



**NATIONAL
BANK**

SUPPLEMENTARY REGULATORY CAPITAL AND PILLAR 3 DISCLOSURE

FIRST QUARTER 2019

(unaudited)

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This document is available via the Bank's web site: www.nbc.ca

Notes to users

- 1) This *Supplementary Regulatory Capital and Pillar 3 Disclosure* document is unaudited and should be read in conjunction with the 2018 Annual Report. All amounts are in millions of Canadian dollars unless otherwise stated.
- 2) The information provided in this document is subject to the same level of internal review and internal control processes as the information provided by the Bank for its financial reporting.
- 3) Financial information is available through the Report to Shareholders for all quarters of 2019 and also in the document entitled *Supplementary Financial Information* which are available on the Bank's website at nbc.ca. Prior reporting periods are also available on the Bank's website.
- 4) For certain prescribed tables formats where line or column items have zero balances, such items have not been presented.

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n.a. Not applicable

(1) Information available on the Bank's website at nbc.ca.

(2) These pages are included in the document entitled *Supplementary Financial Information - First quarter 2018*

(3) This page is included in the *Supplementary Regulatory Capital and Pillar 3 Disclosure - Fourth Quarter 2018*

KM2 – Key Metrics - TLAC Requirements⁽¹⁾

		2019
		Q1
		a
(unaudited) (million of Canadian dollars)		
1	Total loss-absorbing capacity (TLAC) available	12,547
2	Total RWA at the level of the resolution group	77,036
3	TLAC ratio: TLAC as a percentage of RWA (row 1 / row 2) (%)	16.3%
4	Leverage ratio exposure measure at the level of the resolution group	286,655
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row1 / row4) (%)	4.4%
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	yes
6b	Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	no
6c	If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is recognised as external TLAC, divided by funding issued that ranks pari passu with Excluded Liabilities and that would be recognised as external TLAC if no cap was applied (%)	n.a.

(1) Minimum TLAC ratios will be required starting November 1st, 2021.

OV1 – Overview of RWA⁽¹⁾

The following table provides an overview of total RWA forming the denominator of the risk-based capital requirements. Further breakdowns of RWA are presented in subsequent parts.

		Q1 2019	Q4 2018	Q1 2019
		a	b	c
		RWA ⁽¹⁾	RWA ⁽¹⁾	Minimum capital requirement ⁽²⁾
(unaudited) (millions of Canadian dollars)				
1	Credit risk (excluding counterparty credit risk)	55,090	54,467	4,407
2	Of which: standardised approach (SA)	9,588	9,341	767
3	Of which: foundation internal ratings-based (F-IRB) approach	–	–	–
4	Of which: supervisory slotting approach	–	–	–
5	Of which: advanced internal ratings-based (A-IRB) approach	45,502	45,126	3,640
6	Counterparty credit risk (CCR)	4,443	3,044	355
7	Of which: standardised approach for counterparty credit risk ⁽³⁾	4,443	3,044	355
8	Of which: internal model method (IMM)	–	–	–
9	Of which: other CCR	–	–	–
10	Credit valuation adjustment (CVA)	1,020	405	82
11	Equity positions under the simple risk weight approach⁽⁴⁾	924	926	74
12	Equity investments in funds – look-through approach	101	105	8
13	Equity investments in funds – mandate-based approach	–	–	–
14	Equity investments in funds – fall-back approach	75	70	6
15	Settlement risk	41	46	3
16	Securitization exposures in banking book	468	413	38
16a	Of which: subject to the transitional arrangement	(543)	–	(43)
17	Of which: securitization IRB approach (SEC-IRBA) ⁽⁵⁾	45	390	4
18	Of which: securitisation external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA) ⁽⁶⁾	966	23	77
19	Of which: securitisation standardised approach (SEC-SA)	–	–	–
20	Market risk	3,964	3,435	317
21	Of which: standardised approach (SA)	1,041	1,072	83
22	Of which: internal model approach (IMA)	2,923	2,363	234
23	Capital charge for switch between trading book and banking book	–	–	–
24	Operational risk	10,910	10,743	873
25	Amounts below the thresholds for deduction (subject to 250% risk weight)	–	–	–
26	Floor adjustment	–	–	–
27	Total (1+6+10+11+12+13+14+15+16+20+23+24+25+26)	77,036	73,654	6,163

(1) Risk weighted assets including de 1.06 scaling factor.

(2) The capital requirement is equal to 8% of risk weighted assets.

(3) Standardised approach (SA-CCR) for measuring exposure at default for counterparty credit risk is applicable in Q1-2019. Before it entered into force, NBC reported in row 1 information corresponding to the Current Exposures Method.

(4) Banking Book Equities that are not equity investments in funds (EIF) are treated under the materiality exemption and consequently reported in OV1 row 11 as the materiality exemption is available for AIRB banks.

(5) Q4 2018 values represent the IRB rating based approach (RBA) method applicable at this point in time.

(6) Q4 2018 values represent the IRB supervisory Formula Approach (SFA) method applicable at this point in time.

LI1 – Differences Between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statements with Regulatory Risk Categories⁽¹⁾

For the following tables columns a) and b) enable users to identify the differences between the scope of accounting consolidation and the scope of regulatory consolidation; and columns c) to g) break down how the amounts reported in banks' financial statements (rows) correspond to regulatory risk categories.

(unaudited) (millions of Canadian dollars)	Q1 2019						Carrying values of items ⁽²⁾ Not subject to capital requirements or subject to deduction from capital
	a	b	c	d	e	f	
	Carrying values as reported in published financial statements	Carrying values under scope of regulatory consolidation	Subject to credit risk framework	Subject to counterparty credit risk framework	Subject to the securitization framework	Subject to the market risk framework	
Assets							
Cash and deposits with financial institutions	12,353	12,353	12,353	–	–	475	–
Securities							
At fair value through profit or loss	59,411	59,355	3,805	–	11	55,539	–
At fair value through other comprehensive income	6,575	15,751	15,739	–	12	–	–
At amortized cost	8,727	9,007	7,509	–	1,498	–	–
	74,713	84,113	27,053	–	1,521	55,539	–
Securities purchased under reverse repurchase agreements and securities borrowed	15,162	14,355	–	14,355	–	–	–
Loans and acceptances							
Residential mortgage	54,131	33,039	28,338	–	–	5,122	–
Personal	36,698	36,698	36,698	–	–	–	–
Credit card	2,249	684	684	–	–	–	–
Business and government	47,469	47,469	47,469	–	–	246	–
	140,547	117,890	113,189	–	–	5,368	–
Customers' liability under acceptances	6,827	6,827	6,827	–	–	–	–
Allowances for credit losses	(664)	(188)	(188)	–	–	–	–
	146,710	124,529	119,828	–	–	5,368	–
Other							
Derivative financial instruments ⁽³⁾	7,157	7,268	–	7,268	–	6,477	–
Investments in associates and joint ventures	649	369	369	–	–	–	–
Premises and equipment	606	606	606	–	–	–	–
Goodwill	1,412	1,671	–	–	–	–	1,671
Intangible assets	1,332	1,139	–	–	–	–	1,139
Other assets	3,261	3,206	3,201	–	–	–	5
	14,417	14,259	4,176	7,268	–	6,477	2,815
Total assets	263,355	249,609	163,410	21,623	1,521	67,859	2,815
Liabilities							
Deposits	172,930	172,930	–	–	–	8,363	164,567
Other							
Acceptances	6,827	6,827	–	–	–	–	6,827
Obligations related to securities sold short	15,306	15,306	–	–	–	15,306	–
Obligations related to securities sold under repurchase agreements and securities loaned	21,311	21,676	–	21,676	–	–	–
Derivative financial instruments ⁽³⁾	6,251	6,828	–	6,828	–	5,539	–
Liabilities related to transferred receivables	19,298	19,298	–	–	–	3,713	15,585
Other liabilities	6,153	6,153	–	–	–	21	6,132
	75,146	76,088	–	28,504	–	24,579	28,544
Subordinated debt	764	764	–	–	–	–	764
Total liabilities	248,840	249,782	–	28,504	–	32,942	193,875

(1) The basis of consolidation used for financial accounting purposes, described in note 1 to the 2018 Annual Report audited consolidated financial statements, may differ from regulatory purposes.

The regulatory consolidation does not include structured entities, where significant risk has been transferred to third parties nor subsidiaries and associates engaged in insurance activities.

(2) The sum of amounts in columns c) to g) may not equal the amounts in column b) as some items may be subject to regulatory capital charges in more than one risk category.

(3) Derivatives financial instruments are subject to both counterparty credit risk and market risk frameworks.

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

The following table provides information on the main sources of differences (other than due to different scopes of consolidation which are shown in table LI1) between the financial statements' carrying value amounts and the exposure amounts used for regulatory purposes.

		Q1 2019				
		a	b	c	d	e
		Total	Items subject to ⁽¹⁾ :			Market risk framework
			Credit risk framework	Securitization framework	Counterparty credit risk framework	
(unaudited) (millions of Canadian dollars)						
1	Asset carrying value amount under scope of regulatory consolidation (as per template LI1)	246,794	163,410	1,521	21,623	67,859
2	Liabilities carrying value amount under scope of regulatory consolidation (as per template LI1)	55,907	–	–	28,504	32,942
3	Total net amount under regulatory scope of consolidation	190,887	163,410	1,521	(6,881)	34,917
4	<i>Gross-up for repo-style transactions⁽²⁾</i>	43,352	–	–	43,352	–
5	<i>Potential future exposures (PFE)⁽³⁾</i>	8,464	–	–	8,464	–
6	<i>Off-balance sheet amounts⁽⁴⁾</i>	159,848	42,788	3,389	87,435	–
7	<i>Differences due to different netting rules, other than those already included in row 2 including collateral</i>	2,095	–	–	2,095	–
8	VaR amounts for Securities Financing Transactions (SFTs)	2,879	–	–	2,879	–
9	<i>Differences in valuations</i>	–	–	–	–	–
10	<i>Collateral for SFTs</i>	(119,555)	–	–	(119,555)	–
11	Exposure amounts considered for regulatory purposes⁽⁵⁾	287,970	206,198	4,910	17,789	34,917

(1) The sum of amounts in columns b) to e) may not equal the amounts in column a) as some items may be subject to regulatory capital charges in more than one risk category.

(2) Is equal to two times the Obligations related to securities sold under repurchase agreements and securities loaned subject to counterparty credit risk framework from table LI1.

(3) The PFE amount is presented after the alpha of 1.4.

(4) Original off-balance sheet amounts are presented in column (a) while in columns (b) through [e] exposures are after application of credit conversion factors (CCFs).

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

CC1 – Composition of Regulatory Capital

		2019	2018				
		Q1	Q4	Q3	Q2	Q1	
		Reference ⁽¹⁾					
(unaudited) (millions of Canadian dollars)							
Common Equity Tier 1 capital: instruments and reserves							
1	Directly issued qualifying common share capital plus related contributed surplus ⁽²⁾	a + a'	2,933	2,879	2,878	2,920	2,913
2	Retained earnings	b	8,695	8,472	8,404	8,018	7,785
3	Accumulated other comprehensive income and other reserves	c	65	175	159	139	110
4	Directly issued capital subject to phase out from CET1 (only applicable to non-joint stock companies)		–	–	–	–	–
5	Common share capital issued by subsidiaries and held by third parties (amount allowed in group CET1)	d	15	13	10	10	8
6	Common Equity Tier 1 capital before regulatory adjustments		11,708	11,539	11,451	11,087	10,816
Regulatory adjustments to Common Equity Tier 1 capital							
7	Prudential valuation adjustments		–	–	–	–	–
8	Goodwill (net of related tax liability)	e - w	(1,671)	(1,671)	(1,668)	(1,671)	(1,662)
9	Intangible assets other than mortgage-servicing rights	f - x	(1,139)	(1,121)	(1,099)	(1,100)	(1,073)
10	Deferred tax assets excluding those arising from temporary differences (net of related tax liability)	g	–	–	–	–	–
11	Accumulated other comprehensive income related to cash flow hedges	h	(48)	(151)	(138)	(137)	(152)
12	Shortfall of total provisions to expected losses	i	–	–	–	–	–
13	Securitisation gain on sale		–	–	–	–	–
14	Gains (losses) due to changes in own credit risk on fair valued liabilities	j	(23)	32	39	62	81
15	Defined benefit pension plan assets (net of related tax liability)	k - y	(5)	(11)	(93)	(4)	(3)
16	Investments in own shares (if not already netted off contributed surplus on reported balance sheet)		–	(9)	(3)	(1)	(5)
17	Reciprocal cross holdings in common equity		–	–	–	–	–
18	Non-significant investments in capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)	l	–	–	–	–	–
19	Significant investments in the common stock of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions (amount above 10% threshold)	m	–	–	–	–	–
20	Mortgage servicing rights (amount above 10% threshold)		–	–	–	–	–
21	Deferred tax assets arising from temporary differences (amount above 10% threshold, net of related tax liability)		–	–	–	–	–
22	Amount exceeding the 15% threshold		–	–	–	–	–
23	of which: significant investments in the common stock of financials	n	–	–	–	–	–
24	of which: mortgage servicing rights		–	–	–	–	–
25	of which: deferred tax assets arising from temporary differences	o	–	–	–	–	–
26	Other deductions or regulatory adjustments to CET1 as determined by OSFI (including regulatory adjustments in respect of own use property)		–	–	–	–	–
27	Regulatory adjustments applied to Common Equity Tier 1 due to insufficient Additional Tier 1 and Tier 2 to cover deductions		–	–	–	–	–
28	Total regulatory adjustments to Common equity Tier 1		(2,886)	(2,931)	(2,962)	(2,851)	(2,814)
29	Common Equity Tier 1 capital (CET1)		8,822	8,608	8,489	8,236	8,002
Additional Tier 1 capital: instruments							
30	Directly issued qualifying Additional Tier 1 instruments plus related contributed surplus ⁽²⁾		2,450	2,450	2,450	2,150	2,150
31	of which: classified as equity under applicable accounting standards	v + z	2,450	2,450	2,450	2,150	2,150
32	of which: classified as liabilities under applicable accounting standards	p	–	–	–	–	–
33	Directly issued capital instruments subject to phase out from Additional Tier 1 ⁽²⁾	v' + z' + p'	350	350	350	750	750
34	Additional Tier 1 instruments (and CET1 instruments not included in row 5) issued by subsidiaries and held by third parties (amount allowed in group AT1)	q	3	3	2	2	2
35	of which: instruments issued by subsidiaries subject to phase out		–	–	–	–	–
36	Additional Tier 1 capital before regulatory adjustments		2,803	2,803	2,802	2,902	2,902

(1) Reconciliation with Balance Sheet is presented on page 12.

(2) A complete list of capital instruments and their main features is now available on the Bank's website at nbc.ca under *Investor Relations > Capital & Debt Information > Main Features of Regulatory Capital Instruments*.

CC1 – Composition of Regulatory Capital (continued)

		2019		2018		
		Q1	Q4	Q3	Q2	Q1
(unaudited) (millions of Canadian dollars)		Reference ⁽¹⁾				
Additional Tier 1 capital: regulatory adjustments						
37	Investments in own Additional Tier 1 instruments		-	-	-	-
38	Reciprocal cross holdings in Additional Tier 1 instruments		-	-	-	-
39	Non-significant investments in the capital of banking, financial and insurance entities, net of eligible short positions (amount above 10% threshold)		-	-	-	-
40	Significant investments in the capital of banking, financial and insurance entities that are outside the scope of regulatory consolidation, net of eligible short positions		-	-	-	-
41	Other deductions from Tier 1 capital as determined by OSFI		(1)	(1)	(1)	(1)
41a	of which: Reverse mortgages		(1)	(1)	(1)	(1)
42	Regulatory adjustments applied to Additional Tier 1 due to insufficient Tier 2 to cover deductions		-	-	-	-
43	Total regulatory adjustments to Additional Tier 1 capital		(1)	(1)	(1)	(1)
44	Additional Tier 1 capital (AT1)		2,802	2,802	2,801	2,901
45	Tier 1 capital (T1 = CET1 + AT1)		11,624	11,410	11,290	11,137
Tier 2 capital: instruments and allowances						
46	Directly issued qualifying Tier 2 instruments plus related contributed surplus ⁽²⁾	r	750	750	750	750
47	Directly issued capital instruments subject to phase out from Tier 2 ⁽²⁾	r'	9	9	9	9
48	Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2)	s	4	4	3	3
49	of which: instruments issued by subsidiaries subject to phase out		-	-	-	-
50	Allowances for credit losses	t	188	179	155	164
51	Tier 2 capital before regulatory adjustments		951	942	917	926
Tier 2 capital: regulatory adjustments						
52	Investments in own Tier 2 instruments		-	-	-	-
53	Reciprocal cross holdings in Tier 2 instruments and Other TLAC-eligible instruments		-	-	-	-
54	Non-significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation, where the institution does not own more than 10% of the issued common share capital of the entity (amount above 10% threshold)		(28)	-	-	-
54a	[Reporting row for G-SIBs and D-SIBs only] Non-significant investments in the other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs, where the institution does not own more than 10% of the issued common share capital of the entity: amount previously designated for the 5% threshold but no longer meets the conditions		(28)	-	-	-
55	Significant investments in the capital of banking, financial and insurance entities and Other TLAC-eligible instruments issued by G-SIBs and Canadian D-SIBs that are outside the scope of regulatory consolidation		-	-	-	-
56	Other deductions from Tier 2 capital		-	-	-	-
57	Total regulatory adjustments to Tier 2 capital		(28)	-	-	-
58	Tier 2 capital (T2)		923	942	917	926
59	Total capital (TC = T1 + T2)		12,547	12,352	12,207	12,063

(1) Reconciliation with Balance Sheet is presented on page 12.

(2) A complete list of capital instruments and their main features is now available on the Bank's website at nbc.ca under *Investor Relations > Capital & Debt Information > Main Features of Regulatory Capital Instruments*.

CC1 – Composition of Regulatory Capital (continued)

		2019	2018			
		Q1	Q4	Q3	Q2	Q1
(unaudited) (millions of Canadian dollars)						
60	Total risk-weighted assets	77,036	73,685	73,331	72,895	71,362
60a	Common Equity Tier 1 Capital RWA (CET1)	77,036	73,654	73,268	72,834	71,179
60b	Tier 1 Capital RWA	77,036	73,670	73,300	72,865	71,271
60c	Total capital RWA	77,036	73,685	73,331	72,895	71,362
Capital ratios						
61	Common Equity Tier 1 (as a percentage of risk weighted assets)	11.5%	11.7%	11.6%	11.3%	11.2%
62	Tier 1 (as a percentage of risk weighted assets)	15.1%	15.5%	15.4%	15.3%	15.3%
63	Total capital (as a percentage of risk weighted assets)	16.3%	16.8%	16.7%	16.6%	15.5%
64	Institution-specific 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%
65	of which: capital conservation buffer requirement	2.5%	2.5%	2.5%	2.5%	2.5%
66	of which: bank-specific countercyclical buffer	0.0%	0.0%	0.0%	0.0%	0.0%
67	of which: G-SIB buffer requirement	n.a.	n.a.	n.a.	n.a.	n.a.
67a	of which: D-SIBs buffer requirement	1.0%	1.0%	1.0%	1.0%	1.0%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk weighted assets)	11.5%	11.7%	11.6%	11.3%	11.2%
OSFI target (minimum + capital conservation buffer + D-SIB buffer)⁽¹⁾						
69	Common Equity Tier 1 all-in target ratio	8.0%	8.0%	8.0%	8.0%	8.0%
70	Tier 1 capital all-in target ratio	9.5%	9.5%	9.5%	9.5%	9.5%
71	Total capital all-in target ratio	11.5%	11.5%	11.5%	11.5%	11.5%
Amounts below the thresholds for deduction (before risk weighting)						
72	Non-significant investments in the capital and other TLAC-eligible instruments of other financials entities	549	311	366	481	658
73	Significant investments in the common stock of financials	287	270	255	241	235
74	Mortgage servicing rights (net of related tax liability)	–	–	–	–	–
75	Deferred tax assets arising from temporary differences (net of related tax liabilities)	42	38	43	58	50
Applicable caps on the inclusion of allowances in Tier 2						
76	Allowance eligible for inclusion in Tier 2 in respect of exposures subject to standardised approach (prior to application of cap)	70	67	66	68	61
77	Cap on inclusion of allowances in Tier 2 under standardised approach	97	90	89	90	83
78	Allowance eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (prior to application of cap)	118	112	89	96	93
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach	326	314	307	308	310
Capital instruments subject to phase-out arrangements (only applicable between January 1, 2013 and January 1, 2022)						
80	Current cap on CET1 instruments subject to phase out arrangements	–	–	–	–	–
81	Amount excluded from CET1 due to cap (excess over cap after redemptions and maturities)	–	–	–	–	–
82	Current cap on AT1 instruments subject to phase out arrangements	581	775	775	775	775
83	Amount excluded from AT1 due to cap (excess over cap after redemptions and maturities)	–	–	–	–	–
84	Current cap on T2 instruments subject to phase out arrangements	715	953	953	953	953
85	Amount excluded from T2 due to cap (excess over cap after redemptions and maturities)	–	–	–	–	–

(1) Do not include the domestic stability buffer.

CC2 - Reconciliation of Regulatory Capital to Balance Sheet⁽¹⁾

(unaudited) (millions of Canadian dollars)

	Q1 2019		
	Cross - Reference to Definition of Capital ⁽²⁾	As In Report to Shareholders	Under scope of regulatory consolidation
Assets			
Cash and deposits with financial institutions		12,353	12,353
Securities		74,713	84,113
Non-significant investments in capital of other financial institutions reflected in regulatory capital	l	-	-
Other securities		74,713	84,113
Assets purchased under reverse repurchase agreements and securities borrowed		15,162	14,355
Loans			
Residential mortgage		54,131	33,039
Personal		36,698	36,698
Credit card		2,249	684
Business and government		47,469	47,469
Customers' liability under acceptances		6,827	6,827
Less: Allowances for credit losses		(664)	(188)
Allowance reflected in Tier 2 regulatory capital	t	-	(188)
Shortfall of allowances to expected loss	i	-	-
Allowances not reflected in regulatory capital		-	(476)
Other assets			
Derivative financial instruments		7,157	7,268
Other		7,260	6,991
Goodwill	e	-	1,671
Intangibles assets	f	-	1,332
Deferred tax assets		-	507
Deferred tax assets excluding those arising from temporary differences	g	-	-
Deferred tax assets arising from temporary differences exceeding regulatory thresholds	o	-	-
Deferred tax assets - realize through loss carrybacks		-	465
Deferred tax assets - other temporary differences		-	42
Defined-benefit pension fund net assets	k	-	7
Significant Investments in other financial institutions		-	287
Significant investments exceeding regulatory thresholds	m + n	-	-
Significant investments not exceeding regulatory thresholds		-	287
Other		-	3,187
Total assets		263,355	249,609
Liabilities			
Deposits		172,930	172,930
Derivatives financial instruments		6,251	6,828
Other liabilities		68,895	69,260
Gains and losses due to changes in own credit risk on fair value liabilities	j	-	23
Deferred tax liabilities		-	168
Related to goodwill	w	-	-
Related to intangibles	x	-	193
Related to pensions	y	-	2
Other deferred tax liabilities		-	(27)
Other		-	69,069
Subordinated debt		764	764
Regulatory capital amortization of maturing debentures		-	-
Fair value adjustment and unamortized issuance cost		-	5
Subordinated debentures not allowed for regulatory capital	s	-	-
Subordinated debentures used for regulatory capital		-	759
Allowed for inclusion in Tier 2 capital	r	-	750
Subject to phase out	r'	-	9
Total liabilities		248,840	249,782
Equity Attributable to Shareholders		14,143	14,143
Common shares	a	-	2,880
Contributed surplus	a'	-	53
Retained earnings	b	-	8,695
Accumulated Other Comprehensive Income (loss)	c	-	65
Net gains (losses) on instruments designated as cash flow hedges	h	-	48
Net foreign currency translation adjustments		-	8
Other		-	9
Preferred shares		-	2,450
of which: are qualifying	v	-	2,450
of which: are subject to phase out	v'	-	-
Non-controlling Interest		372	374
Innovative Instruments		-	352
of which: are qualifying		-	-
of which: are subject to phase out	p'	-	350
Other		-	2
Portion allowed for inclusion into CET1	d	-	15
Portion allowed for inclusion into Tier 1 capital	q	-	3
Portion allowed for inclusion into Tier 2 capital	s	-	4
Portion not allowed for regulatory capital		-	-
Total Equity		14,515	14,517
Total Liabilities and Equity		263,355	264,299

(1) The basis of consolidation used for financial accounting purposes, described in note 1 to the 2018 Annual Report audited consolidated financial statements, may differ from regulatory purposes. The regulatory consolidation does not include structured entities, where significant risk has been transferred to third parties nor subsidiaries and associates engaged in insurance activities. Total assets related to Insurance activities and National Bank Life Insurance Company, and other are \$164 million and \$16 million respectively.

(2) The references identify balance sheet components which are used in calculation of regulatory capital on pages 9 to 11.

TLAC1 – TLAC Composition⁽¹⁾

(unaudited) (millions of Canadian dollars)		2019
		Q1
Regulatory capital elements of TLAC and adjustments		
1	Common Equity Tier 1 capital (CET1)	8,822
2	Additional Tier 1 capital (AT1) before TLAC adjustments	2,803
3	AT1 ineligible as TLAC as issued out of subsidiaries to third parties ⁽²⁾	–
4	Other adjustments	(1)
5	AT1 instruments eligible under the TLAC framework	2,802
6	Tier 2 capital (T2) before TLAC adjustments	951
7	Amortised portion of T2 instruments where remaining maturity > 1 year	–
8	T2 capital ineligible as TLAC as issued out of subsidiaries to third parties ⁽²⁾	–
9	Other adjustments	(28)
10	T2 instruments eligible under the TLAC framework	923
11	TLAC arising from regulatory capital	12,547
Non-regulatory capital elements of TLAC		
12	External TLAC instruments issued directly by the bank and subordinated to excluded liabilities	–
13	External TLAC instruments issued directly by the bank which are not subordinated to excluded liabilities but meet all other TLAC term sheet requirements	–
14	Of which: amount eligible as TLAC after application of the caps	–
15	External TLAC instruments issued by funding vehicles prior to January 1, 2022	–
16	Eligible ex ante commitments to recapitalise a G-SIB in resolution	–
17	TLAC arising from non-regulatory capital instruments before adjustments	–
Non-regulatory capital elements of TLAC: adjustments		
18	TLAC before deductions	12,547
19	Deductions of exposures between MPE resolution groups that correspond to items eligible for TLAC (not applicable to SPE G-SIBs and D-SIBs)	–
20	Deduction of investments in own other TLAC liabilities	–
21	Other adjustments to TLAC	–
22	TLAC available after deductions	12,547
Risk-weighted assets and leverage exposure measure for TLAC purposes		
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	77,036
24	Leverage exposure measure	286,655
TLAC ratios and buffers		
25	TLAC ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	16.3%
26	TLAC Leverage ratio (as a percentage of leverage exposure)	4.4%
27	CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements	n.a.
28	Institution-specific buffer requirement (capital conservation buffer plus countercyclical buffer plus higher loss absorbency, expressed as a percentage of risk-weighted assets)	3.5%
29	Of which: capital conservation buffer	2.5%
30	Of which: bank specific countercyclical buffer	–
31	Of which: D-SIB \ G-SIB buffer	1.0%

(1) Minimum TLAC ratios will be required starting November 1st, 2021.

(2) AT1 and T2 capital issued out of subsidiaries to third parties will be eligible as TLAC up to January 1st, 2022.

TLAC3 – Creditor Ranking at Legal Entity Level⁽¹⁾

		Q1 2019					
		Creditor ranking				Sum (1 to 5)	
		1	2	3	4 ⁽²⁾	5 ⁽³⁾	
		Most junior			Most senior		
1	Description of creditor ranking	Common shares	Preferred shares	Subordinated debt	Bail-in debt	Other liabilities excluding Bail-in debt	
2	Total capital and liabilities net of credit risk mitigation	2,880	2,450	759	–	–	6,089
3	Subset of row 2 that are excluded liabilities	–	–	–	–	–	–
4	Total capital and liabilities less excluded liabilities (row 2 minus row 3)	2,880	2,450	759	–	–	6,089
5	Subset of row 4 that are potentially eligible as TLAC	2,880	2,450	759	–	–	6,089
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	–	–	–	–	–	–
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	–	–	–	–	–	–
8	Subset of row 5 with 5 years ≤ residual maturity < 10 years	–	–	750	–	–	750
9	Subset of row 5 residual maturity ≥ 10 years, but excluding perpetual securities	–	–	9	–	–	9
10	Subset of row 5 that is perpetual securities	2,880	2,450	–	–	–	5,330

(1) This table provides creditors of the legal entity National Bank of Canada with information regarding their ranking in its liabilities structure.

(2) Bail-in Debt is reflected as subordinated to Other Liabilities.

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

(3) OSFI doesn't require to complete this column at this time.

LR1 - Summary Comparison of Accounting Assets vs Leverage Ratio Exposure Measure

(unaudited) (millions of Canadian dollars)

		2019	2018			
		Q1	Q4	Q3	Q2	Q1
Accounting assets vs. leverage ratio exposure						
1	Total consolidated assets as per published financial statements	263,355	262,471	257,637	256,259	251,065
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	(3)	(15)	(33)	(58)	(68)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference ⁽¹⁾	(904)	-	-	-	-
4	Adjustment for fiduciary assets recognised on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	-	-	-	-	-
5	Adjustment for derivative financial instruments ⁽²⁾	3,808	2,684	2,939	3,090	3,635
6	Adjustment for securities financing transactions (i.e. repos and similar secured lending) ⁽²⁾	1,920	1,122	3,062	2,516	(487)
7	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	23,050	22,162	21,492	21,796	20,713
8	Other adjustments	(4,571)	(4,087)	(4,401)	(4,777)	(5,299)
9	Leverage Ratio Exposure	286,655	284,337	280,696	278,826	269,559

(1) OSFI's October 2018 Leverage Requirements Guideline now allows for the exclusion of securitized exposures that meet the operational requirements for risk transference. This exclusion is not applicable for prior quarters.

(2) Adjustments due to differences between accounting and regulatory netting standards.

LR2 - Leverage Ratio Common Disclosure Template

(unaudited) (millions of Canadian dollars)

	2019	2018			
	Q1	Q4	Q3	Q2	Q1
Leverage ratio common disclosure					
On-balance sheet exposures					
1	238,422	234,603	232,327	228,798	223,550
2	-	-	-	-	-
3	-	-	-	-	-
4	(2,865)	(3,003)	(3,003)	(2,914)	(2,897)
5	235,557	231,600	229,324	225,884	220,653
Derivative exposures					
6	2,483	3,897	4,034	4,270	3,991
7	8,463	7,373	6,502	6,725	8,166
8	-	-	-	-	-
9	20	22	29	-	4
10	-	-	-	-	-
11	10,966	11,292	10,565	10,995	12,161
Securities financing transaction exposures					
12	15,162	18,159	16,253	17,636	16,520
13	(2,063)	(2,974)	(1,127)	(2,196)	(4,637)
14	3,983	4,097	4,189	4,712	4,149
15	-	-	-	-	-
16	17,082	19,282	19,315	20,152	16,032
Other off-balance sheet exposures					
17	71,491	70,091	68,195	68,811	66,194
18	(48,441)	(47,928)	(46,703)	(47,016)	(45,481)
19	23,050	22,163	21,492	21,795	20,713
Capital and Total Exposures					
20	11,624	11,410	11,290	11,137	10,903
21	286,655	284,337	280,696	278,826	269,559
Leverage Ratio					
22	4.1%	4.0%	4.0%	4.0%	4.0%

CR1 - Credit Quality of Assets⁽¹⁾

The following table provides a comprehensive picture of the credit quality of a bank's (on- and off-balance sheet) assets.

		Q1 2019				Q4 2018			
		a	b	c	d	a	b	c	d
		Gross carrying values ⁽²⁾ of		Allowances for credit losses ⁽⁴⁾	Net values (a+b-c)	Gross carrying values ⁽²⁾ of		Allowances for credit losses ⁽⁴⁾	Net values (a+b-c)
Default exposures ⁽³⁾	Non-default exposures	Default exposures ⁽³⁾	Non-default exposures						
(unaudited) (millions of Canadian dollars)									
1	Loans ⁽⁵⁾	572	129,558	665	129,465	593	129,888	659	129,822
2	Debt Securities	–	16,791	1	16,790	–	15,723	1	15,722
3	Off-balance-sheet commitments ⁽⁶⁾	22	68,892	62	68,852	19	67,419	54	67,384
4	Total	594	215,241	728	215,107	612	213,030	714	212,928

(1) Excludes insurances subsidiaries and securitization exposures.

(2) Gross carrying values of on- and off-balance sheet items that give rise to a credit risk exposure according to the Basel framework (gross of CCF or CRM techniques).

(3) Definition of default as per the CAR guidelines.

(4) Represent allowances for credit losses according to IFRS 9.

(5) Includes deposits with financial institutions.

(6) For completeness purposes, revocable commitments are included.

CR2 - Changes in Stock of Defaulted Loans and Debt Securities

The following table identifies the change in a 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.

(unaudited) (millions of Canadian dollars)		Q1 2019
		a
1	Defaulted loans ⁽¹⁾ and debt securities at beginning	593
2	Loans and debt securities that have defaulted since the last reporting period	226
3	Returned to non-defaulted status since the last reporting period	(47)
4	Amounts written off	(85)
5	Other changes ⁽²⁾	(115)
6	Defaulted loans⁽¹⁾ and debt securities at end	572

(1) Includes deposits with financial institutions

(2) Includes net repayments and foreign exchange movements.

CR3 - Credit Risk Mitigation Techniques - Overview

The following tables disclose the extent of use of credit risk mitigation techniques.

		Q1 2019				
		a	b1	b	d	f
(unaudited) (millions of Canadian dollars)		Exposures unsecured: carrying amount ⁽¹⁾	Exposures subject to risk mitigation techniques ⁽¹⁾	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Loans ⁽²⁾	68,659	61,438	56,140	5,220	–
2	Debt securities	16,791	–	–	–	–
3	Total	85,450	61,438	56,140	5,220	–
4	Of which defaulted	290	243	204	36	–

		Q4 2018				
		a	b1	b	d	f
(unaudited) (millions of Canadian dollars)		Exposures unsecured: carrying amount ⁽¹⁾	Exposures subject to risk mitigation techniques ⁽¹⁾	Exposures secured by collateral	Exposures secured by financial guarantees	Exposures secured by credit derivatives
1	Loans ⁽²⁾	69,401	61,049	55,526	5,436	–
2	Debt securities	15,723	–	–	–	–
3	Total	85,124	61,049	55,526	5,436	–
4	Of which defaulted	255	299	260	37	–

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

(2) Includes deposits with financial institutions.

Distribution of Gross Credit Risk Exposure (Non-Retail Portfolio by Industries)

(unaudited) (millions of Canadian dollars)	2019						2018											
	Q1						Q4						Q3					
	EAD - Gross Exposure ⁽¹⁾																	
	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total
Non-Retail Portfolio																		
Agriculture	4,919	288	4	-	-	5,211	4,794	321	4	-	-	5,119	4,657	327	6	-	-	4,990
Oil & Gas and Pipelines ⁽²⁾	4,445	3,402	253	-	-	8,100	4,131	3,384	245	-	-	7,760	3,850	3,490	225	8	-	7,573
<i>Oil and Gas</i>	2,792	2,035	147	-	-	4,974	2,582	2,058	151	-	-	4,791	2,458	2,148	131	8	-	4,745
<i>Pipelines & Other</i>	1,653	1,367	106	-	-	3,126	1,549	1,326	94	-	-	2,969	1,392	1,342	94	-	-	2,828
Mining	915	976	146	-	-	2,037	959	878	137	-	-	1,974	808	838	120	-	-	1,766
Utilities	3,239	1,910	774	-	-	5,923	3,145	1,861	754	-	-	5,760	2,905	1,866	720	-	1	5,492
Construction Non-Real Estate ⁽²⁾⁽³⁾	1,215	585	109	-	-	1,909	1,236	427	122	-	-	1,785	1,388	370	91	-	-	1,849
Manufacturing ⁽²⁾	5,294	1,999	217	-	-	7,510	5,283	1,878	233	-	-	7,394	5,029	1,751	242	-	-	7,022
Wholesale Trade	2,092	700	55	-	-	2,847	2,102	693	52	-	-	2,847	2,128	578	56	-	-	2,762
Retail Trade	3,349	1,018	46	-	-	4,413	2,970	1,052	43	-	-	4,065	2,973	1,128	41	-	-	4,142
Transportation ⁽²⁾	1,514	1,066	69	19	-	2,668	1,488	1,070	71	31	-	2,660	1,446	1,013	67	30	-	2,556
Communications	1,560	816	819	-	-	3,195	1,608	644	193	-	-	2,445	1,627	646	194	-	-	2,467
Finance and Insurance	26,530	3,665	1,444	105,098	3,418	140,155	28,673	3,606	1,118	113,436	4,138	150,971	25,243	3,295	846	115,720	3,614	148,718
Real Estate and Construction																		
Real Estate ⁽²⁾⁽⁴⁾	10,484	2,747	244	-	-	13,475	11,107	2,748	204	-	-	14,059	10,312	2,405	194	-	-	12,911
Professional Services	1,519	774	360	-	-	2,653	1,384	704	372	-	-	2,460	1,365	653	345	-	-	2,363
Education & Health Care ⁽²⁾	3,326	1,318	7	2	-	4,653	3,153	1,219	8	3	-	4,383	3,175	1,030	7	6	-	4,218
Other Services	4,497	1,473	348	15	-	6,333	4,481	1,320	350	1	1	6,153	4,602	1,236	331	3	-	6,172
Government	4,489	1,438	3	20,389	232	26,551	2,119	1,288	3	19,979	46	23,435	5,448	1,183	12	19,611	447	26,701
Other	3,839	32	482	822	-	5,175	3,355	32	471	410	13	4,281	3,089	32	505	1,081	-	4,707
Total - Non-retail⁽⁵⁾	83,226	24,207	5,380	126,345	3,650	242,808	81,988	23,125	4,380	133,860	4,198	247,551	80,045	21,841	4,002	136,459	4,062	246,409

(1) EAD amounts are after securitization and exclude trading related portfolio.

(2) The presentation of certain borrower categories have been changed in Q1 2019. Comparative figures have been revised.

(3) Includes civil engineering, public private partnership and project finance loans.

(4) Includes residential mortgages 5 units and more.

(5) This total excludes SME retail exposure.

Distribution of Gross Credit Risk Exposure (Non-Retail Portfolio by Industries) (continued)

(unaudited) (millions of Canadian dollars)	2018												2017					
	Q2						Q1						Q4					
	EAD - Gross Exposure ⁽¹⁾																	
	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total	Drawn	Undrawn commitments	Other	Repo-style transactions	OTC Derivatives	Total
Non-Retail Portfolio																		
Agriculture	4,338	417	6	-	-	4,761	4,156	268	7	-	-	4,431	4,017	310	6	-	-	4,333
Oil & Gas and Pipelines ⁽²⁾	3,457	3,874	217	-	-	7,548	3,410	3,430	185	-	-	7,025	3,316	3,477	117	-	-	6,910
<i>Oil and Gas</i>	2,302	2,146	129	-	-	4,577	2,244	1,972	117	-	-	4,333	2,211	1,957	56	-	-	4,224
<i>Pipelines & Other</i>	1,155	1,728	88	-	-	2,971	1,166	1,458	68	-	-	2,692	1,105	1,520	61	-	-	2,686
Mining	764	861	120	-	-	1,745	385	833	45	-	-	1,263	411	817	52	-	-	1,280
Utilities	2,544	1,964	677	-	1	5,186	2,604	1,848	601	-	-	5,053	2,723	1,737	515	-	-	4,975
Construction Non-Real Estate ⁽²⁾⁽³⁾	1,502	449	96	-	-	2,047	1,403	311	109	-	-	1,823	1,461	287	114	-	-	1,862
Manufacturing ⁽²⁾	4,614	1,919	256	-	-	6,789	4,336	2,049	235	-	-	6,620	4,094	1,916	227	-	-	6,237
Wholesale Trade	2,090	580	43	-	-	2,713	1,936	589	37	-	-	2,562	1,981	753	38	-	-	2,772
Retail Trade	3,068	1,119	46	-	-	4,233	3,126	1,106	45	-	-	4,277	2,933	1,158	40	-	-	4,131
Transportation ⁽²⁾	1,487	835	66	32	-	2,420	1,467	793	65	29	-	2,354	1,373	890	62	22	-	2,347
Communications	1,567	778	193	-	-	2,538	1,408	832	190	-	-	2,430	1,555	810	207	-	-	2,572
Finance and Insurance	23,236	3,494	601	125,811	4,167	157,309	22,533	3,222	597	127,147	4,427	157,926	23,780	2,289	838	114,967	3,592	145,466
Real Estate and Construction																		
Real Estate ⁽²⁾⁽⁴⁾	10,431	2,329	202	51	-	13,013	10,189	2,233	156	58	-	12,636	9,823	1,717	127	56	-	11,723
Professional Services	1,315	653	360	-	-	2,328	1,210	661	360	-	-	2,231	1,232	565	414	-	-	2,211
Education & Health Care ⁽²⁾	3,042	1,264	8	3	-	4,317	3,092	1,162	9	5	-	4,268	2,752	987	8	9	-	3,756
Other Services	4,621	1,199	279	3	-	6,102	4,427	1,248	285	-	-	5,960	4,604	999	310	1	-	5,914
Government	4,480	1,349	18	18,584	-	24,431	4,450	1,376	16	19,100	-	24,942	4,750	1,414	17	14,592	-	20,773
Other	2,966	32	566	1,542	22	5,128	2,652	34	584	112	5	3,387	2,579	93	629	97	15	3,413
Total - Non-retail⁽⁵⁾	75,522	23,116	3,754	146,026	4,190	252,608	72,784	21,995	3,526	146,451	4,432	249,188	73,384	20,219	3,721	129,744	3,607	230,675

(1) EAD amounts are after securitization and exclude trading related portfolio.

(2) The presentation of certain borrower categories have been changed in Q1 2019. Comparative figures have been revised.

(3) Includes civil engineering, public private partnership and project finance loans.

(4) Includes residential mortgages 5 units and more.

(5) This total excludes SME retail exposure.

Gross Credit Risk Exposure at Default in Europe⁽¹⁾

(unaudited) (millions of Canadian dollars)	2019						2018											
	Q1						Q4						Q3					
	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	52	22	317	-	1	392	54	19	6,578	6	-	6,657	49	14	6,135	3	-	6,201
Italy	-	-	-	-	-	-	-	-	99	-	1	100	-	-	200	-	1	201
Portugal	-	-	-	-	40	40	-	-	-	-	-	-	-	-	-	-	-	-
Spain	1	-	14	-	-	15	1	-	-	1	42	44	1	-	-	3	40	44
Total PIIGS	53	22	331	-	41	447	55	19	6,677	7	43	6,801	50	14	6,335	6	41	6,446
France	22	36	1,349	1	29	1,437	14	39	1,579	2	262	1,896	13	41	1,300	2	250	1,606
Germany	148	45	-	24	253	470	143	51	-	8	27	229	140	59	-	8	37	244
United Kingdom	786	-	16,612	941	4	18,343	538	-	18,101	3,015	3	21,657	384	-	18,156	1,733	2	20,275
Other Europe	100	4	1,643	169	9	1,925	87	4	1,837	102	9	2,039	51	4	153	98	9	315
Total - Credit Risk	1,109	107	19,935	1,135	336	22,622	837	113	28,194	3,134	344	32,622	638	118	25,944	1,847	339	28,886

Adjustment to exposure for collateral	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total
	Total - Net Credit Risk⁽⁴⁾	1,109	107	587	336	2,139	837	113	2,185	344	3,479	638	118	1,291	339

(unaudited) (millions of Canadian dollars)	2018						2017											
	Q2						Q1						Q4					
	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Repo-style transactions ⁽²⁾	OTC derivatives	Other off-balance sheet items ⁽³⁾	Total
Greece	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	66	-	6,232	10	-	6,308	-	-	4,467	4	-	4,471	1	-	1,091	5	-	1,097
Italy	-	-	100	-	1	101	-	-	-	-	-	-	-	-	-	-	1	1
Portugal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	2	-	-	1	47	50	-	-	-	7	46	53	-	-	-	-	68	68
Total PIIGS	68	-	6,332	11	48	6,459	-	-	4,467	11	46	4,524	1	-	1,091	5	69	1,166
France	31	43	1,326	207	243	1,850	147	34	768	206	315	1,470	88	41	902	136	363	1,530
Germany	141	64	-	7	41	253	-	-	-	2	37	39	-	-	-	2	55	57
United Kingdom	565	1	16,137	1,837	2	18,542	721	7	16,657	1,510	4	18,899	302	5	13,891	950	4	15,152
Other Europe	86	4	2,182	112	9	2,393	45	4	2,388	140	53	2,630	54	-	2,917	108	3	3,082
Total - Credit Risk	891	112	25,977	2,174	343	29,497	913	45	24,280	1,869	455	27,562	445	46	18,801	1,201	494	20,987

Adjustment to exposure for collateral	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items ⁽³⁾	Total
	Total - Net Credit Risk⁽⁴⁾	891	112	2,088	343	3,434	913	45	1,575	455	2,988	445	46	984	494

(1) Exposure at default is the expected gross exposure upon the default of an obligor. This amount is before any specific allowance or partial write-offs and does not reflect the impact of credit risk mitigation and collateral held. This table excludes Equity exposures.

(2) Represents securities purchased under reverse repurchase agreements and sold under repurchase agreements, and securities borrowed and loaned.

(3) Letters of guarantee and credit that represent the Bank's commitment to make payments in the event that a client cannot meet its financial obligations to third parties.

(4) For drawn, undrawn and Other off-balance sheet exposures, eligible financial collateral is taken into account in the Bank's Loss Given Default (LGD) models.

CR4 - Standardised Approach - Credit Risk Exposure and Credit Risk Mitigation (CRM) Effects⁽¹⁾

The following tables illustrate the effect of CRM on standardised approach capital requirements' calculations. RWA density provides a synthetic metric on riskiness of each portfolio.

(unaudited) (millions of Canadian dollars)		Q1 2019					
		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA	RWA density
On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount				
1	Sovereigns and their central banks	998	48	998	-	648	65%
2	Non-central government public sector entities	-	-	-	-	-	0%
3	Multilateral development banks	20	-	20	-	-	0%
4	Financial institutions	433	2,752	433	364	635	80%
5	Securities firms	-	-	-	-	-	0%
6	Corporates	2,817	474	2,817	39	1,700	60%
7	Regulatory retail portfolios	5,150	-	5,150	-	2,102	41%
8	Secured by residential property	4,049	39	4,049	20	1,548	38%
9	Secured by commercial real estate	75	-	75	-	75	100%
10	Equity	-	-	-	-	-	0%
11	Past-due loans	33	14	33	-	21	64%
12	Higher-risk categories	4	-	4	-	6	150%
13	Other assets ⁽²⁾	13,078	-	13,078	-	2,853	22%
14	Total	26,657	3,327	26,657	423	9,588	35%

(unaudited) (millions of Canadian dollars)		Q4 2018					
		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM		RWA	RWA density
On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount				
1	Sovereigns and their central banks	800	46	800	-	516	65%
2	Non-central government public sector entities	-	-	-	-	-	0%
3	Multilateral development banks	20	-	20	-	-	0%
4	Financial institutions	257	3,235	257	503	623	82%
5	Securities firms	-	-	-	-	-	0%
6	Corporates	2,221	545	2,221	87	1,511	65%
7	Regulatory retail portfolios	5,837	-	5,837	-	2,301	39%
8	Secured by residential property	3,875	39	3,875	20	1,486	38%
9	Secured by commercial real estate	70	-	70	-	70	100%
10	Equity	-	-	-	-	-	0%
11	Past-due loans	38	11	38	-	26	68%
12	Higher-risk categories	4	-	4	-	6	150%
13	Other assets ⁽²⁾	14,495	-	14,495	-	2,802	19%
14	Total	27,617	3,876	27,617	610	9,341	33%

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

(2) For completeness purposes, row 13 "Other assets" is populated with all other assets except the ones involved in settlement risk, CVA, CCPs and non-significant investments in financials.

CR5 - Standardised Approach - Exposures by Asset Classes and Risk Weights⁽¹⁾

The following tables present the breakdown of credit risk exposures under the standardised approach by asset class and risk weight (corresponding to the riskiness attributed to the exposure according to standardised approach).

(unaudited) (millions of Canadian dollars)		Q1 2019									
		a	b	c	d	e	f	g	h	i	j
Risk weight	Asset classes	0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post-CCF and post-CRM)
1	Sovereigns and their central banks	347	-	-	-	5	-	646	-	-	998
2	Non-central government public sector entities	-	-	-	-	-	-	-	-	-	-
3	Multilateral development banks	20	-	-	-	-	-	-	-	-	20
4	Financial institutions	-	-	202	-	-	-	595	-	-	797
5	Securities firms	-	-	-	-	-	-	-	-	-	-
6	Corporates	1,156	-	-	-	-	-	1,700	-	-	2,856
7	Regulatory retail portfolios	2,347	-	-	-	-	2,803	-	-	-	5,150
8	Secured by residential property	547	-	-	2,751	11	721	39	-	-	4,069
9	Secured by commercial real estate	-	-	-	-	-	-	75	-	-	75
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	12	-	-	-	-	-	20	1	-	33
12	Higher-risk categories	-	-	-	-	-	-	-	4	-	4
13	Other assets ⁽²⁾	10,718	-	-	-	-	-	2,031	-	329	13,078
14	Total	15,147	-	202	2,751	16	3,524	5,106	5	329	27,080

(unaudited) (millions of Canadian dollars)		Q4 2018									
		a	b	c	d	e	f	g	h	i	j
Risk weight	Asset classes	0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post-CCF and post-CRM)
1	Sovereigns and their central banks	283	-	-	-	4	-	513	-	-	800
2	Non-central government public sector entities	-	-	-	-	-	-	-	-	-	-
3	Multilateral development banks	20	-	-	-	-	-	-	-	-	20
4	Financial institutions	-	-	170	-	1	-	589	-	-	760
5	Securities firms	-	-	-	-	-	-	-	-	-	-
6	Corporates	797	-	-	-	-	-	1,511	-	-	2,308
7	Regulatory retail portfolios	2,769	-	-	-	-	3,068	-	-	-	5,837
8	Secured by residential property	608	-	-	2,465	13	770	39	-	-	3,895
9	Secured by commercial real estate	-	-	-	-	-	-	70	-	-	70
10	Equity	-	-	-	-	-	-	-	-	-	-
11	Past-due loans	12	-	-	-	-	-	25	1	-	38
12	Higher-risk categories	-	-	-	-	-	-	-	4	-	4
13	Other assets ⁽²⁾	12,155	-	-	-	-	-	2,032	-	308	14,495
14	Total	16,644	-	170	2,465	18	3,838	4,779	5	308	28,227

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

(2) For completeness purposes, row 13 "Other assets" is populated with all other assets except the ones involved in settlement risk, CVA, CCPs and non-significant investments in financials.

CR6 - IRB - Credit Risk Exposures by Portfolio and PD Range

The following tables provide the main parameters used for the calculation of capital requirements for IRB models. The purpose of disclosing these parameters is to enhance the transparency of banks' RWA calculations and the reliability of regulatory measures.

		Q1 2019											
(unaudited) (millions of Canadian dollars)	PD scale ⁽¹⁾	a	b	c	d	e	f	g	h	i	j	k	l
		Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF ⁽²⁾	Average CCF ⁽³⁾	EAD post CRM and post-CCF	Average PD ⁽⁴⁾	Number of obligors ⁽⁵⁾	Average LGD ⁽⁶⁾	Average maturity ⁽⁷⁾	RWA	RWA density ⁽⁸⁾	EL ⁽⁹⁾	Allowances for credit losses
Residential Mortgages and HELOCs – insured	0.00 to < 0.15	750	–	–	750	0.08%	51,423	5.8%		8	1.1%	–	
	0.15 to < 0.25	358	–	–	358	0.20%	20,206	5.2%		8	2.1%	–	
	0.25 to < 0.50	442	–	–	442	0.36%	22,650	4.3%		11	2.6%	–	
	0.50 to < 0.75	231	–	–	231	0.61%	9,764	3.9%		8	3.5%	–	
	0.75 to < 2.50	372	–	–	372	1.35%	15,520	3.3%		18	4.9%	–	
	2.50 to < 10.00	130	–	–	130	4.56%	4,344	3.2%		13	10.0%	–	
	10.00 to < 100.00	72	–	–	72	30.09%	1,529	2.9%		12	16.2%	1	
	100.00 (Default)	44	–	–	44	100.00%	737	2.8%		6	14.3%	1	
	Sub-total	2,399	–	–	2,399	3.38%	126,173	4.6%		84	3.5%	2	6
Residential Mortgages and HELOCs – uninsured	0.00 to < 0.15	22,545	13,777	49%	29,351	0.07%	188,987	20.3%		1,046	3.6%	4	
	0.15 to < 0.25	6,161	969	67%	6,811	0.19%	30,808	23.0%		619	9.1%	3	
	0.25 to < 0.50	5,701	869	70%	6,310	0.34%	26,265	23.3%		864	13.7%	5	
	0.50 to < 0.75	2,217	198	72%	2,359	0.61%	9,679	23.4%		494	20.9%	3	
	0.75 to < 2.50	2,283	223	69%	2,438	1.29%	11,030	23.1%		816	33.5%	7	
	2.50 to < 10.00	652	48	67%	683	4.54%	3,821	22.0%		460	67.4%	7	
	10.00 to < 100.00	194	3	121%	197	23.57%	1,290	23.4%		247	125.3%	11	
	100.00 (Default)	95	3	111%	98	100.00%	720	22.0%		161	163.1%	11	
	Sub-total	39,848	16,090	52%	48,247	0.57%	272,600	21.4%		4,707	9.8%	51	29
Qualifying revolving retail	0.00 to < 0.15	710	5,693	42%	3,097	0.05%	904,623	80.5%		79	2.6%	1	
	0.15 to < 0.25	193	355	54%	385	0.20%	116,714	82.5%		34	8.9%	1	
	0.25 to < 0.50	324	412	57%	559	0.36%	145,189	82.2%		77	13.7%	2	
	0.50 to < 0.75	227	162	64%	330	0.63%	70,859	78.5%		69	21.0%	2	
	0.75 to < 2.50	652	226	67%	803	1.45%	227,801	83.0%		338	42.0%	10	
	2.50 to < 10.00	409	50	102%	460	4.49%	231,799	85.4%		433	94.1%	17	
	10.00 to < 100.00	78	3	86%	81	24.00%	32,947	85.0%		176	216.6%	17	
	100.00 (Default)	24	–	1%	24	100.00%	4,163	72.5%		37	156.1%	14	
	Sub-total	2,617	6,901	45%	5,739	1.42%	1,734,095	81.5%		1,243	21.7%	64	192
Other retail	0.00 to < 0.15	2,162	1,922	44%	2,998	0.06%	112,835	49.0%		254	8.5%	1	
	0.15 to < 0.25	794	205	72%	941	0.20%	43,089	52.3%		202	21.5%	1	
	0.25 to < 0.50	1,365	234	72%	1,533	0.36%	75,664	56.3%		510	33.3%	3	
	0.50 to < 0.75	1,051	197	81%	1,212	0.63%	53,556	58.4%		580	47.8%	5	
	0.75 to < 2.50	2,953	322	76%	3,197	1.37%	208,375	63.4%		2,278	71.3%	28	
	2.50 to < 10.00	937	62	74%	982	4.32%	68,654	65.4%		928	94.5%	28	
	10.00 to < 100.00	209	4	60%	212	20.26%	12,904	64.9%		298	140.5%	29	
	100.00 (Default)	110	2	59%	112	100.00%	7,053	57.6%		218	195.6%	50	
	Sub-total	9,581	2,948	54%	11,187	2.30%	582,130	57.2%		5,268	47.1%	145	138

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the exposure value without taking into account value adjustments and provisions, conversion factors and the effect of credit risk mitigation techniques.

(3) Represents the EAD post-credit conversion factor (CCF) for off-balance sheet exposure to total off-balance sheet exposure pre CCF.

(4) Represents the obligor grade PD weighted by EAD.

(5) Represents the number of retail accounts.

(6) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(7) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(8) Total risk-weighted assets to EAD post-CRM.

(9) The expected losses (EL) as calculated according to paragraphs 375 - 379 of the Basel framework.

CR6 - IRB - Credit Risk Exposures by Portfolio and PD Range (continued)

Q1 2019												
(unaudited) (millions of Canadian dollars)	a	b	c	d	e	f	g	h	i	j	k	l
PD scale ⁽¹⁾	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF ⁽²⁾	Average CCF ⁽³⁾	EAD post CRM and post-CCF	Average PD ⁽⁴⁾	Number of obligors ⁽⁵⁾	Average LGD ⁽⁶⁾	Average maturity ⁽⁷⁾	RWA	RWA density ⁽⁸⁾	EL ⁽⁹⁾	Allowances for credit losses
Corporate	0.00 to < 0.15	1,083	2,830	73%	4,202	0.08%	768	46.3%	2.18	970	23.1%	2
	0.15 to < 0.25	13,074	9,273	82%	24,620	0.21%	3,603	36.8%	2.70	7,748	31.5%	19
	0.25 to < 0.50	8,707	4,571	79%	14,227	0.36%	2,282	36.3%	2.42	5,728	40.3%	19
	0.50 to < 0.75	6,442	1,782	85%	8,735	0.56%	2,492	33.8%	2.23	3,784	43.3%	16
	0.75 to < 2.50	12,927	2,516	88%	16,609	1.12%	6,215	33.9%	2.01	9,245	55.7%	63
	2.50 to < 10.00	2,261	343	65%	2,764	4.64%	1,205	29.6%	1.81	2,150	77.8%	39
	10.00 to < 100.00	241	14	65%	255	16.31%	57	32.6%	1.08	352	138.4%	13
	100.00 (Default)	291	3	62%	299	100.00%	208	23.6%	1.14	206	68.7%	106
	Sub-total	45,026	21,332	81%	71,711	1.13%	16,830	35.9%	2.35	30,183	42.1%	277
Sovereign	0.00 to < 0.15	25,719	4,675	97%	31,656	0.01%	587	9.3%	2.46	530	1.7%	-
	0.15 to < 0.25	-	-	-	-	-	-	-	-	-	-	-
	0.25 to < 0.50	-	-	-	-	-	-	-	-	-	-	-
	0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-
	0.75 to < 2.50	-	-	-	-	-	-	-	-	-	-	-
	2.50 to < 10.00	94	3	62%	97	5.58%	2	14.8%	1.64	44	45.4%	1
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-
	Sub-total	25,813	4,678	97%	31,753	0.03%	589	9.4%	2.46	574	1.8%	1
Financial institutions	0.00 to < 0.15	2,401	313	-	2,833	0.05%	74	46.3%	1.50	470	16.6%	1
	0.15 to < 0.25	1,200	5	-	1,206	0.23%	15	20.9%	1.01	240	19.9%	1
	0.25 to < 0.50	20	342	95%	413	0.36%	15	9.9%	2.20	57	13.7%	-
	0.50 to < 0.75	42	13	100%	55	0.56%	3	50.2%	1.00	34	61.8%	-
	0.75 to < 2.50	68	8	100%	75	1.16%	12	44.8%	1.00	67	88.5%	-
	2.50 to < 10.00	-	-	-	-	3.34%	3	42.9%	1.00	-	130.0%	-
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-
	Sub-total	3,731	681	51%	4,582	0.15%	122	36.4%	1.42	868	18.9%	2
Total (all portfolio)		129,015	52,631	67%	175,618	0.87%	2,732,539	29.5%	2.30	42,927	24.4%	542
										662		

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the exposure value without taking into account value adjustments and provisions, conversion factors and the effect of credit risk mitigation techniques.

(3) Represents the EAD post-credit conversion factor (CCF) for off-balance sheet exposure to total off-balance sheet exposure pre CCF.

(4) Represents the obligor grade PD weighted by EAD.

(5) Represents the number of individual borrowers.

(6) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(7) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(8) Total risk-weighted assets to EAD post-CRM.

(9) The expected losses (EL) as calculated according to paragraphs 375 - 379 of the Basel framework.

CR6 - IRB - Credit Risk Exposures by Portfolio and PD Range (continued)

Q4 2018													
	a	b	c	d	e	f	g	h	i	j	k	l	
(unaudited) (millions of Canadian dollars)	PD scale ⁽¹⁾	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF ⁽²⁾	Average CCF ⁽³⁾	EAD post CRM and post-CCF	Average PD ⁽⁴⁾	Number of obligors ⁽⁵⁾	Average LGD ⁽⁶⁾	Average maturity ⁽⁷⁾	RWA	RWA density ⁽⁸⁾	EL ⁽⁹⁾	Allowances for credit losses
Residential Mortgage and HELOCs – insured	0.00 to < 0.15	781	–	–	781	0.08%	51,552	6.8%		10	1.3%	–	
	0.15 to < 0.25	368	–	–	368	0.20%	19,669	6.9%		10	2.8%	–	
	0.25 to < 0.50	505	–	–	505	0.36%	22,937	6.2%		19	3.7%	–	
	0.50 to < 0.75	293	–	–	293	0.61%	10,021	5.3%		14	4.7%	–	
	0.75 to < 2.50	455	–	–	455	1.34%	16,044	4.0%		26	5.8%	–	
	2.50 to < 10.00	157	–	–	157	4.58%	4,588	3.4%		16	10.3%	–	
	10.00 to < 100.00	73	–	–	73	29.33%	1,618	3.0%		12	16.3%	1	
	100.00 (Default)	45	–	–	45	100.00%	741	2.8%		4	7.9%	2	
Sub-total	2,677	–	–	2,677	3.17%	127,170	5.7%		111	4.2%	3	7	
Residential Mortgage and HELOCs – uninsured	0.00 to < 0.15	22,074	13,509	50%	28,788	0.07%	186,609	23.0%		1,148	4.0%	5	
	0.15 to < 0.25	6,131	909	68%	6,749	0.19%	30,702	24.5%		653	9.7%	3	
	0.25 to < 0.50	5,675	850	70%	6,274	0.35%	26,260	24.6%		908	14.5%	5	
	0.50 to < 0.75	2,226	201	72%	2,371	0.61%	9,714	25.0%		531	22.4%	4	
	0.75 to < 2.50	2,281	220	71%	2,436	1.27%	11,040	24.6%		864	35.4%	8	
	2.50 to < 10.00	680	42	76%	712	4.54%	3,891	23.8%		513	71.9%	8	
	10.00 to < 100.00	195	2	111%	197	23.95%	1,355	25.0%		266	135.0%	11	
	100.00 (Default)	90	2	138%	92	100.00%	655	22.6%		150	162.8%	10	
Sub-total	39,352	15,735	53%	47,619	0.57%	270,226	23.6%		5,033	10.6%	54	32	
Qualifying revolving retail	0.00 to < 0.15	768	5,966	43%	3,332	0.05%	895,632	81.5%		88	2.6%	1	
	0.15 to < 0.25	208	413	55%	435	0.20%	117,492	83.7%		39	9.0%	1	
	0.25 to < 0.50	350	495	58%	636	0.36%	148,785	83.6%		89	14.0%	2	
	0.50 to < 0.75	241	184	64%	359	0.63%	71,453	79.5%		76	21.2%	2	
	0.75 to < 2.50	701	282	67%	889	1.45%	236,145	84.1%		379	42.7%	11	
	2.50 to < 10.00	455	62	99%	516	4.47%	234,061	86.5%		491	95.1%	20	
	10.00 to < 100.00	83	4	84%	86	24.58%	32,158	85.7%		189	219.3%	19	
	100.00 (Default)	23	–	2%	23	100.00%	3,898	69.2%		33	142.1%	14	
Sub-total	2,829	7,406	47%	6,276	1.39%	1,739,624	82.6%		1,384	22.0%	70	188	
Other retail	0.00 to < 0.15	2,153	1,871	44%	2,986	0.07%	109,622	48.4%		252	8.4%	1	
	0.15 to < 0.25	807	198	70%	946	0.20%	43,211	52.7%		204	21.6%	1	
	0.25 to < 0.50	1,358	241	72%	1,531	0.37%	75,981	56.9%		517	33.8%	3	
	0.50 to < 0.75	1,075	197	81%	1,235	0.63%	53,529	58.2%		589	47.7%	5	
	0.75 to < 2.50	2,929	327	76%	3,172	1.38%	206,716	63.4%		2,263	71.3%	28	
	2.50 to < 10.00	958	67	74%	1,008	4.33%	70,018	65.3%		954	94.6%	29	
	10.00 to < 100.00	213	4	65%	216	20.39%	13,355	66.5%		309	143.2%	29	
	100.00 (Default)	105	2	56%	106	100.00%	7,063	58.0%		197	186.4%	49	
Sub-total	9,598	2,907	55%	11,200	2.27%	579,495	57.2%		5,285	47.2%	145	137	

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the exposure value without taking into account value adjustments and provisions, conversion factors and the effect of credit risk mitigation techniques.

(3) Represents the EAD post-credit conversion factor (CCF) for off-balance sheet exposure to total off-balance sheet exposure pre CCF.

(4) Represents the obligor grade PD weighted by EAD.

(5) Represents the number of retail accounts.

(6) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(7) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(8) Total risk-weighted assets to EAD post-CRM.

(9) The expected losses (EL) as calculated according to paragraphs 375 - 379 of the Basel framework.

CR6 - IRB - Credit Risk Exposures by Portfolio and PD Range (continued)

Q4 2018												
(unaudited) (millions of Canadian dollars)	a	b	c	d	e	f	g	h	i	j	k	l
PD scale ⁽¹⁾	Original on-balance sheet gross exposure	Off-balance sheet exposures pre CCF ⁽²⁾	Average CCF ⁽³⁾	EAD post CRM and post-CCF	Average PD ⁽⁴⁾	Number of obligors ⁽⁵⁾	Average LGD ⁽⁶⁾	Average maturity ⁽⁷⁾	RWA	RWA density ⁽⁸⁾	EL ⁽⁹⁾	Allowances for credit losses
Corporate	0.00 to < 0.15	1,813	2,117	81%	4,153	0.09%	749	48.3%	2.04	967	23.3%	2
	0.15 to < 0.25	12,930	8,423	87%	23,291	0.20%	3,664	36.7%	2.84	7,426	31.9%	17
	0.25 to < 0.50	8,489	4,884	76%	14,395	0.36%	2,234	36.0%	2.39	5,651	39.3%	19
	0.50 to < 0.75	6,108	1,698	86%	8,309	0.56%	2,493	33.9%	2.08	3,525	42.4%	16
	0.75 to < 2.50	12,836	2,358	87%	16,258	1.14%	6,221	34.9%	2.00	9,377	57.7%	64
	2.50 to < 10.00	2,021	291	67%	2,467	4.80%	1,163	28.7%	1.95	1,933	78.4%	36
	10.00 to < 100.00	194	10	97%	205	16.72%	69	32.9%	1.12	281	137.3%	11
	100.00 (Default)	356	5	70%	367	100.00%	202	21.1%	1.24	221	60.4%	104
	Sub-total	44,747	19,786	83%	69,445	1.23%	16,795	36.1%	2.36	29,381	42.3%	269
Sovereign	0.00 to < 0.15	26,125	4,487	97%	31,607	0.01%	583	9.2%	2.38	502	1.6%	-
	0.15 to < 0.25	-	-	-	-	-	-	-	-	-	-	-
	0.25 to < 0.50	-	-	-	-	-	-	-	-	-	-	-
	0.50 to < 0.75	-	-	-	-	-	-	-	-	-	-	-
	0.75 to < 2.50	-	-	-	-	-	-	-	-	-	-	-
	2.50 to < 10.00	74	2	62%	77	5.07%	1	14.1%	1.00	32	41.5%	1
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-
	Sub-total	26,199	4,489	97%	31,684	0.02%	584	9.2%	2.37	534	1.7%	1
Financial institutions	0.00 to < 0.15	2,146	301	-	2,585	0.06%	72	42.4%	1.48	397	15.4%	1
	0.15 to < 0.25	1,247	7	-	1,254	0.23%	15	13.0%	1.02	148	11.8%	-
	0.25 to < 0.50	238	130	87%	368	0.36%	16	33.7%	1.19	153	41.6%	-
	0.50 to < 0.75	76	12	100%	88	0.53%	3	45.4%	1.00	55	61.7%	-
	0.75 to < 2.50	86	1	100%	87	1.31%	17	49.3%	1.00	89	102.7%	1
	2.50 to < 10.00	1	-	-	1	3.15%	4	47.3%	1.00	1	142.1%	-
	10.00 to < 100.00	-	-	-	-	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-	-	-	-	-
	Sub-total	3,794	451	28%	4,383	0.17%	127	33.4%	1.30	843	19.2%	2
Total (all portfolio)		129,196	50,774	67%	173,284	0.90%	2,734,021	30.3%	2.30	42,571	24.6%	544
												645

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the exposure value without taking into account value adjustments and provisions, conversion factors and the effect of credit risk mitigation techniques.

(3) Represents the EAD post-credit conversion factor (CCF) for off-balance sheet exposure to total off-balance sheet exposure pre CCF.

(4) Represents the obligor grade PD weighted by EAD.

(5) Represents the number of individual borrowers.

(6) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(7) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(8) Total risk-weighted assets to EAD post-CRM.

(9) The expected losses (EL) as calculated according to paragraphs 375 - 379 of the Basel framework.

CR8 – RWA Flow Statements of Credit Risk Exposures Under IRB

The following table presents a flow statement explaining variations in the credit risk-weighted assets (RWA) determined under an IRB approach.

		Q1 2019	Q4 2018
		a	a
		RWA	RWA
(unaudited) (millions of Canadian dollars)			
1	RWA at beginning	46,640	44,971
2	Book size ⁽¹⁾	721	1,479
3	Book quality ⁽²⁾	(254)	195
4	Model updates ⁽³⁾	–	(72)
5	Methodology and policy ⁽⁴⁾	–	–
6	Acquisitions and disposals ⁽⁵⁾	–	–
7	Foreign exchange movements ⁽⁶⁾	(10)	67
8	Other ⁽⁷⁾	–	–
9	RWA at end	47,097	46,640

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

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

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

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

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

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

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

AIRB Credit Risk Exposure - Back-Testing⁽¹⁾

	2019						2018					
	Q1						Q4					
	Average estimated (PD %)	Actual default rate (%)	Average estimated (LGD %) ⁽²⁾	Actual (LGD %) ⁽³⁾	Estimated (EAD %) ⁽⁴⁾	Actual (EAD %) ⁽⁴⁾	Average estimated (PD %)	Actual default rate (%)	Average estimated (LGD %) ⁽²⁾	Actual (LGD %) ⁽³⁾	Estimated (EAD %) ⁽⁴⁾	Actual (EAD %) ⁽⁴⁾
(unaudited) (millions of Canadian dollars)												
Retail portfolio⁽⁵⁾												
Insured residential mortgages ⁽⁶⁾	0.84%	0.65%	2.64%	n.a.	n.a.	n.a.	0.85%	0.64%	2.64%	n.a.	n.a.	n.a.
Uninsured residential mortgages incl. HELOCs ⁽⁷⁾	0.35%	0.34%	21.43%	9.04%	92.60%	80.58%	0.36%	0.32%	21.57%	9.43%	93.02%	84.32%
Qualifying revolving retail	1.35%	1.18%	75.00%	75.80%	100.37%	102.00%	1.36%	1.15%	74.64%	75.40%	100.18%	101.60%
Other retail	1.59%	1.10%	67.01%	62.45%	95.78%	87.90%	1.63%	1.05%	67.53%	59.30%	95.65%	88.31%
Non-Retail Portfolio⁽⁸⁾												
Corporate	1.01%	0.40%	36.57%	29.40%	79.91%	76.06%	1.01%	0.46%	35.57%	32.01%	79.10%	71.09%
Sovereign ⁽⁹⁾	0.04%	0.00%	11.54%	n.a.	88.30%	n.a.	0.03%	0.00%	11.54%	n.a.	88.30%	n.a.
Financial Institutions ⁽⁹⁾	0.35%	0.00%	40.75%	n.a.	100.00%	n.a.	0.41%	0.00%	40.75%	n.a.	100.00%	n.a.
	2018						2018					
	Q3						Q2					
	Average estimated (PD %)	Actual default rate (%)	Average estimated (LGD %) ⁽²⁾	Actual (LGD %) ⁽³⁾	Estimated (EAD %) ⁽⁴⁾	Actual (EAD %) ⁽⁴⁾	Average estimated (PD %)	Actual default rate (%)	Average estimated (LGD %) ⁽²⁾	Actual (LGD %) ⁽³⁾	Estimated (EAD %) ⁽⁴⁾	Actual (EAD %) ⁽⁴⁾
(unaudited) (millions of Canadian dollars)												
Retail portfolio⁽⁵⁾												
Insured residential mortgages ⁽⁶⁾	1.06%	0.62%	2.64%	n.a.	n.a.	n.a.	1.12%	0.61%	2.64%	n.a.	n.a.	n.a.
Uninsured residential mortgages incl. HELOCs ⁽⁷⁾	0.37%	0.26%	22.15%	11.08%	91.49%	84.43%	0.39%	0.24%	22.81%	12.17%	91.85%	84.85%
Qualifying revolving retail	1.26%	1.16%	77.45%	78.68%	99.24%	100.62%	1.28%	1.17%	71.01%	79.68%	99.52%	99.71%
Other retail	1.68%	1.30%	66.64%	58.90%	95.59%	88.62%	1.77%	1.31%	69.95%	63.37%	95.59%	89.17%
Non-Retail Portfolio⁽⁸⁾												
Corporate	1.27%	0.50%	37.11%	28.10%	77.64%	68.47%	1.26%	0.48%	37.49%	27.23%	83.64%	75.83%
Sovereign ⁽⁹⁾	0.06%	0.00%	11.54%	n.a.	88.30%	n.a.	0.06%	0.00%	11.54%	n.a.	88.30%	n.a.
Financial Institutions ⁽⁹⁾	0.59%	0.00%	40.75%	n.a.	100.00%	n.a.	0.56%	0.00%	40.75%	n.a.	100.00%	n.a.

(1) Estimated PD and actual default rates are consistent with what is presented in table CR9 (presented annually). Actual and estimated LGD and EAD parameters are reported on a one month lag.

For example, for Q1 2019, estimated percentages are as of December 31st, 2017 and actual percentages reflect experience in the following 12 months.

(2) Estimated LGD reflects loss estimates under a downturn economic scenario and is based on defaulted accounts.

(3) Actual LGD includes indirect costs and discount rate and is based on defaulted accounts on which recovery process is completed.

(4) Estimated and actual EAD are computed for revolving products only and are based on defaulted accounts.

(5) Retail PD and EAD are based on account weighted average whilst retail LGD is based on exposure weighted average.

(6) Actual LGD for insured residential mortgages is not applicable to reflect the credit risk mitigation from government backed entities.

(7) Actual and estimated EAD for residential mortgage is computed only for HELOCs since the conventional residential mortgages are non-revolving.

(8) Wholesale and Sovereign's PD is based on borrower weighted average whilst the LGD and EAD are based on facility weighted average.

(9) Actual LGD for the Financial Institutions and Sovereign are not applicable because no defaulted facilities recovery were completed during the period. Actual EAD are not applicable because no default was observed during the period.

CR10 - IRB - Specialised Lending and Equities Under the Simple Risk-Weight Method

	Q1 2019					Q4 2018				
	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA
(unaudited) (millions of Canadian dollars)										
Equities under the materiality exemption	816	110	100%	871	924	823	102	100%	874	926

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

The following tables provide a comprehensive view of the methods used to calculate counterparty credit risk regulatory requirements and the main parameters used within each method.

		Q1 2019					
		a	b	c	d	e	f
(unaudited) (millions of Canadian dollars)		Replacement cost	Potential future exposure	EEPE ⁽²⁾	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
1	SA-CCR (for derivatives)	1,811	6,046		1.4	10,999	3,405
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)					–	–
5	VaR for SFTs					6,670	762
6	Total						4,167

		Q4 2018					
		a	b	c	d	e	f
(unaudited) (millions of Canadian dollars)		Replacement cost	Potential future exposure	EEPE ⁽²⁾	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
1	SA-CCR (for derivatives) ⁽³⁾	5,132	4,887		–	7,045	2,245
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)					–	–
5	VaR for SFTs					6,313	601
6	Total						2,846

(1) Excludes exposure and RWA for qualified central counterparties (QCCPs) and credit valuation adjustment (CVA).

(2) EEPE: Effective Expected Positive Exposure.

(3) Standardised approach (SA-CCR) for measuring exposure at default for counterparty credit risk is applicable starting Q1-2019. In Q4-2018, NBC reported in row 1 information corresponding to the Current Exposures Method.

CCR2 – Credit Valuation Adjustment (CVA) Capital Charge

The following table provides the CVA regulatory calculations (with a breakdown by standardised and advanced approaches).

		Q1 2019		Q4 2018	
		a	b	a	b
(unaudited) (millions of Canadian dollars)		EAD post-CRM	RWA	EAD post-CRM	RWA
	Total portfolios subject to the Advanced CVA capital charge				
1	(i) VaR component (including the 3 x multiplier)		–		–
2	(ii) Stressed VaR component (including the 3 x multiplier)		–		–
3	All portfolios subject to the Standardised CVA capital charge	6,845	1,020	6,018	405
4	Total subject to the CVA capital charge	6,845	1,020	6,018	405

CCR3 – Standardised Approach - CCR Exposures by Regulatory Portfolio and Risk Weights

The following tables provide a breakdown of counterparty credit risk exposures calculated according to the standardised approach: by portfolio (type of counterparties) and by risk weight (riskiness attributed according to standardised approach).

(unaudited) (millions of Canadian dollars)		Q1 2019								
		a	b	c	d	e	f	g	h	i
Risk weight		0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Regulatory portfolio		0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns		-	-	-	-	-	-	-	-	-
Non-central government public sector entities (PSEs)		-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)		13	-	-	-	-	-	-	-	13
Financial institutions		-	-	-	-	-	-	-	-	-
Securities firms		-	-	-	-	-	-	-	-	-
Corporates		-	-	-	-	-	349	-	-	349
Regulatory retail portfolios		-	-	-	-	-	-	-	-	-
Other assets ⁽¹⁾		-	-	-	-	-	-	-	-	-
Total		13	-	-	-	-	349	-	-	362

(unaudited) (millions of Canadian dollars)		Q4 2018								
		a	b	c	d	e	f	g	h	i
Risk weight		0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Regulatory Portfolio		0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns		-	-	-	-	-	-	-	-	-
Non-central government public sector entities (PSEs)		-	-	-	-	-	-	-	-	-
Multilateral development banks (MDBs)		15	-	-	-	-	-	-	-	15
Financial institutions		-	-	-	-	-	-	-	-	-
Securities firms		-	-	-	-	-	-	-	-	-
Corporates		-	-	-	-	-	248	-	-	248
Regulatory retail portfolios		-	-	-	-	-	-	-	-	-
Other assets ⁽¹⁾		-	-	-	-	-	-	-	-	-
Total		15	-	-	-	-	248	-	-	263

(1) Excluding the exposures to CCPs, which are reported in CCR8.

CCR4 - IRB - CCR Exposures by Portfolio and PD Scale

The following tables provide all relevant parameters used for the calculation of counterparty credit risk capital requirements for IRB models.

		Q1 2019							
(unaudited) (millions of Canadian dollars)	PD scale ⁽¹⁾	a	b	c	d	e	f	g	
		EAD post-CRM	average PD ⁽²⁾	Number of obligors ⁽³⁾	Average LGD ⁽⁴⁾	Average maturity ⁽⁵⁾	RWA	RWA density ⁽⁶⁾	
Corporate	0.00 to < 0.15	807	0.07%	387	42.4%	0.03	80	9.9%	
	0.15 to < 0.25	131	0.17%	213	51.5%	0.02	34	26.0%	
	0.25 to < 0.50	21	0.36%	64	40.4%	0.01	6	28.6%	
	0.50 to < 0.75	4	0.56%	23	40.0%	-	2	50.0%	
	0.75 to < 2.50	80	0.86%	101	44.8%	0.01	36	45.0%	
	2.50 to < 10.00	-	-	-	-	-	-	-	
	10.00 to < 100.00	-	-	-	-	-	-	-	
	100.00 (Default)	-	-	-	-	-	-	-	
	Sub-total		1,043	0.15%	788	43.7%	0.03	158	15.1%
Sovereign	0.00 to < 0.15	3,163	0.03%	99	11.3%	0.45	44	1.4%	
	0.15 to < 0.25	39	0.21%	1	11.6%	-	2	5.1%	
	0.25 to < 0.50	-	-	-	-	-	-	-	
	0.50 to < 0.75	-	-	-	-	-	-	-	
	0.75 to < 2.50	-	-	-	-	-	-	-	
	2.50 to < 10.00	-	-	-	-	-	-	-	
	10.00 to < 100.00	-	-	-	-	-	-	-	
	100.00 (Default)	-	-	-	-	-	-	-	
	Sub-total		3,202	0.04%	100	11.3%	0.44	46	1.4%
Financial institutions	0.00 to < 0.15	2,358	0.06%	15	48.9%	0.46	249	10.6%	
	0.15 to < 0.25	337	0.18%	19	50.8%	0.19	114	33.8%	
	0.25 to < 0.50	172	0.36%	13	50.8%	0.21	89	51.7%	
	0.50 to < 0.75	86	0.56%	10	50.3%	0.13	55	64.0%	
	0.75 to < 2.50	62	1.17%	19	46.5%	0.01	45	72.6%	
	2.50 to < 10.00	3	3.09%	1	50.0%	-	3	100.0%	
	10.00 to < 100.00	-	-	-	-	-	-	-	
	100.00 (Default)	-	-	-	-	-	-	-	
	Sub-total		3,018	0.13%	77	49.2%	0.40	555	18.4%
Total (sum of portfolios)		7,263	0.09%	965	32.0%	0.61	759	10.4%	

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the obligor grade PD weighted by EAD.

(3) Represents the number of individual borrowers.

(4) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(5) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(6) Total risk-weighted assets to EAD post-CRM.

CCR4 - IRB - CCR Exposures by Portfolio and PD Scale (continued)

Q4 2018								
(unaudited) (millions of Canadian dollars)	PD scale ⁽¹⁾	a	b	c	d	e	f	g
		EAD post-CRM	average PD ⁽²⁾	Number of obligors ⁽³⁾	Average LGD ⁽⁴⁾	Average maturity ⁽⁵⁾	RWA	RWA density ⁽⁶⁾
Corporate	0.00 to < 0.15	595	0.06%	392	42.6%	0.06	52	8.7%
	0.15 to < 0.25	202	0.18%	250	46.6%	0.14	51	25.2%
	0.25 to < 0.50	24	0.36%	70	40.7%	0.01	8	33.3%
	0.50 to < 0.75	9	0.56%	30	39.1%	-	4	44.4%
	0.75 to < 2.50	43	0.86%	72	43.5%	0.27	23	53.5%
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total		873	0.14%	814	43.5%	0.09	138
Sovereign	0.00 to < 0.15	3,509	0.04%	94	11.2%	0.12	46	1.3%
	0.15 to < 0.25	-	0.21%	1	11.6%	-	-	-
	0.25 to < 0.50	-	-	-	-	-	-	-
	0.50 to < 0.75	-	-	-	-	-	-	-
	0.75 to < 2.50	-	-	-	-	-	-	-
	2.50 to < 10.00	-	-	-	-	-	-	-
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total		3,509	0.04%	95	11.2%	0.12	46
Financial institutions	0.00 to < 0.15	1,832	0.06%	18	47.3%	0.51	192	10.5%
	0.15 to < 0.25	206	0.17%	16	50.7%	0.13	63	30.6%
	0.25 to < 0.50	75	0.36%	10	50.4%	0.36	40	53.3%
	0.50 to < 0.75	48	0.56%	12	50.7%	0.13	29	60.4%
	0.75 to < 2.50	40	1.14%	19	50.1%	0.01	33	82.5%
	2.50 to < 10.00	3	3.09%	3	46.1%	-	3	100.0%
	10.00 to < 100.00	-	-	-	-	-	-	-
	100.00 (Default)	-	-	-	-	-	-	-
	Sub-total		2,204	0.11%	78	47.9%	0.45	360
Total (sum of portfolios)		6,586	0.08%	987	28.0%	0.70	544	8.2%

(1) Prescribed PD bands based on BIS document on Revised Pillar 3 disclosure requirements issued in January 2015.

(2) Represents the obligor grade PD weighted by EAD.

(3) Represents the number of individual borrowers.

(4) Represents the obligor grade LGD (net of any CRM effect) weighted by EAD.

(5) Represents the obligor maturity in years weighted by EAD. This parameter needs to be filled in only when it is used for the RWA calculation.

(6) Total risk-weighted assets to EAD post-CRM.

CCR5 - Composition of Collateral for CCR Exposure

The following tables provide a breakdown of all types of collateral posted or received by banks to support or reduce the counterparty credit risk exposures related to derivative transactions or to SFTs, including transactions cleared through a CCP.

Q1 2019						
	a	b	c	d	e	f
	Collateral used in derivative transactions			Collateral used in SFTs		
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(unaudited) (millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	-	5,012	-	1,308	4	-
Securities issued or guaranteed by	-	-	-	-	-	-
Canadian government	2	47	-	662	3,160	508
Canadian provincial and municipal governments	-	80	-	136	3,395	5,017
U.S. Treasury, other U.S. agencies and other foreign governments	63	59	-	-	548	3,409
Other debt securities	-	14	-	-	88	481
Equity securities	-	-	-	-	8,350	12,239
Total	65	5,212	-	2,106	15,545	21,654

Q4 2018						
	a	b	c	d	e	f
	Collateral used in derivative transactions			Collateral used in SFTs		
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
(unaudited) (millions of Canadian dollars)	Segregated	Unsegregated	Segregated	Unsegregated		
Cash	-	5,366	-	1,023	1	-
Securities issued or guaranteed by	-	-	-	-	-	-
Canadian government	3	52	-	474	5,759	2,281
Canadian provincial and municipal governments	-	366	-	33	3,861	2,748
U.S. Treasury, other U.S. agencies and other foreign governments	63	50	-	5	534	1,392
Other debt securities	-	20	-	-	82	256
Equity securities	-	-	-	-	8,297	13,742
Total	66	5,854	-	1,535	18,534	20,419

CCR6 - Credit Derivatives Exposures

The following tables illustrate the extent of a bank's exposures to credit derivative transactions broken down between derivatives purchased or sold.

(unaudited) (millions of Canadian dollars)	Q1 2019	
	a	b
	Protection purchased	Protection sold
Notionals		
Credit default swaps		
Indices, singles names and other	1,943	252
Tranches on indices	-	-
Total return swaps	161	-
Credit options	-	-
Other credit derivatives	-	-
Total notionals	2,104	252
Fair values		
Positive fair value (asset)	5	7
Negative fair value (liability)	(42)	-

(unaudited) (millions of Canadian dollars)	Q4 2018	
	a	b
	Protection purchased	Protection sold
Notionals		
Credit default swaps		
Indices, singles names and other	1,784	88
Tranches on indices	-	-
Total return swaps	162	-
Credit options	-	-
Other credit derivatives	-	-
Total notionals	1,946	88
Fair values		
Positive fair value (asset)	10	1
Negative fair value (liability)	(36)	-

CCR8 - Exposures to Central Counterparties (CCP)⁽¹⁾

The following table provides a comprehensive picture of the bank's exposures to central counterparties. In particular, the template includes all types of exposures and related capital requirements.

		Q1 2019		Q4 2018	
		a	b	a	b
		EAD (post-CRM)	RWA	EAD (post-CRM)	RWA
(unaudited) (millions of Canadian dollars)					
1	Exposures to QCCPs (total)		276		198
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	1,088	21	3,356	67
3	(i) OTC derivatives	51	1	1,002	20
4	(ii) Exchange-traded derivatives	917	18	2,304	46
5	(iii) Securities financing transactions	120	2	50	1
6	(iv) Netting sets where cross-product netting has been approved	-	-	-	-
7	Segregated initial margin	2,123		2,125	
8	Non-segregated initial margin	127	-	88	2
9	Pre-funded default fund contributions	482	255	503	129
10	Unfunded default fund contributions	-	-	-	-

(1) The Bank has no exposure to non-qualifying central counterparties.

SEC1 - Securitization Exposures in the Banking Book⁽¹⁾

The following tables present the bank's securitization exposures in its banking book.

Q1 2019										
		a	b	c	e	f	g	i	j	k
		Bank acts as originator ⁽²⁾			Bank acts as sponsor			Banks acts as investor ⁽³⁾		
(unaudited) (millions of Canadian dollars)		Traditional	Synthetic ⁽⁴⁾	Sub-total	Traditional	Synthetic ⁽⁴⁾	Sub-total	Traditional	Synthetic ⁽⁴⁾	Sub-total
1	Retail (total)	7,228	–	7,228	–	–	–	11,170	–	11,170
	Of which :									
2	residential mortgages	7,228	–	7,228	–	–	–	10,448	–	10,448
3	credit card	–	–	–	–	–	–	11	–	11
4	other retail exposures	–	–	–	–	–	–	711	–	711
5	re-securitization	–	–	–	–	–	–	–	–	–
6	Non-Retail (total)	–	–	–	–	–	–	659	–	659
	Of which :									
7	loans to corporates	–	–	–	–	–	–	–	–	–
8	commercial mortgage	–	–	–	–	–	–	12	–	12
9	lease and receivables	–	–	–	–	–	–	647	–	647
10	other wholesale	–	–	–	–	–	–	–	–	–
11	re-securitization	–	–	–	–	–	–	–	–	–

Q4 2018										
		a	b	c	e	f	g	i	j	k
		Bank acts as originator ⁽²⁾			Bank acts as sponsor			Banks acts as investor ⁽³⁾		
(unaudited) (millions of Canadian dollars)		Traditional	Synthetic ⁽⁴⁾	Sub-total	Traditional	Synthetic ⁽⁴⁾	Sub-total	Traditional	Synthetic ⁽⁴⁾	Sub-total
1	Retail (total)	6,983	–	6,983	–	–	–	11,125	–	11,125
	Of which :									
2	residential mortgages	6,983	–	6,983	–	–	–	10,425	–	10,425
3	credit card	–	–	–	–	–	–	11	–	11
4	other retail exposures	–	–	–	–	–	–	689	–	689
5	re-securitization	–	–	–	–	–	–	–	–	–
6	Non-Retail (total)	–	–	–	–	–	–	640	–	640
	Of which :									
7	loans to corporates	–	–	–	–	–	–	–	–	–
8	commercial mortgage	–	–	–	–	–	–	14	–	14
9	lease and receivables	–	–	–	–	–	–	626	–	626
10	other wholesale	–	–	–	–	–	–	–	–	–
11	re-securitization	–	–	–	–	–	–	–	–	–

(1) Carrying values of securitization exposures even where criteria for recognition of risk transferred are not met.

(2) Represents the retained positions.

(3) Represents the investment positions purchased in third-party deals.

(4) The Bank has no synthetic securitization exposure.

SEC2 – Securitization Exposures in the Trading Book

The following tables present the bank's securitization exposures in its trading book.

(unaudited) (millions of Canadian dollars)		Q1 2019								
		a	b	c	e	f	g	i	j	k
		Bank acts as originator ⁽¹⁾			Bank acts as sponsor			Banks acts as investor ⁽²⁾		
		Traditional	Synthetic ⁽³⁾	Sub-total	Traditional	Synthetic ⁽³⁾	Sub-total	Traditional	Synthetic ⁽³⁾	Sub-total
1	Retail	2,270	–	2,270	–	–	–	6,203	–	6,203
	Of which :									
2	residential mortgages	2,270	–	2,270	–	–	–	6,191	–	6,191
3	credit card	–	–	–	–	–	–	12	–	12
4	other retail exposures	–	–	–	–	–	–	–	–	–
5	re-securitization	–	–	–	–	–	–	–	–	–
6	Non-Retail	–	–	–	–	–	–	49	–	49
	Of which :									
7	loans to corporates	–	–	–	–	–	–	–	–	–
8	commercial mortgage	–	–	–	–	–	–	12	–	12
9	lease and receivables	–	–	–	–	–	–	37	–	37
10	other wholesale	–	–	–	–	–	–	–	–	–
11	re-securitization	–	–	–	–	–	–	–	–	–

(unaudited) (millions of Canadian dollars)		Q4 2018								
		a	b	c	e	f	g	i	j	k
		Bank acts as originator ⁽¹⁾			Bank acts as sponsor			Banks acts as investor ⁽²⁾		
		Traditional	Synthetic ⁽³⁾	Sub-total	Traditional	Synthetic ⁽³⁾	Sub-total	Traditional	Synthetic ⁽³⁾	Sub-total
1	Retail	2,337	–	2,337	6	–	6	6,163	–	6,163
	Of which :									
2	residential mortgages	2,337	–	2,337	5	–	5	6,154	–	6,154
3	credit card	–	–	–	–	–	–	9	–	9
4	other retail exposures	–	–	–	1	–	1	–	–	–
5	re-securitization	–	–	–	–	–	–	–	–	–
6	Non-Retail	–	–	–	1	–	1	19	–	19
	Of which :									
7	loans to corporates	–	–	–	–	–	–	–	–	–
8	commercial mortgage	–	–	–	–	–	–	12	–	12
9	lease and receivables	–	–	–	1	–	1	7	–	7
10	other wholesale	–	–	–	–	–	–	–	–	–
11	re-securitization	–	–	–	–	–	–	–	–	–

(1) Represents the retained positions.

(2) Represents the investment positions purchased in third-party deals.

(3) The Bank has no synthetic securitization exposure.

SEC 3 – Securitization Exposures in the Banking Book and Associated Regulatory Capital Requirements⁽¹⁾ - Bank Acting as Originator or as Sponsor -

The following tables present securitization in the banking book when the bank acts as originator or sponsor and the associated capital requirements.

		Q1 2019																
		a	b	c	f	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach) ⁽²⁾				Capital charge after cap			
(unaudited) (millions of Canadian dollars)		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%
1	Total exposures	3,074	–	28	25	–	–	3,127	–	–	–	371	–	–	–	29	–	–
2	Traditional securitization	3,074	–	28	25	–	–	3,127	–	–	–	371	–	–	–	29	–	–
3	Of which securitization	3,074	–	28	25	–	–	3,127	–	–	–	371	–	–	–	29	–	–
4	Of which retail underlying	2,795	–	28	25	–	–	2,848	–	–	–	343	–	–	–	27	–	–
5	Of which wholesale	279	–	–	–	–	–	279	–	–	–	28	–	–	–	2	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

		Q4 2018																
		a	b	c	f	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
(unaudited) (millions of Canadian dollars)		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%
1	Total exposures	3,028	–	–	–	–	3,028	–	–	–	246	–	–	–	20	–	–	–
2	Traditional securitization	3,028	–	–	–	–	3,028	–	–	–	246	–	–	–	20	–	–	–
3	Of which securitization	3,028	–	–	–	–	3,028	–	–	–	246	–	–	–	20	–	–	–
4	Of which retail underlying	2,746	–	–	–	–	2,746	–	–	–	225	–	–	–	18	–	–	–
5	Of which wholesale	282	–	–	–	–	282	–	–	–	21	–	–	–	2	–	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

(1) The Bank has no synthetic securitization exposure.

(2) RWA amounts do not include the transitional arrangement related amount.

(3) As of Q1 2019, headers have been modified to reflect the new methodology.

SEC 4 – Securitization Exposures in the Banking Book and Associated Capital Requirements⁽¹⁾

- Bank Acting as Investor -

The following tables present securitization exposures in the banking book where the bank acts as investor and the associated capital requirements.

		Q1 2019																
		a	b	c	f	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach) ⁽²⁾				Capital charge after cap			
(unaudited) (millions of Canadian dollars)		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%	IRBA ⁽³⁾	ERBA/IAA ⁽³⁾	SA/SSFA	1250%
1	Total exposures	971	–	812	–	–	300	1,483	–	–	45	595	–	–	4	48	–	–
2	Traditional securitization	971	–	812	–	–	300	1,483	–	–	45	595	–	–	4	48	–	–
3	Of which securitization	971	–	812	–	–	300	1,483	–	–	45	595	–	–	4	48	–	–
4	Of which retail underlying	311	–	800	–	–	300	811	–	–	45	522	–	–	4	42	–	–
5	Of which wholesale	660	–	12	–	–	–	672	–	–	–	73	–	–	6	–	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

		Q4 2018																
		a	b	c	f	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)				Capital charge after cap			
(unaudited) (millions of Canadian dollars)		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%	IRB RBA (including IAA)	IRB SFA	SA/SSFA	1250%
1	Total exposures	1,718	–	–	–	–	1,410	308	–	–	144	23	–	–	11	2	–	–
2	Traditional securitization	1,718	–	–	–	–	1,410	308	–	–	144	23	–	–	11	2	–	–
3	Of which securitization	1,718	–	–	–	–	1,410	308	–	–	144	23	–	–	11	2	–	–
4	Of which retail underlying	1,044	–	–	–	–	736	308	–	–	93	23	–	–	7	2	–	–
5	Of which wholesale	674	–	–	–	–	674	–	–	–	51	–	–	–	4	–	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

(1) The Bank has no synthetic securitization exposure.

(2) RWA amounts do not include the transitional arrangement related amount.

(3) AS of Q1 2019, headers have been modified to reflect the new methodology.

Glossary

Advanced Internal Ratings-Based (AIRB) approach	See risk-weighted assets below.
Banking Book Equities	Banking book equities comprise mainly exposures held for strategic and other reasons.
Capital Ratio	The Bank's capital divided by risk-weighted assets. The Bank's capital can be either CET1 Capital, Tier 1 capital or Total capital, producing three different capital ratios.
Common Equity Tier 1 (CET1) capital	Common Equity Tier 1 capital consists of common shareholders' equity less goodwill, intangible assets and other capital deductions. Common Equity Tier 1 capital ratio is calculated by dividing Common Equity Tier 1 capital by risk-weighted assets.
Corporate	All direct credit risk exposures to corporations, partnerships and proprietorships, exposures guaranteed by those entities.
Credit Risk	Credit risk is the risk of a financial loss if an obligor does not fully honor its contractual commitments to the Bank. Obligors may be borrowers, issuers, counterparties or guarantors. Credit risk is the most significant risk facing the Bank in the normal course of business. The Bank is exposed to credit risk not only through its direct lending activities and transactions but also through commitments to extend credit, letters of guarantee, letters of credit, over-the-counter derivatives trading, available-for-sale debt securities, securities purchased under reverse repurchase agreements, deposits with financial institutions, brokerage activities and transactions carrying a settlement risk for the Bank such as irrevocable fund transfers to third parties via electronic payment systems.
Drawn exposure	The amount of credit risk exposure resulting from loans already advanced to the customer.
Exposure at default (EAD)	An estimate of the amount of exposure to a customer at the event of, and at the time of, default.
Financial Institutions	All direct credit risk exposures to deposit-taking institutions and regulated securities firms, and exposures guaranteed by those entities.
Leverage ratio	The leverage ratio is calculated by dividing the amount of Tier 1 capital by the total exposure. Total exposure is defined as the sum of on-balance-sheet assets (including derivative exposures and securities financing transaction exposures) and off-balance-sheet items. Assets deducted from Tier 1 capital are also deducted from the total exposure.
Loss given default (LGD)	An estimate of the amount of exposure to a customer that will not be recovered following a default by that customer, expressed as a percentage of the exposure at default.
Market risk	Market risk is the risk of financial loss resulting from adverse movements in underlying market factors. Market risk at the Bank arises from its participation in market-making, trading, investment and asset/liability management activities.
Operational risk	Operational risk is the risk of loss resulting from an inadequacy or a failure ascribable to people, processes, technology or external events. Operational risks are present in every activity of the Bank. Theft, fraud, unauthorized transactions, system errors, human error, amendments to or misinterpretation of acts and regulations, litigation or disputes with clients or property damage are just a few examples of events likely to cause financial loss, harm the Bank's reputation or result in regulatory penalties or sanctions.
Other off-balance sheet	Letters of guarantee, documentary letters of credit and securitized assets that represent the Bank's commitment to make payments in the event that a client cannot meet its financial obligations to third parties.
Other retail	This exposure class includes consumer loans, SME credit card receivables, SME loans (excluding mortgages of five units or more), and other personal loans.
Over-the-counter derivatives (OTC)	The amount of credit risk exposure resulting from derivatives that trade directly between two counterparties, rather than through exchanges.
Probability of default (PD)	An estimate of the likelihood of default for any particular customer which occurs when that customer is not able to repay its obligations as they become contractually due.
Qualifying revolving retail (QRR)	This exposure class includes lines of credit and credit card receivables.
Repo-style transactions	Financial obligations related to securities sold (repos) or repurchased (reverse repos) pursuant to an agreement under which the securities will be repurchased (repos) or resold (reverse repos) on a specified date and at a specified price. Such an agreement is a form of short-term funding (repos) or collateralized lending (reverse repos). Repo-style transactions also include loaned and borrowed securities that are off-balance sheet.
Retail Residential Mortgage	This exposure class includes loans to individuals against residential property (four units or less) and lines of credit secured by equity in residential property (HELOC).
Risk-weighted assets (RWA)	Assets are risk weighted according to the guidelines established by the Office of the Superintendent of Financial Institutions. In the standardized calculation approach, factors are applied to the face value of certain assets in order to reflect comparable risk levels. In the advanced approach, risk-weighted assets are derived from the Bank's internal models which represents the Bank's own assessment of the risks it incurs. Off-balance sheet instruments are converted to balance sheet (or credit) equivalents by adjusting the notional values before applying the appropriate risk-weighting factors.
Scaling Factor	An add-on of 6% is applied as a calibration adjustment to the risk weighted assets amount for credit risk assessed under the AIRB approach.
Sovereign	All direct credit risk exposures to governments, central banks and certain public sector entities, and exposures guaranteed by those entities.
Standardized approach	See risk-weighted assets.
Tier 1 capital	Tier 1 capital ratio consists of Common Equity Tier 1 capital and Additional Tier 1 instruments, namely, eligible non-cumulative preferred shares and the eligible amount of innovative instruments. Tier 1 capital ratio is calculated by dividing Tier 1 capital by risk-weighted assets.
Tier 2 capital	Tier 2 capital is mainly comprised of subordinated debentures and the collective allowance.
Total capital	Total capital is the sum of Tier 1 and Tier 2 capital. Total capital ratio is calculated by dividing total capital, less adjustments or regulatory deductions, by risk-weighted assets.
Undrawn commitments	The amount of credit risk exposure resulting from loans that have not been advanced to a customer, but which a customer may be entitled to draw in the future.