118	258,393	25,513	1,672	334,331	37,446	13,363	208,454	26,164	1,686	287,113
Food, beverage, and tobacco	26	6,051	3,505	–	405	498	10,459	5,659	3,120	–	373	497	9,649
Forestry	27	1,547	640	–	36	51	2,274	1,363	755	–	25	49	2,192
Government, public sector entities, and education	28	200,179	4,466	35,493	15,595	7,016	262,749	200,045	4,288	32,351	16,780	6,386	259,850
Health and social services	29	18,616	2,976	145	192	2,970	24,899	18,163	2,165	286	169	2,081	22,864
Industrial construction and trade contractors	30	4,501	1,654	85	28	339	6,607	4,543	1,416	59	21	395	6,434
Metals and mining	31	4,151	3,360	164	320	783	8,778	4,000	3,461	90	427	754	8,732
Pipelines, oil, and gas	32	7,816	12,609	674	1,534	1,461	24,094	7,563	11,945	1,140	1,348	2,190	24,186
Power and utilities	33	5,179	6,983	10	528	2,995	15,695	5,440	7,586	22	501	3,730	17,279
Professional and other services	34	15,382	5,618	785	304	942	23,031	15,181	5,200	782	291	909	22,363
Retail sector	35	7,263	2,907	254	96	221	10,741	6,764	2,999	307	91	230	10,391
Sundry manufacturing and wholesale	36	10,639	7,364	65	500	442	19,010	10,152	7,587	27	513	434	18,713
Telecommunications, cable, and media	37	6,837	6,484	–	906	563	14,790	6,426	5,898	–	719	560	13,603
Transportation	38	12,573	2,071	36	728	1,149	16,557	12,460	2,059	52	632	1,151	16,354
Other	39	4,918	2,405	1,157	1,061	448	9,989	5,356	2,552	13,383	785	443	22,519
Total	40	\$ 425,803	\$ 90,970	\$ 297,318	\$ 49,568	\$ 23,523	\$ 887,182	\$ 423,241	\$ 88,012	\$ 256,981	\$ 50,590	\$ 23,447	\$ 842,271

¹ Certain comparative amounts have been reclassified to conform with the presentation adopted in the current period.

² Gross credit risk exposure is before credit risk mitigants. This table excludes securitization, equity, and other credit RWA.

³ Gross exposure on undrawn commitments is EAD which is the amount currently undrawn but expected to be drawn assuming a default on the underlying committed loan agreement.

Gross Credit Risk Exposures (Continued)^{1,2}

(\$ millions) As at	LINE #	2018 Q4					
		Drawn	Undrawn ³	Repo-style transactions	OTC derivatives	Other off- balance sheet	Total
By Counterparty Type							
Retail							
Residential secured	1	\$ 322,384	\$ 52,157	\$ –	\$ –	\$ –	\$ 374,541
Qualifying revolving retail	2	30,549	81,839	–	–	–	112,388
Other retail	3	86,488	6,821	–	–	39	93,348
	4	439,421	140,817	–	–	39	580,277
Non-retail							
Corporate	5	206,808	81,706	160,300	12,995	16,972	478,781
Sovereign	6	187,848	1,686	23,750	16,556	2,522	232,362
Bank	7	28,279	3,648	71,704	20,600	4,083	128,314
	8	422,935	87,040	255,754	50,151	23,577	839,457
Total	9	\$ 862,356	\$ 227,857	\$ 255,754	\$ 50,151	\$ 23,616	\$ 1,419,734
By Country of Risk							
Canada	10	\$ 475,068	\$ 128,554	\$ 105,967	\$ 16,295	\$ 10,005	\$ 735,889
United States	11	321,669	96,228	78,277	14,869	12,491	523,534
Other International							
Europe	12	42,309	2,410	59,569	15,731	772	120,791
Other	13	23,310	665	11,941	3,256	348	39,520
	14	65,619	3,075	71,510	18,987	1,120	160,311
Total	15	\$ 862,356	\$ 227,857	\$ 255,754	\$ 50,151	\$ 23,616	\$ 1,419,734
By Residual Contractual Maturity							
Within 1 year	16	\$ 277,135	\$ 157,706	\$ 255,754	\$ 24,528	\$ 9,862	\$ 724,985
Over 1 year to 5 years	17	396,810	67,506	–	17,671	12,856	494,843
Over 5 years	18	188,411	2,645	–	7,952	898	199,906
Total	19	\$ 862,356	\$ 227,857	\$ 255,754	\$ 50,151	\$ 23,616	\$ 1,419,734
Non-Retail Exposures by Industry Sector							
Real estate							
Residential	20	\$ 24,953	\$ 2,676	\$ 1	\$ 27	\$ 1,510	\$ 29,167
Non-residential	21	37,395	5,055	21	197	423	43,091
Total real-estate	22	62,348	7,731	22	224	1,933	72,258
Agriculture	23	6,902	351	2	19	21	7,295
Automotive	24	11,824	4,865	8	758	94	17,549
Financial	25	40,526	12,214	217,998	27,685	1,626	300,049
Food, beverage, and tobacco	26	5,635	3,334	–	435	506	9,910
Forestry	27	1,234	852	–	12	46	2,144
Government, public sector entities, and education	28	201,188	4,268	24,164	17,338	6,443	253,401
Health and social services	29	18,010	1,956	312	52	2,075	22,405
Industrial construction and trade contractors	30	4,163	1,478	63	5	540	6,249
Metals and mining	31	3,988	3,363	102	279	969	8,701
Pipelines, oil, and gas	32	6,914	11,490	85	1,084	2,115	21,688
Power and utilities	33	5,977	7,858	7	291	3,693	17,826
Professional and other services	34	14,115	5,523	183	88	810	20,719
Retail sector	35	6,882	2,926	293	40	260	10,401
Sundry manufacturing and wholesale	36	10,160	6,678	21	354	643	17,856
Telecommunications, cable, and media	37	6,302	7,622	–	700	424	15,048
Transportation	38	11,459	2,181	66	508	1,107	15,321
Other	39	5,308	2,350	12,428	279	272	20,637
Total	40	\$ 422,935	\$ 87,040	\$ 255,754	\$ 50,151	\$ 23,577	\$ 839,457

¹ Certain comparative amounts have been reclassified to conform with the presentation adopted in the current period.

² Gross credit risk exposure is before credit risk mitigants. This table excludes securitization, equity, and other credit RWA.

³ Gross exposure on undrawn commitments is EAD which is the amount currently undrawn but expected to be drawn assuming a default on the underlying committed loan agreement.

Standardized Approach – Credit Risk Exposure and Credit Risk Mitigation (CRM) Effects (CR4)¹

(\$ millions) As at	LINE #	2019 Q4						2019 Q3					
		Exposures before CCF ² and CRM		Exposures post-CCF and CRM		RWA ³	RWA density ⁴	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA ³	RWA density ⁴
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount			On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount		
Asset classes													
Corporate	1	\$ 104,187	\$ 59,407	\$ 104,187	\$ 30,136	\$ 123,740	92.12 %	\$ 104,957	\$ 60,445	\$ 104,957	\$ 30,207	\$ 124,539	92.14 %
Sovereign	2	104,282	260	104,282	130	8,245	7.90	100,428	290	100,428	145	7,984	7.94
Bank	3	12,143	8,946	12,143	6,020	3,633	20.00	12,185	8,358	12,185	5,715	3,580	20.00
Retail residential mortgages	4	3,970	940	3,970	410	2,260	51.60	3,669	852	3,669	372	2,047	50.66
Other retail	5	7,761	43,547	7,761	169	5,592	70.52	8,083	43,042	8,083	174	5,904	71.50
Equity	6	4,544	2,890	4,544	1,445	4,155	69.38	4,515	2,753	4,515	1,377	4,051	68.75
Other assets ⁵	7	19,796	–	19,796	–	15,625	78.93	19,927	–	19,927	–	15,776	79.17
Total	8	\$ 256,683	\$ 115,990	\$ 256,683	\$ 38,310	\$ 163,250	55.34 %	\$ 253,764	\$ 115,740	\$ 253,764	\$ 37,990	\$ 163,881	56.17 %
		2019 Q2						2019 Q1					
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA ³	RWA density ⁴	Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA ³	RWA density ⁴
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount			On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount		
Asset classes													
Corporate	9	\$ 105,530	\$ 60,357	\$ 105,530	\$ 29,880	\$ 124,579	92.00 %	\$ 102,499	\$ 59,982	\$ 102,499	\$ 29,777	\$ 121,597	91.93 %
Sovereign	10	96,952	320	96,952	161	7,506	7.73	90,941	352	90,941	176	7,284	7.99
Bank	11	13,040	8,338	13,040	5,675	3,743	20.00	13,545	8,361	13,545	5,699	3,849	20.00
Retail residential mortgages	12	3,166	762	3,166	346	1,793	51.05	2,920	768	2,920	354	1,671	51.04
Other retail	13	7,640	45,562	7,640	177	5,508	70.46	12,728	58,268	12,728	165	9,385	72.79
Equity	14	4,548	2,811	4,548	1,406	4,078	68.49	1,799	1,491	1,799	745	512	20.13
Other assets ⁵	15	19,395	–	19,395	–	16,514	85.15	23,734	–	23,734	–	18,020	75.92
Total	16	\$ 250,271	\$ 118,150	\$ 250,271	\$ 37,645	\$ 163,721	56.86 %	\$ 248,166	\$ 129,222	\$ 248,166	\$ 36,916	\$ 162,318	56.94 %
		2018 Q4											
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA ³	RWA density ⁴						
		On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount								
Asset classes													
Corporate	17	\$ 100,373	\$ 60,366	\$ 100,373	\$ 30,189	\$ 120,444	92.25 %						
Sovereign	18	95,199	423	95,199	212	7,733	8.10						
Bank	19	13,367	6,229	13,367	4,648	3,603	20.00						
Retail residential mortgages	20	2,716	818	2,716	375	1,630	52.73						
Other retail	21	12,576	60,932	12,576	170	9,330	73.20						
Equity	22	2,001	1,498	2,001	749	727	26.44						
Other assets ⁵	23	22,203	–	22,203	–	17,265	77.76						
Total	24	\$ 248,435	\$ 130,266	\$ 248,435	\$ 36,343	\$ 160,732	56.44 %						

¹ Excludes securitization and CCR.

² Credit conversion factor.

³ RWA calculated on post-CCF and post-CRM exposures.

⁴ Total RWA as a percentage of post-CCF and post-CRM exposures.

⁵ Excludes exposures subject to direct capital deductions and threshold deductions.

Standardized Approach – Exposures by Asset Classes and Risk Weights (CR5)¹

(\$ millions) As at	LINE #	2019 Q4							2019 Q3								
		Risk-weight							Total credit exposures amount (post-CCF and post-CRM)	Risk-weight							Total credit exposures amount (post-CCF and post-CRM)
		0%	20%	35%	75%	100%	150%	Other		0%	20%	35%	75%	100%	150%	Other	
Asset classes																	
Corporate	1	\$ 8,748	\$ 2,420	\$ –	\$ –	\$ 122,959	\$ 196	\$ –	\$ 134,323	\$ 8,905	\$ 2,473	\$ –	\$ –	\$ 123,268	\$ 518	\$ –	\$ 135,164
Sovereign	2	63,186	41,226	–	–	–	–	–	104,412	60,651	39,922	–	–	–	–	–	100,573
Bank	3	–	18,163	–	–	–	–	–	18,163	–	17,900	–	–	–	–	–	17,900
Retail residential mortgages	4	–	8	2,561	1,794	17	–	–	4,380	–	8	2,458	1,558	17	–	–	4,041
Other retail	5	380	251	–	7,209	–	90	–	7,930	371	245	–	7,476	–	165	–	8,257
Equity	6	1,941	161	–	–	3,887	–	–	5,989	1,945	157	–	–	3,790	–	–	5,892
Other assets ²	7	5,627	–	–	–	14,042	–	127	19,796	5,799	–	–	–	13,985	–	143	19,927
Total	8	\$ 79,882	\$ 62,229	\$ 2,561	\$ 9,003	\$ 140,905	\$ 286	\$ 127	\$ 294,993	\$ 77,671	\$ 60,705	\$ 2,458	\$ 9,034	\$ 141,060	\$ 683	\$ 143	\$ 291,754
		2019 Q2							2019 Q1								
		Risk-weight							Total credit exposures amount (post-CCF and post-CRM)	Risk-weight							Total credit exposures amount (post-CCF and post-CRM)
		0%	20%	35%	75%	100%	150%	Other		0%	20%	35%	75%	100%	150%	Other	
Asset classes																	
Corporate	9	\$ 9,260	\$ 2,283	\$ –	\$ –	\$ 123,358	\$ 509	\$ –	\$ 135,410	\$ 9,016	\$ 2,287	\$ –	\$ –	\$ 120,637	\$ 335	\$ –	\$ 132,275
Sovereign	10	59,582	37,531	–	–	–	–	–	97,113	54,695	36,422	–	–	–	–	–	91,117
Bank	11	–	18,715	–	–	–	–	–	18,715	–	19,245	–	–	–	–	–	19,245
Retail residential mortgages	12	–	9	2,104	1,381	18	–	–	3,512	–	1	1,969	1,286	17	–	–	3,273
Other retail	13	467	241	–	6,939	–	170	–	7,817	423	225	–	12,036	–	209	–	12,893
Equity	14	1,974	166	–	–	3,814	–	–	5,954	1,936	158	–	–	451	–	–	2,545
Other assets ²	15	5,383	–	–	–	13,879	–	133	19,395	7,541	–	–	–	16,117	–	76	23,734
Total	16	\$ 76,666	\$ 58,945	\$ 2,104	\$ 8,320	\$ 141,069	\$ 679	\$ 133	\$ 287,916	\$ 73,611	\$ 58,338	\$ 1,969	\$ 13,322	\$ 137,222	\$ 544	\$ 76	\$ 285,082
		2018 Q4															
		Risk-weight							Total credit exposures amount (post-CCF and post-CRM)								
		0%	20%	35%	75%	100%	150%	Other									
Asset classes																	
Corporate	17	\$ 8,966	\$ 1,552	\$ –	\$ –	\$ 119,861	\$ 183	\$ –	\$ 130,562								
Sovereign	18	56,747	38,664	–	–	–	–	–	95,411								
Bank	19	–	18,015	–	–	–	–	–	18,015								
Retail residential mortgages	20	–	10	1,719	1,343	19	–	–	3,091								
Other retail	21	427	212	–	11,830	–	277	–	12,746								
Equity	22	1,940	155	–	–	655	–	–	2,750								
Other assets ²	23	6,715	–	–	–	15,414	–	74	22,203								
Total	24	\$ 74,795	\$ 58,608	\$ 1,719	\$ 13,173	\$ 135,949	\$ 460	\$ 74	\$ 284,778								

¹ Excludes securitization and CCR.

² Excludes exposures subject to direct capital deductions and threshold deductions.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Corporate¹

(\$ millions, except as noted)
As at

LINE #	2019													
Q4														
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15	% AAA to BBB	\$ 21,918	\$ 68,309	69.98	\$ 81,702	0.06	5,177	35.98	2.7	\$ 13,308	16.29	\$ 16	
2	0.15 to <0.25	BBB- to BB+	30,320	20,420	69.20	37,867	0.19	5,818	25.99	2.8	10,742	28.37	18	
3	0.25 to <0.50	BB to BB-	29,442	10,635	68.73	32,641	0.37	8,652	27.30	2.6	12,996	39.81	33	
4	0.50 to <0.75	B+	8,814	2,434	70.10	10,044	0.71	2,607	29.08	2.3	5,547	55.23	21	
5	0.75 to <2.50	B To B-	18,849	4,265	69.80	21,154	1.70	30,302	34.20	2.3	18,196	86.02	123	
6	2.50 to <10.00	CCC+	1,081	420	62.95	1,300	9.97	316	30.09	1.9	1,741	133.92	39	
7	10.00 to <100.00	CCC to CC and below	1,541	314	56.09	1,636	24.52	650	37.34	1.8	3,323	203.12	148	
8	100.00 (Default)	Default	351	39	44.97	361	100.00	316	45.26	1.4	1,072	296.95	107	
9	Total		\$ 112,316	\$ 106,836	69.63	\$ 186,705	0.84	41,427	31.85	2.6	\$ 66,925	35.85	\$ 505	\$ 130
2019														
Q3														
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	% AAA to BBB	\$ 22,992	\$ 64,036	70.06	\$ 79,784	0.06	5,240	38.16	2.7	\$ 13,902	17.42	\$ 17	
11	0.15 to <0.25	BBB- to BB+	31,270	21,168	69.19	39,144	0.19	5,906	25.64	2.9	11,081	28.31	18	
12	0.25 to <0.50	BB to BB-	27,515	10,080	68.60	30,493	0.37	8,624	28.78	2.6	12,749	41.81	32	
13	0.50 to <0.75	B+	8,559	2,657	69.71	9,990	0.71	2,627	30.22	2.3	5,663	56.69	21	
14	0.75 to <2.50	B To B-	18,479	4,456	69.85	20,961	1.70	29,985	34.11	2.3	17,920	85.49	121	
15	2.50 to <10.00	CCC+	1,043	273	63.48	1,202	9.97	283	30.23	1.9	1,623	135.02	36	
16	10.00 to <100.00	CCC to CC and below	1,239	493	59.12	1,390	23.49	626	35.62	2.0	2,700	194.24	118	
17	100.00 (Default)	Default	350	29	43.13	351	100.00	295	42.58	1.3	1,014	288.89	89	
18	Total		\$ 111,447	\$ 103,192	69.65	\$ 183,315	0.80	41,164	32.97	2.6	\$ 66,652	36.36	\$ 452	\$ 97
2019														
Q2														
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
19	0.00 to <0.15	% AAA to BBB	\$ 22,746	\$ 64,331	70.04	\$ 78,459	0.06	5,187	38.19	2.6	\$ 13,806	17.60	\$ 19	
20	0.15 to <0.25	BBB- to BB+	30,358	20,189	69.20	38,240	0.18	5,863	26.75	2.9	11,131	29.11	18	
21	0.25 to <0.50	BB to BB-	26,901	9,479	68.58	30,139	0.37	8,554	28.85	2.5	12,665	42.02	32	
22	0.50 to <0.75	B+	7,635	2,808	70.09	9,134	0.72	2,442	32.03	2.2	5,502	60.24	21	
23	0.75 to <2.50	B To B-	18,658	4,018	69.96	20,821	1.78	29,742	33.21	2.3	17,608	84.57	122	
24	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
25	10.00 to <100.00	CCC+ to CC and below	2,463	846	61.26	2,800	19.03	927	34.64	2.0	4,935	176.25	189	
26	100.00 (Default)	Default	251	26	32.08	253	100.00	340	38.72	1.4	642	253.75	62	
27	Total		\$ 109,012	\$ 101,697	69.65	\$ 179,846	0.81	40,882	33.25	2.6	\$ 66,289	36.86	\$ 463	\$ 68

¹ Excludes counterparty exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA to post-CRM EAD.

⁷ No internal borrower risk rating (BRR) mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Corporate (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019 Q1													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15	% AAA to BBB	\$ 22,608	\$ 59,645	70.38	% \$ 75,894	0.06	5,198	38.42	2.6	\$ 13,227	17.43	% \$ 16	
2	0.15 to <0.25	BBB- to BB+	30,548	20,652	69.84	38,417	0.18	5,809	26.29	2.9	11,127	28.96	18	
3	0.25 to <0.50	BB to BB-	25,435	9,677	68.52	28,749	0.38	8,525	29.83	2.6	12,625	43.91	32	
4	0.50 to <0.75	B+	7,720	2,768	69.32	9,093	0.72	2,425	31.17	2.3	5,385	59.22	20	
5	0.75 to <2.50	B To B-	18,010	4,119	70.48	20,231	1.81	29,343	32.14	2.3	16,571	81.91	116	
6	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	10.00 to <100.00	CCC+ to CC and below	1,946	740	59.52	2,187	18.59	867	36.97	1.8	4,078	186.47	156	
8	100.00 (Default)	Default	281	29	30.50	281	100.00	302	31.43	1.4	635	225.98	51	
9	Total		\$ 106,548	\$ 97,630	69.96	% \$ 174,852	0.77	% 40,557	33.21	% 2.6	\$ 63,648	36.40	% \$ 409	\$ 60

2018 Q4														
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	% AAA to BBB	\$ 24,005	\$ 62,497	70.15	% \$ 79,278	0.06	5,088	38.76	2.7	\$ 14,559	18.36	% \$ 18	
11	0.15 to <0.25	BBB- to BB+	29,869	18,157	71.24	36,253	0.18	5,745	25.59	2.9	10,046	27.71	16	
12	0.25 to <0.50	BB to BB-	25,063	9,425	69.29	28,258	0.38	8,451	29.35	2.7	12,402	43.89	31	
13	0.50 to <0.75	B+	7,076	2,596	69.75	8,260	0.72	2,387	30.61	2.3	4,802	58.14	18	
14	0.75 to <2.50	B To B-	18,229	4,098	71.45	20,451	1.83	29,054	31.63	2.3	16,553	80.94	116	
15	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	10.00 to <100.00	CCC+ to CC and below	1,906	716	60.36	2,125	18.74	862	39.80	1.9	4,212	198.21	159	
16	100.00 (Default)	Default	244	33	34.79	254	100.00	276	31.84	1.5	555	218.50	56	
17	Total		\$ 106,392	\$ 97,522	70.23	% \$ 174,879	0.75	% 40,170	33.29	% 2.6	\$ 63,129	36.10	% \$ 414	\$ 61

¹ Excludes counterparty exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA to post-CRM EAD.

⁷ No BRR mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Sovereign¹

(\$ millions, except as noted)
As at

LINE #		2019 Q4													
PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions		
1	0.00 to <0.15	% AAA to BBB	\$ 83,746	\$ 3,828	76.07	% \$ 172,814 ⁷	0.01	146	11.94	1.8	\$ 663	0.38	% \$ 1		
2	0.15 to <0.25	BBB- to BB+	44	-	-	39	0.22	2	12.80	1.0	4	10.26	-		
3	0.25 to <0.50	BB to BB-	-	-	-	-	-	-	-	-	-	-	-		
4	0.50 to <0.75	B+	-	-	-	-	-	-	-	-	-	-	-		
5	0.75 to <2.50	B To B-	-	-	-	-	2.27	95	34.00	2.5	-	-	-		
6	2.50 to <10.00	CCC+	-	-	-	-	-	-	-	-	-	-	-		
7	10.00 to <100.00	CCC to CC and below	-	-	-	-	-	-	-	-	-	-	-		
8	100.00 (Default)	Default	-	-	-	-	-	-	-	-	-	-	-		
9	Total		\$ 83,790	\$ 3,828	76.07	% \$ 172,853	0.01	197	11.94	1.8	\$ 667	0.39	% \$ 1		

LINE #		2019 Q3													
PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions		
10	0.00 to <0.15	% AAA to BBB	\$ 89,231	\$ 4,061	76.61	% \$ 180,418 ⁷	0.01	145	11.76	1.7	\$ 628	0.35	% \$ 1		
11	0.15 to <0.25	BBB- to BB+	-	-	-	-	-	-	-	-	-	-	-		
12	0.25 to <0.50	BB to BB-	-	-	-	-	-	-	-	-	-	-	-		
13	0.50 to <0.75	B+	-	-	-	-	-	-	-	-	-	-	-		
14	0.75 to <2.50	B To B-	-	-	-	-	2.27	95	34.00	2.5	-	-	-		
15	2.50 to <10.00	CCC+	-	-	-	-	-	-	-	-	-	-	-		
16	10.00 to <100.00	CCC to CC and below	-	-	-	-	-	-	-	-	-	-	-		
17	100.00 (Default)	Default	-	-	-	-	-	-	-	-	-	-	-		
18	Total		\$ 89,231	\$ 4,061	76.61	% \$ 180,418	0.01	195	11.76	1.7	\$ 628	0.35	% \$ 1		

LINE #		2019 Q2													
PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions		
19	0.00 to <0.15	% AAA to BBB	\$ 89,376	\$ 4,716	82.78	% \$ 183,366 ⁷	0.01	145	11.53	1.7	\$ 588	0.32	% \$ 1		
20	0.15 to <0.25	BBB- to BB+	22	-	-	22	0.22	2	13.00	1.0	2	9.09	-		
21	0.25 to <0.50	BB to BB-	-	-	-	-	-	-	-	-	-	-	-		
22	0.50 to <0.75	B+	-	-	-	-	-	-	-	-	-	-	-		
23	0.75 to <2.50	B To B-	-	-	-	-	2.35	95	34.00	2.5	-	-	-		
24	2.50 to <10.00 ⁸	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-		
25	10.00 to <100.00	CCC+ to CC and below	-	-	-	-	-	-	-	-	-	-	-		
26	100.00 (Default)	Default	-	-	-	-	-	-	-	-	-	-	-		
27	Total		\$ 89,398	\$ 4,716	82.78	% \$ 183,388	0.01	196	11.53	1.7	\$ 590	0.32	% \$ 1		

¹ Excludes CCR exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential secured government insured exposures (CMHC). For pre-CRM, these are included under Residential secured – insured.

⁸ No internal BRR mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Sovereign (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019 Q1													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15	% AAA to BBB	\$ 95,550	\$ 4,673	82.22 %	\$ 190,583 ⁷	0.01 %	167	12.04 %	1.6	\$ 553	0.29 %	\$ –	–
2	0.15 to <0.25	BBB- to BB+	262	–	–	262	0.16	7	2.66	3.7	7	2.67	–	–
3	0.25 to <0.50	BB to BB-	–	–	–	–	–	–	–	–	–	–	–	–
4	0.50 to <0.75	B+	–	–	–	–	–	–	–	–	–	–	–	–
5	0.75 to <2.50	B To B-	–	–	–	–	2.35	91	34.00	2.5	–	–	–	–
6	2.50 to <10.00 ⁸	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	–
7	10.00 to <100.00	CCC+ to CC and below	–	–	–	–	–	–	–	–	–	–	–	–
8	100.00 (Default)	Default	–	–	–	–	–	–	–	–	–	–	–	–
9	Total		\$ 95,812	\$ 4,673	82.22 %	\$ 190,845	0.01 %	218	12.03 %	1.6	\$ 560	0.29 %	\$ –	–

LINE #	2018 Q4													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	% AAA to BBB	\$ 92,425	\$ 4,963	80.53 %	\$ 189,744 ⁷	0.01 %	165	12.37 %	1.7	\$ 556	0.29 %	\$ 1	–
11	0.15 to <0.25	BBB- to BB+	225	–	–	225	0.16	4	2.74	4.5	7	3.11	–	–
12	0.25 to <0.50	BB to BB-	–	–	–	–	–	–	–	–	–	–	–	–
13	0.50 to <0.75	B+	–	–	–	–	–	–	–	–	–	–	–	–
14	0.75 to <2.50	B To B-	–	–	–	–	2.35	92	34.00	2.5	–	–	–	–
15	2.50 to <10.00 ⁸	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	–
16	10.00 to <100.00	CCC+ to CC and below	–	–	–	–	–	–	–	–	–	–	–	–
17	100.00 (Default)	Default	–	–	–	–	–	–	–	–	–	–	–	–
18	Total		\$ 92,650	\$ 4,963	80.53 %	\$ 189,969	0.01 %	215	12.36 %	1.7	\$ 563	0.30 %	\$ 1	–

¹ Excludes CCR exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential secured government insured exposures (CMHC). For pre-CRM, these are included under Residential secured – insured.

⁸ No internal BRR mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Bank¹

(\$ millions, except as noted)
As at

LINE #	2019 Q4													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15	% AAA to BBB	\$ 11,208	\$ 4,787	76.00	% \$ 15,344	0.04	476	33.53	1.5	\$ 1,447	9.43	% \$ 2	
2	0.15 to <0.25	BBB- to BB+	380	711	66.09	744	0.16	38	8.94	2.0	55	7.39	–	
3	0.25 to <0.50	BB to BB-	538	–	–	147	0.46	13	13.00	1.0	29	19.73	–	
4	0.50 to <0.75	B+	26	7	66.76	30	0.71	6	89.55	2.3	50	166.67	–	
5	0.75 to <2.50	B To B-	2	1	60.27	2	1.64	391	26.45	1.6	1	50.00	–	
6	2.50 to <10.00	CCC+	–	–	–	–	–	–	–	–	–	–	–	
7	10.00 to <100.00	CCC to CC and below	–	–	–	–	–	–	–	–	–	–	–	
8	100.00 (Default)	Default	–	–	–	–	–	1	–	–	–	–	–	
9	Total		\$ 12,154	\$ 5,506	74.71	% \$ 16,267	0.05	641	32.32	1.6	\$ 1,582	9.73	% \$ 2	\$ –

LINE #	2019 Q3													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	% AAA to BBB	\$ 10,343	\$ 4,685	75.83	% \$ 14,219	0.04	479	34.48	1.6	\$ 1,487	10.46	% \$ 2	
11	0.15 to <0.25	BBB- to BB+	339	741	62.36	726	0.16	34	9.74	2.2	61	8.40	–	
12	0.25 to <0.50	BB to BB-	338	–	20.00	90	0.46	16	13.25	1.0	18	20.00	–	
13	0.50 to <0.75	B+	28	7	68.30	30	0.71	8	89.56	2.6	52	173.33	–	
14	0.75 to <2.50	B To B-	1	1	58.78	1	1.93	392	5.98	1.1	–	–	–	
15	2.50 to <10.00	CCC+	–	–	–	–	–	–	–	–	–	–	–	
16	10.00 to <100.00	CCC to CC and below	1	–	–	1	19.26	1	55.00	0.3	2	200.00	–	
17	100.00 (Default)	Default	–	–	–	–	–	1	–	–	–	–	–	
18	Total		\$ 11,050	\$ 5,434	73.98	% \$ 15,067	0.05	644	33.27	1.6	\$ 1,620	10.75	% \$ 2	\$ –

LINE #	2019 Q2													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
19	0.00 to <0.15	% AAA to BBB	\$ 10,894	\$ 4,693	75.93	% \$ 14,914	0.04	486	34.77	1.5	\$ 1,548	10.38	% \$ 2	
20	0.15 to <0.25	BBB- to BB+	299	738	63.03	680	0.16	33	11.04	2.2	64	9.41	–	
21	0.25 to <0.50	BB to BB-	523	5	97.00	160	0.47	17	14.01	1.0	34	21.25	–	
22	0.50 to <0.75	B+	30	8	67.34	32	0.72	11	84.46	2.8	55	171.88	–	
23	0.75 to <2.50	B To B-	42	8	23.59	43	2.35	392	10.94	4.7	16	37.21	–	
24	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
25	10.00 to <100.00	CCC+ to CC and below	1	–	–	1	19.81	1	55.00	0.3	3	300.00	–	
26	100.00 (Default)	Default	–	–	–	–	–	1	–	–	–	–	–	
27	Total		\$ 11,789	\$ 5,452	74.11	% \$ 15,830	0.06	650	33.58	1.5	\$ 1,720	10.87	% \$ 2	\$ –

¹ Excludes CCR exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ No internal BRR mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Bank (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019													
	Q1													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15	% AAA to BBB	\$ 12,832	\$ 4,407	74.30	% \$ 16,545	0.05	512	26.53	1.3	\$ 1,520	9.19	% \$ 2	
2	0.15 to <0.25	BBB- to BB+	366	597	63.93	655	0.16	35	9.51	2.4	62	9.47	–	
3	0.25 to <0.50	BB to BB-	488	5	100.00	151	0.46	18	14.21	1.0	32	21.19	–	
4	0.50 to <0.75	B+	5	–	50.00	3	0.72	11	17.82	1.8	1	33.33	–	
5	0.75 to <2.50	B To B-	118	1	64.72	116	2.35	387	6.69	5.0	27	23.28	–	
6	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	10.00 to <100.00	CCC+ to CC and below	1	–	–	1	19.81	1	55.00	0.2	2	200.00	–	
8	100.00 (Default)	Default	–	–	–	–	–	1	–	–	–	–	–	
9	Total		\$ 13,810	\$ 5,010	73.09	% \$ 17,471	0.07	675	25.65	1.4	\$ 1,644	9.41	% \$ 2	\$ –

LINE #	2018													
	Q4													
	PD scale ²	External rating	Original on-balance sheet gross exposure ³	Off-balance sheet exposures pre-CCF ³	Average CCF (%)	EAD post CRM and post-CCF ⁴	Average PD (%)	Number of obligors ⁵	Average LGD (%)	Average maturity (years)	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	% AAA to BBB	\$ 13,691	\$ 4,206	72.26	% \$ 17,321	0.05	511	27.71	2.2	\$ 1,597	9.22	% \$ 3	
11	0.15 to <0.25	BBB- to BB+	574	83	44.25	440	0.17	42	14.22	2.1	58	13.18	–	
12	0.25 to <0.50	BB to BB-	568	7	93.78	157	0.46	19	14.36	1.0	33	21.02	–	
13	0.50 to <0.75	B+	6	1	36.77	3	0.72	8	16.03	2.2	1	33.33	–	
14	0.75 to <2.50	B To B-	72	1	74.72	73	2.35	388	4.05	4.9	10	13.70	–	
15	2.50 to <10.00 ⁷	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
	10.00 to <100.00	CCC+ to CC and below	1	–	–	1	19.81	1	55.00	0.3	2	200.00	–	
16	100.00 (Default)	Default	–	–	–	–	–	1	–	–	–	–	–	
17	Total		\$ 14,912	\$ 4,298	71.74	% \$ 17,995	0.06	683	27.17	2.2	\$ 1,701	9.45	% \$ 3	\$ –

¹ Excludes CCR exposures (derivative and repo-style transactions).

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Exposures based on obligors prior to CRM.

⁴ Exposures after CRM reflecting guarantor.

⁵ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ No internal BRR mapped to the prescribed PD range.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Residential Secured

(\$ millions, except as noted)
As at

LINE #	2019 Q4													
	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions	
Canadian Retail Insured ^{7,8}	1	0.00 to <0.15 %	\$ 53,220	\$ 18,990	51.04 %	\$ 6,764	0.07 %	388,814	7.02 %	\$ 88	1.30 %	\$ –	\$ –	
	2	0.15 to <0.25	11,339	513	44.69	2,268	0.20	61,605	7.90	75	3.31	–	–	
	3	0.25 to <0.50	8,973	234	44.12	1,849	0.32	56,980	8.11	89	4.81	–	–	
	4	0.50 to <0.75	6,018	88	43.46	1,177	0.53	20,307	8.16	82	6.97	1	1	
	5	0.75 to <2.50	7,291	80	45.15	1,171	1.28	30,231	7.86	140	11.96	1	1	
	6	2.50 to <10.00	2,041	8	54.92	348	5.79	12,257	6.72	85	24.43	1	1	
	7	10.00 to <100.00	670	1	63.20	104	25.57	3,993	5.40	32	30.77	1	1	
	8	100.00 (Default)	208	–	–	33	100.00	1,161	6.14	27	81.82	–	–	
	9	Total	89,760	19,914	50.74	13,714	0.84	575,348	7.46		618	4.51	4	15
Canadian Retail Uninsured ⁷	10	0.00 to <0.15	122,849	61,818	50.13	153,834	0.06	685,390	21.10	5,207	3.38	19	19	
	11	0.15 to <0.25	33,006	3,622	47.39	34,723	0.19	125,524	24.50	3,502	10.09	16	16	
	12	0.25 to <0.50	18,952	1,663	46.40	19,724	0.31	90,126	26.69	3,118	15.81	17	17	
	13	0.50 to <0.75	10,441	618	47.17	10,733	0.52	28,903	27.13	2,462	22.94	15	15	
	14	0.75 to <2.50	11,933	435	48.82	12,145	1.23	38,629	26.18	4,703	38.72	40	40	
	15	2.50 to <10.00	2,525	31	56.73	2,542	5.54	12,048	21.85	1,968	77.42	30	30	
	16	10.00 to <100.00	771	6	67.11	775	28.55	3,700	17.44	748	96.52	40	40	
	17	100.00 (Default)	218	–	–	218	100.00	1,032	21.23	437	200.46	13	13	
18	Total	200,695	68,193	49.86	234,694	0.43	985,352	22.61		22,145	9.44	190	25	
U.S. Retail Uninsured ⁷	19	0.00 to <0.15	21,868	12,486	66.11	30,121	0.06	120,618	31.69	1,533	5.09	6	6	
	20	0.15 to <0.25	6,041	515	40.09	6,248	0.19	26,049	30.66	793	12.69	4	4	
	21	0.25 to <0.50	4,486	391	37.71	4,634	0.31	25,452	32.62	898	19.38	5	5	
	22	0.50 to <0.75	3,124	235	33.96	3,204	0.52	10,314	35.40	961	29.99	6	6	
	23	0.75 to <2.50	5,812	252	32.45	5,893	1.21	20,284	36.28	3,149	53.44	26	26	
	24	2.50 to <10.00	1,063	71	14.59	1,074	5.69	7,534	36.19	1,396	129.98	22	22	
	25	10.00 to <100.00	390	20	9.72	392	25.67	3,297	35.36	782	199.49	34	34	
	26	100.00 (Default)	715	–	–	715	100.00	4,026	28.84	730	102.10	150	150	
27	Total	43,499	13,970	62.86	52,281	1.93	217,574	32.47		10,242	19.59	253	76	
Total residential secured	28		\$ 333,954	\$ 102,077	88.72 %	\$ 300,689	0.70 %	1,778,274	23.29 %	\$ 33,005	10.98 %	\$ 447	\$ 116	

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential mortgages and home equity lines of credit (HELOCs). Insured classification reflects when insurance on the exposure is used for CRM for reduction of RWA.

⁸ Includes government insured exposures (CMHC) and exposures insured by corporate entities. For post-CRM, government insured exposures are included in Sovereign.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Residential Secured (Continued)

(\$ millions, except as noted) As at		2019 Q3													
LINE #	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions		
Canadian Retail Insured^{7,8}	1	0.00 to <0.15 %	\$ 54,721	\$ 19,186	50.93 %	\$ 6,939	0.07 %	396,461	7.12 %	\$ 92	1.33 %	– \$			
	2	0.15 to <0.25	12,513	535	44.39	2,662	0.19	67,957	8.10	88	3.31	–			
	3	0.25 to <0.50	8,703	246	44.19	1,711	0.32	55,529	8.40	86	5.03	–			
	4	0.50 to <0.75	5,738	89	44.95	1,093	0.51	19,482	8.47	78	7.14	–			
	5	0.75 to <2.50	7,273	84	45.61	1,139	1.28	30,414	7.87	136	11.94	1			
	6	2.50 to <10.00	2,093	8	57.62	360	6.06	12,683	6.74	90	25.00	1			
	7	10.00 to <100.00	670	1	63.26	102	25.45	4,078	5.48	31	30.39	1			
	8	100.00 (Default)	197	–	–	29	100.00	1,076	6.18	24	82.76	–			
	9	Total	91,908	20,149	50.63	14,035	0.80	587,680	7.60		625	4.45	3	11	
Canadian Retail Uninsured⁷	10	0.00 to <0.15	120,064	61,165	50.25	150,799	0.06	677,490	21.17	5,111	3.39	19			
	11	0.15 to <0.25	30,799	3,456	46.46	32,404	0.19	124,132	24.31	3,215	9.92	15			
	12	0.25 to <0.50	18,045	1,645	46.07	18,803	0.31	89,517	27.19	3,032	16.13	16			
	13	0.50 to <0.75	11,058	607	45.98	11,337	0.52	29,335	26.83	2,567	22.64	16			
	14	0.75 to <2.50	11,410	402	48.69	11,606	1.25	38,122	26.24	4,543	39.14	39			
	15	2.50 to <10.00	2,526	33	57.98	2,546	5.54	12,188	22.14	1,997	78.44	31			
	16	10.00 to <100.00	745	4	67.08	747	29.00	3,745	17.30	713	95.45	39			
	17	100.00 (Default)	201	–	–	201	100.00	953	21.00	398	198.01	12			
18	Total	194,848	67,312	49.91	228,443	0.42	975,482	22.65		21,576	9.44	187	27		
U.S. Retail Uninsured⁷	19	0.00 to <0.15	21,211	12,446	66.04	29,431	0.06	120,263	31.60	1,485	5.05	5			
	20	0.15 to <0.25	5,921	520	40.77	6,133	0.19	27,832	30.66	779	12.70	4			
	21	0.25 to <0.50	4,400	381	36.59	4,539	0.32	24,565	32.56	881	19.41	5			
	22	0.50 to <0.75	3,082	228	32.77	3,157	0.52	10,318	35.71	956	30.28	6			
	23	0.75 to <2.50	5,194	262	31.29	5,275	1.26	19,923	36.50	2,918	55.32	24			
	24	2.50 to <10.00	1,148	79	12.07	1,157	5.81	7,985	36.28	1,518	131.20	24			
	25	10.00 to <100.00	436	23	11.66	439	24.95	3,725	36.44	894	203.64	41			
	26	100.00 (Default)	712	–	–	712	100.00	4,054	29.58	744	104.49	154			
27	Total	42,104	13,939	62.70	50,843	2.00	218,665	32.46		10,175	20.01	263	75		
Total residential secured	28		\$ 328,860	\$ 101,400	51.81 %	\$ 293,321	0.71 %	1,781,827	23.26 %	\$ 32,376	11.04 %	\$ 453	\$ 113		

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential mortgages and HELOCs. Insured classification reflects when insurance on the exposure is used for CRM for reduction of RWA.

⁸ Includes government insured exposures (CMHC) and exposures insured by corporate entities. For post-CRM, government insured exposures are included in Sovereign.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Residential Secured (Continued)

(\$ millions, except as noted) As at		2019 Q2													
LINE #		PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions	
Canadian Retail Insured^{7,8}	1	0.00 to <0.15 %	\$ 56,247	\$ 19,410	50.94 %	\$ 6,963	0.07 %	407,415	6.98 %		\$ 91	1.31 %	\$ –	\$ –	
	2	0.15 to <0.25	11,477	561	45.21	2,315	0.19	60,814	8.13		78	3.37	–	–	
	3	0.25 to <0.50	9,168	257	44.11	1,864	0.32	60,700	8.46		94	5.04	1	–	
	4	0.50 to <0.75	6,210	88	43.75	1,289	0.51	21,290	8.68		94	7.29	1	–	
	5	0.75 to <2.50	7,803	85	46.96	1,277	1.25	32,431	7.95		150	11.75	1	–	
	6	2.50 to <10.00	2,158	8	56.62	378	5.96	13,031	6.60		92	24.34	1	–	
	7	10.00 to <100.00	696	1	66.50	98	26.21	4,220	5.18		29	29.59	1	–	
	8	100.00 (Default)	195	–	–	24	100.00	1,103	6.61		21	87.50	–	–	
	9	Total		93,954	20,410	50.65	14,208	0.77	601,004	7.58		649	4.57	5	10
Canadian Retail Uninsured⁷	10	0.00 to <0.15	115,095	60,606	50.09	145,448	0.06	668,228	20.88		4,836	3.32	17	–	
	11	0.15 to <0.25	28,994	3,256	44.53	30,444	0.19	114,729	24.29		3,045	10.00	14	–	
	12	0.25 to <0.50	17,860	1,568	43.51	18,543	0.31	90,209	26.13		2,870	15.48	15	–	
	13	0.50 to <0.75	10,870	612	42.68	11,131	0.51	30,045	26.99		2,531	22.74	15	–	
	14	0.75 to <2.50	11,743	419	44.25	11,929	1.24	39,291	26.15		4,617	38.70	38	–	
	15	2.50 to <10.00	2,478	29	54.73	2,494	5.58	12,140	21.85		1,936	77.63	30	–	
	16	10.00 to <100.00	714	3	59.81	716	29.64	3,637	17.25		667	93.16	38	–	
	17	100.00 (Default)	189	–	–	189	100.00	972	21.01		369	195.24	12	–	
18	Total		187,943	66,493	49.56	220,894	0.43	959,251	22.39		20,871	9.45	179	22	
U.S. Retail Uninsured⁷	19	0.00 to <0.15	20,816	12,371	68.47	29,286	0.06	117,373	31.53		1,468	5.01	5	–	
	20	0.15 to <0.25	5,931	529	64.85	6,274	0.19	28,696	30.93		805	12.83	4	–	
	21	0.25 to <0.50	4,365	378	61.54	4,597	0.32	25,030	32.42		888	19.32	5	–	
	22	0.50 to <0.75	3,132	231	60.81	3,272	0.52	10,527	35.86		995	30.41	6	–	
	23	0.75 to <2.50	5,186	367	61.07	5,410	1.31	22,235	36.77		3,099	57.28	26	–	
	24	2.50 to <10.00	1,166	81	28.96	1,189	5.67	8,133	36.60		1,566	131.71	25	–	
	25	10.00 to <100.00	436	21	19.81	440	24.85	3,852	37.74		932	211.82	42	–	
	26	100.00 (Default)	745	–	–	745	100.00	4,201	29.86		715	95.97	168	–	
27	Total		41,777	13,978	67.52	51,213	2.06	220,047	32.51		10,468	20.44	281	96	
Total residential secured	28		\$ 323,674	\$ 100,881	52.27 %	\$ 286,315	0.72 %	1,780,302	23.06 %		\$ 31,988	11.17 %	\$ 465	\$ 128	

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential mortgages and HELOCs. Insured classification reflects when insurance on the exposure is used for CRM for reduction of RWA.

⁸ Includes government insured exposures (CMHC) and exposures insured by corporate entities. For post-CRM, government insured exposures are included in Sovereign.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Residential Secured (Continued)

(\$ millions, except as noted) As at		2019 Q1												
LINE #		PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
Canadian Retail Insured^{7,8}	1	0.00 to <0.15 %	\$ 58,331	\$ 19,621	46.56 %	\$ 7,206	0.07 %	419,456	6.94 %		\$ 95	1.32 %	\$ –	
	2	0.15 to <0.25	10,987	408	42.20	2,153	0.20	58,417	8.06		73	3.39	–	
	3	0.25 to <0.50	9,143	256	45.47	1,986	0.32	61,306	8.43		100	5.04	1	
	4	0.50 to <0.75	6,337	119	51.11	1,201	0.52	21,548	8.48		86	7.16	1	
	5	0.75 to <2.50	8,088	65	63.59	1,312	1.28	33,683	7.88		156	11.89	1	
	6	2.50 to <10.00	2,230	6	86.11	371	6.18	13,641	6.56		91	24.53	1	
	7	10.00 to <100.00	719	2	77.13	111	24.91	4,372	5.20		32	28.83	1	
	8	100.00 (Default)	188	–	–	25	100.00	1,092	6.20		20	80.00	–	
	9	Total		96,023	20,477	46.56	14,365	0.79	613,515	7.51		653	4.55	5
Canadian Retail Uninsured⁷	10	0.00 to <0.15	119,452	60,857	50.42	150,138	0.05	684,972	22.93		5,143	3.43	18	
	11	0.15 to <0.25	24,034	1,748	55.57	25,005	0.19	95,234	25.22		2,593	10.37	12	
	12	0.25 to <0.50	17,178	2,156	71.10	18,710	0.31	86,097	29.28		3,176	16.97	17	
	13	0.50 to <0.75	9,198	495	62.81	9,509	0.52	26,495	27.57		2,216	23.30	14	
	14	0.75 to <2.50	10,780	307	72.45	11,003	1.25	38,320	26.99		4,453	40.47	37	
	15	2.50 to <10.00	2,349	21	83.27	2,366	5.59	12,576	22.81		1,918	81.07	29	
	16	10.00 to <100.00	690	3	78.30	693	28.84	3,505	17.03		644	92.93	36	
	17	100.00 (Default)	181	–	–	181	100.00	900	18.70		322	177.90	10	
18	Total		183,862	65,587	51.45	217,605	0.41	948,099	24.12		20,465	9.40	173	23
U.S. Retail Uninsured⁷	19	0.00 to <0.15	15,809	10,953	67.74	23,229	0.06	104,554	22.84		795	3.42	3	
	20	0.15 to <0.25	5,769	542	55.12	6,068	0.19	21,462	18.58		469	7.73	2	
	21	0.25 to <0.50	5,364	376	51.52	5,558	0.32	27,453	21.16		704	12.67	4	
	22	0.50 to <0.75	3,918	294	48.40	4,060	0.52	16,451	23.50		814	20.05	5	
	23	0.75 to <2.50	6,899	1,123	50.72	7,468	1.36	29,190	28.25		3,455	46.26	30	
	24	2.50 to <10.00	1,868	345	47.10	2,031	5.72	13,394	35.93		2,625	129.25	41	
	25	10.00 to <100.00	579	73	46.81	613	23.46	5,671	34.73		1,197	195.27	50	
	26	100.00 (Default)	741	–	–	741	100.00	4,268	27.81		401	54.12	176	
27	Total		40,947	13,706	64.35	49,768	2.35	222,443	23.75		10,460	21.02	311	96
Total residential secured	28		\$ 320,832	\$ 99,770	52.22 %	\$ 281,738	0.75 %	1,784,057	22.55 %		\$ 31,578	11.21 %	\$ 489	\$ 129

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential mortgages and HELOCs. Insured classification reflects when insurance on the exposure is used for CRM for reduction of RWA.

⁸ Includes government insured exposures (CMHC) and exposures insured by corporate entities. For post-CRM, government insured exposures are included in Sovereign.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Residential Secured (Continued)

(\$ millions, except as noted) As at		LINE #	2018 Q4												
			Original on-balance sheet gross exposure ²	Off- balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions	
			PD scale ¹												
Canadian Retail Insured^{7,8}	1	0.00 to <0.15	\$ 60,013	\$ 19,628	46.08 %	\$ 7,260	0.07 %	429,856	6.91 %		\$ 94	1.29 %	\$ –	\$ –	
	2	0.15 to <0.25	10,966	404	40.30	2,301	0.19	59,106	8.02		76	3.30	–	–	
	3	0.25 to <0.50	9,801	256	44.55	2,085	0.32	63,202	8.44		105	5.04	1	–	
	4	0.50 to <0.75	6,192	121	48.28	1,120	0.51	23,422	8.23		77	6.88	–	–	
	5	0.75 to <2.50	8,551	57	61.95	1,431	1.21	33,693	7.90		164	11.46	1	–	
	6	2.50 to <10.00	2,197	4	85.72	366	6.25	13,470	6.49		89	24.32	1	–	
	7	10.00 to <100.00	683	1	83.83	103	25.16	4,264	5.03		29	28.16	1	–	
	8	100.00 (Default)	194	–	–	27	100.00	1,124	6.21		22	81.48	–	–	
	9	Total	98,597	20,471	46.01	14,693	0.78	628,137	7.47		656	4.46	4	7	
Canadian Retail Uninsured⁷	10	0.00 to <0.15	117,313	59,982	50.42	147,555	0.05	677,733	23.01		5,141	3.48	18	–	
	11	0.15 to <0.25	22,812	1,686	100.00	24,498	0.19	91,489	24.54		2,464	10.06	11	–	
	12	0.25 to <0.50	17,518	1,743	68.19	18,706	0.31	85,807	28.13		3,104	16.59	16	–	
	13	0.50 to <0.75	8,908	472	64.52	9,213	0.52	25,859	27.91		2,173	23.59	13	–	
	14	0.75 to <2.50	10,530	273	72.52	10,728	1.24	38,054	27.41		4,369	40.73	36	–	
	15	2.50 to <10.00	2,178	11	92.34	2,188	5.59	11,841	22.23		1,727	78.93	27	–	
	16	10.00 to <100.00	636	1	90.19	637	29.15	3,321	17.33		596	93.56	34	–	
	17	100.00 (Default)	168	–	–	168	100.00	898	19.60		306	182.14	10	–	
18	Total	180,063	64,168	52.41	213,693	0.39	935,002	24.04		19,880	9.30	165	22		
U.S. Retail Uninsured⁷	19	0.00 to <0.15	15,009	10,850	67.63	22,347	0.06	102,531	23.42		788	3.53	3	–	
	20	0.15 to <0.25	5,790	556	55.66	6,100	0.19	21,658	19.10		485	7.95	2	–	
	21	0.25 to <0.50	5,350	383	52.21	5,550	0.32	28,118	20.92		695	12.52	4	–	
	22	0.50 to <0.75	4,062	294	48.48	4,205	0.52	15,909	23.41		837	19.90	5	–	
	23	0.75 to <2.50	7,452	1,045	51.90	7,995	1.31	32,024	27.84		3,585	44.84	31	–	
	24	2.50 to <10.00	1,928	351	45.83	2,089	5.81	13,501	35.73		2,714	129.92	43	–	
	25	10.00 to <100.00	635	80	47.61	673	23.14	5,868	36.17		1,367	203.12	56	–	
	26	100.00 (Default)	782	–	–	782	100.00	4,297	27.71		422	53.96	185	–	
27	Total	41,008	13,559	64.40	49,741	2.47	223,906	24.08		10,893	21.90	329	106		
Total residential secured	28		\$ 319,668	\$ 98,198	52.73 %	\$ 278,127	0.76 %	1,787,045	22.50 %		\$ 31,429	11.30 %	\$ 498	\$ 135	

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

⁷ Includes residential mortgages and HELOCs. Insured classification reflects when insurance on the exposure is used for CRM for reduction of RWA.

⁸ Includes government insured exposures (CMHC) and exposures insured by corporate entities. For post-CRM, government insured exposures are included in Sovereign.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Qualifying Revolving Retail (QRR)

(\$ millions, except as noted)
As at

2019
Q4

LINE #	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15 %	\$ 4,776	\$ 101,548	62.39 %	\$ 68,130	0.05 %	11,512,313	85.10 %		\$ 1,966	2.89 %	\$ 28	
2	0.15 to <0.25	1,913	13,206	60.89	9,954	0.19	1,865,565	87.05		953	9.57	17	
3	0.25 to <0.50	2,380	10,249	61.59	8,693	0.32	2,371,324	87.71		1,258	14.47	24	
4	0.50 to <0.75	3,015	8,308	60.42	8,036	0.52	1,223,902	88.45		1,743	21.69	37	
5	0.75 to <2.50	12,313	15,641	60.17	21,723	1.50	4,009,333	89.11		10,480	48.24	291	
6	2.50 to <10.00	9,419	3,994	72.50	12,315	5.62	3,682,720	89.14		14,911	121.08	616	
7	10.00 to <100.00	2,412	518	85.88	2,857	25.93	1,676,210	84.92		6,472	226.53	637	
8	100.00 (Default)	155	–	–	155	100.00	60,947	75.52		52	33.55	113	
9	Total	\$ 36,383	\$ 153,464	62.22 %	\$ 131,863	1.54 %	26,402,314	86.65 %		\$ 37,835	28.69 %	\$ 1,763	\$ 260

2019
Q3

LINE #	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15 %	\$ 4,997	\$ 102,037	62.49 %	\$ 68,759	0.05 %	11,868,359	88.14 %		\$ 1,962	2.85 %	\$ 28	
11	0.15 to <0.25	1,804	12,294	61.26	9,336	0.19	1,807,851	89.23		917	9.82	16	
12	0.25 to <0.50	2,288	9,580	62.17	8,244	0.32	2,274,295	89.23		1,214	14.73	23	
13	0.50 to <0.75	2,965	8,096	61.69	7,960	0.53	1,308,023	89.30		1,753	22.02	37	
14	0.75 to <2.50	12,228	14,817	61.41	21,327	1.50	3,969,454	89.39		10,327	48.42	287	
15	2.50 to <10.00	9,595	3,936	74.24	12,517	5.64	3,581,638	88.99		15,162	121.13	627	
16	10.00 to <100.00	2,520	538	87.08	2,988	25.54	1,675,295	84.74		6,766	226.44	654	
17	100.00 (Default)	165	–	–	165	100.00	58,303	75.79		52	31.52	121	
18	Total	\$ 36,562	\$ 151,298	62.61 %	\$ 131,296	1.58 %	26,543,218	88.55 %		\$ 38,153	29.06 %	\$ 1,793	\$ 255

2019
Q2

LINE #	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
19	0.00 to <0.15 %	\$ 4,614	\$ 100,232	63.05 %	\$ 67,809	0.05 %	11,652,085	88.12 %		\$ 1,945	2.87 %	\$ 28	
20	0.15 to <0.25	1,770	12,360	62.08	9,443	0.19	1,849,536	89.01		925	9.80	16	
21	0.25 to <0.50	2,251	10,706	61.23	8,807	0.33	2,266,844	89.04		1,325	15.04	26	
22	0.50 to <0.75	2,921	6,733	65.12	7,305	0.52	1,284,435	89.13		1,600	21.90	34	
23	0.75 to <2.50	12,179	14,744	62.28	21,361	1.50	3,962,770	89.20		10,300	48.22	286	
24	2.50 to <10.00	9,541	3,823	74.28	12,380	5.63	3,730,598	88.85		14,950	120.76	618	
25	10.00 to <100.00	2,611	515	87.01	3,060	26.01	1,738,707	84.65		6,952	227.19	681	
26	100.00 (Default)	174	–	–	174	100.00	66,610	74.93		57	32.76	126	
27	Total	\$ 36,061	\$ 149,113	63.23 %	\$ 130,339	1.61 %	26,551,585	88.45 %		\$ 38,054	29.20 %	\$ 1,815	\$ 326

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA to post-CRM EAD.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Qualifying Revolving Retail (QRR) (Continued)

(\$ millions, except as noted)
As at

LINE #	2019													
	Q1													
	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions	
1	0.00 to <0.15	\$ 4,586	\$ 92,446	61.69	\$ 61,615	0.04	11,055,247	88.09		\$ 1,705	2.77	\$ 24		
2	0.15 to <0.25	1,528	9,858	60.50	7,492	0.19	1,621,828	89.58		739	9.86	13		
3	0.25 to <0.50	1,933	8,860	59.11	7,170	0.33	2,098,843	89.65		1,093	15.24	21		
4	0.50 to <0.75	2,407	5,416	62.44	5,789	0.53	1,176,010	89.59		1,277	22.06	27		
5	0.75 to <2.50	10,035	12,475	59.93	17,510	1.50	3,780,365	89.62		8,468	48.36	235		
6	2.50 to <10.00	7,631	3,282	73.18	10,034	5.60	3,379,348	89.37		12,155	121.14	502		
7	10.00 to <100.00	2,182	426	84.92	2,544	27.28	1,578,345	85.31		5,839	229.52	600		
8	100.00 (Default)	106	–	–	106	100.00	56,673	74.41		26	24.53	77		
9	Total	\$ 30,408	\$ 132,763	61.65	\$ 112,260	1.53	24,746,659	88.65		\$ 31,302	27.88	\$ 1,499	\$ 302	

2018													
Q4													
	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	\$ 4,777	\$ 91,661	62.48	\$ 62,045	0.04	10,899,313	88.06		\$ 1,716	2.77	\$ 24	
11	0.15 to <0.25	1,547	9,744	61.05	7,495	0.19	1,618,814	89.52		738	9.85	13	
12	0.25 to <0.50	1,946	7,630	61.60	6,646	0.32	2,069,797	89.55		983	14.79	19	
13	0.50 to <0.75	2,413	6,365	59.96	6,230	0.52	1,170,712	89.53		1,370	21.99	29	
14	0.75 to <2.50	10,022	12,262	60.04	17,384	1.49	3,688,044	89.65		8,403	48.34	233	
15	2.50 to <10.00	7,616	3,262	72.85	9,992	5.60	3,450,544	89.40		12,110	121.20	500	
16	10.00 to <100.00	2,118	433	84.98	2,486	26.71	1,602,780	85.20		5,688	228.80	572	
17	100.00 (Default)	110	–	–	110	100.00	51,849	72.69		25	22.73	78	
18	Total	\$ 30,549	\$ 131,357	62.30	\$ 112,388	1.50	24,551,853	88.61		\$ 31,033	27.61	\$ 1,468	\$ 273

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA to post-CRM EAD.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Other Retail

(\$ millions, except as noted)
As at

	LINE #	2019 Q4										
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	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
1	0.00 to <0.15 %	\$ 8,987	\$ 4,329	62.15 %	\$ 11,678	0.08 %	745,069	45.12 %		\$ 1,130	9.68 %	\$ 4	
2	0.15 to <0.25	5,805	2,752	41.90	6,958	0.20	362,113	46.66		1,377	19.79	6	
3	0.25 to <0.50	11,736	1,947	61.20	12,927	0.35	513,334	39.86		3,151	24.38	18	
4	0.50 to <0.75	6,898	729	76.11	7,453	0.53	264,773	47.80		2,800	37.57	19	
5	0.75 to <2.50	24,996	1,787	61.92	26,104	1.52	924,391	50.41		16,050	61.48	201	
6	2.50 to <10.00	14,430	571	53.78	14,737	5.65	562,611	51.13		11,991	81.37	425	
7	10.00 to <100.00	4,291	69	51.56	4,326	26.42	183,035	49.04		4,846	112.02	558	
8	100.00 (Default)	471	5	100.00	475	100.00	14,921	47.64		305	64.21	203	
9	Total	\$ 77,614	\$ 12,189	57.79 %	\$ 84,658	3.49 %	3,570,247	47.57 %		\$ 41,650	49.20 %	\$ 1,434	\$ 120

2019 Q3												
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	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15 %	\$ 9,026	\$ 4,378	61.13 %	\$ 11,703	0.08 %	746,696	45.39 %		\$ 1,123	9.60 %	\$ 4	
11	0.15 to <0.25	5,649	2,602	42.58	6,757	0.20	354,642	46.70		1,339	19.82	6	
12	0.25 to <0.50	11,781	1,877	60.40	12,914	0.35	499,059	39.50		3,122	24.18	18	
13	0.50 to <0.75	6,740	739	75.69	7,299	0.53	267,952	47.91		2,750	37.68	18	
14	0.75 to <2.50	24,398	1,749	60.69	25,459	1.53	899,436	50.37		15,644	61.45	196	
15	2.50 to <10.00	14,262	548	52.46	14,550	5.66	562,014	51.16		11,851	81.45	421	
16	10.00 to <100.00	4,206	66	49.61	4,239	26.12	180,272	49.43		4,791	113.02	545	
17	100.00 (Default)	435	5	100.00	440	100.00	13,802	47.57		283	64.32	188	
18	Total	\$ 76,497	\$ 11,964	57.37 %	\$ 83,361	3.44 %	3,523,873	47.55 %		\$ 40,903	49.07 %	\$ 1,396	\$ 109

2019 Q2												
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	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
19	0.00 to <0.15 %	\$ 9,036	\$ 4,346	61.33 %	\$ 11,701	0.08 %	743,551	45.17 %		\$ 1,120	9.57 %	\$ 4	
20	0.15 to <0.25	5,555	2,516	42.37	6,621	0.20	355,487	46.12		1,295	19.56	6	
21	0.25 to <0.50	11,692	1,874	60.66	12,829	0.35	499,765	39.15		3,073	23.95	17	
22	0.50 to <0.75	6,433	705	75.80	6,968	0.53	261,516	48.03		2,631	37.76	18	
23	0.75 to <2.50	23,245	1,729	61.27	24,303	1.53	802,568	50.34		14,933	61.45	188	
24	2.50 to <10.00	13,990	484	52.58	14,245	5.69	615,049	50.88		11,549	81.07	412	
25	10.00 to <100.00	4,256	64	53.19	4,290	25.78	183,267	49.10		4,817	112.28	542	
26	100.00 (Default)	427	4	100.00	431	100.00	13,538	48.70		265	61.48	187	
27	Total	\$ 74,634	\$ 11,722	57.62 %	\$ 81,388	3.47 %	3,474,741	47.31 %		\$ 39,683	48.76 %	\$ 1,374	\$ 110

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

IRB – Credit Risk Exposures by Portfolio and PD Range (CR6) – Other Retail (Continued)

(\$ millions, except as noted)
As at

LINE #	2019													
	Q1													
	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions	
1	0.00 to <0.15	\$ 9,491	\$ 4,144	64.57	\$ 12,169	0.08	732,709	44.42		\$ 1,133	9.31	\$ 4		
2	0.15 to <0.25	5,684	2,514	42.01	6,740	0.20	358,071	45.37		1,296	19.23	6		
3	0.25 to <0.50	11,768	1,821	60.73	12,873	0.35	504,919	38.62		3,041	23.62	17		
4	0.50 to <0.75	6,415	689	76.49	6,942	0.53	260,097	47.44		2,589	37.29	17		
5	0.75 to <2.50	22,462	1,666	61.14	23,479	1.51	847,490	49.83		14,244	60.67	178		
6	2.50 to <10.00	12,913	470	52.23	13,159	5.67	534,544	50.60		10,603	80.58	377		
7	10.00 to <100.00	3,941	66	52.91	3,976	26.65	180,305	48.35		4,396	110.56	511		
8	100.00 (Default)	440	4	100.00	444	100.00	13,802	47.46		273	61.49	190		
9	Total	\$ 73,114	\$ 11,374	58.62	\$ 79,782	3.40	3,431,937	46.65		\$ 37,575	47.10	\$ 1,300	\$ 111	

2018													
Q4													
	PD scale ¹	Original on-balance sheet gross exposure ²	Off-balance sheet exposures pre-CCF ²	Average CCF (%)	EAD post CRM and post-CCF ³	Average PD (%)	Number of obligors ⁴	Average LGD (%)	Average maturity (years) ⁵	RWA	RWA density ⁶	EL	Provisions
10	0.00 to <0.15	\$ 10,335	\$ 4,168	64.75	\$ 13,034	0.07	756,080	45.16		\$ 1,203	9.23	\$ 4	
11	0.15 to <0.25	5,723	2,525	41.91	6,781	0.20	362,403	46.67		1,341	19.78	6	
12	0.25 to <0.50	12,122	1,778	60.58	13,199	0.35	505,388	38.62		3,122	23.65	18	
13	0.50 to <0.75	6,321	695	77.09	6,857	0.53	255,005	47.71		2,573	37.52	17	
14	0.75 to <2.50	22,316	1,678	61.16	23,342	1.49	843,607	49.86		14,090	60.36	174	
15	2.50 to <10.00	12,735	498	51.24	12,990	5.70	500,255	50.35		10,420	80.22	372	
16	10.00 to <100.00	3,847	64	53.92	3,882	26.41	180,379	48.78		4,328	111.49	498	
17	100.00 (Default)	425	4	100.00	428	100.00	16,454	47.39		272	63.55	183	
18	Total	\$ 73,824	\$ 11,410	58.63	\$ 80,513	3.29	3,419,571	46.82		\$ 37,349	46.39	\$ 1,272	\$ 103

¹ Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

² Exposures based on obligors prior to CRM.

³ Exposures after CRM reflecting guarantor.

⁴ Number of retail accounts.

⁵ Average maturity is not used in the calculation of retail exposure RWA.

⁶ Total RWA as a percentage of post-CRM EAD.

Analysis of Counterparty Credit Risk (CCR) Exposure by Approach (CCR1)¹

(\$ millions, except as noted)
As at

		2019					
		Q4					
LINE #		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM ²	RWA
1	SA-CCR (for derivatives)	\$ 8,169	\$ 25,796		1.4	\$ 47,545	\$ 7,079
2	Current exposure method (for derivatives)	-	-		-	-	-
3	Internal model method (for derivatives and SFTs)			-		-	-
4	Simple approach for credit risk mitigation (for SFTs)					713	7
5	Comprehensive approach for credit risk mitigation (for SFTs)					322,798	1,820
6	VaR for SFTs					-	-
7	Total					\$ 371,056	\$ 8,906
		2019					
		Q3					
LINE #		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM ²	RWA
8	SA-CCR (for derivatives)	\$ 9,824	\$ 25,658		1.4	\$ 49,670	\$ 7,290
9	Current exposure method (for derivatives)	-	-		-	-	-
10	Internal model method (for derivatives and SFTs)			-		-	-
11	Simple approach for credit risk mitigation (for SFTs)					920	9
12	Comprehensive approach for credit risk mitigation (for SFTs)					309,920	1,952
13	VaR for SFTs					-	-
14	Total					\$ 360,510	\$ 9,251
		2019					
		Q2					
LINE #		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM ²	RWA
15	SA-CCR (for derivatives)	\$ 9,204	\$ 26,206		1.4	\$ 49,568	\$ 7,358
16	Current exposure method (for derivatives)	-	-		-	-	-
17	Internal model method (for derivatives and SFTs)			-		-	-
18	Simple approach for credit risk mitigation (for SFTs)					983	9
19	Comprehensive approach for credit risk mitigation (for SFTs)					296,335	2,044
20	VaR for SFTs					-	-
21	Total					\$ 346,886	\$ 9,411
		2019					
		Q1					
LINE #		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM ²	RWA
22	SA-CCR (for derivatives)	\$ 11,215	\$ 24,926		1.4	\$ 50,590	\$ 6,974
23	Current exposure method (for derivatives)	-	-		-	-	-
24	Internal model method (for derivatives and SFTs)			-		-	-
25	Simple approach for credit risk mitigation (for SFTs)					1,248	12
26	Comprehensive approach for credit risk mitigation (for SFTs)					255,733	1,822
27	VaR for SFTs					-	-
28	Total					\$ 307,571	\$ 8,808

¹ Excludes exposures and RWA for QCCPs and CVA.

² Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

Analysis of Counterparty Credit Risk (CCR) Exposure by Approach (CCR1) (Continued)¹

(\$ millions, except as noted)
As at

	LINE #	2018 Q4					
		Replacement cost	Potential future exposure	Effective expected positive exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM ²	RWA
SA-CCR (for derivatives)	1	\$ -	\$ -		1.4	\$ -	\$ -
Current exposure method (for derivatives)	2	21,986	28,171		-	50,151	5,209
Internal model method (for derivatives and SFTs)	3			-	-	-	-
Simple approach for credit risk mitigation (for SFTs)	4					1,345	13
Comprehensive approach for credit risk mitigation (for SFTs)	5					254,409	1,750
VaR for SFTs	6					-	-
Total	7					\$ 305,905	\$ 6,972

¹ Excludes exposures and RWA for QCCPs and CVA.

² Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

Credit Valuation Adjustment (CVA) Capital Charge (CCR2)

(\$ millions) As at	LINE #	2019 Q4		2019 Q3		2019 Q2		2019 Q1	
Total portfolios subject to the Advanced CVA capital charge		EAD post-CRM	RWA						
i) VaR component (including the 3x multiplier)	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
ii) Stressed VaR component (including the 3x multiplier)	2								
All portfolios subject to the standardized CVA capital charge	3	31,364	5,027	32,804	5,299	32,751	4,625	33,460	4,815
Total subject to the CVA capital charge ¹	4	\$ 31,364	\$ 5,027	\$ 32,804	\$ 5,299	\$ 32,751	\$ 4,625	\$ 33,460	\$ 4,815

**2018
Q4**

(\$ millions) As at	LINE #	2018 Q4	
Total portfolios subject to the Advanced CVA capital charge		EAD post-CRM	RWA
i) VaR component (including the 3x multiplier)	5	\$ -	\$ -
ii) Stressed VaR component (including the 3x multiplier)	6		
All portfolios subject to the standardized CVA capital charge	7	38,358	4,916
Total subject to the CVA capital charge ¹	8	\$ 38,358	\$ 4,916

¹ For fiscal 2019, the CVA has been fully phased-in. For fiscal 2018, the scalars for inclusion of CVA for CET1, Tier 1, and Total Capital RWA were 80%, 83%, and 86%, respectively.

Standardized Approach – CCR Exposures by Regulatory Portfolio and Risk Weights (CCR3)

(\$ millions) As at	LINE #	2019 Q4										2019 Q3									
Regulatory portfolio¹																					
Corporate	1	\$ 707	\$ -	\$ -	\$ -	\$ -	\$ 203	\$ -	\$ -	\$ 910	\$ 912	\$ -	\$ -	\$ -	\$ -	\$ 212	\$ -	\$ -	\$ 1,124		
Sovereign	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bank	3	-	-	2	-	-	-	-	-	2	-	-	2	-	-	-	-	-	2		
Total	4	\$ 707	\$ -	\$ 2	\$ -	\$ -	\$ 203	\$ -	\$ -	\$ 912	\$ 912	\$ -	\$ 2	\$ -	\$ -	\$ 212	\$ -	\$ -	\$ 1,126		
		2019 Q2										2019 Q1									
Regulatory portfolio¹																					
Corporate	5	\$ 973	\$ -	\$ -	\$ -	\$ -	\$ 193	\$ -	\$ -	\$ 1,166	\$ 1,236	\$ -	\$ -	\$ -	\$ -	\$ 196	\$ -	\$ -	\$ 1,432		
Sovereign	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Bank	7	-	-	3	-	-	-	-	-	3	-	-	2	-	-	-	-	-	2		
Total	8	\$ 973	\$ -	\$ 3	\$ -	\$ -	\$ 193	\$ -	\$ -	\$ 1,169	\$ 1,236	\$ -	\$ 2	\$ -	\$ -	\$ 196	\$ -	\$ -	\$ 1,434		
		2018 Q4																			
Regulatory portfolio¹																					
Corporate	9	\$ 1,331	\$ -	\$ -	\$ -	\$ -	\$ 93	\$ -	\$ -	\$ 1,424											
Sovereign	10	-	-	-	-	-	-	-	-	-											
Bank	11	-	-	4	-	-	-	-	-	4											
Total	12	\$ 1,331	\$ -	\$ 4	\$ -	\$ -	\$ 93	\$ -	\$ -	\$ 1,428											

¹ Excludes any exposures cleared through a QCCP.

CCR Exposures by Portfolio and PD Scale (CCR4) – Corporate¹

(\$ millions, except as noted)
As at

LINE #	2019 Q4									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
1	0.00 to <0.15	% \$ 166,316	0.05 %	2,813	3.38 %	0.4 \$	2,068	1.24 %		
2	0.15 to <0.25	26,384	0.19	1,659	4.84	0.5	995	3.77		
3	0.25 to <0.50	11,558	0.38	876	3.89	0.5	622	5.38		
4	0.50 to <0.75	6,820	0.71	269	3.01	0.3	365	5.35		
5	0.75 to <2.50	3,285	2.18	466	9.78	1.0	853	25.97		
6	2.50 to <10.00	11	9.97	22	34.85	2.3	17	154.55		
7	10.00 to <100.00	17	19.81	24	33.10	3.3	32	188.24		
8	100.00 (Default)	–	–	–	–	–	–	–		
9	Total	\$ 214,391	0.14 %	6,129	3.68 %	0.4 \$	4,952	2.31 %		
	2019 Q3									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
10	0.00 to <0.15	% \$ 165,762	0.05 %	2,908	3.61 %	0.4 \$	2,184	1.32 %		
11	0.15 to <0.25	23,336	0.20	1,636	5.23	0.4	942	4.04		
12	0.25 to <0.50	7,678	0.39	862	5.20	0.5	546	7.11		
13	0.50 to <0.75	4,886	0.71	263	5.40	0.3	451	9.23		
14	0.75 to <2.50	3,270	1.65	478	8.14	0.9	682	20.86		
15	2.50 to <10.00	18	9.97	13	30.13	1.4	22	122.22		
16	10.00 to <100.00	16	21.77	18	23.71	2.8	23	143.75		
17	100.00 (Default)	–	100.00	2	30.76	1.0	1	–		
18	Total	\$ 204,966	0.13 %	6,180	3.97 %	0.4 \$	4,851	2.37 %		
	2019 Q2									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
19	0.00 to <0.15	% \$ 159,264	0.05 %	2,832	3.25 %	0.4 \$	2,009	1.26 %		
20	0.15 to <0.25	24,554	0.19	1,586	5.93	0.4	1,056	4.30		
21	0.25 to <0.50	6,542	0.38	824	5.53	0.5	478	7.31		
22	0.50 to <0.75	1,120	0.72	245	9.51	1.3	214	19.11		
23	0.75 to <2.50	7,700	1.70	444	6.36	0.4	1,234	16.03		
24	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
25	10.00 to <100.00	28	22.44	32	23.63	2.8	37	132.14		
26	100.00 (Default)	1	100.00	2	32.54	1.0	3	300.00		
27	Total	\$ 199,209	0.15 %	5,965	3.81 %	0.4 \$	5,031	2.53 %		

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

CCR Exposures by Portfolio and PD Scale (CCR4) – Corporate (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019									
	Q1									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
1	0.00 to <0.15 %	\$ 128,347	0.05 %	2,776	3.46 %	0.4	\$ 1,821	1.42 %		
2	0.15 to <0.25	23,178	0.19	1,517	5.47	0.4	1,014	4.37		
3	0.25 to <0.50	7,237	0.37	814	4.13	0.4	393	5.43		
4	0.50 to <0.75	609	0.72	233	14.58	1.8	185	30.38		
5	0.75 to <2.50	15,744	2.24	473	1.95	0.5	793	5.04		
6	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
7	10.00 to <100.00	28	21.03	30	22.27	2.1	32	114.29		
8	100.00 (Default)	1	100.00	3	32.12	1.0	4	400.00		
9	Total	\$ 175,144	0.29 %	5,846	3.66 %	0.4	\$ 4,242	2.42 %		

2018										
Q4										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
10	0.00 to <0.15 %	\$ 128,548	0.05 %	3,034	2.97 %	0.4	\$ 1,541	1.20 %		
11	0.15 to <0.25	23,996	0.19	1,601	2.11	0.3	380	1.58		
12	0.25 to <0.50	3,418	0.41	825	6.20	0.3	232	6.79		
13	0.50 to <0.75	832	0.72	246	5.42	0.8	89	10.70		
14	0.75 to <2.50	15,056	2.18	478	1.35	0.5	484	3.21		
15	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
16	10.00 to <100.00	22	24.07	34	17.51	1.9	20	90.91		
17	100.00 (Default)	–	–	2	–	–	–	–		
18	Total	\$ 171,872	0.27 %	6,220	2.79 %	0.4	\$ 2,746	1.60 %		

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

CCR Exposures by Portfolio and PD Scale (CCR4) – Sovereign¹

(\$ millions, except as noted)
As at

LINE #	2019 Q4										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴			
1	0.00 to <0.15 % \$	52,624	0.02 %	175	3.02 %	0.6 \$	102	0.19 %			
2	0.15 to <0.25	947	0.16	14	2.27	0.2	12	1.27			
3	0.25 to <0.50	25	0.46	4	38.02	2.6	12	48.00			
4	0.50 to <0.75	–	–	–	–	–	–	–			
5	0.75 to <2.50	6	1.46	7	38.56	1.0	4	66.67			
6	2.50 to <10.00	–	–	–	–	–	–	–			
7	10.00 to <100.00	–	–	–	–	–	–	–			
8	100.00 (Default)	–	–	–	–	–	–	–			
9	Total	\$ 53,602	0.02 %	200	3.02 %	0.6 \$	130	0.24 %			
2019 Q3											
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴			
10	0.00 to <0.15 % \$	43,517	0.02 %	177	2.38 %	0.7 \$	100	0.23 %			
11	0.15 to <0.25	270	0.16	17	7.31	1.0	12	4.44			
12	0.25 to <0.50	16	0.41	5	30.76	3.0	6	37.50			
13	0.50 to <0.75	–	–	–	–	–	–	–			
14	0.75 to <2.50	4	1.91	8	25.51	1.0	2	50.00			
15	2.50 to <10.00	–	–	–	–	–	–	–			
16	10.00 to <100.00	–	–	–	–	–	–	–			
17	100.00 (Default)	–	–	–	–	–	–	–			
18	Total	\$ 43,807	0.02 %	207	2.42 %	0.7 \$	120	0.27 %			
2019 Q2											
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴			
19	0.00 to <0.15 % \$	48,675	0.02 %	178	2.35 %	0.8 \$	128	0.26 %			
20	0.15 to <0.25	1,182	0.16	19	1.63	0.1	11	0.93			
21	0.25 to <0.50	44	0.47	5	4.04	0.7	3	6.82			
22	0.50 to <0.75	–	–	–	–	–	–	–			
23	0.75 to <2.50	9	2.16	7	13.00	1.0	3	33.33			
24	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
25	10.00 to <100.00	–	–	–	–	–	–	–			
26	100.00 (Default)	–	–	–	–	–	–	–			
27	Total	\$ 49,910	0.02 %	209	2.34 %	0.8 \$	145	0.29 %			

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

CCR Exposures by Portfolio and PD Scale (CCR4) – Sovereign (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019									
	Q1									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
1	0.00 to <0.15 %	\$ 47,053	0.02 %	167	2.74 %	0.9	\$ 136	0.29 %		
2	0.15 to <0.25	810	0.16	20	1.44	0.1	6	0.74		
3	0.25 to <0.50	124	0.47	4	3.65	–	4	3.23		
4	0.50 to <0.75	3	0.72	1	13.00	1.0	1	33.33		
5	0.75 to <2.50	8	2.02	7	24.10	1.0	4	50.00		
6	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
7	10.00 to <100.00	–	–	–	–	–	–	–		
8	100.00 (Default)	–	–	–	–	–	–	–		
9	Total	\$ 47,998	0.02 %	199	2.72 %	0.8	\$ 151	0.31 %		
2018										
Q4										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
10	0.00 to <0.15 %	\$ 39,576	0.02 %	179	4.47 %	1.2	\$ 107	0.27 %		
11	0.15 to <0.25	645	0.16	15	1.29	0.1	4	0.62		
12	0.25 to <0.50	83	0.47	5	1.23	–	1	1.20		
13	0.50 to <0.75	–	0.72	1	55.00	1.0	–	–		
14	0.75 to <2.50	1	2.16	4	11.57	1.0	–	–		
15	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
16	10.00 to <100.00	–	–	–	–	–	–	–		
17	100.00 (Default)	–	–	–	–	–	–	–		
18	Total	\$ 40,305	0.02 %	204	4.41 %	1.2	\$ 112	0.28 %		

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

CCR Exposures by Portfolio and PD Scale (CCR4) – Bank¹

(\$ millions, except as noted)
As at

LINE #	2019 Q4									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
1	0.00 to <0.15 % \$	100,480	0.05 %	338	11.70 %	0.4 \$	3,383	3.37 %		
2	0.15 to <0.25	1,605	0.17	60	22.01	0.6	220	13.71		
3	0.25 to <0.50	59	0.32	20	20.88	1.1	16	27.12		
4	0.50 to <0.75	1	0.71	2	6.13	5.0	–	–		
5	0.75 to <2.50	6	2.09	5	10.16	0.7	2	33.33		
6	2.50 to <10.00	–	–	–	–	–	–	–		
7	10.00 to <100.00	–	–	–	–	–	–	–		
8	100.00 (Default)	–	–	–	–	–	–	–		
9	Total	\$ 102,151	0.05 %	425	11.87 %	0.4 \$	3,621	3.54 %		
2019 Q3										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
10	0.00 to <0.15 % \$	108,462	0.05 %	336	12.14 %	0.5 \$	3,856	3.56 %		
11	0.15 to <0.25	2,103	0.17	56	14.67	0.4	200	9.51		
12	0.25 to <0.50	40	0.33	16	16.97	1.3	10	25.00		
13	0.50 to <0.75	1	0.71	4	12.16	4.5	–	–		
14	0.75 to <2.50	5	1.34	5	14.56	0.9	2	40.00		
15	2.50 to <10.00	–	–	–	–	–	–	–		
16	10.00 to <100.00	–	–	–	–	–	–	–		
17	100.00 (Default)	–	–	–	–	–	–	–		
18	Total	\$ 110,611	0.05 %	417	12.19 %	0.5 \$	4,068	3.68 %		
2019 Q2										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
19	0.00 to <0.15 % \$	93,754	0.05 %	321	13.30 %	0.5 \$	3,829	4.08 %		
20	0.15 to <0.25	2,716	0.17	52	10.25	0.5	191	7.03		
21	0.25 to <0.50	109	0.32	16	11.21	0.8	15	13.76		
22	0.50 to <0.75	1	0.72	2	16.11	5.0	–	–		
23	0.75 to <2.50	17	1.19	7	7.10	0.3	3	17.65		
24	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
25	10.00 to <100.00	1	10.63	1	55.00	3.8	3	300.00		
26	100.00 (Default)	–	–	–	–	–	–	–		
27	Total	\$ 96,598	0.05 %	399	13.21 %	0.5 \$	4,041	4.18 %		

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

CCR Exposures by Portfolio and PD Scale (CCR4) – Bank (Continued)¹

(\$ millions, except as noted)
As at

LINE #	2019									
	Q1									
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
1	0.00 to <0.15 %	\$ 81,105	0.05 %	322	16.42 %	0.5 \$	3,806	4.69 %		
2	0.15 to <0.25	1,479	0.18	54	11.39	0.5	114	7.71		
3	0.25 to <0.50	128	0.34	17	13.37	0.7	21	16.41		
4	0.50 to <0.75	–	0.72	1	10.50	5.0	–	–		
5	0.75 to <2.50	282	2.27	8	46.23	0.1	275	97.52		
6	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
7	10.00 to <100.00	1	10.63	1	55.00	4.1	3	300.00		
8	100.00 (Default)	–	–	–	–	–	–	–		
9	Total	\$ 82,995	0.06 %	403	16.43 %	0.5 \$	4,219	5.08 %		
2018										
Q4										
	PD scale ²	EAD post-CRM	Average PD	Number of obligors ³	Average LGD	Average maturity (years)	RWA	RWA density ⁴		
10	0.00 to <0.15 %	\$ 90,392	0.05 %	364	12.87 %	0.5 \$	3,603	3.99 %		
11	0.15 to <0.25	1,544	0.16	66	9.66	0.7	119	7.71		
12	0.25 to <0.50	89	0.35	17	12.54	0.8	13	14.61		
13	0.50 to <0.75	–	0.72	8	21.44	4.0	–	–		
14	0.75 to <2.50	275	2.32	11	49.13	0.1	284	103.27		
15	2.50 to <10.00 ⁵	n/a	n/a	n/a	n/a	n/a	n/a	n/a		
16	10.00 to <100.00	–	10.63	1	55.00	4.3	1	–		
17	100.00 (Default)	–	–	–	–	–	–	–		
18	Total	\$ 92,300	0.06 %	467	12.92 %	0.5 \$	4,020	4.36 %		

¹ Collateral for repo-style transactions is reflected in the LGD as opposed to EAD.

² Prescribed PD bands based on Pillar 3 disclosure requirements by BCBS.

³ Total number of obligors is total number of unique borrowers, and may not add as certain borrowers may be represented in more than one PD scale.

⁴ Total RWA as a percentage of post-CRM EAD.

⁵ No internal BRR mapped to the prescribed PD range.

Composition of Collateral for CCR Exposure (CCR5)

(\$ millions) As at	LINE #	2019 Q4						2019 Q3					
		Collateral used in derivative transactions				Collateral used in SFTs		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	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
		Segregated	Unsegregated	Segregated	Unsegregated	of collateral received	of posted collateral	Segregated	Unsegregated	Segregated	Unsegregated	of collateral received	of posted collateral
Cash – domestic currency	1	\$ –	\$ 2,378	\$ –	\$ 1,166	\$ 49,004	\$ 62,817	\$ 298	\$ 1,961	\$ –	\$ 1,280	\$ 41,174	\$ 60,879
Cash – other currencies	2	10	4,675	3	8,135	51,862	104,711	129	4,779	558	8,311	63,193	104,454
Domestic sovereign debt	3	–	772	581	1,181	75,118	52,985	91	617	580	1,200	71,944	47,022
Other sovereign debt	4	2,769	529	2,118	2,109	82,677	68,890	1,385	957	1,499	2,465	80,101	72,672
Corporate bonds	5	468	401	686	48	5,798	7,897	189	299	655	194	8,812	12,553
Equity securities	6	15	4	–	–	27,861	62,692	18	1	–	–	31,031	71,785
Other collateral	7	5	27	468	1,043	39,203	54,572	2	31	169	1,149	31,356	46,553
Total	8	\$ 3,267	\$ 8,786	\$ 3,856	\$ 13,682	\$ 331,523	\$ 414,564	\$ 2,112	\$ 8,645	\$ 3,461	\$ 14,599	\$ 327,611	\$ 415,918
		2019 Q2						2019 Q1					
		Collateral used in derivative transactions				Collateral used in SFTs		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	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
		Segregated	Unsegregated	Segregated	Unsegregated	of collateral received	of posted collateral	Segregated	Unsegregated	Segregated	Unsegregated	of collateral received	of posted collateral
Cash – domestic currency	9	\$ 124	\$ 2,975	\$ –	\$ 757	\$ 40,647	\$ 67,651	\$ –	\$ 2,395	\$ –	\$ 927	\$ 31,962	\$ 48,235
Cash – other currencies	10	309	4,053	3	5,989	51,754	86,359	50	4,091	–	6,136	48,758	93,861
Domestic sovereign debt	11	–	1,067	1	794	76,487	48,852	–	214	28	739	52,073	33,971
Other sovereign debt	12	973	244	1,512	4,154	71,189	67,838	1,004	611	1,058	3,623	67,434	57,992
Corporate bonds	13	139	374	–	35	5,280	5,643	274	203	–	–	6,718	7,634
Equity securities	14	5	3	–	–	23,940	52,421	–	7	–	–	26,802	43,797
Other collateral	15	35	43	488	841	27,889	43,951	4	51	181	143	24,230	36,363
Total	16	\$ 1,585	\$ 8,759	\$ 2,004	\$ 12,570	\$ 297,186	\$ 372,715	\$ 1,332	\$ 7,572	\$ 1,267	\$ 11,568	\$ 257,977	\$ 321,853
		2018 Q4											
		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	Unsegregated	Segregated	Unsegregated	of collateral received	of posted collateral						
Cash – domestic currency	17	\$ 373	\$ 2,543	\$ –	\$ 448	\$ 32,184	\$ 47,566						
Cash – other currencies	18	320	6,708	3	6,165	64,131	102,988						
Domestic sovereign debt	19	–	393	18	421	60,390	41,941						
Other sovereign debt	20	466	569	761	4,077	72,186	68,111						
Corporate bonds	21	39	334	–	–	5,188	7,113						
Equity securities	22	30	5	–	–	27,819	47,777						
Other collateral	23	1	482	–	76	22,569	36,869						
Total	24	\$ 1,229	\$ 11,034	\$ 782	\$ 11,187	\$ 284,467	\$ 352,365						

Credit Derivatives Exposures (CCR6)

(\$ millions)		2019		2019		2019		2019		2018	
As at		Q4		Q3		Q2		Q1		Q4	
LINE #		Protection bought	Protection sold								
Notionals											
1	Single-name credit default swaps	\$ 5,457	\$ 927	\$ 5,018	\$ 848	\$ 5,423	\$ 827	\$ 5,597	\$ 677	\$ 5,316	\$ 698
2	Index credit default swaps	6,338	185	6,352	374	6,248	33	7,274	1,159	6,723	423
3	Total return swaps	-	-	-	-	-	-	-	-	-	-
4	Credit options	-	-	-	-	-	-	-	-	-	-
5	Other credit derivatives	4,911	-	4,898	-	6,187	-	4,998	-	3,179	-
6	Total notionals	16,706	1,112	16,268	1,222	17,858	860	17,869	1,836	15,218	1,121
Fair values											
7	Positive fair value (asset)	12	36	19	38	7	44	12	55	12	35
8	Negative fair value (liability)	(465)	-	(426)	(1)	(484)	(2)	(427)	(2)	(408)	(1)

Exposures to Central Counterparties (CCR8)¹

(\$ millions)		2019		2019		2019		2019		2018	
As at		Q4		Q3		Q2		Q1		Q4	
LINE #		EAD post-CRM	RWA								
1	Exposures to QCCPs (total)	\$	\$ 577	\$	\$ 643	\$	\$ 619	\$	\$ 765	\$	\$ 3,362
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions) – of which:	16,857	337	18,546	371	17,545	351	21,201	424	19,029	1,490
3	(i) OTC derivatives	11,383	227	10,569	211	11,415	228	15,555	311	12,181	608
4	(ii) Exchange-traded derivatives	1,584	32	2,307	46	1,599	32	1,730	35	2,151	102
5	(iii) Securities financing transactions	3,890	78	5,670	114	4,531	91	3,916	78	4,697	780
6	(iv) Netting sets where cross-product netting has been approved	-	-	-	-	-	-	-	-	-	-
7	Segregated initial margin	91	-	91	-	-	-	-	-	-	-
8	Non-segregated initial margin	3,057	-	2,510	-	3,067	-	3,163	-	3,540	441
9	Pre-funded default fund contributions	855	240	796	272	768	268	720	341	781	1,431
10	Unfunded default fund contributions	-	-	-	-	-	-	-	-	-	-

¹ The Bank does not have any exposure to non-qualifying central counterparties.

Derivatives – Notional

(\$ millions) As at	LINE #	2019 Q4						2019 Q3					
		Trading						Trading					
		Over-the-counter ¹			Exchange-traded			Over-the-counter ¹			Exchange-traded		
		Clearing house ²	Non-clearing house	Total	Non-trading	Total	Clearing house ²	Non-clearing house	Total	Non-trading	Total		
Interest Rate Contracts													
Futures	1	\$ –	\$ –	\$ 884,565	\$ 884,565	\$ –	\$ 884,565	\$ –	\$ 913,817	\$ 913,817	\$ –	\$ 913,817	
Forward rate agreements	2	1,817,528	28,532	–	1,846,060	867	1,846,927	1,492,079	24,716	–	1,516,795	583	1,517,378
Swaps	3	9,380,140	390,123	–	9,770,263	1,642,583	11,412,846	9,322,087	410,500	–	9,732,587	1,594,499	11,327,086
Options written	4	–	109,532	136,264	245,796	472	246,268	–	100,956	106,405	207,361	567	207,928
Options purchased	5	–	122,159	187,260	309,419	5,374	314,793	–	100,873	152,856	253,729	6,239	259,968
	6	11,197,668	650,346	1,208,089	13,056,103	1,649,296	14,705,399	10,814,166	637,045	1,173,078	12,624,289	1,601,888	14,226,177
Foreign Exchange Contracts													
Futures	7	–	–	16	16	–	16	–	–	24	24	–	24
Forward contracts	8	–	169,992	–	169,992	20,473	190,465	–	264,485	–	264,485	20,792	285,277
Swaps	9	–	1,747,596	–	1,747,596	1,955	1,749,551	–	1,441,619	–	1,441,619	2,376	1,443,995
Cross-currency interest rate swaps	10	–	757,780	–	757,780	100,921	858,701	–	733,280	–	733,280	100,724	834,004
Options written	11	–	27,639	15	27,654	–	27,654	–	29,601	–	29,601	–	29,601
Options purchased	12	–	27,293	2	27,295	–	27,295	–	30,533	16	30,549	–	30,549
	13	–	2,730,300	33	2,730,333	123,349	2,853,682	–	2,499,518	40	2,499,558	123,892	2,623,450
Credit Derivative Contracts													
Credit default swaps													
Protection purchased	14	9,222	249	–	9,471	3,199	12,670	9,116	168	–	9,284	2,939	12,223
Protection sold	15	956	156	–	1,112	–	1,112	1,125	97	–	1,222	–	1,222
	16	10,178	405	–	10,583	3,199	13,782	10,241	265	–	10,506	2,939	13,445
Other Contracts													
Equity contracts	17	–	92,327	66,590	158,917	29,454	188,371	–	83,546	69,004	152,550	29,507	182,057
Commodity contracts	18	100	46,885	49,702	96,687	–	96,687	108	48,631	49,371	98,110	–	98,110
	19	100	139,212	116,292	255,604	29,454	285,058	108	132,177	118,375	250,660	29,507	280,167
Total	20	\$ 11,207,946	\$ 3,520,263	\$ 1,324,414	\$ 16,052,623	\$ 1,805,298	\$ 17,857,921	\$ 10,824,515	\$ 3,269,005	\$ 1,291,493	\$ 15,385,013	\$ 1,758,226	\$ 17,143,239
2019 Q2													
Trading													
		Over-the-counter ¹			Exchange-traded			Over-the-counter ¹			Exchange-traded		
		Clearing house ²	Non-clearing house	Total	Non-trading	Total	Clearing house ²	Non-clearing house	Total	Non-trading	Total		
Interest Rate Contracts													
Futures	21	\$ –	\$ –	\$ 882,220	\$ 882,220	\$ –	\$ 882,220	\$ –	\$ 996,714	\$ 996,714	\$ –	\$ 996,714	
Forward rate agreements	22	1,311,666	42,687	–	1,354,353	462	1,354,815	1,228,118	53,332	–	1,281,450	163	1,281,613
Swaps	23	8,157,205	448,310	–	8,605,515	1,556,437	10,161,952	7,877,245	432,609	–	8,309,854	1,421,591	9,731,445
Options written	24	–	86,636	95,986	182,622	389	183,011	–	72,375	86,178	158,553	210	158,763
Options purchased	25	–	77,860	118,050	195,910	5,798	201,708	–	63,987	113,291	177,278	2,570	179,848
	26	9,468,871	655,493	1,096,256	11,220,620	1,563,086	12,783,706	9,105,363	622,303	1,196,183	10,923,849	1,424,534	12,348,383
Foreign Exchange Contracts													
Futures	27	–	–	24	24	–	24	–	–	24	24	–	24
Forward contracts	28	–	1,946,804	–	1,946,804	22,354	1,969,158	–	1,846,690	–	1,846,690	26,794	1,873,484
Swaps	29	–	6	–	6	–	6	–	6	–	6	–	6
Cross-currency interest rate swaps	30	–	728,013	–	728,013	99,313	827,326	–	707,497	–	707,497	96,900	804,397
Options written	31	–	29,369	–	29,369	–	29,369	–	35,325	–	35,325	–	35,325
Options purchased	32	–	29,416	–	29,416	–	29,416	–	34,856	–	34,856	–	34,856
	33	–	2,733,608	24	2,733,632	121,667	2,855,299	–	2,624,374	24	2,624,398	123,694	2,748,092
Credit Derivative Contracts													
Credit default swaps													
Protection purchased	34	9,188	215	–	9,403	2,953	12,356	10,230	183	–	10,413	2,974	13,387
Protection sold	35	753	107	–	860	–	860	1,716	120	–	1,836	–	1,836
	36	9,941	322	–	10,263	2,953	13,216	11,946	303	–	12,249	2,974	15,223
Other Contracts													
Equity contracts	37	–	66,898	58,972	125,870	29,466	155,336	–	62,314	49,811	112,125	29,841	141,966
Commodity contracts	38	114	39,910	35,873	75,897	–	75,897	186	37,488	27,429	65,103	–	65,103
	39	114	106,808	94,845	201,767	29,466	231,233	186	99,802	77,240	177,228	29,841	207,069
Total	40	\$ 9,478,926	\$ 3,496,231	\$ 1,191,125	\$ 14,166,282	\$ 1,717,172	\$ 15,883,454	\$ 9,117,495	\$ 3,346,782	\$ 1,273,447	\$ 13,737,724	\$ 1,581,043	\$ 15,318,767
2019 Q1													
Trading													
		Over-the-counter ¹			Exchange-traded			Over-the-counter ¹			Exchange-traded		
		Clearing house ²	Non-clearing house	Total	Non-trading	Total	Clearing house ²	Non-clearing house	Total	Non-trading	Total		

¹ Collateral held under a Credit Support Annex (CSA) to help reduce CCR is in the form of high-quality and liquid assets such as cash and high-quality government securities. Acceptable collateral is governed by the Collateralized Trading Policy.

² Derivatives executed through a central clearing house reduces settlement risk due to the ability to net settle offsetting positions for capital purposes and therefore receive preferential capital treatment compared to those settled with non-central clearing house counterparties.

Derivatives – Notional (Continued)

(\$ millions) As at	LINE #	2018 Q4					
		Over-the-counter ¹			Trading		
		Clearing house ²	Non- clearing house	Exchange- traded	Total	Non- trading	Total
Interest Rate Contracts							
Futures	1	\$ –	\$ –	\$ 575,825	\$ 575,825	\$ –	\$ 575,825
Forward rate agreements	2	919,623	51,056	–	970,679	225	970,904
Swaps	3	7,580,152	444,065	–	8,024,217	1,418,487	9,442,704
Options written	4	–	79,649	121,246	200,895	53	200,948
Options purchased	5	–	70,201	154,683	224,884	2,891	227,775
	6	8,499,775	644,971	851,754	9,996,500	1,421,656	11,418,156
Foreign Exchange Contracts							
Futures	7	–	–	24	24	–	24
Forward contracts	8	–	1,796,542	–	1,796,542	29,140	1,825,682
Swaps	9	–	6	–	6	–	6
Cross-currency interest rate swaps	10	–	688,980	–	688,980	96,966	785,946
Options written	11	–	34,090	–	34,090	–	34,090
Options purchased	12	–	32,655	–	32,655	–	32,655
	13	–	2,552,273	24	2,552,297	126,106	2,678,403
Credit Derivative Contracts							
Credit default swaps							
Protection purchased	14	9,665	202	–	9,867	2,745	12,612
Protection sold	15	987	135	–	1,122	–	1,122
	16	10,652	337	–	10,989	2,745	13,734
Other Contracts							
Equity contracts	17	–	57,736	57,161	114,897	30,430	145,327
Commodity contracts	18	150	33,161	39,882	73,193	–	73,193
	19	150	90,897	97,043	188,090	30,430	218,520
Total	20	\$ 8,510,577	\$ 3,288,478	\$ 948,821	\$ 12,747,876	\$ 1,580,937	\$ 14,328,813

¹ Collateral held under a CSA to help reduce CCR is in the form of high-quality and liquid assets such as cash and high-quality government securities. Acceptable collateral is governed by the Collateralized Trading Policy.

² Derivatives executed through a central clearing house reduces settlement risk due to the ability to net settle offsetting positions for capital purposes and therefore receive preferential capital treatment compared to those settled with non-central clearing house counterparties.

Derivatives – Credit Exposure¹

(\$ millions) As at	LINE #	2019 Q4			2019 Q3			2019 Q2		
		Current replacement cost ²	Credit equivalent amount	Risk-weighted amount	Current replacement cost ²	Credit equivalent amount	Risk-weighted amount	Current replacement cost ²	Credit equivalent amount	Risk-weighted amount
Interest Rate Contracts										
	1	\$ 31	\$ 536	\$ 449	\$ 30	\$ 316	\$ 231	\$ 19	\$ 483	\$ 423
Forward rate agreements										
Swaps	2	3,210	9,635	1,809	3,607	10,000	1,821	4,284	11,119	1,763
Options purchased	3	133	459	102	156	456	107	113	354	87
	4	3,374	10,630	2,360	3,793	10,772	2,159	4,416	11,956	2,273
Foreign Exchange Contracts										
Forward contracts	5	434	2,555	375	1,072	4,808	777	2,193	18,013	2,287
Swaps	6	1,961	14,286	1,635	2,367	13,376	1,449	1	91	18
Cross-currency interest rate swaps	7	1,812	10,288	1,183	1,821	10,057	1,227	1,815	10,165	1,255
Options purchased	8	48	363	83	75	434	88	83	453	89
	9	4,255	27,492	3,276	5,335	28,675	3,541	4,092	28,722	3,649
Other Contracts										
Credit derivatives	10	6	634	149	4	672	160	7	763	180
Equity contracts	11	151	5,706	667	211	5,925	723	316	5,275	620
Commodity contracts	12	383	3,083	627	481	3,626	707	373	2,852	636
	13	540	9,423	1,443	696	10,223	1,590	696	8,890	1,436
Total net derivatives	14	8,169	47,545	7,079	9,824	49,670	7,290	9,204	49,568	7,358
Qualifying Central Counterparty (QCCP) contracts ³	15	3,085	12,967	349	3,038	12,876	366	3,664	13,014	383
Total	16	\$ 11,254	\$ 60,512	\$ 7,428	\$ 12,862	\$ 62,546	\$ 7,656	\$ 12,868	\$ 62,582	\$ 7,741

2019 Q1			
	Current replacement cost ²	Credit equivalent amount	Risk-weighted amount
Interest Rate Contracts			
Forward rate agreements	17	\$ 34	\$ 282
Swaps	18	4,616	11,474
Options purchased	19	109	367
	20	4,759	12,123
Foreign Exchange Contracts			
Forward contracts	21	3,845	19,483
Swaps	22	–	99
Cross-currency interest rate swaps	23	1,989	10,059
Options purchased	24	71	655
	25	5,905	30,296
Other Contracts			
Credit derivatives	26	5	714
Equity contracts	27	205	4,723
Commodity contracts	28	341	2,734
	29	551	8,171
Total net derivatives	30	11,215	50,590
Qualifying Central Counterparty (QCCP) contracts ³	31	4,216	17,302
Total	32	\$ 15,431	\$ 67,892

¹ As of the first quarter of 2019, the standardized approach for counterparty credit risk was implemented in determining the calculation of replacement costs, credit equivalent amount and RWA which includes the impact of master netting agreements and collateral. Under the previous methodology these impacts were presented separately.

² Non-trading credit derivatives, which are given financial guarantee treatment for credit risk capital purposes, were excluded in accordance with OSFI's guidelines.

³ RWA for OSFI "deemed" QCCP derivative exposures are calculated in accordance with the Basel III regulatory framework, which takes into account both trade exposures and default fund exposures relating to derivatives, are presented based on the "all-in" methodology. The amounts calculated are net of master netting agreements and collateral.

Derivatives – Credit Exposure (Continued)

(\$ millions) As at	LINE #	2018 Q4		
		Current replacement cost ¹	Credit equivalent amount	Risk- weighted amount
Interest Rate Contracts				
Forward rate agreements	1	\$ 21	\$ 56	\$ 15
Swaps	2	11,630	15,557	4,193
Options purchased	3	508	776	299
	4	<u>12,159</u>	<u>16,389</u>	<u>4,507</u>
Foreign Exchange Contracts				
Forward contracts	5	17,605	35,543	4,247
Swaps	6	–	–	–
Cross-currency interest rate swaps	7	21,218	40,942	7,012
Options purchased	8	486	1,029	212
	9	<u>39,309</u>	<u>77,514</u>	<u>11,471</u>
Other Contracts				
Credit derivatives	10	3	358	145
Equity contracts	11	3,043	7,383	920
Commodity contracts	12	1,101	2,546	514
	13	<u>4,147</u>	<u>10,287</u>	<u>1,579</u>
Total derivatives	14	55,615	104,190	17,557
Less: impact of master netting agreements	15	34,205	54,039	11,464
Total after netting	16	21,410	50,151	6,093
Less: impact of collateral	17	8,884	9,602	1,173
Net	18	12,526	40,549	4,920
QCCP contracts ²	19	155	14,332	2,058
Total	20	<u>\$ 12,681</u>	<u>\$ 54,881</u>	<u>\$ 6,978</u>

¹ Non-trading credit derivatives, which are given financial guarantee treatment for credit risk capital purposes, were excluded in accordance with OSFI's guidelines.

² RWA for OSFI "deemed" QCCP derivative exposures are calculated in accordance with the Basel III regulatory framework, which takes into account both trade exposures and default fund exposures relating to derivatives, are presented based on the "all-in" methodology. The amounts calculated are net of master netting agreements and collateral.

Securitization Exposures in the Banking Book (SEC1)¹

(\$ millions) As at	LINE #	2019 Q4			2019 Q3			2019 Q2			2019 Q1		
		Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total
Retail (total) – of which:	1	\$ 23,294	\$ 39,201	\$ 62,495	\$ 23,877	\$ 37,616	\$ 61,493	\$ 23,424	\$ 39,988	\$ 63,412	\$ 22,843	\$ 39,155	\$ 61,998
Residential mortgage	2	9,403	399	9,802	9,508	444	9,952	9,663	494	10,157	9,655	610	10,265
Credit card	3	1,653	16,688	18,341	1,707	16,167	17,874	1,726	17,758	19,484	1,477	18,102	19,579
Other retail exposures	4	12,238	22,114	34,352	12,662	21,005	33,667	12,035	21,736	33,771	11,711	20,443	32,154
Re-securitization	5	–	–	–	–	–	–	–	–	–	–	–	–
Wholesale (total) – of which:	6	8,583	26,257	34,840	8,376	25,164	33,540	7,123	24,849	31,972	6,863	23,833	30,696
Loans to corporates	7	–	4,105	4,105	–	3,846	3,846	–	3,418	3,418	–	3,036	3,036
Commercial mortgage	8	–	16,126	16,126	–	15,980	15,980	–	16,351	16,351	–	15,941	15,941
Lease and receivables	9	8,517	6,026	14,543	8,376	5,338	13,714	7,123	5,080	12,203	6,863	4,856	11,719
Other wholesale	10	66	–	66	–	–	–	–	–	–	–	–	–
Re-securitization	11	–	–	–	–	–	–	–	–	–	–	–	–
		2018 Q4											
		Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total									
Retail (total) – of which:	12	\$ 22,858	\$ 41,927	\$ 64,785									
Residential mortgage	13	9,775	889	10,664									
Credit card	14	1,524	18,212	19,736									
Other retail exposures	15	11,559	22,819	34,378									
Re-securitization	16	–	7	7									
Wholesale (total) – of which:	17	6,979	21,576	28,555									
Loans to corporates	18	–	2,785	2,785									
Commercial mortgage	19	–	17,265	17,265									
Lease and receivables	20	6,979	1,526	8,505									
Other wholesale	21	–	–	–									
Re-securitization	22	–	–	–									

¹ The Bank does not have any synthetic securitization exposures.

Securitization Exposures in the Trading Book (SEC2)¹

(\$ millions) As at		LINE #	2019 Q4			2019 Q3			2019 Q2			2019 Q1		
			Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total	Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total
Retail (total) – of which:	1		\$ –	\$ 629	\$ 629	\$ –	\$ 787	\$ 787	\$ –	\$ 786	\$ 786	\$ –	\$ 625	\$ 625
Residential mortgage	2		–	–	–	–	–	–	–	–	–	–	–	–
Credit card	3		–	123	123	–	19	19	–	115	115	–	142	142
Other retail exposures	4		–	506	506	–	768	768	–	671	671	–	483	483
Re-securitization	5		–	–	–	–	–	–	–	–	–	–	–	–
Wholesale (total) – of which:	6		–	105	105	–	76	76	–	52	52	–	28	28
Loans to corporates	7		–	–	–	–	–	–	–	–	–	–	–	–
Commercial mortgage	8		–	1	1	–	1	1	–	1	1	–	1	1
Lease and receivables	9		–	–	–	–	–	–	–	–	–	–	–	–
Other wholesale	10		–	104	104	–	75	75	–	51	51	–	27	27
Re-securitization	11		–	–	–	–	–	–	–	–	–	–	–	–
			2018 Q4											
			Bank acts as originator/sponsor Traditional	Bank acts as investor Traditional	Total									
Retail (total) – of which:	12		\$ –	\$ 636	\$ 636									
Residential mortgage	13		–	–	–									
Credit card	14		–	53	53									
Other retail exposures	15		–	583	583									
Re-securitization	16		–	–	–									
Wholesale (total) – of which:	17		–	146	146									
Loans to corporates	18		–	–	–									
Commercial mortgage	19		–	1	1									
Lease and receivables	20		–	–	–									
Other wholesale	21		–	145	145									
Re-securitization	22		–	–	–									

¹ The Bank does not have any synthetic securitization exposures.

Securitization Exposures in the Banking Book and Associated Regulatory Capital Requirements – Bank Acting as Originator or as Sponsor (SEC3)^{1,2}

(\$ millions) As at		2019 Q4																
LINE #		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach) ³				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%
Total exposures																		
Traditional securitization	1	\$ 30,987	\$ 478	\$ 279	\$ 123	\$ 10	\$ -	\$ 31,801	\$ 66	\$ 10	\$ -	\$ 4,026	\$ 10	\$ 124	\$ -	\$ 291	\$ 1	\$ 10
of which: securitization	2	30,987	478	279	123	10	-	31,801	66	10	-	4,026	10	124	-	291	1	10
of which: retail underlying	3	22,593	428	140	123	10	-	23,284	-	10	-	2,995	-	124	-	209	-	10
of which: wholesale	4	8,394	50	139	-	-	-	8,517	66	-	-	1,031	10	-	82	1	-	-
of which: re-securitization	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	8	\$ 30,987	\$ 478	\$ 279	\$ 123	\$ 10	\$ -	\$ 31,801	\$ 66	\$ 10	\$ -	\$ 4,026	\$ 10	\$ 124	\$ -	\$ 291	\$ 1	\$ 10
2019 Q3																		
LINE #		<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%
Total exposures																		
Traditional securitization	9	\$ 30,921	\$ 876	\$ 305	\$ 143	\$ 8	\$ -	\$ 32,245	\$ -	\$ 8	\$ -	\$ 4,202	\$ -	\$ 104	\$ -	\$ 311	\$ -	\$ 8
of which: securitization	10	30,921	876	305	143	8	-	32,245	-	8	-	4,202	-	104	-	311	-	8
of which: retail underlying	11	22,889	654	184	143	8	-	23,869	184	8	-	3,161	-	104	-	228	-	8
of which: wholesale	12	8,032	222	121	-	-	-	8,376	-	-	-	1,041	-	-	-	83	-	-
of which: re-securitization	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	16	\$ 30,921	\$ 876	\$ 305	\$ 143	\$ 8	\$ -	\$ 32,245	\$ -	\$ 8	\$ -	\$ 4,202	\$ -	\$ 104	\$ -	\$ 311	\$ -	\$ 8
2019 Q2																		
LINE #		<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%
Total exposures																		
Traditional securitization	17	\$ 29,278	\$ 745	\$ 332	\$ 184	\$ 9	\$ -	\$ 30,539	\$ -	\$ 9	\$ -	\$ 4,046	\$ -	\$ 111	\$ -	\$ 297	\$ -	\$ 9
of which: securitization	18	29,278	745	332	184	9	-	30,539	-	9	-	4,046	-	111	-	297	-	9
of which: retail underlying	19	22,348	685	199	184	9	-	23,416	-	9	-	3,153	-	111	-	226	-	9
of which: wholesale	20	6,930	60	133	-	-	-	7,123	-	-	-	893	-	-	-	71	-	-
of which: re-securitization	21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	24	\$ 29,278	\$ 745	\$ 332	\$ 184	\$ 9	\$ -	\$ 30,539	\$ -	\$ 9	\$ -	\$ 4,046	\$ -	\$ 111	\$ -	\$ 297	\$ -	\$ 9
2019 Q1																		
LINE #		<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%
Total exposures																		
Traditional securitization	25	\$ 28,032	\$ 1,061	\$ 447	\$ 156	\$ 10	\$ -	\$ 29,696	\$ -	\$ 10	\$ -	\$ 3,940	\$ -	\$ 125	\$ -	\$ 286	\$ -	\$ 10
of which: securitization	26	28,032	1,061	447	156	10	-	29,696	-	10	-	3,940	-	125	-	286	-	10
of which: retail underlying	27	21,405	979	293	156	10	-	22,833	-	10	-	3,052	-	125	-	215	-	10
of which: wholesale	28	6,627	82	154	-	-	-	6,863	-	-	-	888	-	-	-	71	-	-
of which: re-securitization	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior	31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	32	\$ 28,032	\$ 1,061	\$ 447	\$ 156	\$ 10	\$ -	\$ 29,696	\$ -	\$ 10	\$ -	\$ 3,940	\$ -	\$ 125	\$ -	\$ 286	\$ -	\$ 10

¹ The Bank does not have any synthetic securitization exposures.

² As of the first quarter of 2019, the regulatory approaches have been updated to reflect the implementation of the new securitization framework.

³ RWA before application of cap.

Securitization Exposures in the Banking Book and Associated Regulatory Capital Requirements – Bank Acting as Originator or as Sponsor (SEC3) (Continued)¹

(\$ millions) As at	LINE #	2018 Q4																
		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	IRB RBA including IAA	IRB SFA	SA/SSFA	1250%	IRB RBA including IAA	IRB SFA	SA/SSFA	1250%	IRB RBA including IAA	IRB SFA	SA/SSFA	1250%
Total exposures																		
Traditional securitization	1	\$ 29,725	\$ –	\$ 103	\$ –	\$ 9	\$ 29,837	\$ –	\$ –	\$ –	\$ 2,313	\$ –	\$ –	\$ –	\$ 185	\$ –	\$ –	\$ –
of which: securitization	2	29,725	–	103	–	9	29,837	–	–	–	2,313	–	–	–	185	–	–	–
of which: retail underlying	3	22,746	–	103	–	9	22,858	–	–	–	1,735	–	–	–	139	–	–	–
of which: wholesale	4	6,979	–	–	–	–	6,979	–	–	–	578	–	–	–	46	–	–	–
of which: re-securitization	5	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
of which: senior	6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
of which: non-senior	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	8	\$ 29,725	\$ –	\$ 103	\$ –	\$ 9	\$ 29,837	\$ –	\$ –	\$ –	\$ 2,313	\$ –	\$ –	\$ –	\$ 185	\$ –	\$ –	\$ –

¹ The Bank does not have any synthetic securitization exposures.

Securitization Exposures in the Banking Book and Associated Regulatory Capital Requirements – Bank Acting as Investor (SEC4)^{1,2}

(\$ millions) As at		LINE #	2019 Q4																
			Exposure values (by RW bands)					Exposure values (by regulatory approach)					RWA (by regulatory approach) ³				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%
Total exposures																			
Traditional securitization		1	\$ 64,014	\$ 1,444	\$ -	\$ -	\$ -	\$ -	\$ 65,145	\$ 313	\$ -	\$ -	\$ 10,688	\$ 42	\$ -	\$ -	\$ 741	\$ 3	\$ -
of which: securitization		2	64,014	1,444	-	-	-	-	65,145	313	-	-	10,688	42	-	-	741	3	-
of which: retail underlying		3	37,757	1,444	-	-	-	-	39,201	-	-	-	5,772	-	-	-	348	-	-
of which: wholesale		4	26,257	-	-	-	-	-	25,944	313	-	-	4,916	42	-	-	393	3	-
of which: re-securitization		5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior		6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior		7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		8	\$ 64,014	\$ 1,444	\$ -	\$ -	\$ -	\$ -	\$ 65,145	\$ 313	\$ -	\$ -	\$ 10,688	\$ 42	\$ -	\$ -	\$ 741	\$ 3	\$ -
			2019 Q3																
			<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%
Total exposures																			
Traditional securitization		9	\$ 61,463	\$ 1,317	\$ -	\$ -	\$ -	\$ -	\$ 62,456	\$ 324	\$ -	\$ -	\$ 9,517	\$ 49	\$ -	\$ -	\$ 711	\$ 4	\$ -
of which: securitization		10	61,463	1,317	-	-	-	-	62,456	324	-	-	9,517	49	-	-	711	4	-
of which: retail underlying		11	36,298	1,317	-	-	-	-	37,605	11	-	-	4,798	1	-	-	334	-	-
of which: wholesale		12	25,165	-	-	-	-	-	24,851	313	-	-	4,719	48	-	-	377	4	-
of which: re-securitization		13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior		14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior		15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		16	\$ 61,463	\$ 1,317	\$ -	\$ -	\$ -	\$ -	\$ 62,456	\$ 324	\$ -	\$ -	\$ 9,517	\$ 49	\$ -	\$ -	\$ 711	\$ 4	\$ -
			2019 Q2																
			<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%
Total exposures																			
Traditional securitization		17	\$ 63,610	\$ 1,226	\$ -	\$ -	\$ -	\$ -	\$ 64,473	\$ 363	\$ -	\$ -	\$ 9,659	\$ 52	\$ -	\$ -	\$ 730	\$ 4	\$ -
of which: securitization		18	63,610	1,226	-	-	-	-	64,473	363	-	-	9,659	52	-	-	730	4	-
of which: retail underlying		19	38,761	1,226	-	-	-	-	39,942	45	-	-	4,965	10	-	-	355	1	-
of which: wholesale		20	24,849	-	-	-	-	-	24,531	318	-	-	4,694	42	-	-	375	3	-
of which: re-securitization		21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior		22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior		23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		24	\$ 63,610	\$ 1,226	\$ -	\$ -	\$ -	\$ -	\$ 64,473	\$ 363	\$ -	\$ -	\$ 9,659	\$ 52	\$ -	\$ -	\$ 730	\$ 4	\$ -
			2019 Q1																
			<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%
Total exposures																			
Traditional securitization		25	\$ 62,266	\$ 722	\$ -	\$ -	\$ -	\$ -	\$ 62,988	\$ -	\$ -	\$ -	\$ 9,335	\$ -	\$ -	\$ -	\$ 703	\$ -	\$ -
of which: securitization		26	62,266	722	-	-	-	-	62,988	-	-	-	9,335	-	-	-	703	-	-
of which: retail underlying		27	38,433	722	-	-	-	-	39,155	-	-	-	4,794	-	-	-	340	-	-
of which: wholesale		28	23,833	-	-	-	-	-	23,833	-	-	-	4,541	-	-	-	363	-	-
of which: re-securitization		29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: senior		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
of which: non-senior		31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total		32	\$ 62,266	\$ 722	\$ -	\$ -	\$ -	\$ -	\$ 62,988	\$ -	\$ -	\$ -	\$ 9,335	\$ -	\$ -	\$ -	\$ 703	\$ -	\$ -

¹ The Bank does not have any synthetic securitization exposures.

² As of the first quarter of 2019, the regulatory approaches have been updated to reflect the implementation of the new securitization framework.

³ RWA before application cap.

Securitization Exposures in the Banking Book and Associated Regulatory Capital Requirements – Bank Acting as Investor (SEC4) (Continued)¹

(\$ millions) As at	LINE #	2018 Q4																
		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	IRB RBA including IAA	IRB SFA	SA/ SSFA	1250%	IRB RBA including IAA	IRB SFA	SA/ SSFA	1250%	IRB RBA including IAA	IRB SFA	SA/ SSFA	1250%
Total exposures																		
Traditional securitization	1	\$ 62,465	\$ –	\$ 694	\$ 151	\$ 193	\$ 41,927	\$ –	\$ 21,576	\$ –	\$ 6,892	\$ –	\$ 4,315	\$ –	\$ 551	\$ –	\$ 345	\$ –
of which: securitization	2	62,465	–	694	144	193	41,920	–	21,576	–	6,841	–	4,315	–	547	–	345	–
of which: retail underlying	3	40,889	–	694	144	193	41,920	–	–	–	6,841	–	–	–	547	–	–	–
of which: wholesale	4	21,576	–	–	–	–	–	21,576	–	–	–	4,315	–	–	–	–	345	–
of which: re-securitization	5	–	–	–	7	–	7	–	–	–	51	–	–	–	4	–	–	–
of which: senior	6	–	–	–	7	–	7	–	–	–	51	–	–	–	4	–	–	–
of which: non-senior	7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total	8	\$ 62,465	\$ –	\$ 694	\$ 151	\$ 193	\$ 41,927	\$ –	\$ 21,576	\$ –	\$ 6,892	\$ –	\$ 4,315	\$ –	\$ 551	\$ –	\$ 345	\$ –

¹ The Bank does not have any synthetic securitization exposures.

AIRB Credit Risk Exposures: Actual and Estimated Parameters

(Percentage) As at	LINE #	2019 Q4					2019 Q3						
		Average Estimated PD ¹	Actual Default Rate	Average Estimated LGD ²	Actual LGD ³	Average Estimated EAD	Actual EAD	Average Estimated PD ¹	Actual Default Rate	Average Estimated LGD ²	Actual LGD ³	Average Estimated EAD	Actual EAD
Retail													
Residential secured uninsured	1	0.42 %	0.28 %	29.98 %	10.49 %	95.76 %	99.64 %	0.44 %	0.30 %	30.31 %	10.47 %	95.64 %	99.53 %
Residential secured insured ⁴	2	0.44	0.31	n/a	n/a	98.67	99.34	0.44	0.30	n/a	n/a	98.74	99.38
Qualifying revolving retail	3	2.36	2.71	88.74	81.30	97.05	94.43	2.35	2.78	88.64	81.44	97.52	94.81
Other retail	4	2.64	2.13	56.52	47.40	99.28	91.66	2.58	2.03	56.22	46.54	99.39	92.88
Non-Retail													
Corporate	5	1.20	0.48	16.79	15.90	90.41	81.15	1.20	0.44	17.66	15.59	90.66	80.34
Sovereign	6	0.08	-	9.83	n/a	99.68	n/a	0.07	-	9.93	n/a	99.68	n/a
Bank	7	0.25	-	14.68	n/a	95.80	n/a	0.25	-	14.72	n/a	95.77	n/a
2019 Q2													
2019 Q1													
		Average Estimated PD ¹	Actual Default Rate	Average Estimated LGD ²	Actual LGD ³	Average Estimated EAD	Actual EAD	Average Estimated PD ¹	Actual Default Rate	Average Estimated LGD ²	Actual LGD ³	Average Estimated EAD	Actual EAD
Retail													
Residential secured uninsured	8	0.46 %	0.30 %	29.96 %	9.73 %	96.05 %	100.27 %	0.56 %	0.32 %	28.45 %	11.22 %	96.19 %	100.68 %
Residential secured insured ⁴	9	0.45	0.30	n/a	n/a	98.98	99.07	0.44	0.27	n/a	n/a	99.40	99.29
Qualifying revolving retail	10	2.44	2.77	88.38	81.34	97.90	94.74	2.49	2.91	88.77	80.48	98.18	94.99
Other retail	11	2.62	1.99	55.64	46.25	99.32	92.10	2.57	1.99	54.88	45.23	99.34	91.42
Non-Retail													
Corporate	12	1.24	0.38	17.78	18.84	90.67	72.01	1.25	0.31	18.42	19.46	90.84	59.89
Sovereign	13	0.07	-	9.56	n/a	99.72	n/a	0.07	-	10.16	n/a	99.71	n/a
Bank	14	0.21	-	16.08	n/a	95.93	n/a	0.21	-	18.03	n/a	96.33	n/a
2018 Q4													
		Average Estimated PD ¹	Actual Default Rate	Average Estimated LGD ²	Actual LGD ³	Average Estimated EAD	Actual EAD						
Retail													
Residential secured uninsured	15	0.60 %	0.35 %	28.94 %	11.82 %	95.95 %	100.95 %						
Residential secured insured ⁴	16	0.43	0.26	n/a	n/a	99.33	99.36						
Qualifying revolving retail	17	2.50	3.02	88.70	80.14	97.91	94.79						
Other retail	18	2.52	1.99	54.87	46.10	99.32	91.44						
Non-Retail													
Corporate	19	1.27	0.32	18.17	24.36	90.76	57.40						
Sovereign	20	0.09	-	10.95	n/a	99.63	n/a						
Bank	21	0.23	-	15.25	n/a	96.87	n/a						

¹ Estimated PD reflects a one-year through-the-cycle time horizon and is based on long run economic conditions.

² Estimated LGD reflects loss estimates for the full portfolio under a severe downturn economic scenario.

³ Represents average LGD of the impaired portfolio over trailing 12 months.

⁴ LGD for the residential secured insured portfolio is n/a due to the effect of CRM from government backed entities.

IRB – Backtesting of Probability of Default (PD) per Portfolio – Non-Retail (CR9)

(\$ millions, except as noted)
As at

LINE #		2019								
		Q4								
	PD range	External rating equivalent ¹	Weighted average PD	Arithmetic PD average by Obligors	Number of obligors		Defaulted obligors in the year ²	of which: new defaulted obligors in the year	Average historical annual default rate	
					End of previous	End of the year				
Corporate	1	0.00 to <0.15 %	AAA to BBB	0.06 %	0.09 %	4,709	5,321	-	-	0.01 %
	2	0.15 to <0.25	BBB- to BB+	0.18	0.19	6,480	7,528	5	-	0.03
	3	0.25 to <0.50	BB to BB-	0.38	0.37	9,299	10,118	9	-	0.11
	4	0.50 to <0.75	B+	0.72	0.72	2,742	2,944	-	-	0.10
	5	0.75 to <2.50	B to B-	1.83	1.86	14,741	14,371	77	-	0.48
	6	2.50 to <10.00	CCC+	-	-	-	-	-	-	-
	7	10.00 to <100.00	CCC to CC and below	18.74	20.12	732	800	78	1	10.20
	8	Total		0.75	2.05	38,703	41,082	169	1	1.73
Sovereign	9	0.00 to <0.15 %	AAA to BBB	0.01	0.04	257	261	-	-	-
	10	0.15 to <0.25	BBB- to BB+	0.16	0.19	20	18	-	-	-
	11	0.25 to <0.50	BB to BB-	-	-	-	-	-	-	-
	12	0.50 to <0.75	B+	-	-	-	-	-	-	-
	13	0.75 to <2.50	B to B-	-	-	-	-	-	-	-
	14	2.50 to <10.00	CCC+	-	-	-	-	-	-	-
	15	10.00 to <100.00	CCC to CC and below	-	-	-	-	-	-	-
	16	Total		0.01	0.05	277	279	-	-	-
Bank	17	0.00 to <0.15 %	AAA to BBB	0.05	0.06	776	814	-	-	-
	18	0.15 to <0.25	BBB- to BB+	0.17	0.18	142	135	-	-	-
	19	0.25 to <0.50	BB to BB-	0.46	0.36	60	51	-	-	-
	20	0.50 to <0.75	B+	0.72	0.72	14	17	-	-	-
	21	0.75 to <2.50	B to B-	2.35	2.01	54	52	-	-	-
	22	2.50 to <10.00	CCC+	-	-	-	-	-	-	-
	23	10.00 to <100.00	CCC to CC and below	19.81	15.22	3	4	-	-	8.33
	24	Total		0.06 %	0.25 %	1,049	1,073	-	-	1.04 %

¹ Represents external rating equivalent at the end of the year.

² The Bank defines default as delinquency of 90 days or more for most retail products and BRR 9 for non-retail exposures.

IRB – Backtesting of Probability of Default (PD) per Portfolio – Retail (CR9)

LINE #	2019 Q4							
Residential Secured	PD range	Weighted average PD	Arithmetic PD average by Obligators	Number of obligors		Defaulted obligors in the year ¹	of which: new defaulted obligors in the year	Average historical annual default rate
Canadian Retail Insured				End of previous	End of the year			
1	0.00 to <0.15 %	0.05 %	0.04 %	428,258	389,593	132	–	0.03 %
2	0.15 to <0.25	0.19	0.19	61,342	57,501	113	1	0.15
3	0.25 to <0.50	0.32	0.35	61,702	55,989	184	1	0.27
4	0.50 to <0.75	0.52	0.62	22,860	20,291	78	1	0.38
5	0.75 to <2.50	1.27	1.31	31,972	29,811	274	–	0.80
6	2.50 to <10.00	5.70	4.91	12,054	11,321	383	–	3.03
7	10.00 to <100.00	27.33	24.20	2,748	2,691	309	–	11.59
8	Total	0.67	0.63	620,936	567,197	1,473	3	0.25
Canadian Retail Uninsured	0.00 to <0.15 %	0.05	0.04	677,583	715,344	127	2	0.02
9	0.15 to <0.25	0.19	0.19	93,125	106,342	125	2	0.12
11	0.25 to <0.50	0.31	0.34	83,842	81,986	141	3	0.19
12	0.50 to <0.75	0.52	0.61	26,904	26,228	84	3	0.32
13	0.75 to <2.50	1.23	1.27	36,302	38,618	240	4	0.75
14	2.50 to <10.00	5.69	4.74	10,966	12,008	359	3	3.56
15	10.00 to <100.00	28.59	25.58	2,116	2,376	272	–	13.48
16	Total	0.42	0.40	930,838	982,902	1,348	17	0.18
U.S. Retail Uninsured	0.00 to <0.15 %	0.06	0.06	122,266	120,618	46	1	0.04
17	0.15 to <0.25	0.19	0.19	25,361	26,049	32	–	0.10
18	0.25 to <0.50	0.32	0.35	26,888	25,452	39	–	0.20
19	0.50 to <0.75	0.52	0.61	10,686	10,314	30	2	0.36
20	0.75 to <2.50	1.31	1.28	21,829	20,284	144	–	0.73
21	2.50 to <10.00	5.81	4.78	8,627	7,534	222	3	2.98
22	10.00 to <100.00	23.14	21.76	3,966	3,297	339	5	11.32
23	Total	2.47 %	2.59 %	219,623	213,548	852	11	0.52 %
24								
Qualifying Revolving Retail (QRR)	0.00 to <0.15 %	0.04 %	0.05 %	10,652,327	11,478,294	6,524	4	0.05 %
25	0.15 to <0.25	0.19	0.20	1,609,646	1,862,025	3,400	–	0.18
26	0.25 to <0.50	0.32	0.36	2,133,523	2,366,766	7,256	23	0.31
27	0.50 to <0.75	0.52	0.62	1,203,002	1,221,237	6,762	152	0.49
28	0.75 to <2.50	1.49	1.48	3,736,213	3,980,345	44,900	1,118	1.11
29	2.50 to <10.00	5.60	4.90	3,522,154	3,663,999	158,966	9,424	4.08
30	10.00 to <100.00	26.71	30.48	1,381,700	1,466,847	327,886	175	21.03
31	Total	1.50	3.10	24,238,565	26,039,513	555,694	10,896	1.88
32								
Other Retail	0.00 to <0.15 %	0.07	0.07	718,453	742,984	582	1	0.08
33	0.15 to <0.25	0.20	0.20	354,053	361,652	549	15	0.17
34	0.25 to <0.50	0.35	0.33	496,921	457,285	1,383	17	0.29
35	0.50 to <0.75	0.53	0.61	253,247	264,469	1,354	100	0.50
36	0.75 to <2.50	1.50	1.41	906,551	926,434	9,966	552	1.01
37	2.50 to <10.00	5.71	4.83	499,673	556,414	19,112	1,203	3.71
38	10.00 to <100.00	26.45	23.70	162,957	174,876	26,162	897	16.74
39	Total	3.29 %	2.88 %	3,391,855	3,484,114	59,108	2,785	1.66 %
40								

¹ The Bank defines default as delinquency of 90 days or more for most retail products and BRR 9 for non-retail exposures.

Acronyms

Acronym	Definition	Acronym	Definition
AOCI	Accumulated Other Comprehensive Income	IRB	Internal Ratings-Based
BCBS	Basel Committee on Banking Supervision	N/A	Not Applicable
BRR	Borrower Risk Rating	N/M	Not Meaningful
CCF	Credit Conversion Factor	NVCC	Non-Viability Contingent Capital
CCR	Counterparty Credit Risk	OSFI	Office of the Superintendent of Financial Institutions Canada
CMHC	Canada Mortgage and Housing Corporation	OTC	Over-The-Counter
CRM	Credit Risk Mitigation	PFE	Potential Future Exposure
CSA	Credit Support Annex	QCCP	Qualifying Central Counterparty
D-SIBs	Domestic Systemically Important Banks	SA-CCR	Standardized Approach Counterparty Credit Risk
FSB	Financial Stability Board	SEC-ERBA	Securitization External Ratings-Based Approach
G-SIBs	Global Systemically Important Banks	SEC-IRBA	Securitization Internal Ratings-Based Approach
HELOCs	Home Equity Lines of Credit	SEC-SA	Securitization Standardized Approach
IAA	Internal Assessment Approach	SFTs	Securities Financing Transactions
IFRS	International Financial Reporting Standards	TLAC	Total Loss Absorbing Capacity
IMM	Internal Model Method	VaR	Value-at-Risk