

Supplementary Regulatory Capital Information

For the Quarter Ended – October 31, 2018

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BMO  **Financial Group**

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This report is unaudited and all amounts are in millions of Canadian dollars, unless otherwise indicated.

PILLAR 3 DISCLOSURE REQUIREMENTS

On April 20, 2017, the Office of the Superintendent of Financial Institutions (OSFI) released the final version of its guideline, Pillar 3 Disclosure Requirements, setting OSFI's expectations for domestic systemically important banks (D-SIBs) for the Revised Pillar 3 Disclosure Requirements issued by the Basel Committee on Banking Supervision in January 2015. We have adopted this guidance effective October 31, 2018.

The new Pillar 3 disclosures are prospective with comparative periods to be provided over future reporting periods. For prior period information, please refer to Q3 2018 and prior Supplementary Financial Information Packages.

Disclosures related to the Revised Basel Pillar 3 standard are detailed below.

Overview of risk management and risk-weighted assets (RWA)

OVA	Describe the bank's strategy and how senior management and the board of directors assess and manage risks, enabling users to gain a clear understanding of the bank's risk tolerance/appetite in relation to its main activities and all significant risks.
	2018 Annual Report: A description of the bank's risk management objectives and policies can be found in the Enterprise-Wide Capital Management and Enterprise-Wide Risk Management sections starting on pages 69 and 78 respectively, of the MD&A.

OV1	Provide an overview of total RWA forming the denominator of the risk-based capital requirements.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing the risk-weighted assets and capital requirements is provided on page 7.

Linkages between financial statements and regulatory exposures

LI1	Identify differences between accounting and regulatory scopes of consolidation and mapping of financial statement categories with regulatory risk categories.
	Q4 2018 Supplementary Regulatory Capital Information: A reconciliation of the accounting balance sheet to the regulatory balance sheet is provided on page 8.
LI2	Provide information on the main sources of differences between the financial statements' carrying value amounts and the exposure amounts used for regulatory purposes.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing the main sources of differences between regulatory exposure amounts and carrying values in the financial statements is provided on page 9.
LIA	Provide qualitative explanations on the differences observed between accounting carrying value and amounts considered for regulatory purposes under each regulatory framework.
	2018 Annual Report: A description of systems and controls to ensure that the valuation estimates are prudent and reliable can be found on page 118 of the MD&A and in Note 17 on pages 184 to 190 of the consolidated financial statements.
	Q4 2018 Supplementary Regulatory Capital Information: Explanations of differences between accounting and regulatory exposure amounts are provided on pages 8 and 9.

Credit Risk

CRA	Describe the main characteristics and elements of credit risk management (business model and credit risk profile, organization and functions involved in credit risk management, risk management reporting).
	2018 Annual Report: A description of the bank's risk management objectives and policies for credit risk can be found on pages 81 to 87 of the MD&A.
CR1	Provide a comprehensive picture of the credit quality of the bank's on- and off-balance sheet assets.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing credit quality of assets is provided on page 10.
CR2	Identify the changes in the bank's stock of defaulted exposures, the flows between non-defaulted and defaulted exposure categories and reductions in the stock of defaulted exposures due to write-offs.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing changes in stock of defaulted loans and debt securities is provided on page 10.
CRB	Supplement the quantitative templates with information on the credit quality of the bank's assets.
	2018 Annual Report: Additional qualitative disclosure related to the credit quality of assets, including information on our renegotiated loans, is provided in Note 4 on pages 157 to 164 of the consolidated financial statements.
	Q4 2018 Supplementary Regulatory Capital Information: Exposures by geographic area, industry and residual maturity are provided on pages 14 and 15.
	Q4 2018 Supplementary Financial Information: Impaired exposures and related allowances and write-offs are provided on pages 20 to 26.
	An ageing analysis of accounting past due exposures is provided on page 29.
CRC	Provide qualitative information on the mitigation of credit risk.
	2018 Annual Report: Credit risk mitigation (CRM) is described on pages 88 to 89 of the MD&A and in Notes 8 and 17 on pages 173 and 185, respectively, of the consolidated financial statements.
CR3	Disclose the extent of use of CRM techniques.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing an overview of CRM techniques is provided on page 10.
CRD	Supplement the information on the bank's use of the standardized approach with qualitative data on the use of external ratings.
	Q4 2018 Supplementary Regulatory Capital Information: Qualitative disclosures on the bank's use of external credit ratings under the standardized approach for credit risk is provided on page 11.
CR4	Illustrate the effect of CRM on the standardized approach capital requirements' calculations.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing standardized approach credit risk exposure and CRM effects is provided on page 11.
CR5	Present the breakdown of credit risk exposures under the standardized approach by asset class and risk weight.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing standardized approach credit risk exposures by asset class and risk weight is provided on page 11.
CRE	Provide additional information on internal rating based (IRB) models used to compute RWA.
	2018 Annual Report: Qualitative disclosures on the bank's use of IRB models are provided on pages 89 to 90 and pages 111 to 112 of the MD&A.
CR6	Provide main parameters used for the calculation of capital requirements for IRB models.
	Q4 2018 Supplementary Regulatory Capital Information: A table showing IRB credit risk exposures by portfolio and PD (Probability of Default) range is provided on page 12.

PILLAR 3 DISCLOSURE REQUIREMENTS CONTINUED

Credit Risk (continued)	
CR7	Illustrate the effect of credit derivatives on the IRB approach capital requirements' calculations. Q4 2018 Supplementary Regulatory Capital Information: A table showing the effect on RWA under the IRB approach of credit derivatives used for CRM is provided on page 13.
CR8	Present a flow statement explaining variations in the credit risk-weighted assets determined under an IRB approach. Q4 2018 Supplementary Regulatory Capital Information: A table showing a RWA flow statements of credit risk exposures under IRB is provided on page 13.
CR9	Provide backtesting data to validate the reliability of probability of default (PD) calculations. 2018 Annual Report: Qualitative information regarding the backtesting of IRB models is provided on pages 88 to 90 and page 112 of the MD&A. Q4 2018 Supplementary Regulatory Capital Information: A table showing the results of the IRB backtesting of PD per portfolio is provided on page 25.
CR10	Provide quantitative disclosures of the bank's specialized lending and equity exposures using the simple risk-weight approach. BMO does not use the simple risk-weight method for specialized lending and equity exposures.
Counterparty Credit Risk (CCR)	
CCRA	Describe the main characteristics of CCR management. 2018 Annual Report: Qualitative disclosure related to CCR is provided on pages 87 to 88. The amount of collateral to be posted in the event of a downgrade to the bank's current credit rating is provided on page 106 of the MD&A.
CCR1	Provide a comprehensive view of the methods used to calculate CCR regulatory requirements and the main parameters used within each method. Q4 2018 Supplementary Regulatory Capital Information: An analysis of CCR exposures by approach is provided on page 16.
CCR2	Provide the credit valuation adjustment (CVA) regulatory calculations with a breakdown by standardized and advanced approaches. Q4 2018 Supplementary Regulatory Capital Information: A table showing the CVA capital charge is provided on page 16.
CCR3	Provide a breakdown of CCR exposures calculated according to the standardized approach: by portfolio and by risk weight. Q4 2018 Supplementary Regulatory Capital Information: A table showing standardized approach CCR exposures by regulatory portfolio and risk weight is provided on page 17.
CCR4	Provide all relevant parameters used for the calculation of CCR capital requirements for IRB models. Q4 2018 Supplementary Regulatory Capital Information: A table showing IRB CCR exposures by portfolio and PD scale is provided on page 18.
CCR5	Provide a breakdown of all types of collateral posted or received by the bank to support or reduce the CCR exposures related to derivative transactions or to securities financing transactions (SFTs), including transactions cleared through a CCP. Q4 2018 Supplementary Regulatory Capital Information: Composition of collateral for CCR exposures is provided on page 19.
CCR6	Illustrate the extent of the bank's exposures to credit derivative transactions broken down between derivatives bought or sold. Q4 2018 Supplementary Regulatory Capital Information: A table showing credit derivatives exposures is provided on page 19.
CCR7	Present a flow statement explaining changes in CCR RWA determined under the Internal Model Method (IMM) for CCR. BMO does not use the IMM for measuring exposure at default for exposures subject to the CCR framework.
CCR8	Provide a comprehensive picture of the bank's exposures to central counterparties. Q4 2018 Supplementary Regulatory Capital Information: A table showing exposures to central counterparties is provided on page 20.
Securitization	
SECA	Provide qualitative information on the bank's strategy and risk management with respect to its securitization activities. 2018 Annual Report: Qualitative disclosures related to securitization exposures are provided on pages 76 and 89 of the MD&A and in Note 1 on page 148 and in Note 7 on pages 165 to 167 of the consolidated financial statements.
SEC1	Present the bank's securitization exposures in its banking book, including securitizations where the risk transference criteria has not been met. Q4 2018 Supplementary Regulatory Capital Information: A table showing securitization exposures in the banking book, including those that did not achieve risk transference, is provided on page 21.
SEC2	Present the bank's securitization exposures in its trading book. Q4 2018 Supplementary Regulatory Capital Information: A table showing securitization exposures in the trading book is provided on page 22.
SEC3	Present securitization exposures in the banking book when the bank acts as originator or sponsor and the associated capital requirements. Q4 2018 Supplementary Regulatory Capital Information: A table showing securitization exposures in the banking book and associated regulatory capital requirements (bank acting as originator or as sponsor) is provided on page 23.
SEC4	Present securitization exposures in the banking book when the bank acts as investor and the associated capital requirements. Q4 2018 Supplementary Regulatory Capital Information: A table showing securitization exposures in the banking book and associated regulatory capital requirements (bank acting as investor) is provided on page 23.
Market Risk	
	OSFI revised Pillar 3 market risk disclosure requirements allow for a continuation of the existing Basel 2.5 market risk disclosures until the implementation of the next phase of Pillar 3 disclosures in Canada. As a result, the bank's market risk disclosures continue to be based on Basel 2.5 disclosure requirements.
Operational Risk	
	Provide qualitative information on operational risk. 2018 Annual Report: Qualitative disclosures related to operational risk are provided on pages 109 to 110 of the MD&A.
Interest Rate Risk in the Banking Book (IRRBB)	
	Provide qualitative information on IRRBB and include quantitative disclosure on the structural balance sheet's interest rate sensitivity. 2018 Annual Report: Qualitative disclosures related to IRRBB are provided on pages 98 to 99 of the MD&A. Quantitative disclosures related to IRRBB are provided on page 99 of the MD&A.

BASEL III REGULATORY CAPITAL (All-in basis) (1) (2)									BMO Financial Group	
(\$ millions except as noted)		Cross reference (3)	2018 Q4	2018 Q3	2018 Q2	2018 Q1	2017 Q4	2017 Q3	2017 Q2	
Common Equity Tier 1 Capital: instruments and reserves										
1 Directly issued qualifying common share capital plus related stock surplus	a+b		13,229	13,226	13,230	13,326	13,339	13,349	13,379	
2 Retained earnings	c		25,856	24,909	24,119	23,902	23,709	23,183	22,703	
3 Accumulated other comprehensive income (and other reserves)	d		2,302	2,381	2,157	1,360	3,066	2,162	4,491	
6 Common Equity Tier 1 Capital before regulatory adjustments			41,387	40,516	39,506	38,588	40,114	38,694	40,573	
Common Equity Tier 1 Capital: regulatory adjustments										
7 Prudential valuation adjustments			203	149	146	112	107	103	99	
8 Goodwill (net of related tax liability)	e+p1-f		6,283	6,186	6,175	5,981	6,085	5,896	6,397	
9 Other intangibles other than mortgage-servicing rights (net of related tax liability)	g-h		1,978	1,920	1,893	1,826	1,800	1,777	1,844	
10 Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	i-j		907	972	976	1,011	1,405	1,313	1,456	
11 Cash flow hedge reserve	k		(1,074)	(885)	(768)	(746)	(182)	(191)	174	
12 Shortfall of provisions to expected losses	k1		-	-	-	-	-	-	-	
14 Gains or losses due to changes in own credit risk on fair valued liabilities (4)			(153)	(140)	(168)	(217)	(136)	(94)	(147)	
15 Defined benefit pension fund net assets (net of related tax liability)	l-m		522	626	459	456	402	286	195	
16 Investments in own shares (if not already netted off paid-in capital on reported balance sheet)	n		-	-	-	-	-	-	-	
22 Amount exceeding the 15% threshold										
23 of which: significant investments in the common stock financials	h1		-	-	-	-	-	-	-	
24 of which: mortgage servicing rights	j1		-	-	-	-	-	-	-	
25 of which: deferred tax assets arising from temporary differences	i1		-	-	-	-	-	-	-	
28 Total regulatory adjustments to Common Equity Tier 1 Capital			8,666	8,828	8,713	8,423	9,481	9,090	10,018	
29 Common Equity Tier 1 Capital (CET1)			32,721	31,688	30,793	30,165	30,633	29,604	30,555	
Additional Tier 1 Capital: instruments										
30 Directly issued qualifying Additional Tier 1 instruments plus related stock surplus	o1		4,050	3,650	3,650	3,650	3,650	3,650	3,250	
33 Directly issued capital instruments subject to phase out from Additional Tier 1 (5)	p		740	740	1,040	1,040	1,040	1,040	1,040	
34 Additional Tier 1 instruments (and CET1 instruments not otherwise included) issued by subsidiaries and held by third parties (amount allowed in group AT1)	s		-	-	-	-	-	-	-	
35 of which: instruments issued by subsidiaries subject to phase out			-	-	-	-	-	-	-	
36 Additional Tier 1 Capital before regulatory adjustments			4,790	4,390	4,690	4,690	4,690	4,690	4,290	
Additional Tier 1 Capital: regulatory adjustments										
37 Investments in own Additional Tier 1 instruments	n1		78	140	56	39	2	-	4	
40 Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions	t		213	213	213	213	213	213	213	
41 Other deductions from Tier 1 Capital as determined by OSFI			-	-	-	-	-	-	-	
41b of which: Valuation adjustment for less liquid positions			-	-	-	-	-	-	-	
43 Total regulatory adjustments applied to Additional Tier 1 Capital			291	353	269	252	215	213	217	
44 Additional Tier 1 Capital (AT1)			4,499	4,037	4,421	4,438	4,475	4,477	4,073	
45 Tier 1 Capital (T1 = CET1 + AT1)			37,220	35,725	35,214	34,603	35,108	34,081	34,628	
Tier 2 Capital: instruments and provisions										
46 Directly issued qualifying Tier 2 instruments plus related stock surplus	m1		6,639	5,468	5,511	5,442	3,976	4,011	3,258	
47 Directly issued capital instruments subject to phase out from Tier 2 Capital	u		143	150	116	1,021	1,053	1,852	1,860	
48 Tier 2 Capital instruments (and CET1 and AT1 instruments not included) issued by subsidiaries and held by third parties (amount allowed in group Tier 2 Capital)	v		-	-	-	-	-	-	-	
49 of which: instruments issued by subsidiaries subject to phase out			-	-	-	-	-	-	-	
50 General allowances (6)	w		235	231	222	273	509	476	603	
51 Tier 2 Capital before regulatory adjustments			7,017	5,849	5,849	6,736	5,538	6,339	5,721	
Tier 2 Capital: regulatory adjustments										
52 Investments in own Tier 2 instruments	q1		71	91	72	79	-	6	-	
55 Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions	x		50	50	50	50	50	50	50	
57 Total regulatory adjustments to Tier 2 Capital			121	141	122	129	50	56	50	
58 Tier 2 Capital (T2)			6,896	5,708	5,727	6,607	5,488	6,283	5,671	
59 Total Capital (TC = T1 + T2)			44,116	41,433	40,941	41,210	40,596	40,364	40,299	
60 Total Risk-Weighted Assets										
60a Common Equity Tier 1 (CET 1) Capital RWA (7)			289,237	277,506	273,011	270,577	269,466	264,819	270,791	
60b Tier 1 Capital RWA (7)			289,420	277,681	273,184	270,577	269,466	264,819	270,791	
60c Total Capital RWA (7)			289,604	277,857	273,357	270,577	269,466	264,819	270,791	
Capital Ratios										
61 Common Equity Tier 1 ratio (as percentage of risk-weighted assets)			11.3%	11.4%	11.3%	11.1%	11.4%	11.2%	11.3%	
62 Tier 1 ratio (as percentage of risk-weighted assets)			12.9%	12.9%	12.9%	12.8%	13.0%	12.9%	12.8%	
63 Total Capital ratio (as percentage of risk-weighted assets)			15.2%	14.9%	15.0%	15.2%	15.1%	15.2%	14.9%	
64 Buffer requirement (minimum CET1 requirement plus capital conservation buffer plus G-SIB buffer requirement plus D-SIB buffer requirement, expressed as a percentage of risk-weighted assets)			8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
65 of which: capital conservation buffer requirement			3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	
66 of which: bank specific countercyclical buffer requirement			0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
68 Common Equity Tier 1 available to meet buffers (as a % of risk weighted assets)			11.3%	11.4%	11.3%	11.1%	11.4%	11.2%	11.3%	
OSFI all-in target				8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
69 Common Equity Tier 1 all-in target ratio				8.0%	8.0%	8.0%	8.0%	8.0%	8.0%	
Amounts below the thresholds for deduction										
72 Non-significant investments in the capital of other financials	y - z		642	534	575	411	359	325	274	
73 Significant investments in the common stock of financials	a1		1,660	1,694	1,635	1,568	1,481	1,461	1,422	
74 Mortgage servicing rights (net of related tax liability)	b1		52	51	49	47	48	46	49	
75 Deferred tax assets arising from temporary differences (net of related tax liability)	c1 - d1		1,677	1,675	1,597	1,579	1,952	1,913	2,122	
Applicable caps on the inclusion of provisions in Tier 2										
76 Provisions eligible for inclusion in Tier 2 in respect of exposures subject to standardized approach (prior to application of cap)			208	204	204	204	221	216	245	
77 Cap on inclusion of provisions in Tier 2 under standardized approach			208	204	204	204	221	216	245	
78 Provisions eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings based approach (prior to application of cap)			1,277	1,270	1,255	1,237	1,516	1,483	1,605	
79 Cap on inclusion of provisions in Tier 2 under internal ratings-based approach			27	27	18	69	287	260	357	
Capital instruments subject to phase-out arrangements (only applicable between 1 Jan 2013 and 1 Jan 2022)										
82 Current cap on AT1 instruments subject to phase out arrangements	e1 + f1		1,729	1,729	1,729	1,729	2,161	2,161	2,161	
83 Amounts excluded from AT1 due to cap (excess over cap after redemptions and maturities)			-	-	-	-	-	-	-	
84 Current cap on T2 instruments subject to phase out arrangements			2,054	2,054	2,054	2,054	2,567	2,567	2,567	
85 Amounts excluded from T2 due to cap (excess over cap after redemptions and maturities)			-	-	-	-	-	-	-	

(1) "All-in" regulatory capital assumes that all Basel III regulatory adjustments are applied effective January 1, 2013 and that the capital value of instruments which no longer qualify as regulatory capital under Basel III rules will be phased out at a rate of 10% per year from January 1, 2013 and continuing to January 1, 2022.

(2) Row numbering, as per OSFI July 2013 advisory, is provided for consistency and comparability in the disclosure of elements of capital among banks and across jurisdictions. Banks are required to maintain the same row numbering per OSFI advisory, however certain rows are removed because there are no values in such rows.

(3) Cross reference to Consolidated Balance Sheet under regulatory scope (page 4).

(4) For regulatory capital purposes only. Not included in consolidated balance sheet.

(5) \$450MM capital trust securities that are deconsolidated under IFRS but still qualify as Additional Tier 1 Capital are included in line 33.

(6) Prior to Q1 2018, this was Collective allowances. OSFI uses the term General allowances in its guidance dealing with IFRS 9.

(7) Under OSFI's Capital Adequacy Requirements (CAR) Guideline, which governs advanced approaches, the bank calculates a Basel Capital Floor and increases its risk-weighted assets to the extent such floor applies.

CONSOLIDATED BALANCE SHEET

(\$ millions except as noted)	LINE	Balance sheet as in Report to Shareholders		Under regulatory scope of consolidation (1)	Cross Reference (2)	(\$ millions except as noted)	LINE	Balance sheet as in Report to Shareholders		Under regulatory scope of consolidation (1)	Cross Reference (2)
		#	Q4 2018					Q4 2018	Q4 2018		
Assets											
Cash and Cash Equivalents	1	42,142	42,113				38	522,051	522,051		
Interest Bearing Deposits with Banks	2	8,305	8,299								
Securities	3	180,935	172,612				39	24,411	24,230		
Investments in own shares CET1 (if not already netted off paid-in capital on reported balance sheet)	4		-	n			40	18,585	18,585		
Investments in own Additional Tier 1 instruments not derecognized for accounting purposes	5		78	n1			41	28,804	28,804		
Investments in own Tier 2 instruments not derecognized for accounting purposes	6		71	q1			42		21,129		z
Non-significant investments in the capital of other financials below threshold (3)	7		21,771	y			43	66,684	66,684		
Significant investments in deconsolidated subsidiaries and other financial institutions (4)	8		1,923	t+x+a1			44	25,051	25,051		
Significant investments in capital of other financial institutions reflected in regulatory capital							45	50	50		
Amount exceeding the 15% threshold	9		-	h1			46	74	71		
Significant investment in common stock of financials below threshold	10		462				47		179	f	
Goodwill embedded in significant investments	11		89	p1			48		294	h	
Securities Borrowed or Purchased Under Resale Agreements	12	85,051	85,051				49		143	j	
Loans							50		147	m	
Residential mortgages	13	119,620	119,620				51		265	d1	
Consumer installment and other personal	14	63,225	63,225				52	35,829	26,251		
Credit cards	15	8,329	8,329								
Business and governments	16	194,456	194,239				53		-		
Allowance for credit losses	17	(1,639)	(1,638)				54		-		
Allowance reflected in Tier 2 regulatory capital	18		235	w			55		-	v	
Shortfall of provisions to expected loss	19		-	k1			56	199,488	189,726		
Total net loans and acceptances	20	383,991	383,775								
Other Assets											
Derivative instruments	21	26,204	26,201				57	6,782	6,782		
Customers' liability under acceptances	22	18,585	18,585				58		6,639	m1	
Premises and equipment	23	1,986	1,834				59		143		
Goodwill	24	6,373	6,373	e			60		-		
Intangible assets	25	2,272	2,272	g			61		-		
Current tax assets	26	1,515	1,483				62		143		
Deferred tax assets (5)	27	2,037	2,037				63		-		
Deferred tax assets excluding those arising from temporary differences	28		1,050	i			64		143	u	
Deferred tax assets arising from temporary differences	29		1,942	c1							
of which Deferred tax assets arising from temporary differences below the threshold	30		1,942								
of which amount exceeding 15% threshold	31		-	i1							
Other	32	14,652	13,651								
Defined-benefit pension fund net assets	33		669	l							
Mortgage servicing rights	34		52								
of which Mortgage servicing rights under the threshold	35		52	b1							
of which amount exceeding the 15% threshold	36		-	j1							
Total Assets	37	774,048	764,286				79	774,048	764,286		
(1) Balance sheet under regulatory scope does not include the following entities: BMO Life Insurance Company and BMO Reinsurance Limited. BMO Life Insurance Company (\$9,385 million assets and nominal equity) covers the development and marketing of individual and group life, accident and health insurance and annuity products in Canada. BMO Reinsurance Limited (\$377 million assets and nominal equity) covers the reinsurance of life, health and disability insurance risks as well as property & casualty insurance risks, including catastrophe risks. The business reinsured is written by insurers and reinsurers principally in North America and Europe.											
(2) Cross Reference to Basel III Regulatory Capital (All-in basis) (page 3).											
(3) Includes synthetic holdings of non-significant capital investments in banking, financial and insurance entities.											
(4) Under Basel III, significant investments in financial services entities that are outside the scope of regulatory consolidation are deducted from a bank's capital using the corresponding deduction approach (e.g. investments in non-common Tier 1 are deducted from a bank's non-common Tier 1 capital) except that investments in common equity capital of a significant investment which represents less than 10% of the bank's CET1 are risk weighted at 250% and are not deducted provided the sum of such investments, deferred tax assets related to timing differences and mortgage servicing rights are less than 15% of the Bank's CET1. Goodwill embedded in significant investments is separated and is shown in the corresponding line below.											
(5) Deferred tax assets and liabilities are presented on the balance sheet net by legal jurisdiction.											

SUMMARY COMPARISON OF ACCOUNTING ASSETS VS. LEVERAGE RATIO EXPOSURE MEASURE (1)
(\$ millions except as noted)

BMO  Financial Group

Item		2018 Q4	2018 Q3	2018 Q2	2018 Q1
1	Total consolidated assets as per published financial statements	774,048	765,318	743,569	727,909
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(9,757)	(9,480)	(9,175)	(9,094)
3	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	-	-	-	-
4	Adjustments for derivative financial instruments	3,761	1,506	1,775	(5,606)
5	Adjustment for securities financing transactions (i.e. repo assets and similar secured lending)	8,347	3,069	2,930	6,694
6	Adjustment for off-balance sheet items (i.e. credit equivalent amounts of off-balance sheet exposures)	108,817	102,792	101,147	97,832
7	Other adjustments	(9,110)	(9,320)	(9,152)	(8,892)
8	Leverage Ratio Exposure	876,106	853,885	831,094	808,843

LEVERAGE RATIO COMMON DISCLOSURE (1)

(\$ millions except as noted)

Item		Leverage ratio framework				
		2018 Q4	2018 Q3	2018 Q2	2018 Q1	
On-balance sheet exposures						
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures but including collateral)	653,039	629,354	613,128	603,873	
2	(Asset amounts deducted in determining Basel III Tier 1 capital)	(9,110)	(9,320)	(9,152)	(8,892)	
3	Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of lines 1 and 2)	643,929	620,034	603,976	594,981	
Derivative exposures						
4	Replacement cost associated with all derivative transactions (i.e., net of eligible cash variation margin)	6,515	6,169	7,332	6,067	
5	Add-on amounts for PFE associated with all derivative transactions	27,114	23,943	24,214	23,736	
6	Gross up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	-	-	-	-	
7	(Deductions of receivables assets for cash variation margin provided in derivative transactions)	(2,624)	(3,050)	(2,436)	(3,217)	
8	(Exempted CCP-leg of client cleared trade exposures)	(1,044)	(751)	(751)	(444)	
9	Adjusted effective notional amount of written credit derivatives	1,200	142	123	116	
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	(1,200)	(142)	(123)	(116)	
11	Total derivative exposures (sum of lines 4 to 10)	29,961	26,311	28,359	26,142	
Securities financing transaction exposures						
12	Gross SFT assets recognised for accounting purposes (with no recognition of netting), after adjusting for sale accounting transactions	95,159	103,311	95,313	88,298	
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(7,675)	(3,591)	(3,636)	(4,455)	
14	Counterparty credit risk (CCR) exposure for SFTs	5,914	5,028	5,935	6,045	
15	Agent transaction exposures	-	-	-	-	
16	Total securities financing transaction exposures (sum of lines 12 to 15)	93,398	104,748	97,612	89,888	
Other off-balance sheet exposures						
17	Off-balance sheet exposure at gross notional amount	343,144	326,819	322,633	312,044	
18	(Adjustments for conversion to credit equivalent amounts)	(234,326)	(224,027)	(221,486)	(214,212)	
19	Off-balance sheet items (sum of lines 17 and 18)	108,818	102,792	101,147	97,832	
Capital and Total Exposures						
20	Tier 1 capital	37,220	35,725	35,214	34,603	
21	Total Exposures (sum of lines 3, 11, 16 and 19)	876,106	853,885	831,094	808,843	
Leverage Ratios						
22	Basel III leverage ratio		4.2%	4.2%	4.2%	4.3%

(1) Pursuant to revision by OSFI to the "Public Disclosure Requirements related to Basel III Leverage Ratio" published in December 2017, effective Q1 2018, the information is on an all-in basis only.

COMMON EQUITY TIER 1 (CET 1) CAPITAL RISK-WEIGHTED ASSETS BY OPERATING GROUPS
 BMO Financial Group

(\$ millions except as noted)	LINE	2018	2018	2018	2018	2017	2017
	#	Q4	Q3	Q2	Q1	Q4	Q3
Personal and Commercial Banking	1	178,313	173,039	170,545	163,039	165,005	160,839
Wealth Management	2	19,069	18,560	17,538	16,778	16,276	16,170
BMO Capital Markets	3	80,606	74,663	73,875	69,296	68,131	68,023
Corporate Services, including Technology and Operations, plus excess of Basel Capital Floor RWA over Basel III RWA	4	11,249	11,244	11,053	21,464	20,054	19,787
Total Common Equity Tier 1 Capital Risk-Weighted Assets	5	289,237	277,506	273,011	270,577	269,466	264,819

FLOW STATEMENT OF BASEL III REGULATORY CAPITAL

(\$ millions except as noted)	2018	2018	2018	2018	2017	2017
	Q4	Q3	Q2	Q1	Q4	Q3
Common Equity Tier 1 Capital						
Opening Balance	6	31,688	30,793	30,165	30,633	29,604
New capital issues	7	26	18	7	48	9
Redeemed capital	8	(107)	(102)	(488)	(294)	(91)
Gross dividends (deduction)	9	(657)	(664)	(642)	(645)	(631)
Profit for the quarter (attributable to shareholders of the parent company)	10	1,695	1,536	1,246	973	1,227
Removal of own credit spread (net of tax)	11	13	(28)	(48)	80	42
Movements in other comprehensive income						
– Currency Translation Differences	12	241	102	878	(959)	814
– Fair value through other comprehensive income securities (1)	13	(71)	9	(128)	(126)	(19)
– Other (2)	14	(60)	230	69	(2)	71
Goodwill and other intangible assets (deduction, net of related tax liability)	15	(155)	(37)	(262)	78	(212)
Other, including regulatory adjustments and transitional arrangements						
– Deferred tax assets that rely on future profitability (excluding those arising from temporary differences)	16	(65)	4	35	394	(92)
– Prudential Valuation Adjustments	17	(55)	(3)	(34)	(5)	(4)
– Other (3)	18	228	(170)	(5)	(10)	(114)
Closing Balance	19	32,721	31,688	30,793	30,165	30,633
Other non-core Tier 1 (Additional Tier 1) Capital						
Opening Balance	20	4,037	4,421	4,438	4,475	4,477
New non-core tier 1 (Additional Tier 1) eligible capital issues	21	400	–	–	–	400
Redeemed capital	22	–	(300)	–	–	–
Other, including regulatory adjustments and transitional arrangements (4)	23	62	(84)	(17)	(37)	(2)
Closing Balance	24	4,499	4,037	4,421	4,438	4,475
Total Tier 1 Capital	25	37,220	35,725	35,214	34,603	35,108
Tier 2 Capital						
Opening Balance	26	5,708	5,727	6,607	5,488	6,283
New Tier 2 eligible capital issues	27	1,119	–	–	1,538	–
Redeemed capital	28	–	–	(900)	–	(800)
Amortization adjustments	29	–	–	–	–	–
Other, including regulatory adjustments and transitional arrangements (5)	30	69	(19)	20	(419)	5
Closing Balance	31	6,896	5,708	5,727	6,607	5,488
Total Regulatory Capital	32	44,116	41,433	40,941	41,210	40,596

(1) Q4 2017 and prior periods represent available-for-sale securities.

(2) Includes: AOCI on pension and other post-employment benefits and on own credit risk financial liabilities designated at fair value.

(3) Includes: Capital deductions for expected loss in excess of allowances, defined benefit pension assets (net of related deferred tax liability) and investment in own shares, changes in contributed surplus and threshold deductions.

(4) Includes: Corresponding deductions from Additional Tier 1 Capital and transitional arrangements (phased-out amount).

(5) Includes: Eligible allowances, transitional arrangements (phased-out amount) and corresponding deductions from Tier 2 Capital.

OV1 - OVERVIEW OF RWA

(\$ millions)	RWA (1)			Minimum capital requirements
	Q4 2018		Q3 2018	Q4 2018
	a	b	c	
1 Credit risk (excluding counterparty credit risk (CCR))	215,193	207,683	17,215	
2 Of which standardized approach (SA)	39,288	38,071	3,143	
3 Of which internal rating-based (IRB) approach	175,905	169,612	14,072	
4 Counterparty credit risk	13,481	12,978	1,079	
5 Of which standardized approach for counterparty credit risk (SA-CCR)	-	-	-	
6 Of which internal model method (IMM)	-	-	-	
6a Of which current exposure method (CEM)	4,746	4,439	380	
6b Of which comprehensive approach for credit risk mitigation (for SFTs)	3,171	3,236	254	
6c Of which CVA capital charge	4,900	4,684	392	
6d Of which exposures to QCCP	664	619	53	
7 Equity positions in banking book under market-based approach	-	-	-	
8 Equity investments in funds – look-through approach	87	98	7	
9 Equity investments in funds – mandate-based approach	731	619	58	
10 Equity investments in funds – fall-back approach	118	110	9	
11 Settlement risk	15	12	1	
12 Securitization exposures in banking book	2,404	2,072	192	
13 Of which IRB ratings-based approach (RBA)	544	279	44	
14 Of which IRB Supervisory Formula Approach (SFA)	1,860	1,793	148	
15 Of which SA/simplified supervisory formula approach (SSFA)	-	-	-	
16 Market risk	13,532	11,097	1,083	
17 Of which standardized approach (SA) (2)	258	39	21	
18 Of which internal model approaches (IMM)	13,274	11,058	1,062	
19 Operational risk	35,205	34,284	2,817	
20 Of which Basic Indicator Approach	49	48	4	
21 Of which Standardized Approach	2,019	1,977	162	
22 Of which Advanced Measurement Approach	33,137	32,259	2,651	
23 Amounts below the thresholds for deduction (subject to 250% risk weight)	8,471	8,553	678	
24 Floor adjustment (3)	-	-	-	
25 Total	289,237	277,506	23,139	

RWA increased \$11.7B due to business growth, including the acquisition of KGS-ALPHA and the impact of foreign exchange movements, partially offset by positive book quality changes.

RWA CVA PHASE-IN CALCULATION (4)	LINE #	CVA (A)	OSFI Scalars (B)	Q4 2018			
				Total RWA Before CVA phase-in (C)	CVA phase-in Adjustments (D)=A*(100%-B)	Adjustment for Capital Floor (E)	RWA Net CVA phase-in (F)=C-D+E
Common Equity Tier 1 (CET 1) Capital RWA	1	6,124	80%	290,462	1,225	-	289,237
Tier 1 Capital RWA	2	6,124	83%	290,462	1,042	-	289,420
Total Capital RWA	3	6,124	86%	290,462	858	-	289,604

CAPITAL RATIOS FOR SIGNIFICANT BANK SUBSIDIARIES	LINE #	2018 Q4	2018 Q3	2018 Q2	2018 Q1
Bank of Montreal Mortgage Corporation - Basel III					
All-in Basis - Basel III (5)					
Common Equity Tier 1 ratio	4	21.6%	21.8%	23.5%	20.3%
Tier 1 ratio	5	21.6%	21.8%	23.5%	20.3%
Total capital ratio	6	22.1%	22.3%	24.1%	20.7%
BMO Harris Bank N.A. - Basel III (6)					
Tier 1 ratio	7	12.5%	12.5%	12.8%	12.8%
Total capital ratio	8	13.7%	13.7%	14.0%	14.0%

- (1) The scaling factor is applied to the risk-weighted asset amounts as applicable.
- (2) Standardized approach market risk RWA reflects specific interest rate risk on securitization positions.
- (3) Under OSFI's Capital Adequacy Requirements (CAR) Guideline, which governs advanced approaches, the bank calculates a Capital Floor and may be required to increase its risk-weighted assets if the Capital Floor applies. Effective Q2 2018, OSFI implemented the Basel II Capital Floor. Based on these requirements, there was no capital floor applicable for Q4 2018 and Q3 2018.
- (4) Commencing Q1 2014, a new CVA regulatory capital charge has been applied to derivatives. For Q3 2014, OSFI introduced a new three tier capital approach with different scalars for each tier. See above for calculation and scalars' percentages. CET1 CVA phase-in factors are 64% in 2016, 72% in 2017 and 80% in 2018.
- (5) All-in capital ratios assume that all Basel III regulatory adjustments are applied effective January 1, 2013 and that the capital value of instruments which no longer qualify as regulatory capital under Basel III rules will be phased out at a rate of 10% per year from January 1, 2013, continuing to January 1, 2022.
- (6) Calculated using U.S. Basel III guidelines currently in effect for U.S. regulatory purposes and based on BMO Harris N.A.'s calendar quarter ends: September 2018, June 2018, March 2018, and December 2017.

LI1 - DIFFERENCES BETWEEN ACCOUNTING AND REGULATORY SCOPES OF CONSOLIDATION AND MAPPING OF FINANCIAL STATEMENTS WITH REGULATORY RISK CATEGORIES

(\$ millions)	LINE #	Q4 2018						
		Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation (1)	Carrying values of items:				
				Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	Not subject to capital requirements or subject to deduction from capital
		a	b	c	d	e	f	g
ASSETS								
Cash and Cash Equivalents	1	42,142	42,113	40,939	1,174	-	-	-
Interest Bearing Deposits with Banks	2	8,305	8,299	8,218	-	-	81	-
Securities	3	180,935	172,612	71,806	-	872	99,544	390
Securities Borrowed or Purchased Under Resale Agreements	4	85,051	85,051	-	85,051	-	-	-
Loans								
Residential mortgages	6	119,620	119,620	118,508	-	1,079	-	33
Consumer instalment and other personal	7	63,225	63,225	61,219	-	48	-	1,958
Credit cards	8	8,329	8,329	2,470	-	1,873	-	3,986
Businesses and governments	9	194,456	194,239	184,968	2,341	6,930	-	-
Allowance for credit losses	10	(1,639)	(1,638)	(1,465)	-	(173)	-	-
Other Assets								
Derivative instruments	11	26,204	26,201	-	26,201	-	24,401	-
Customers' liability under acceptances	12	18,585	18,585	18,585	-	-	-	-
Premises and equipment	13	1,986	1,834	1,834	-	-	-	-
Goodwill	14	6,373	6,373	-	-	-	-	6,373
Intangible assets	15	2,272	2,272	-	-	-	-	2,272
Current tax assets	16	1,515	1,483	1,483	-	-	-	-
Deferred tax assets	17	2,037	2,037	1,677	-	-	-	360
Other Total	18	14,652	13,651	12,829	-	-	153	669
Total assets	19	774,048	764,286	523,071	114,767	10,629	124,179	16,041
LIABILITIES								
Deposits	20	522,051	522,051	-	-	-	15,309	506,742
Other Liabilities								
Derivative instruments	21	24,411	24,230	-	24,230	-	21,380	-
Acceptances	22	18,585	18,585	-	-	-	-	18,585
Securities sold but not yet purchased	23	28,804	28,804	-	-	-	28,804	-
Securities lent or sold under repurchase agreements	24	66,684	66,684	-	66,684	-	-	-
Securitization and liabilities related to structured entities	25	25,051	25,051	-	-	-	-	25,051
Current tax liabilities	26	50	50	-	-	-	-	50
Deferred tax liabilities	27	74	71	-	-	-	-	71
Other	28	35,829	26,251	-	-	-	-	26,251
Subordinated Debt	29	6,782	6,782	-	-	-	-	6,782
Total liabilities	30	728,321	718,559	-	90,914	-	65,493	583,532

(1) Balance sheet under regulatory scope does not include the following entities: BMO Life Insurance Company and BMO Reinsurance Limited. BMO Life Insurance Company (\$9,385 million assets and nominal equity) covers the development and marketing of individual and group life, accident and health insurance and annuity products in Canada. BMO Reinsurance Limited (\$377 million assets and nominal equity) covers the reinsurance of life, health and disability insurance risks as well as property & casualty insurance risks, including catastrophe risks. The business reinsured is written by insurers and reinsurers principally in North America and Europe.

LI2 - MAIN SOURCES OF DIFFERENCES BETWEEN REGULATORY EXPOSURE AMOUNTS AND CARRYING VALUES IN FINANCIAL STATEMENTS

(\$ millions)	Q4 2018				
	Total	Items subject to:			
		Credit risk framework	Counterparty credit risk framework	Securitization framework	Market risk framework
	a	b	c	d	e
1 Asset carrying value amount under scope of regulatory consolidation (as per template LI1) (1)	748,245	523,071	114,767	10,629	124,179
2 Liabilities carrying value amount under regulatory scope of consolidation (as per template LI1) (1)	135,027	-	90,914	-	65,493
3 Total net amount under regulatory scope of consolidation	613,218	523,071	23,853	10,629	58,686
4 Off-balance sheet amounts	232,812	162,545	57,019	13,248	-
5 Differences due to different netting rules, other than those already included in row 2	8,162	-	8,162	-	-
6 Differences due to consideration of provisions	1,922	1,749	-	173	-
7 Exposures related to liability repo-style transactions	133,367	-	133,367	-	-
8 Potential future exposure on derivatives	26,958	-	26,958	-	-
9 Differences due to consideration of CRM	(186,443)	(64)	(185,923)	(456)	-
10 Exposure amounts considered for regulatory purposes (2)	829,996	687,301	63,436	23,594	58,686

(1) Carrying value under scope of regulatory consolidation (column b from LI1) less amounts not subject to capital requirements or subject to capital deduction from capital (column g from LI1).
(2) Exposure amounts considered for regulatory purposes represent the exposure at default amounts post-CRM and post-CCF, with the exception of the Market Risk framework that is reported at accounting carrying value.

Commentary

The table above illustrates the main sources of differences between the financial statements' carrying value amounts and the exposure at default post-CRM and post-CCF used for regulatory purposes.

Off-balance sheet amounts include credit exposures on committed undrawn amounts of loans and other off-balance sheet arrangements, other than derivatives, such as undrawn commitments related to Standby Letters of Credit and Documentary Credits.

Differences due to different netting rules relate to the grossing up of derivatives to reflect legally enforceable bilateral netting arrangement recognized for regulatory capital purposes.

Differences due to consideration of provisions relate to the re-inclusion of general and specific provisions in the carrying amount of exposures in the AIRB approach.

Exposures related to liability repo-style transactions relate to the grossing up of liability repo-style transactions.

Potential future exposure consists of the add-on factors for the expected volatility of the price, rate or index underlying derivative instruments.

Differences due to consideration of CRM consist of the application of credit risk mitigation techniques to arrive at the net exposure at default in accordance with OSFI's Capital Adequacy Requirements Guidelines, Chapter 5, Credit Risk Mitigation.

CR1 - CREDIT QUALITY OF ASSETS (1)

(\$ millions)	LINE #	Q4 2018			
		Gross carrying values of		Allowances / impairments	Net values (a + b - c)
		Defaulted exposures (2) (3)	Non-defaulted exposures		
Loans	1	2,038	383,712	1,465	384,285
Debt securities	2	-	67,599	2	67,597
Off-balance sheet exposures	3	241	154,558	229	154,570
Total	4	2,279	605,869	1,696	606,452

CR2 - CHANGES IN STOCK OF DEFAULTED LOANS AND DEBT SECURITIES (3) (4)

(\$ millions)	1 Defaulted loans and debt securities at end of the previous financial reporting period	Q4 2018	
		a	
1	2,169		
2 Loans and debt securities that have defaulted since the last reporting period	417		
3 Returned to non-defaulted status	(174)		
4 Amounts written off	(191)		
5 Other charges	(183)		
6 Defaulted loans and debt securities at end of the reporting period	2,038		

CR3 - CREDIT RISK MITIGATION TECHNIQUES - OVERVIEW (1) (3) (5) (6) (7)

(\$ millions)	1 Loans	Q4 2018				
		Unsecured exposures: carrying amount	Exposures to be secured	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
		a	b1	b	d	f
2	2	325,209	59,076	-	50,801	22
3 Total	3	67,597	-	-	-	-
4 Of which: defaulted	4	392,806	59,076	-	50,801	22
		1,513	155	-	149	-

(1) Excludes positions subject to counterparty credit risk and securitization regulatory frameworks.

(2) Exposures are considered to be in default when they are 90 days past due with the following exceptions: (i) credit card loans which are immediately written off when principal or interest payments are 180 days past due; and (ii) residential mortgages guaranteed by the Government of Canada that are less than one year past due.

(3) There are no defaulted debt securities.

(4) Defaulted balances exclude off-balance sheet exposures.

(5) Secured exposures include exposures where credit risk mitigation techniques are used to reduce capital requirement in accordance with OSFI's Capital Adequacy Requirements Guideline, Chapter 5, Credit Risk Mitigation.

Where collateral is reflected in the risk parameters (PDs and LGDs) for AIRB exposures and risk weights for exposures under standardized approach, the carrying amount is reported as an unsecured exposure.

(6) Loans and Debt Securities balances are net of allowance for credit losses on performing loans and impaired loans (excluding those related to off-balance sheet instruments and undrawn commitments).

(7) Defaulted balances are net of allowance for credit losses on impaired loans, excluding off-balance sheet instruments and undrawn commitments.

CR4 - STANDARDIZED APPROACH - CREDIT RISK EXPOSURE AND CREDIT RISK MITIGATION (CRM) EFFECTS (1) (2)



(\$ millions)

Asset classes	Q4 2018					
	Exposures before CCF and CRM		Exposures post CCF and CRM		RWA and RWA density	
	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
a	b	c	d	e	f	
1 Sovereigns and their central banks	12	7	12	3	-	0.00%
2 Non-central government public sector entities	150	23	150	12	32	20.00%
3 Multilateral development banks	-	-	-	-	-	0.00%
4 Banks	59	207	59	80	28	20.00%
5 Securities firms	7	51	7	18	5	20.00%
6 Corporates	16,450	8,850	16,450	3,450	19,722	99.11%
7 Regulatory retail portfolios	9,131	3,923	9,131	4	6,687	73.19%
8 Secured by residential property	4,408	192	4,408	74	1,728	38.54%
9 Secured by commercial real estate	694	128	694	62	756	100.00%
10 Equity	1,749	290	1,749	145	1,153	60.88%
11 Defaulted exposures	468	26	468	11	647	135.12%
12 Higher-risk categories (3)	96	129	96	65	241	150.00%
13 Other assets	8,800	-	8,800	-	8,289	94.20%
14 Total	42,024	13,826	42,024	3,924	39,288	85.51%

CR5 - STANDARDIZED APPROACH - EXPOSURES BY ASSET CLASSES AND RISK WEIGHTS (1) (2) (4)

(\$ millions)

Asset classes	Q4 2018										Total credit exposures amount (post CCF and post-CRM)	
	Risk Weight											
	0%	10%	20%	35%	50%	75%	100%	150%	Others			
a	b	c	d	e	f	g	h	i	j			
1 Sovereigns and their central banks	15	-	-	-	-	-	-	-	-	-	15	
2 Non-central government public sector entities	-	-	162	-	-	-	-	-	-	-	162	
3 Multilateral development banks	-	-	-	-	-	-	-	-	-	-	-	
4 Banks	-	-	139	-	-	-	-	-	-	-	139	
5 Securities firms	-	-	25	-	-	-	-	-	-	-	25	
6 Corporates	-	-	212	-	17	-	19,671	-	-	-	19,900	
7 Regulatory retail portfolios	409	-	-	-	-	8,165	561	-	-	-	9,135	
8 Secured by residential property	-	-	10	4,072	-	398	2	-	-	-	4,482	
9 Secured by commercial real estate	-	-	-	-	-	-	756	-	-	-	756	
10 Equity	476	-	413	-	-	-	1,005	-	-	-	1,894	
11 Defaulted exposures	-	-	16	-	-	-	102	361	-	-	479	
12 Higher-risk categories (3)	-	-	-	-	-	-	-	161	-	-	161	
13 Other assets	2,430	-	1,404	-	-	-	4,701	-	265	-	8,800	
14 Total	3,330	-	2,381	4,072	17	8,563	26,798	522	265	-	45,948	

(1) Credit risk excludes Counterparty Credit Risk, Securitization, Equity Investment in Funds, Settlement risk and amounts below the thresholds for deduction subject to 250% risk weight.

(2) Exposure amounts are net of stage 3 allowance for credit losses.

(3) Non-defaulted exposures with risk weights equal to 150% (e.g. rated BB- or lower).

(4) Credit assessments by external credit rating agencies, including S&P and Moody's, are used to determine standardized risk weights based on guidelines issued by OSFI.

CR6 - IRB - CREDIT EXPOSURE BY PORTFOLIO AND PD RANGE (1) (2) (8)

Risk Profile	BMO Rating	PD Scale (%)	Moody's Investors Service Implied equivalent	Standard & Poor's implied equivalent	LINE #	Q4 2018												
						Original on-balance sheet gross exposure	Off-balance sheet exposures pre-CCF	Average CCF (3)	EAD post CRM and post-CCF	Average PD (4)	Number of obligors	Average LGD (6)	Average maturity (years) (7)	RWA	RWA density	EL	Provisions (9)	
						a	b	c	d	e	f	g	h	i	j	k	l	
Canadian insured residential					1	33,381	-	0.00 %	47,203	0.00 %	150,223	25.24 %	-	339	0.72 %	-	-	
Exceptionally low to Very low		0.00 to <0.15			2	-	-	0.00 %	-	0.00 %	-	0.00 %	-	-	0.00 %	-	-	
Very low to Low		0.15 to <0.25			3	-	-	0.00 %	-	0.00 %	-	0.00 %	-	-	0.00 %	-	-	
Low		0.25 to <0.50			4	8,616	-	0.00 %	-	0.00 %	-	18,313	0.00 %	-	0.00 %	-	-	
Medium		0.50 to <0.75			5	2,660	-	0.00 %	-	0.00 %	-	7,200	0.00 %	-	0.00 %	-	-	
Medium to High		0.75 to <2.50			6	2,218	-	0.00 %	-	0.00 %	-	6,803	0.00 %	-	0.00 %	-	-	
High		2.50 to <10.00			7	186	-	0.00 %	-	0.00 %	894	0.00 %	-	0.00 %	-	-	-	
Default		10.00 to <100.00			8	142	-	0.00 %	-	0.00 %	729	0.00 %	-	0.00 %	-	-	-	
Sub-total		100.00 (Default)			9	47,203	-	-	47,203	-	184,162	-	-	339	-	-	-	-
Canadian uninsured residential																		-
Exceptionally low to Very low		0.00 to <0.15			10	48,826	25,187	39.75 %	56,839	0.07 %	385,333	16.20 %	1,758	3.00 %	7			
Very low to Low		0.15 to <0.25			11	7,407	1,461	25.23 %	7,776	0.16 %	50,396	17.31 %	529	6.81 %	2			
Low		0.25 to <0.50			12	-	-	0.00 %	-	0.00 %	-	0.00 %	-	0.00 %	-	-	-	-
Medium		0.50 to <0.75			13	10,309	23	71.83 %	10,326	0.60 %	40,602	14.75 %	1,419	13.74 %	9			
Medium to High		0.75 to <2.50			14	6,848	576	20.29 %	6,965	1.24 %	34,761	15.71 %	1,654	23.75 %	13			
High		2.50 to <10.00			15	4,198	29	23.31 %	4,205	6.92 %	12,105	13.06 %	2,247	53.43 %	38			
Default		10.00 to <100.00			16	379	32	21.21 %	386	38.20 %	2,510	14.18 %	302	78.20 %	20			
Sub-total		100.00 (Default)			17	149	10	13.44 %	150	100.00 %	1,098	14.11 %	246	163.71 %	8			
Non-Canadian residential					18	76,116	27,318	-	86,647	-	526,807	-	8,155	-	97	-	8	-
Exceptionally low to Very low		0.00 to <0.15			19	1,481	5,764	58.41 %	4,847	0.03 %	45,447	68.48 %	324	6.69 %	1			
Very low to Low		0.15 to <0.25			20	4,526	80	100.00 %	4,606	0.18 %	15,256	30.18 %	547	11.87 %	3			
Low		0.25 to <0.50			21	791	253	49.64 %	917	0.28 %	9,093	71.67 %	361	39.37 %	2			
Medium		0.50 to <0.75			22	511	-	0.00 %	511	0.74 %	7,910	62.40 %	346	67.67 %	2			
Medium to High		0.75 to <2.50			23	1,713	44	87.38 %	1,751	1.13 %	10,025	44.62 %	1,125	64.25 %	9			
High		2.50 to <10.00			24	172	1	93.62 %	173	4.66 %	1,657	54.50 %	321	186.24 %	5			
Default		10.00 to <100.00			25	116	61.20 %	297	23.25 %	2,521	43.62 %	719	241.95 %	29				
Sub-total		100.00 (Default)			26	415	10	0.00 %	415	100.00 %	18,630	50.01 %	1,368	330.13 %	160			
Qualifying revolving retail					27	9,835	6,258	-	13,517	-	110,539	-	5,112	-	211	-	160	-
Exceptionally low to Very low		0.00 to <0.15			28	1,032	36,428	56.28 %	21,533	0.05 %	2,841,494	72.52 %	488	2.27 %	7			
Very low to Low		0.15 to <0.25			29	179	2,558	68.02 %	1,919	0.17 %	353,928	89.17 %	166	8.65 %	3			
Low		0.25 to <0.50			30	3,342	9,451	36.17 %	6,761	0.35 %	545,514	58.01 %	691	10.22 %	14			
Medium		0.50 to <0.75			31	194	926	76.16 %	900	0.55 %	195,495	90.00 %	205	22.80 %	4			
Medium to High		0.75 to <2.50			32	1,976	1,504	64.73 %	2,949	1.58 %	315,003	74.25 %	1,238	41.98 %	34			
High		2.50 to <10.00			33	1,177	709	92.65 %	1,833	5.08 %	379,920	79.95 %	1,807	98.56 %	72			
Default		10.00 to <100.00			34	396	207	64.94 %	531	26.36 %	106,424	71.43 %	962	181.26 %	96			
Sub-total		100.00 (Default)			35	65	19	41.50 %	73	100.00 %	4,202	53.93 %	222	303.14 %	33			
Retail small-and-medium-sized entities					36	8,361	51,802	-	36,499	-	4,741,980	-	5,779	-	263	-	33	-
Exceptionally low to Very low		0.00 to <0.15			37	1,281	2,586	73.87 %	3,194	0.09 %	74,336	60.97 %	437	13.69 %	2			
Very low to Low		0.15 to <0.25			38	77	75	77.05 %	75	0.21 %	5,508	85.50 %	28	37.60 %	-			
Low		0.25 to <0.50			39	58	192	75.04 %	155	0.45 %	51,108	98.00 %	83	58.50 %	1			
Medium		0.50 to <0.75			40	621	270	0.00 %	1,005	0.50 %	2,645	52.10 %	454	40.20 %	3			
Medium to High		0.75 to <2.50			41	537	98	79.11 %	614	1.49 %	11,941	58.89 %	449	73.13 %	5			
High		2.50 to <10.00			42	440	118	78.50 %	532	4.80 %	13,808	72.26 %	601	112.95 %	19			
Default		10.00 to <100.00			43	64	10	41.01 %	1,484	6.13 %	192,380	38.40 %	911	61.35 %	34			
Sub-total		100.00 (Default)			44	30	4	82.90 %	33	100.00 %	247,542	79.71 %	1,154	181.72 %	126			
Other retail					45	3,276	3,294	-	5,741	-	193,245	-	2,371	-	49	-	5	-
Exceptionally low to Very low		0.00 to <0.15			46	9,742	3,188	49.26 %	11,685	0.07 %	367,834	22.07 %	471	4.03 %	2			
Very low to Low		0.15 to <0.25			47	6,944	561	91.53 %	7,458	0.18 %	173,682	65.16 %	2,034	27.28 %	9			
Low		0.25 to <0.50			48	3,275	1,460	30.04 %	3,713	0.38 %	558,953	53.94 %	1,297	34.93 %	8			
Medium		0.50 to <0.75			49	3,331	40	47.52 %	3,138	0.61 %	108,859	30.02 %	799	25.45 %	6			
Medium to High		0.75 to <2.50			50	6,544	271	37.67 %	6,561	1.44 %	421,025	45.34 %	3,624	55.23 %	44			
High		2.50 to <10.00			51	1,545	10	41.01 %	1,484	6.13 %	192,380	38.40 %	911	61.35 %	34			
Default		10.00 to <100.00			52	474	350	50.33 %	635	28.52 %	247,542	79.71 %	1,154	181.72 %	126			
Sub-total		100.00 (Default)			53	196	2	35.02 %	193	100.00 %	83,821	47.43 %	501	259.21 %	83			
Corporate					54	32,054	5,682	-	34,867	-	2,154,056	-	10,791	-	312	-	83	-
Total (all retail portfolios)					55	176,845	94,534	-	224,474	-	7,910,829	-	32,547	-	932	-	289	-
Investment grade	I-1, I-2, I-3, I-4, I-5	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	56	33,904	71,858	49.85 %	78,384	0.08 %	5,499	35.28 %	2,211	16,097	21.07 %	22		
Investment grade	I-5, I-6	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	57	24,088	35,589	49.47 %	40,204	0.20 %	4,902	37.73 %	2,48	15,836	39.39 %	31		
Investment grade	I-6, I-7	0.25 to <0.50	Baa2 to Baa3	BBB to BBB-	58	35,523	33,948	49.16 %	50,999	0.32 %	8,852	36.39 %	2,47	23,659	46.39 %	60		
Investment grade to Non-investment grade	I-7, S-1	0.50 to <0.75	Baa3 to Ba1	BBB- to BB+	59	35,093	27,744	46.75 %	46,631	0.66 %	8,034	36.10 %	2,46	29,290	62.81 %	112		
Non-investment grade	S-1, S-2, S-3	0.75 to <2.50	Ba1 to Ba3	BB+ to BB-	60	37,629	27,247	46.83 %	49,010	1.25 %	12,227	36.83 %	2,54	39,077	79.73 %	225		
Non-investment grade to Watchlist	S-3, S-4, P-1, P-2	2.50 to <10.00	Ba3 to Caa1	BB- to B-	61	5,533	5,501	48.42 %	7,203	3.65 %	3,119	32.66 %	2,07	6,583	91.39 %	87		
Watchlist	P-2, P-3	10.00 to <100.00	Caa1 to Ca	B- to CC	62	1,462	793	51.95 %	1,736	14.29 %	825	32.06 %	1,62	2,483	143.06 %	81		
Default	Default	100.00 (Default)	C	C to D	63	907	266	99.99 %	1,161	100.00 %	451	39.21 %	2,64	3,459	298.05 %	270		
Sub-total					64	174,139	202,946	-	273,328	-	43,909	-	136,484	-	888	-	270	-
Bank																		
Investment grade	I-1, I-2, I-3, I-4, I-5	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	74	12,226	3,918	77.60 %	15,705	0.07 %	189	24.64 %	1,11	1,833	11.67 %	2		
Investment grade	I-5, I-6	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	75	2,813</td												

**CR7 - IRB - EFFECT ON RWA OF CREDIT DERIVATIVES
USED AS CRM TECHNIQUES**

(\$ millions)

	Portfolio	Q4 2018	
		Pre-credit Derivatives RWA	Actual RWA
		a	b
1	Corporate - AIRB	43	26
2	Sovereign - AIRB	-	-
3	Bank - AIRB	-	-
4	Total	43	26

**CR8 - RWA FLOW STATEMENTS OF CREDIT RISK AND
COUNTERPARTY CREDIT RISK EXPOSURES**

(\$ millions)

		Q4 2018		
		Credit risk, of which		Counterparty credit risk (6)
		AIRB	Standardized	
1	RWA as at beginning of reporting period (1)	169,612	38,071	12,978
2	Asset size (2)	6,497	911	28
3	Asset quality (3)	(2,206)	(96)	(301)
4	Model updates (4)	(29)	-	-
5	Methodology and policy (5)	866	-	135
6	Acquisitions and disposals	-	49	572
7	Foreign exchange movements	1,165	353	69
8	Other	-	-	-
9	RWA as at end of reporting period	175,905	39,288	13,481

(1) Credit risk excludes Securitization, Equity Investment in Funds, Settlement risk and amounts below the thresholds for deduction subject to 250% risk weight.

(2) Asset size includes organic changes in book size and composition (including new business and maturing loans).

(3) Asset quality captures the quality of book changes caused by experience such as underlying customer behaviour or demographics, including changes through model calibrations/realignments.

(4) Model updates includes model implementation, change in model scope or any change to address model malfunctions.

(5) Methodology and policy includes methodology changes to the calculations driven by regulatory policy changes, such as new or revised regulation.

(6) Counterparty credit risk includes RWA for derivatives, SFTs, trades cleared through central counterparties and CVA adjustment.

MARKET RISK RISK-WEIGHTED ASSETS (RWA) MOVEMENT BY KEY DRIVERS

(\$ millions except as noted)	#	LINE		2018		2018		2018		2017		2017 Q3
		Q4	Q3	Q2	Q1	Q4	Q3	Q2	Q1	Q4	Q3	
Market Risk RWA, beginning of quarter	1	11,097		10,415		9,816		8,448		8,314		7,957
Movement in risk levels (1)	2	(980)		1,643		569		1,208		152		350
Model updates (2)	3	399		44		-		-		-		-
Methodology and policy (3)	4	(178)		(1,005)		30		160		(18)		7
Acquisition and disposals	5	3,194		-		-		-		-		-
Foreign exchange movement and others	6	-		-		-		-		-		-
Market Risk RWA, end of quarter	7	13,532		11,097		10,415		9,816		8,448		8,314

(1) Movement in risk levels includes changes in exposures and market movements.

(2) Model updates includes updates to risk models to reflect recent experience and changes in model scope.

(3) Methodology and policy includes methodology changes to the calculations driven by regulatory policy changes, such as new or revised regulation.

EXPOSURE COVERED BY CREDIT RISK MITIGATION (1) (3)

(\$ millions except as noted)	LINE #	Q4 2018				Q3 2018				Q2 2018			
		Standardized		AIRB		Standardized		AIRB		Standardized		AIRB	
		EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives	EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives (2)	EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives	EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives (2)	EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives	EAD post CRM and post-CCF	Of which exposure amount covered by guarantees or credit derivatives
Corporate (incl specialized lending and SMEs treated as corporate)	1	21,002	178	273,328	9,592	20,134	166	259,499	8,487	20,110	121	252,287	24,584
Sovereign	2	178	-	113,500	330	162	-	108,424	270	155	-	102,464	526
Bank	3	164	-	25,933	660	185	-	24,468	717	233	-	25,100	1,612
Total Wholesale	4	21,344	178	412,761	10,582	20,481	166	392,391	9,474	20,498	121	379,851	26,722
Residential mortgages excluding home equity line of credits (HELOCs)	5	4,376	10	102,209	46,233	4,218	13	101,899	47,205	4,208	26	100,868	49,140
HELOCs	6	225	-	45,158	-	243	-	44,793	-	262	-	44,065	-
Other retail	7	2,724	422	34,867	1,952	2,881	435	34,808	2,038	3,039	439	34,285	2,139
Qualifying revolving retail	8	-	-	36,499	-	-	-	35,648	-	-	-	35,640	-
Retail SMEs	9	6,585	-	5,741	6	6,403	-	5,582	5	6,104	-	5,430	-
Total Retail	10	13,910	432	224,474	48,191	13,745	448	222,730	49,248	13,613	465	220,288	51,279
Other assets	11	8,800	-	-	-	8,867	-	-	-	8,252	-	-	-
Equity	12	1,894	-	-	-	1,836	-	-	-	1,749	-	-	-
Total Bank	13	45,948	610	637,235	58,773	44,929	614	615,121	58,722	44,112	586	600,139	78,001

CREDIT RISK EXPOSURE BY GEOGRAPHIC REGION (3)

(\$ millions except as noted)	Q4 2018				Q3 2018				Q2 2018				
	Canada	U.S.	Other	Total	Canada	U.S.	Other	Total	Canada	U.S.	Other	Total	
Corporate (incl specialized lending and SMEs treated as corporate)	14	128,517	158,498	7,315	294,330	123,331	148,236	8,066	279,633	124,633	140,562	7,202	272,397
Sovereign	15	31,795	71,150	10,733	113,678	33,621	64,301	10,664	108,586	30,300	62,330	9,989	102,619
Bank	16	1,613	9,106	15,378	26,097	4,049	-	14,384	24,653	3,393	6,620	15,320	25,333
Total Wholesale	17	161,925	238,754	33,426	434,105	161,001	218,757	33,114	412,872	158,326	209,512	32,511	400,349
Residential mortgages excluding home equity line of credits (HELOCs)	18	95,338	11,247	-	106,585	95,155	10,962	-	106,117	94,326	10,750	-	105,076
HELOCs	19	38,533	6,850	-	45,383	38,137	6,899	-	45,036	37,368	6,959	-	44,327
Other retail	20	29,098	8,035	458	37,591	28,732	8,477	480	37,689	28,543	8,277	504	37,324
Qualifying revolving retail	21	36,443	56	-	36,499	35,594	54	-	35,648	35,583	57	-	35,640
Retail SMEs	22	5,882	6,444	-	12,326	5,682	6,303	-	11,985	5,457	6,077	-	11,534
Total Retail	23	205,294	32,632	458	238,384	203,300	32,695	480	236,475	201,277	32,120	504	233,901
Other assets	24	4,537	4,001	262	8,800	5,218	3,596	53	8,867	5,026	3,146	80	8,252
Equity	25	68	1,582	244	1,894	58	1,549	229	1,836	68	1,460	221	1,749
Total Bank	26	371,824	276,969	34,390	683,183	369,577	256,597	33,876	660,050	364,697	246,238	33,316	644,251

CREDIT RISK EXPOSURE BY INDUSTRY (3)

(\$ millions except as noted)	Q4 2018				Q3 2018				Q2 2018		Q1 2018	
	Drawn	Commitments (undrawn) (4)	Other off-balance sheet items (5)	Total	Drawn	Commitments (undrawn) (4)	Other off-balance sheet items (5)	Total	Total	Total	Total	Total
Agriculture	27	11,589	1,781	28	13,398	11,331	1,844	25	13,200	12,675	12,272	
Communications	28	718	966	298	1,982	632	1,044	171	1,847	1,848	1,845	
Construction	29	3,693	2,660	1,180	7,533	3,795	2,577	1,218	7,590	8,056	7,178	
Financial	30	102,461	21,741	5,016	129,218	96,771	20,619	4,579	121,969	119,748	122,661	
Forest products	31	737	438	66	1,241	659	409	66	1,134	1,231	1,162	
Government	32	44,552	2,118	667	47,337	42,546	2,136	659	45,341	42,914	38,302	
Individual	33	190,672	47,586	126	238,384	189,287	47,058	129	236,474	233,901	228,059	
Manufacturing	34	22,729	13,490	1,396	37,615	22,548	12,032	1,338	35,918	34,929	32,768	
Mining	35	1,907	3,666	1,181	6,754	1,556	3,670	1,137	6,363	6,126	5,407	
Oil and Gas	36	9,145	10,410	1,804	21,359	8,147	7,968	1,797	17,912	17,346	16,590	
Other	37	15,850	2,493	534	18,877	19,609	328	406	20,343	17,443	16,474	
Real estate	38	31,537	8,170	820	40,527	30,101	7,799	806	38,706	36,692	34,521	
Retail trade	39	19,980	3,617	559	24,156	19,785	3,361	549	23,695	23,381	21,674	
Service industries	40	39,108	12,666	2,389	54,163	37,437	12,118	2,436	51,991	50,914	48,650	
Transportation	41	6,899	2,287	708	9,894	6,764	2,117	926	9,807	9,852	9,124	
Utilities	42	4,543	4,051	2,479	11,073	3,737	3,754	2,409	9,900	9,995	9,697	
Wholesale trade	43	14,705	4,531	436	19,672	13,118	4,326	416	17,860	17,200	16,521	
Total Bank	44	520,825	142,671	19,687	683,183	507,823	133,160	19,067	660,050	644,251	622,905	

(1) Credit risk mitigants herein include only credit derivatives and guarantees. Collateral is reflected in the risk parameters (PDs, LGDs) for AIRB exposures and risk weights for exposures under the Standardized approach.

(2) Effective Q3'18, only secured amount of guaranteed facility is disclosed instead of full amount as in prior periods.

(3) Prior periods have been restated to conform with Revised Pillar 3 scope for credit risk: Credit risk excludes Securitization, Counterparty credit risk, Equity Investment in Funds, Settlement risk and amounts below the thresholds for deduction subject to 250% risk weight.

(4) The EAD on the difference between the authorized and drawn amounts (e.g. the unused portion of a line of credit).

(5) All other off-balance sheet arrangements, other than derivatives and undrawn commitments, such as Standby Letters of Credit and Documentary Credits.


CREDIT RISK EXPOSURE BY MAJOR ASSET CLASS (1)

(\$ millions except as noted)	LINE #	Q4 2018				Q3 2018				Q2 2018		Q1 2018	
		Drawn	Commitments (undrawn) (2)	Other off-balance sheet items (3)	Total	Drawn	Commitments (undrawn) (2)	Other off-balance sheet items (3)	Total	Total	Total	Total	Total
Basel III Asset Classes													
Corporate (incl specialized lending and SMEs treated as corporate)	1	191,556	86,914	15,860	294,330	185,712	78,389	15,532	279,633	272,397	266,373		
Sovereign	2	108,505	3,700	1,473	113,678	103,174	3,652	1,760	108,586	102,619	89,702		
Bank	3	19,541	4,326	2,230	26,097	19,096	3,912	1,645	24,653	25,333	29,743		
Total Wholesale	4	319,602	94,940	19,563	434,105	307,982	85,953	18,937	412,872	400,349	385,818		
Residential mortgages excluding home equity line of credits (HELOCs)	5	106,392	119	74	106,585	105,935	105	77	106,117	105,076	104,704		
HELOCs	6	31,290	14,093	-	45,383	31,108	13,928	-	45,036	44,327	43,398		
Other retail	7	34,772	2,815	4	37,591	34,933	2,750	6	37,689	37,324	34,292		
Qualifying revolving retail	8	8,361	28,138	-	36,499	7,756	27,892	-	35,648	35,640	34,465		
Retail SMEs	9	9,859	2,421	46	12,326	9,554	2,384	47	11,985	11,534	11,200		
Total Retail	10	190,674	47,586	124	238,384	189,286	47,059	130	236,475	233,901	228,059		
Other assets	11	8,800	-	-	8,800	8,867	-	-	8,867	8,252	7,551		
Equity	12	1,749	145	-	1,894	1,688	148	-	1,836	1,749	1,477		
Total Bank	13	520,825	142,671	19,687	683,183	507,823	133,160	19,067	660,050	644,251	622,905		

CREDIT RISK BY RESIDUAL CONTRACT MATURITY BREAKDOWN (1)

(\$ millions except as noted)	Q4 2018				Q3 2018				Q2 2018		Q1 2018	
	Drawn	Commitments (undrawn) (2)	Other off-balance sheet items (3)	Total	Drawn	Commitments (undrawn) (2)	Other off-balance sheet items (3)	Total	Total	Total	Total	Total
Up to 1 year												
Up to 1 year	14	180,710	81,804	14,614	277,128	178,778	76,756	14,225	269,759	261,538	260,101	
1 to 5 years	15	278,208	55,396	4,919	338,523	267,254	51,310	4,681	323,245	314,002	299,515	
Greater than 5 years	16	61,907	5,471	154	67,532	61,791	5,094	161	67,046	68,711	63,289	
Total Bank	17	520,825	142,671	19,687	683,183	507,823	133,160	19,067	660,050	644,251	622,905	

PORTFOLIO BREAKDOWN BY BASEL APPROACHES (1)

(\$ millions except as noted)	Q4 2018				Q3 2018				Q2 2018				
	Standardized		AIRB		Standardized		AIRB		Standardized		AIRB		
	Drawn	Commitments (undrawn) (2)	Drawn	Commitments (undrawn) (2)	Drawn	Commitments (undrawn) (2)	Drawn	Commitments (undrawn) (2)	Drawn	Commitments (undrawn) (2)	Drawn	Commitments (undrawn) (2)	
Corporate (incl specialized lending and SMEs treated as corporate)	18	17,417	3,157	174,139	83,757	16,779	2,938	168,933	75,451	16,824	2,857	163,245	74,446
Sovereign	19	163	13	108,342	3,687	151	10	103,023	3,642	145	9	96,976	3,684
Bank	20	66	40	19,475	4,286	109	31	18,987	3,881	165	21	19,456	3,965
Total Wholesale	21	17,646	3,210	301,956	91,730	17,039	2,979	290,943	82,974	17,134	2,887	279,677	82,095
Residential mortgages excluding home equity line of credits (HELOCs)	22	4,301	-	102,091	119	4,141	-	101,794	105	4,129	-	100,771	98
HELOCs	23	227	-	31,063	14,093	243	-	30,865	13,928	262	-	30,405	13,660
Other retail	24	2,718	-	32,054	2,815	2,875	-	32,058	2,750	3,034	-	31,595	2,690
Qualifying revolving retail	25	-	-	8,361	28,138	-	-	7,756	27,892	-	-	7,615	28,025
Retail SMEs	26	6,583	-	3,276	2,421	6,403	-	3,151	2,384	6,104	-	3,029	2,355
Total Retail	27	13,829	-	176,845	47,586	13,662	-	175,624	47,059	13,529	-	173,415	46,828
Other assets	28	8,800	-	-	8,867	-	-	-	-	8,252	-	-	-
Equity	29	1,749	145	-	-	1,688	148	-	-	1,602	148	-	-
Total Bank	30	42,024	3,355	478,801	139,316	41,256	3,127	466,567	130,033	40,517	3,035	453,092	128,923

(1) Prior periods have been restated to conform with Revised Pillar 3 scope for credit risk: Credit risk excludes Securitization, Counterparty credit risk, Equity Investment in Funds, Settlement risk and amounts below the thresholds for deduction subject to 250% risk weight.

(2) The EAD on the difference between the authorized and drawn amounts (e.g. the unused portion of a line of credit).

(3) All other off-balance sheet arrangements, other than derivatives and undrawn commitments, such as Standby Letters of Credit and Documentary Credits.

CCR1 - ANALYSIS OF COUNTERPARTY CREDIT RISK (CCR) EXPOSURE BY APPROACH (1)

(\$ millions)

	Q4 2018					
	Replacement cost	Potential future exposure	Effective Expected Positive Exposure (EEPE)	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
	a	b	c	d	e	f
1 Current exposure method (CEM) (for derivatives)	9,112	17,855	-	-	26,370	4,746
2 Internal Model Method (for derivatives and SFTs)	-	-	-	-	-	-
3 Simple Approach for credit risk mitigation (for SFTs)	-	-	-	-	-	-
4 Comprehensive Approach for credit risk mitigation (for SFTs)	-	-	-	-	22,212	3,171
5 VaR for SFTs	-	-	-	-	-	-
6 Total	-	-	-	-	-	7,917

(1) Excludes credit valuation adjustment charges and exposures cleared through a central counterparty.

CCR2 - CREDIT VALUATION ADJUSTMENT (CVA) CAPITAL CHARGE

(\$ millions)

	Q4 2018	
	EAD post-CRM	RWA
	a	b
1 Total portfolios subject to the Advanced CVA capital charge	-	-
1 (i) VaR component (including the 3×multiplier)	-	-
2 (ii) Stressed VaR component (including the 3×multiplier)	-	-
3 All portfolios subject to the Standardized CVA capital charge (1)	22,272	4,900
4 Total subject to the CVA capital charge	22,272	4,900

(1) RWA reflects CET1 scalar of 80% adjustment for CVA phase-in.

CCR3 - STANDARDIZED APPROACH – CCR EXPOSURES BY REGULATORY PORTFOLIO AND RISK WEIGHTS (1)

(\$ millions)

Regulatory portfolio	LINE #	Q4 2018								Total credit exposure	
		Risk Weight									
		0%	10%	20%	50%	75%	100%	150%	Others		
Sovereigns	1	-	-	-	-	-	-	-	-	-	
Non-central government public sector entities (PSEs)	2	-	-	-	2	-	-	-	-	2	
Multilateral development banks (MDBs)	3	-	-	-	-	-	-	-	-	-	
Banks	4	-	-	296	-	-	-	-	-	296	
Securities firms	5	-	-	-	-	-	-	-	-	-	
Corporates	6	-	-	-	-	-	581	-	-	581	
Regulatory retail portfolios	7	-	-	-	-	-	-	-	-	-	
Secured by residential property	8	-	-	-	-	-	-	-	-	-	
Secured by commercial real estate	9	-	-	-	-	-	1	-	-	1	
Equity	10	-	-	-	-	-	-	-	-	-	
Defaulted exposures	11	-	-	-	-	-	-	-	-	-	
Higher-risk categories (2)	12	-	-	-	-	-	-	1	-	1	
Other assets	13	-	-	-	-	-	-	-	-	-	
Total	14	-	-	298	-	-	582	1	-	881	

(1) Excludes credit valuation adjustment charges and exposures cleared through a central counterparty.

(2) Non-defaulted exposures with risk weights equal to 150% (e.g. rated BB- or lower).

CCR4 - IRB - CCR EXPOSURES BY PORTFOLIO AND PD SCALE

(\$ millions except as noted)



Risk Profile	BMO Rating	PD scale (%)	Moody's Investors Service implied equivalent	Standard & Poor's implied equivalent	LINE #	Q4 2018						
						EAD post-CRM (1)	Average PD (2)	Number of obligors (2)	Average LGD (3)	Average maturity (years) (4)	RWA (5)	RWA density (6)
Corporate												
Investment grade	I-1, I-2, I-3, I-4, I-5	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	1	9,747	0.05%	2,790	29.58%	0.99	854	8.76%
Investment grade	I-5, I-6	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	2	2,074	0.19%	375	19.77%	1.16	339	16.32%
Investment grade	I-6, I-7	0.25 to <0.50	Baa2 to Baa3	BBB to BBB-	3	1,169	0.32%	526	30.64%	2.05	723	61.86%
Investment grade to Non-investment grade	I-7, S-1	0.50 to <0.75	Baa3 to Ba1	BBB- to BB+	4	1,103	0.66%	475	28.16%	1.33	764	69.27%
Non-investment grade	S-1, S-2, S-3	0.75 to <2.50	Ba1 to Ba3	BB+ to BB-	5	1,328	1.43%	606	18.93%	0.94	912	68.71%
Non-investment grade to Watchlist	S-3, S-4, P-1, P-2	2.50 to <10.00	Ba3 to Caa1	BB- to B-	6	321	2.81%	212	42.25%	0.79	356	110.99%
Watchlist	P-2, P-3	10.00 to <100.00	Caa1 to Ca	B- to CC	7	23	12.96%	9	19.14%	1.00	20	87.70%
Default	Default	100.00 (Default)	C	C to D	8	0	100.00%	1	45.00%	2.99	0	533.33%
Sub-total					9	15,765		4,994			3,968	
Sovereign												
Investment grade	I-1, I-2, I-3, I-4, I-5	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	10	9,904	0.04%	219	6.67%	2.38	268	2.71%
Investment grade	I-5, I-6	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	11	15	0.20%	5	11.57%	1.97	2	12.21%
Investment grade	I-6, I-7	0.25 to <0.50	Baa2 to Baa3	BBB to BBB-	12	104	0.33%	6	39.96%	0.51	28	26.81%
Investment grade to Non-investment grade	I-7, S-1	0.50 to <0.75	Baa3 to Ba1	BBB- to BB+	13	3	0.63%	1	55.00%	1.00	2	76.38%
Non-investment grade	S-1, S-2, S-3	0.75 to <2.50	Ba1 to Ba3	BB+ to BB-	14	7	1.21%	2	40.00%	0.90	4	67.37%
Non-investment grade to Watchlist	S-3, S-4, P-1, P-2	2.50 to <10.00	Ba3 to Caa1	BB- to B-	15	1	2.74%	2	65.00%	4.29	2	225.33%
Watchlist	P-2, P-3	10.00 to <100.00	Caa1 to Ca	B- to CC	16	-	0.00%	-	0.00%	0.00	-	0.00%
Default	Default	100.00 (Default)	C	C to D	17	-	0.00%	-	0.00%	0.00	-	0.00%
Sub-total					18	10,034		235			306	
Bank												
Investment grade	I-1, I-2, I-3, I-4, I-5	0.00 to <0.15	Aaa to Baa1	AAA to BBB+	19	20,382	0.07%	253	29.25%	1.16	2,614	12.82%
Investment grade	I-5, I-6	0.15 to <0.25	Baa1 to Baa2	BBB+ to BBB	20	983	0.19%	85	28.33%	0.98	201	20.44%
Investment grade	I-6, I-7	0.25 to <0.50	Baa2 to Baa3	BBB to BBB-	21	101	0.32%	59	22.28%	1.86	14	13.86%
Investment grade to Non-investment grade	I-7, S-1	0.50 to <0.75	Baa3 to Ba1	BBB- to BB+	22	415	0.54%	28	29.17%	0.13	150	36.20%
Non-investment grade	S-1, S-2, S-3	0.75 to <2.50	Ba1 to Ba3	BB+ to BB-	23	16	0.91%	10	54.12%	0.67	15	96.06%
Non-investment grade to Watchlist	S-3, S-4, P-1, P-2	2.50 to <10.00	Ba3 to Caa1	BB- to B-	24	6	2.74%	7	35.00%	0.98	5	88.58%
Watchlist	P-2, P-3	10.00 to <100.00	Caa1 to Ca	B- to CC	25	-	0.00%	-	0.00%	0.00	-	0.00%
Default	Default	100.00 (Default)	C	C to D	26	-	0.00%	-	0.00%	0.00	-	0.00%
Sub-total					27	21,903		442			2,999	
Total (all wholesale portfolios)					28	47,702		5,671			7,273	

(1) Calculated as obligor PD weighted by EAD.

(2) Obligor count for Wholesale portfolios is at the borrower level.

(3) Calculated as the obligor LGD net of CRM weighted by EAD.

(4) Calculated as the obligor effective maturity in years weighted by EAD.

**CCR5 - COMPOSITION OF COLLATERAL
FOR CCR EXPOSURE (1)**

(\$ millions)	LINE #	Q4 2018					
		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		
Cash – domestic currency	1	-	1,487	-	908	20,636	40,936
Cash – other currencies	2	-	3,276	-	1,261	54,761	48,215
Domestic sovereign debt	3	-	164	-	636	54,622	28,312
Other sovereign debt	4	-	108	-	345	33,739	34,079
Government agency debt	5	-	640	-	350	1,909	8,921
Corporate bonds	6	-	33	-	-	7,735	16,459
Equity securities	7	-	-	-	-	23,106	39,832
Other collateral	8	-	-	-	-	1,074	-
Total	9	-	5,708	-	3,500	197,582	216,754

(1) Segregated refers to collateral which is held in a bankruptcy-remote manner whereas unsegregated refers to collateral that is not held in bankruptcy-remote manner.

CCR6 - CREDIT DERIVATIVES EXPOSURES

(\$ millions)	Q4 2018		
	Protection bought		Protection sold
	a	b	
Notionals			
Single-name credit default swaps	10	1,858	24
Index credit default swaps	11	1,977	797
Total return swaps	12	1,318	379
Credit options	13	-	-
Other credit derivatives	14	-	-
Total notionals	15	5,153	1,200
Fair values			
Positive fair value (asset)	16	33	15
Negative fair value (liability)	17	53	1

CCR8 - EXPOSURES TO CENTRAL COUNTERPARTIES

(\$ millions)

		Q4 2018	
		EAD (post-CRM)	RWA
		a	b
1	Exposures to QCCPs (total)		664
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	11,327	230
3	(i) OTC derivatives	5,547	114
4	(ii) Exchange-traded derivatives	4,534	91
5	(iii) Securities financing transactions	1,246	25
6	(iv) Netting sets where cross-product netting has been approved	-	-
7	Segregated initial margin	-	
8	Non-segregated initial margin	2,832	57
9	Pre-funded default fund contributions	695	377
10	Unfunded default fund contributions	-	-
11	Exposures to non-QCCPs (total)		-
12	Exposures for trades at non-QCCPs (excluding initial margin and default fund contributions); of which	-	-
13	(i) OTC derivatives	-	-
14	(ii) Exchange-traded derivatives	-	-
15	(iii) Securities financing transactions	-	-
16	(iv) Netting sets where cross-product netting has been approved	-	-
17	Segregated initial margin	-	
18	Non-segregated initial margin	-	-
19	Pre-funded default fund contributions	-	-
20	Unfunded default fund contributions	-	-

DEBT ISSUED BY BANK SPONSORED VEHICLES FOR THIRD PARTY ASSETS

(\$ millions except as noted)	LINE #	Q4 2018			Q3 2018			Q2 2018			Q1 2018		
		Canadian Conduits (1)	US Conduit (2)	Total	Canadian Conduits (1)	US Conduit (2)	Total	Canadian Conduits (1)	US Conduit (2)	Total	Canadian Conduits (1)	US Conduit (2)	Total
Auto loans/leases	1	2,021	1,263	3,284	2,211	1,394	3,605	1,946	1,448	3,394	2,016	1,640	3,656
Credit card receivables	2	200	-	200	150	-	150	150	-	150	150	-	150
Residential mortgages (insured)	3	616	-	616	717	-	717	852	-	852	926	-	926
Residential mortgages (uninsured)	4	962	-	962	1,060	-	1,060	966	-	966	920	-	920
Commercial mortgages (uninsured)	5	-	16	16	-	16	16	-	15	15	-	15	15
Commercial mortgages (insured)	6	72	-	72	59	-	59	62	-	62	54	-	54
Equipment loans/leases	7	323	616	939	197	668	865	6	500	506	262	532	794
Trade receivables	8	-	250	250	-	249	249	-	241	241	-	237	237
Corporate loans	9	-	-	-	-	-	-	-	-	-	-	-	-
Daily auto rental	10	170	304	474	332	424	756	155	410	565	120	76	196
Floorplan finance receivables	11	332	351	683	314	325	639	214	323	537	294	320	614
Collateralized debt obligations	12	-	-	-	-	-	-	-	-	-	-	-	-
Other pool type	13	250	111	361	250	171	421	250	130	380	250	97	347
Student loans	14	-	898	898	-	773	773	-	1,270	1,270	-	398	398
Total	15	4,946	3,809	8,755	5,290	4,020	9,310	4,601	4,337	8,938	4,992	3,315	8,307

(1) Canadian Conduit totals include amounts pertaining to a conduit that has been directly funded by the Bank (\$824.7 million as at Q4, 2018, \$782.8 million as at Q3, 2018, \$761.8 million as at Q2, 2018, and \$801.5 million as at Q1, 2018). External Credit Assessment Institutions used to rate the Asset Backed Commercial Paper of the market funded conduits in Canada are DBRS and Moody's.

(2) US Conduit totals include amounts that have been directly funded by the Bank (\$24.1 million as at Q4, 2018, \$23.9 million as at Q3, 2018, \$24.0 million as at Q2, 2018, and \$23.0 million as at Q1, 2018). External Credit Assessment Institutions used to rate the Asset Backed Commercial Paper of the market funded conduit in the US are S&P and Moody's.

SEC1 - SECURITIZATION EXPOSURES IN BANKING BOOK (1)

(\$ millions)	Q4 2018											
	Bank acts as originator			Bank acts as sponsor			Bank acts as investor					
	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total			
	a	b	c	e	f	g	i	j	k			
1 Total retail, of which:	4,110	-	4,110	10,298	-	10,298	-	-	-	-	-	-
2 Residential mortgage (2)	1,079	-	1,079	2,803	-	2,803	-	-	-	-	-	-
3 Credit card	1,873	-	1,873	731	-	731	-	-	-	-	-	-
4 Other retail exposures	1,158	-	1,158	6,764	-	6,764	-	-	-	-	-	-
5 Re-securitization	-	-	-	-	-	-	-	-	-	-	-	-
6 Total wholesale, of which:	49	4,417	4,466	6,273	-	6,273	8	-	-	8	-	-
7 Loans to corporates	49	4,417	4,466	207	-	207	-	-	-	-	-	-
8 Commercial mortgage	-	-	-	-	-	-	-	-	-	-	-	-
9 Lease and receivables	-	-	-	5,578	-	5,578	-	-	-	-	-	-
10 Other wholesale	-	-	-	488	-	488	8	-	-	8	-	-
11 Re-securitization	-	-	-	-	-	-	-	-	-	-	-	-

(1) The amounts disclosed represent the carrying value of securitization exposures in the banking book, including securitization exposures where the criteria for recognition of risk transference are not met. As at October 31, 2018, \$1,106 million of securitization exposures did not qualify for risk transference. The table excludes securitization-related assets of \$5,977 million not subject to capital requirements but consolidated on the balance sheet for accounting purposes.

(2) Excludes mortgage-backed securities that do not involve the tranching of credit risk (e.g. NHA MBS) which are not considered securitizations as per OSFI's Capital Adequacy Requirements Guideline, Chapter 7, Structured Credit Products.

SEC2 - SECURITIZATION EXPOSURES IN THE TRADING BOOK

(\$ millions)

	Q4 2018									
	Bank acts as originator			Bank acts as sponsor			Bank acts as investor			
	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	Traditional	Synthetic	Sub-total	
	a	b	c	e	f	g	i	j	k	
1 Total retail, of which:	-	-	-	-	-	-	282	-	-	282
2 Residential mortgage	-	-	-	-	-	-	32	-	-	32
3 Credit card	-	-	-	-	-	-	126	-	-	126
4 Auto loans/leases	-	-	-	-	-	-	113	-	-	113
5 Student loans	-	-	-	-	-	-	10	-	-	10
6 Other retail exposures	-	-	-	-	-	-	1	-	-	1
7 Re-securitization	-	-	-	-	-	-	-	-	-	-
8 Total wholesale, of which:	-	-	-	-	-	-	87	-	-	87
9 Loans to corporates	-	-	-	-	-	-	15	-	-	15
10 Commercial mortgage	-	-	-	-	-	-	-	-	-	-
11 Lease and receivables	-	-	-	-	-	-	35	-	-	35
12 Auto floorplan	-	-	-	-	-	-	24	-	-	24
13 Insurance premium	-	-	-	-	-	-	7	-	-	7
14 Other wholesale	-	-	-	-	-	-	6	-	-	6
15 Re-securitization	-	-	-	-	-	-	-	-	-	-

SEC3 - SECURITIZATION EXPOSURES IN THE BANKING BOOK AND ASSOCIATED CAPITAL REQUIREMENTS - BANK ACTING AS ORIGINATOR OR AS SPONSOR (1)

(\$ millions)	Q4 2018																	
	Exposure values by RW bands (2)					Exposure values by regulatory approach (2)				RWA by regulatory approach (3)				Capital charge after cap				
	≤20%	>20% to 50%	>50% to 100%	>100% to <1250%	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%	
1 Total exposures	23,487	55	2	3	39	3,004	20,582	-	-	529	1,775	-	-	43	148	-	-	
2 Traditional securitization	19,571	20	2	3	29	3,004	16,621	-	-	529	1,364	-	-	43	115	-	-	
3 Of which securitization	19,571	20	2	3	29	3,004	16,621	-	-	529	1,364	-	-	43	115	-	-	
4 Of which retail underlying	13,254	20	2	2	24	3,004	10,298	-	-	529	803	-	-	43	68	-	-	
5 Of which wholesale	6,317	-	-	1	5	-	6,323	-	-	-	561	-	-	-	47	-	-	
6 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7 Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8 Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9 Synthetic securitization	3,916	35	-	-	10	-	3,961	-	-	-	411	-	-	-	33	-	-	-
10 Of which securitization	3,916	35	-	-	10	-	3,961	-	-	-	411	-	-	-	33	-	-	-
11 Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12 Of which wholesale	3,916	35	-	-	10	-	3,961	-	-	-	411	-	-	-	33	-	-	-
13 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

SEC4 - SECURITIZATION EXPOSURES IN THE BANKING BOOK AND ASSOCIATED CAPITAL REQUIREMENTS - BANK ACTING AS INVESTOR (1)

(\$ millions)	Q4 2018																
	Exposure values by RW bands (2)					Exposure values by regulatory approach (2)				RWA by regulatory approach (3)				Capital charge after cap			
	≤20%	>20% to 50%	>50% to 100%	>100% to <1250%	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%
1 Total exposures	8	-	-	-	-	8	-	-	-	1	-	-	-	1	-	-	-
2 Traditional securitization	8	-	-	-	-	8	-	-	-	1	-	-	-	1	-	-	-
3 Of which securitization	8	-	-	-	-	8	-	-	-	1	-	-	-	1	-	-	-
4 Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5 Of which wholesale	8	-	-	-	-	8	-	-	-	1	-	-	-	1	-	-	-
6 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 Of which senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8 Of which non-senior	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 Synthetic securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 Of which securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11 Of which retail underlying	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12 Of which wholesale	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13 Of which re-securitization	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

(1) Only includes securitization exposures where the risk transference recognition criteria are met in accordance with OSFI's Capital Adequacy Requirements Guidelines, Chapter 7, Structured Credit Products.

(2) Exposure amounts are net of collateral.

(3) RWA before application of the KIRB cap and scaling factor.

ESTIMATED AND ACTUAL LOSS PARAMETERS UNDER AIRB APPROACH
(\$ millions except as noted)

Risk Profile	Line #	Q4 2018						Q3 2018					
		PD (1) (2)		LGD (3) (4)		EAD (5) (6)		PD (1) (2)		LGD (3) (4)		EAD (5) (6)	
		Average estimated	Actual	Average estimated	Actual	Estimated	Actual	Average estimated	Actual	Average estimated	Actual	Estimated	Actual
Wholesale													
Corporate including specialized lending	1	0.83%	0.44%	35.31%	19.59%	268	228	0.86%	0.57%	34.36%	18.63%	405	314
Corporate small and medium enterprises (SMEs)	2	1.26%	0.53%	38.43%	22.58%	68	65	1.30%	0.54%	38.42%	26.04%	63	63
Sovereign	3	0.11%	0.00%	14.93%	0.00%	-	-	0.10%	0.00%	15.22%	0.00%	-	-
Bank	4	0.31%	0.00%	17.30%	0.00%	-	-	0.33%	0.00%	17.27%	0.00%	-	-
Retail													
Residential mortgages excluding home equity line of credits (HELOCs) - Uninsured only (7) (8)	5	0.97%	0.64%	25.67%	14.34%	250	250	0.97%	0.65%	23.97%	13.71%	247	247
HELOCs (8)	6	0.57%	0.47%	34.60%	20.04%	190	184	0.58%	0.51%	35.41%	19.68%	193	187
Qualifying revolving retail (QRR)	7	1.30%	1.15%	84.12%	79.00%	484	468	1.33%	1.20%	84.18%	77.40%	493	475
Other retail (excl. SMEs)	8	4.97%	4.53%	84.04%	77.44%	328	328	5.10%	4.57%	84.04%	77.74%	319	318
Retail SMEs	9	1.17%	0.83%	95.86%	78.51%	47	42	1.19%	0.81%	95.50%	78.92%	44	40

(1) Wholesale PDs are based on a borrower weighted average. There have been no Bank or Sovereign defaults in the past 12 months.

(2) Retail PD is based on account weighted average.

(3) Wholesale LGDs are expressed as an exposure weighted average. The LGD figures include back-dated resolved facilities.

(4) Retail LGD is based on weighted average of LGD eligible accounts.

(5) Wholesale EAD represented predicted vs. realized comparison for defaults in the previous 12 months. Term products are not included. No defaults in the Bank and Sovereign asset classes within the past 12 months.

(6) Retail EAD represents predicted vs. realized comparison for defaults in the previous 12 months.

(7) Mortgages insured by Canada Mortgage And Housing Corporation and private mortgage insurers are primarily included in Sovereign.

(8) Investor-owned mortgages are included in the Other Retail asset class.

CR9 - IRB - BACKTESTING OF PROBABILITY OF DEFAULT (PD) PER PORTFOLIO (1)

(\$ millions except as noted)

BMO  Financial Group

Risk Profile	BMO Rating	PD Range (%)	Moody's Investors Service implied equivalent	Standard & Poor's implied equivalent	LINE #	Q4 2018						
						Weighted average PD		Arithmetic average PD by obligors		Number of obligors (3)		Defaulted obligors in the year
						(2)	(a)	(2)	(b)	End of previous year	End of the year	
Residential mortgages and HELOCs												
Exceptionally low		≤ 0.05			1	0.04%	0.04%	271,241	277,877	120	4	0.03%
Very low		> 0.05 to 0.20			2	0.11%	0.11%	375,704	368,780	365	3	0.09%
Low		> 0.20 to 0.75			3	0.60%	0.58%	75,439	75,918	256	8	0.47%
Medium		> 0.75 to 7.00			4	3.31%	2.77%	71,973	72,266	1,468	13	2.25%
High		> 7.00 to 99.99			5	30.22%	26.88%	9,037	6,210	1,950	11	19.72%
Default		100.00 (Default)			6	100.00%	100.00%	-	-	-	-	100.00%
Sub-total					7			803,394	801,051	4,159	39	
Other retail												
Exceptionally low		≤ 0.05			8	0.04%	0.04%	32,629	32,525	17	1	0.03%
Very low		> 0.05 to 0.20			9	0.12%	0.12%	517,997	498,906	791	103	0.10%
Low		> 0.20 to 0.75			10	0.40%	0.40%	678,502	677,897	2,871	537	0.31%
Medium		> 0.75 to 7.00			11	2.01%	2.00%	534,086	533,355	10,629	620	1.53%
High		> 7.00 to 99.99			12	20.96%	27.62%	325,054	327,592	81,676	94	24.29%
Default		100.00 (Default)			13	100.00%	100.00%	-	-	-	-	100.00%
Sub-total					14			2,088,268	2,070,275	95,984	1,355	
Qualifying revolving retail												
Exceptionally low		≤ 0.05			15	0.03%	0.03%	2,056,957	2,114,174	450	-	0.02%
Very low		> 0.05 to 0.20			16	0.11%	0.11%	975,401	1,045,849	928	3	0.09%
Low		> 0.20 to 0.75			17	0.37%	0.39%	775,731	776,408	3,253	364	0.29%
Medium		> 0.75 to 7.00			18	2.68%	2.82%	612,593	663,324	16,102	888	2.38%
High		> 7.00 to 99.99			19	23.72%	25.40%	147,782	138,023	33,540	409	22.48%
Default		100.00 (Default)			20	100.00%	100.00%	-	-	-	-	100.00%
Sub-total					21			4,568,464	4,737,778	54,273	1,664	
Retail small-and-medium-sized entities												
Exceptionally low		≤ 0.05			22	0.03%	0.02%	39,687	40,258	8	-	0.01%
Very low		> 0.05 to 0.20			23	0.10%	0.10%	37,157	34,078	26	-	0.05%
Low		> 0.20 to 0.75			24	0.52%	0.39%	87,835	84,529	159	1	0.20%
Medium		> 0.75 to 7.00			25	3.04%	2.93%	26,097	23,164	612	1	1.95%
High		> 7.00 to 99.99			26	18.95%	20.46%	5,602	5,277	825	5	16.20%
Default		100.00 (Default)			27	100.00%	100.00%	-	-	-	-	100.00%
Sub-total					28			196,378	187,306	1,630	7	
Total (all retail portfolios)					29			7,656,504	7,796,410	156,046	3,065	
Corporate												
Investment grade	I-1	≤ 0.02	-	Aaa/Aa1	30	0.00%	0.00%	-	-	-	-	0.00%
Investment grade	I-2	> 0.02 to ≤ 0.03	AAA/AA+	AAA/AA+	31	0.03%	0.03%	100	79	-	-	0.00%
Investment grade	I-3	> 0.03 to ≤ 0.07	Aa2/Aa3	AA/AA-	32	0.05%	0.06%	671	566	-	-	0.07%
Investment grade	I-4	> 0.07 to ≤ 0.11	A1/A2/A3	A+/A-	33	0.07%	0.09%	1,674	1,600	-	-	0.04%
Investment grade	I-5	> 0.11 to ≤ 0.19	Baa1	BBB+	34	0.12%	0.13%	3,044	3,257	1	-	0.07%
Investment grade	I-6	> 0.19 to ≤ 0.32	Baa2	BBB	35	0.20%	0.23%	4,763	4,910	2	-	0.16%
Investment grade	I-7	> 0.32 to ≤ 0.54	Baa3	BBB-	36	0.32%	0.33%	8,176	8,833	5	-	0.22%
Non-investment grade	S-1	> 0.54 to ≤ 0.91	Ba1	BB+	37	0.66%	0.67%	8,004	8,027	17	1	0.63%
Non-investment grade	S-2	> 0.91 to ≤ 1.54	Ba2	BB	38	1.02%	1.10%	8,100	8,313	24	1	0.97%
Non-investment grade	S-3	> 1.54 to ≤ 2.74	Ba3	BB-	39	1.83%	1.79%	3,984	3,925	31	2	1.68%
Non-investment grade	S-4	> 2.74 to ≤ 5.16	B1	B+	40	2.74%	2.74%	3,067	2,686	22	-	2.28%
Watchlist	P-1	> 5.16 to ≤ 9.70	B2	B	41	6.05%	7.30%	502	437	20	1	6.25%
Watchlist	P-2	> 9.70 to ≤ 18.23	B3	B-	42	13.76%	14.98%	772	673	76	-	13.43%
Watchlist	P-3	> 18.23 to < 100.00	Caa/Ca	CCC/CC	43	20.18%	21.62%	159	152	17	-	17.57%
Default	Default	100.00 (Default)	C	C/D	44	100.00%	100.00%	-	-	-	-	0.00%
Sub-total					45			43,016	43,458	215	5	
Sovereign												
Investment grade	I-1	≤ 0.02	Aaa	AAA	46	0.01%	0.01%	34	21	-	-	0.00%
Investment grade	I-2	> 0.02 to ≤ 0.03	Aa1/Aa2/Aa3	AA+/AA/AA-	47	0.03%	0.03%	476	512	-	-	0.00%
Investment grade	I-3	> 0.03 to ≤ 0.07	A1/A2	A+/A	48	0.04%	0.05%	721	906	-	-	0.00%
Investment grade	I-4	> 0.07 to ≤ 0.11	A3	A-	49	0.08%	0.08%	834	1,020	-	-	0.00%
Investment grade	I-5	> 0.11 to ≤ 0.19	Baa1	BBB+	50	0.12%	0.13%	445	496	-	-	0.00%
Investment grade	I-6	> 0.19 to ≤ 0.32	Baa2	BBB	51	0.21%	0.21%	290	307	-	-	0.00%
Investment grade	I-7	> 0.32 to ≤ 0.54	Baa3	BBB-	52	0.34%	0.34%	138	126	-	-	0.00%
Non-investment grade	S-1	> 0.54 to ≤ 0.91	Ba1	BB+	53	0.67%	0.67%	83	83	-	-	0.00%
Non-investment grade	S-2	> 0.91 to ≤ 1.54	Ba2	BB	54	1.08%	1.10%	76	68	-	-	0.00%
Non-investment grade	S-3	> 1.54 to ≤ 2.74	Ba3	BB-	55	1.79%	1.78%	50	26	-	-	0.00%
Non-investment grade	S-4	> 2.74 to ≤ 5.16	B1	B+	56	3.25%	2.93%	32	33	-	-	0.00%
Watchlist	P-1	> 5.16 to ≤ 9.70	B2	B	57	0.00%	0.00%	-	9	-	-	0.00%
Watchlist	P-2	> 9.70 to ≤ 18.23	B3	B-	58	15.15%	15.15%	2	1	-	-	0.00%
Watchlist	P-3	> 18.23 to < 100.00	Caa/Ca	CCC/CC	59	0.00%	0.00%	-	-	-	-	0.00%
Default	Default	100.00 (Default)	C	C/D	60	100.00%	100.00%	-	-	-	-	0.00%
Sub-total					61			3,181	3,608	-	-	
Bank												
Investment grade	I-1	≤ 0.02	-	Aaa/Aa1/Aa2/Aa3	62	0.00%	0.00%	-	-	-	-	0.00%
Investment grade	I-2	> 0.02 to ≤ 0.03	AAA/AA+/AA/AA-	AAA/AA+/AA/AA-	63	0.03%	0.03%	7	15	-	-	0.00%
Investment grade	I-3	> 0.03 to ≤ 0.07	A1/A2	A+/A	64	0.06%	0.06%	94	46	-	-	0.07%
Investment grade	I-4	> 0.07 to ≤ 0.11	A3	A-	65	0.07%	0.08%	4	66	-	-	0.00%
Investment grade	I-5	> 0.11 to ≤ 0.19	Baa1	BBB+	66	0.11%	0.11%	70	62	-	-	0.08%
Investment grade	I-6	> 0.19 to ≤ 0.32	Baa2	BBB	67	0.19%	0.19%	77	82	-	-	0.08%
Investment grade	I-7	> 0.32 to ≤ 0.54	Baa3	BBB-	68	0.32%	0.32%	70	72	-	-	0.10%
Non-investment grade	S-1	> 0.54 to ≤ 0.91	Ba1	BB+	69	0.55%	0.58%	77	56	-	-	0.12%
Non-investment grade	S-2	> 0.91 to ≤ 1.54	Ba2	BB	70	0.91%	0.93%	26	23	-	-	0.48%
Non-investment grade	S-3	> 1.54 to ≤ 2.74	Ba3	BB-	71	1.59%	1.65%	18	24	-	-	0.22%
Non-investment grade	S-4	> 2.74 to ≤ 5.16	B1	B+	72	2.74%	2.74%	14	9	-	-	0.44%
Watchlist	P-1	> 5.16 to ≤ 9.70	B2	B	73	5.34%	5.34%	1	3	-	-	0.00%
Watchlist	P-2	> 9.70 to ≤ 18.23	B3	B-	74	0.00%	0.00%	-	1	-	-	4.17%
Watchlist	P-3	> 18.23 to < 100.00	Caa/Ca	CCC/CC	75	0.00%	0.00%	-	-	-	-	0.00%
Default	Default	100.00 (Default)	C	C/D	76	100.00%	100.00%	-	-	-	-	0.00%
Sub-total					77			458	459	-	-	
Total (all wholesale portfolios)					78			46,655	47,525	215	5	

(1) The results shown in the table cover all models within these asset classes.

(2) Calculated as the obligor PD weighted by EAD.

(3) Obligor count for Retail portfolios is at the account level, excluding defaulted accounts. Obligor count for Wholesale portfolios is at the borrower level, excluding defaulted obligors.

(4) Calculated as the number of obligors having defaulted during the last 12-month period that were not funded at the end of the previous year.

(5) Wholesale portfolios use 12 year average of the annual default rate. Retail portfolios use 6-15 year average of the annual default rate.

DERIVATIVE INSTRUMENTS Basel (\$ millions)	LINE #	As at October 31, 2018				As at July 31, 2018				As at April 30, 2018				As at January 31, 2018						
		AIRB		AIRB		AIRB		AIRB		AIRB		AIRB		AIRB		AIRB				
		Notional Amount	Replacement Cost	Credit risk Equivalent	Risk-weighted Assets (1)	Notional Amount	Replacement Cost	Credit risk Equivalent	Risk-weighted Assets (1)	Notional Amount	Replacement Cost	Credit risk Equivalent	Risk-weighted Assets (1)	Notional Amount	Replacement Cost	Credit risk Equivalent	Risk-weighted Assets (1)			
Interest Rate Contracts																				
Over-the-counter																				
Swaps	1	3,831,997	8,514	10,699		3,555,230	8,236	10,970		3,368,967	7,966	11,224		3,211,962	8,155	11,037				
Forward rate agreements	2	411,573	36	34		297,845	24	24		416,430	28	27		341,662	22	21				
Purchased options	3	35,023	409	393		28,684	434	331		27,640	455	330		26,573	432	326				
Written options	4	48,721	-	-		39,650	-	-		36,913	-	-		37,225	-	-				
	5	4,327,314	8,959	11,126		704	3,921,409	8,694	11,325		669	3,849,950	8,449	11,581		1,267	3,617,422	8,609	11,384	334
Exchange traded																				
Futures	6	192,482	-	-		142,641	-	-		120,183	-	-		106,387	-	-				
Purchased options	7	26,629	-	-		15,405	-	-		21,099	-	-		16,641	-	-				
Written options	8	16,511	-	-		17,355	-	-		15,378	-	-		12,145	-	-				
	9	235,622	-	-		175,401	-	-		156,660	-	-		135,173	-	-				
Total Interest Rate Contracts	10	4,562,936	8,959	11,126		704	4,096,810	8,694	11,325		669	4,006,610	8,449	11,581		1,267	3,752,595	8,609	11,384	334
Foreign Exchange Contracts																				
Over-the-counter																				
Cross-currency swaps	11	92,916	3,270	7,832		92,441	3,698	8,355		88,607	4,420	9,028		84,535	4,652	9,022				
Cross-currency interest rate swaps	12	455,232	5,035	14,909		439,846	5,049	14,434		417,905	5,918	15,073		423,868	9,512	18,531				
Forward foreign exchange contracts	13	472,323	4,453	8,373		450,962	3,661	6,818		485,881	3,831	7,978		430,289	5,148	8,233				
Purchased options	14	21,468	225	424		25,626	233	476		26,952	213	437		29,822	305	525				
Written options	15	24,018	-	-		28,138	-	-		31,674	-	-		35,928	-	-				
	16	1,065,957	12,983	31,538		2,544	1,037,013	12,641	30,083		2,302	1,051,019	14,382	32,516		2,618	1,004,442	19,617	36,311	2,780
Exchange traded																				
Futures	17	739	-	-		963	-	-		1,080	-	-		3,190	-	-				
Purchased options	18	2,625	-	-		2,493	-	-		4,182	-	-		5,777	-	-				
Written options	19	1,420	-	-		1,089	-	-		1,744	-	-		1,472	-	-				
	20	4,784	-	-		4,545	-	-		7,006	-	-		10,439	-	-				
Total Foreign Exchange Contracts	21	1,070,741	12,983	31,538		2,544	1,041,558	12,641	30,083		2,302	1,058,025	14,382	32,516		2,618	1,014,881	19,617	36,311	2,780
Commodity Contracts																				
Over-the-counter																				
Swaps	22	24,366	1,559	4,450		22,340	1,630	4,304		20,424	1,701	4,106		20,341	1,459	3,847				
Purchased options	23	6,182	335	1,108		6,143	434	1,185		6,551	496	1,279		6,508	374	1,113				
Written options	24	4,233	-	-		4,446	-	-		4,655	-	-		4,647	-	-				
	25	34,781	1,894	5,558		1,188	32,929	2,064	5,489		1,136	31,630	2,197	5,385		1,127	31,496	1,833	4,960	1,139
Exchange traded																				
Futures	26	33,104	-	-		31,279	-	-		29,068	-	-		28,518	-	-				
Purchased options	27	3,303	-	-		3,753	-	-		4,284	-	-		4,471	-	-				
Written options	28	4,909	-	-		5,143	-	-		5,872	-	-		6,149	-	-				
	29	41,316	-	-		40,175	-	-		39,224	-	-		39,138	-	-				
Total Commodity Contracts	30	76,097	1,894	5,558		1,188	73,104	2,064	5,489		1,136	70,854	2,197	5,385		1,127	70,634	1,833	4,960	1,139
Equity Contracts																				
Over-the-counter	31	53,107	1,585	4,332		50,793	840	3,431		61,835	1,040	4,263		64,245	1,339	4,954				
Exchange traded	32	33,687	-	-		31,580	-	-		28,793	-	-		20,525	-	-				
Total Equity Contracts	33	86,794	1,585	4,332		431	82,373	840	3,431		442	90,628	1,040	4,263		545	84,770	1,339	4,954	525
Credit Default Swaps																				
Over-the-counter																				
Purchased	34	3,047	1	55		2,288	1	55		2,425	1	55		2,426	-	52				
Written	35	443	9	-		142	4	-		123	4	-		116	2	-				
Total Credit Default Swaps	36	3,490	10	55		83	2,430	5	55		63	2,548	5	55		38	2,542	2	52	35
Sub-total	37	5,800,058	25,431	52,609		4,950	5,296,275	24,244	50,383		4,612	5,228,665	26,073	53,800		5,595	4,925,422	31,400	57,661	4,813
Impact of master netting agreements	38	n.a.	(15,575)	(29,170)		n.a.	(15,454)	(28,614)		n.a.	(17,130)	(31,371)		n.a.	(21,066)	(34,786)				
Total	39	5,800,058	9,856	23,439		4,950	5,296,275	8,790	21,769		4,612	5,228,665	8,943	22,429		5,595	4,925,422	10,334	22,875	4,813

(1) Risk-weighted assets are reported after the impact of master netting agreements and application of prescaling factor where applicable.

BASEL GLOSSARY

AIRB (Advanced Internal Ratings Based approach): The AIRB approach is the most advanced of the range of options for determining the capital requirements for credit risk. This option allows banks to use their own internal model to measure credit risk capital requirements, subject to regulatory approval. OSFI has indicated that it expects the largest Canadian Banks to adopt the AIRB approach.

Basel Capital Floor: A capital floor is measured based on the Basel standardized approach for credit risk and internal model market risk, as prescribed by OSFI in CAR.

Capital Adequacy Requirements (CAR): OSFI's Capital Adequacy Requirements guideline.

Credit Conversion Factor (CCF) converts an off balance sheet exposure to its credit exposure equivalent.

Credit Risk Mitigation (CRM) are techniques under the CAR that banks use to mitigate credit risk and applicable capital, including exposures collateralized by first priority claims, in whole or in part with cash or securities, a loan exposure guaranteed by a third party, or a credit derivative to offset various forms of credit risk.

Credit valuation adjustment (CVA) is the adjustment that a bank must add as capital charge to cover the risk of mark-to-market losses on the expected counterparty risk to OTC derivatives.

The Current exposure method (CEM) is a method to calculate the exposure at default for OTC derivatives when the Internal Models Method (IMM) is not used.

Drawn: The amount of funds invested or advanced to a customer.

Exposure at Default (EAD): EAD for on-balance sheet amounts represents outstandings, grossed up by provisions for credit losses on impaired loans and write-offs. EAD for undrawn and other off-balance sheet are estimated using CCFs.

Exposure at Default OTC Derivatives: Represent the net gross positive replacement costs plus the potential credit exposure amount.

HELOCs: Home Equity Lines of Credit comprise lines of credit secured by equity in a residential property.

OSFI: Office of the Superintendent of Financial Institutions.

Pillar 3: OSFI prescribed regulatory disclosures to promote market discipline.

Qualifying central counterparty (QCCP) is an entity that is licensed to operate as a central counterparty (CCP) and is permitted by the appropriate regulator/overseer to operate as such with respect to the products offered.

RWA Density is the ratio of Σ risk weighted assets / (total exposures post CCF and post CRM). It provides a synthetic metric on riskiness of each portfolio.

Scaling Factor: Regulatory requirement of an incremental multiplier of 1.06 applied to AIRB credit risk RWA.

Securities Financing Transactions (SFT): transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and wholesale margin lending transactions.

Standardized Approach: This option allows banks to measure capital requirements by multiplying exposures by defined percentages based on the exposures product type and external credit rating (if applicable).

Value at risk (VaR) is a measure of how much a set of investments might lose (with a given probability), given normal market conditions, in a set time period.