SUPPLEMENTARY REGULATORY CAPITAL AND PILLAR 3 DISCLOSURE

SECOND QUARTER 2019

(unaudited)

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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 - Second Quarter 2019*
(3) This page is included in the *Supplementary Regulatory Capital and Pillar 3 Disclosure - Fourth Quarter 2018*

KM2 – Key Metrics - TLAC Requirements[1]

(unaudited) (millions of Canadian dollars)

		2019	
		Q2	Q1
		a	
1	Total loss-absorbing capacity (TLAC) available	13,977	12,547
2	Total RWA at the level of the resolution group	79,008	77,036
3	TLAC ratio: TLAC as a percentage of RWA (row 1 / row 2) (%)	17.7%	16.3%
4	Leverage ratio exposure measure at the level of the resolution group	296,118	286,655
5	TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row1 / row4) (%)	4.7%	4.4%
6a	Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	yes	yes
6b	Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply?	no	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.	n.a.

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

OV1 – Overview of RWA[1]

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019	Q1 2019	Q4 2018	Q2 2019
		a	b	b	c
		RWA[1]	RWA[1]	RWA[1]	Minimum capital requirement[2]
1	**Credit risk (excluding counterparty credit risk)**	**56,069**	**55,090**	**54,467**	**4,485**
2	Of which: standardised approach (SA)	10,251	9,588	9,341	820
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	45,818	45,502	45,126	3,665
6	**Counterparty credit risk (CCR)**	**5,234**	**4,443**	**3,044**	**418**
7	Of which: standardised approach for counterparty credit risk[3]	4,217	3,493	2,354	337
8	Of which: internal model method (IMM)	–	–	–	–
9	Of which: other CCR	836	674	492	67
9a	Of which: exposures to central counterparties	181	276	198	14
10	**Credit valuation adjustment (CVA)**	**1,151**	**1,020**	**405**	**92**
11	**Equity positions under the simple risk weight approach[4]**	**943**	**924**	**926**	**76**
12	**Equity investments in funds – look-through approach**	**108**	**101**	**105**	**9**
13	**Equity investments in funds – mandate-based approach**	**–**	**–**	**–**	**–**
14	**Equity investments in funds – fall-back approach**	**86**	**75**	**70**	**7**
15	**Settlement risk**	**94**	**41**	**46**	**8**
16	**Securitization exposures in banking book**	**439**	**468**	**413**	**35**
16a	Of which: subject to the transitional arrangement	(188)	(543)	–	(15)
17	Of which: securitization IRB approach (SEC-IRBA)[5]	50	45	390	4
18	Of which: securitisation external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA)[6]	449	966	23	36
19	Of which: securitisation standardised approach (SEC-SA)	128	–	–	10
20	**Market risk**	**3,788**	**3,964**	**3,435**	**303**
21	Of which: standardised approach (SA)	927	1,041	1,072	74
22	Of which: internal model approach (IMA)	2,861	2,923	2,363	229
23	**Capital charge for switch between trading book and banking book**	**–**	**–**	**–**	**–**
24	**Operational risk**	**11,096**	**10,910**	**10,743**	**888**
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)**	**79,008**	**77,036**	**73,654**	**6,321**

(1) Risk weighted assets including the 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 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]

(unaudited) (millions of Canadian dollars)

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.

	Q2 2019						
	a	b	c	d	e	f	g
			Carrying values of items[2]				
	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	Not subject to capital requirements or subject to deduction from capital
Assets							
Cash and deposits with financial institutions	10,498	10,498	10,498	–	–	232	–
Securities							
At fair value through profit or loss	63,474	64,874	3,634	–	12	61,228	–
At fair value through other comprehensive income	6,633	15,652	15,642	–	10	–	–
At amortized cost	8,514	8,799	7,419	–	1,380	–	–
	78,621	89,325	26,695	–	1,402	61,228	–
Securities purchased under reverse repurchase agreements and securities borrowed	17,193	16,180	–	16,180	–	–	–
Loans and acceptances							
Residential mortgage	54,613	33,621	28,905	–	–	–	–
Personal	36,738	36,738	36,738	–	–	–	–
Credit card	2,324	759	759	–	–	–	–
Business and government	48,896	48,896	48,896	–	–	240	–
	142,571	120,014	115,298	–	–	240	–
Customers' liability under acceptances	6,854	6,854	6,854	–	–	–	–
Allowances for credit losses	(683)	(185)	(185)	–	–	–	–
	148,742	126,683	121,967	–	–	240	–
Other							
Derivative financial instruments[3]	7,274	7,363	–	7,363	–	6,617	–
Investments in associates and joint ventures	655	370	370	–	–	–	–
Premises and equipment	609	609	609	–	–	–	–
Goodwill	1,415	1,675	–	–	–	–	1,675
Intangible assets	1,373	1,177	–	–	–	–	1,177
Other assets	2,726	2,669	2,662	–	–	–	7
	14,052	13,863	3,641	7,363	–	6,617	2,859
Total assets	**269,106**	**256,549**	**162,801**	**23,543**	**1,402**	**68,317**	**2,859**
Liabilities							
Deposits	179,419	179,419	–	–	–	9,564	169,855
Other							
Acceptances	6,854	6,854	–	–	–	–	6,854
Obligations related to securities sold short	15,394	15,394	–	–	–	15,394	–
Obligations related to securities sold under repurchase agreements and securities loaned	20,378	20,077	–	20,077	–	–	301
Derivative financial instruments[3]	5,481	6,176	–	6,176	–	4,890	–
Liabilities related to transferred receivables	20,236	20,236	–	–	–	–	20,236
Other liabilities	5,837	5,837	–	–	–	24	5,813
	74,180	74,574	–	26,253	–	20,308	33,204
Subordinated debt	772	772	–	–	–	–	772
Total liabilities	**254,371**	**254,765**	**–**	**26,253**	**–**	**29,872**	**203,831**

(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

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019				
		a	b	c	d	e
			Items subject to(1) :			
		Total	Credit risk framework	Securitization framework	Counterparty credit risk framework	Market risk framework
1	**Asset carrying value amount under scope of regulatory consolidation (as per template LI1)**	**253,690**	**162,801**	**1,402**	**23,543**	**68,317**
2	Liabilities carrying value amount under scope of regulatory consolidation (as per template LI1)	50,934	–	–	26,253	29,872
3	Total net amount under regulatory scope of consolidation	202,756	162,801	1,402	(2,710)	38,445
4	*Gross-up for repo-style transactions*(2)	40,154	–	–	40,154	–
5	*Potential future exposures (PFE)*(3)	10,058	–	–	10,058	–
6	*Off-balance sheet amounts*(4)	164,763	42,764	3,595	91,650	–
7	*Differences due to different netting rules, other than those already included in row 2 including collateral*	1,884	–	–	1,884	–
8	VaR amounts for Securities Financing Transactions (SFTs)	1,882	–	–	1,882	–
9	*Differences in valuations*	–	–	–	–	–
10	*Collateral for SFTs*	(122,579)	–	–	(122,579)	–
11	**Exposure amounts considered for regulatory purposes**(5)	**298,918**	**205,565**	**4,997**	**20,339**	**38,445**

(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

(unaudited) (millions of Canadian dollars)

		Reference[1]	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1
	Common Equity Tier 1 capital: instruments and reserves							
1	Directly issued qualifying common share capital plus related contributed surplus[2]	a + a'	2,953	2,933	2,879	2,878	2,920	2,913
2	Retained earnings	b	8,889	8,695	8,472	8,404	8,018	7,785
3	Accumulated other comprehensive income and other reserves	c	50	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	18	15	13	10	10	8
6	**Common Equity Tier 1 capital before regulatory adjustments**		**11,910**	**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	(1,675)	(1,671)	(1,671)	(1,668)	(1,671)	(1,662)
9	Intangible assets other than mortgage-servicing rights	f - x	(1,177)	(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	6	(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	35	(23)	32	39	62	81
15	Defined benefit pension plan assets (net of related tax liability)	k - y	(7)	(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**		**(2,818)**	**(2,886)**	**(2,931)**	**(2,962)**	**(2,851)**	**(2,814)**
29	**Common Equity Tier 1 capital (CET1)**		**9,092**	**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	2,450	2,150	2,150
31	of which: classified as equity under applicable accounting standards	v + z	2,450	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	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	4	3	3	2	2	2
35	of which: instruments issued by subsidiaries subject to phase out		–	–	–	–	–	–
36	**Additional Tier 1 capital before regulatory adjustments**		**2,804**	**2,803**	**2,803**	**2,802**	**2,902**	**2,902**

(1) Reconciliation with Balance Sheet is presented on pages 12 to 13.

(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)

(unaudited) (millions of Canadian dollars)

		Reference[1]	2019 Q2	2019 Q1	2018 Q4	2018 Q3	2018 Q2	2018 Q1
	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)	(1)
41a	of which: Reverse mortgages		–	(1)	(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)**	**(1)**
44	**Additional Tier 1 capital (AT1)**		**2,804**	**2,802**	**2,802**	**2,801**	**2,901**	**2,901**
45	**Tier 1 capital (T1 = CET1 + AT1)**		**11,896**	**11,624**	**11,410**	**11,290**	**11,137**	**10,903**
	Tier 2 capital: instruments and allowances							
46	Directly issued qualifying Tier 2 instruments plus related contributed surplus[2]	r	750	750	750	750	750	–
47	Directly issued capital instruments subject to phase out from Tier 2[2]	r'	9	9	9	9	9	8
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	5	4	4	3	3	2
49	of which: instruments issued by subsidiaries subject to phase out		–	–	–	–	–	–
50	Allowances for credit losses	t	185	188	179	155	164	154
51	**Tier 2 capital before regulatory adjustments**		**949**	**951**	**942**	**917**	**926**	**164**
	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)		(55)	(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		(55)	(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**		**(55)**	**(28)**	**–**	**–**	**–**	**–**
58	**Tier 2 capital (T2)**		**894**	**923**	**942**	**917**	**926**	**164**
59	**Total capital (TC = T1 + T2)**		**12,790**	**12,547**	**12,352**	**12,207**	**12,063**	**11,067**

(1) Reconciliation with Balance Sheet is presented on pages 12 to 13.

(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)

(unaudited) (millions of Canadian dollars)

		2019		2018			
		Q2	Q1	Q4	Q3	Q2	Q1
60	**Total risk-weighted assets**	**79,008**	**77,036**	**73,685**	**73,331**	**72,895**	**71,362**
60a	Common Equity Tier 1 Capital RWA (CET1)	79,008	77,036	73,654	73,268	72,834	71,179
60b	Tier 1 Capital RWA	79,008	77,036	73,670	73,300	72,865	71,271
60c	Total capital RWA	79,008	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%	11.5%	11.7%	11.6%	11.3%	11.2%
62	Tier 1 (as a percentage of risk weighted assets)	15.1%	15.1%	15.5%	15.4%	15.3%	15.3%
63	Total capital (as a percentage of risk weighted assets)	16.2%	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%	8.0%
65	of which: capital conservation buffer requirement	2.5%	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%	0.0%
67	of which: G-SIB buffer requirement	n.a.	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%	1.0%
68	Common Equity Tier 1 available to meet buffers (as a percentage of risk weighted assets)	11.5%	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%	8.0%
70	Tier 1 capital all-in target ratio	9.5%	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%	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	551	549	311	366	481	658
73	Significant investments in the common stock of financials	301	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)	37	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)	71	70	67	66	68	61
77	Cap on inclusion of allowances in Tier 2 under standardised approach	102	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)	114	118	112	89	96	93
79	Cap on inclusion of allowances in Tier 2 under internal ratings-based approach	336	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	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	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)

	Q2 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		10,498	10,498
Securities		78,621	89,325
Non-significant investments in capital of other financial institutions reflected in regulatory capital	l	–	–
Other securities		78,621	89,325
Assets purchased under reverse repurchase agreements and securities borrowed		17,193	16,180
Loans			
Residential mortgage		54,613	33,621
Personal		36,738	36,738
Credit card		2,324	759
Business and government		48,896	48,896
Customers' liability under acceptances		6,854	6,854
Less: Allowances for credit losses		(683)	(185)
Allowance reflected in Tier 2 regulatory capital	t	–	(185)
Shortfall of allowances to expected loss	i	–	–
Allowances not reflected in regulatory capital		–	(498)
Other assets			
Derivative financial instruments		7,274	7,363
Other		6,778	6,500
Goodwill	e	–	1,675
Intangibles assets	f	–	1,373
Deferred tax assets		**–**	**517**
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		–	480
Deferred tax assets - other temporary differences		–	37
Defined-benefit pension fund net assets	k	**–**	**10**
Significant investments in other financial institutions		**–**	**301**
Significant investments exceeding regulatory thresholds	m + n	–	–
Significant investments not exceeding regulatory thresholds		–	301
Other		**–**	**2,624**
Total assets		**269,106**	**256,549**

(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 of National Bank Life Insurance Company and other insurance subsidiaries are $170 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.

CC2 – Reconciliation of Regulatory Capital to Balance Sheet[1] (continued)

(unaudited) (millions of Canadian dollars)

	Q2 2019		
	Cross - Reference to Definition of Capital[2]	As in Report to Shareholders	Under scope of regulatory consolidation
Liabilities			
Deposits		179,419	179,419
Derivatives financials instruments		5,481	6,176
Other liabilities		68,699	68,398
Gains and losses due to changes in own credit risk on fair value liabilities	j	–	(35)
Deferred tax liabilities		**–**	**156**
Related to goodwill	w	–	–
Related to intangibles	x	–	196
Related to pensions	y	–	3
Other deferred tax liabilities		–	(43)
Other		–	68,277
Subordinated debt		**772**	**772**
Regulatory capital amortization of maturing debentures		–	–
Fair value adjustment and unamortized issuance cost		–	13
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		**254,371**	**254,765**
Equity Attributable to Shareholders		**14,342**	**14,342**
Common shares	a	–	2,901
Contributed surplus	a'	–	52
Retained earnings	b	–	8,889
Accumulated Other Comprehensive Income (loss)	c	–	50
Net gains (losses) on instruments designated as cash flow hedges	h	–	(6)
Net foreign currency translation adjustments		–	41
Other		–	15
Preferred shares		**–**	**2,450**
of which: are qualifying	v	–	2,450
of which: are subject to phase out	v'	–	–
Non-controlling interest		**393**	**386**
Innovative instruments		**–**	**359**
of which: are qualifying		–	–
of which: are subject to phase out	p'	–	350
Other		–	9
Portion allowed for inclusion into CET1	d	**–**	**18**
Portion allowed for inclusion into Tier 1 capital	q	**–**	**4**
Portion allowed for inclusion into Tier 2 capital	s	**–**	**5**
Portion not allowed for regulatory capital		**–**	**–**
Total Equity		**14,735**	**14,728**
Total Liabilities and Equity		**269,106**	**269,493**

(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 of National Bank Life Insurance Company and other insurance subsidiaries are $170 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	
		Q2	Q1
	Regulatory capital elements of TLAC and adjustments		
1	Common Equity Tier 1 capital (CET1)	9,092	8,822
2	Additional Tier 1 capital (AT1) before TLAC adjustments	2,804	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	2,804	2,802
6	Tier 2 capital (T2) before TLAC adjustments	949	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	(55)	(28)
10	T2 instruments eligible under the TLAC framework	894	923
11	**TLAC arising from regulatory capital**	12,790	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	1,196	–
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**	1,196	–
	Non-regulatory capital elements of TLAC: adjustments		
18	TLAC before deductions	13,986	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	(9)	–
21	Other adjustments to TLAC	–	–
22	**TLAC available after deductions**	13,977	12,547
	Risk-weighted assets and leverage exposure measure for TLAC purposes		
23	Total risk-weighted assets adjusted as permitted under the TLAC regime	79,008	77,036
24	Leverage exposure measure	296,118	286,655
	TLAC ratios and buffers		
25	TLAC ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime)	17.7%	16.3%
26	TLAC Leverage ratio (as a percentage of leverage exposure)	4.7%	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.	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%	3.5%
29	Of which: capital conservation buffer	2.5%	2.5%
30	Of which: bank specific countercyclical buffer	–	–
31	Of which: D-SIB \ G-SIB buffer	1.0%	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]

(unaudited) (millions of Canadian dollars)

		Q2 2019					
		Creditor ranking					Sum (1 to 5)
		1			4[2]	5[3]	
		Most junior	2	3	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	2,901	2,450	759	1,196	–	7,306
3	Subset of row 2 that are excluded liabilities	–	–	–	9	–	9
4	**Total capital and liabilities less excluded liabilities (row 2 minus row 3)**	2,901	2,450	759	1,187	–	7,297
5	Subset of row 4 that are potentially eligible as TLAC	2,901	2,450	759	1,187	–	7,297
6	Subset of row 5 with 1 year ≤ residual maturity < 2 years	–	–	–	696	–	696
7	Subset of row 5 with 2 years ≤ residual maturity < 5 years	–	–	–	491	–	491
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	2,901	2,450	–	–	–	5,351

		Q1 2019					
		Creditor ranking					Sum (1 to 5)
		1			4[2]	5[3]	
		Most junior	2	3	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			
		Q2	Q1	Q4	Q3	Q2	Q1
	Accounting assets vs. leverage ratio exposure						
1	Total consolidated assets as per published financial statements	269,106	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	4	(3)	(15)	(33)	(58)	(68)
3	Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference[(1)]	(890)	(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)]	5,814	3,808	2,684	2,939	3,090	3,635
6	Adjustment for securities financing transactions (i.e. repos and similar secured lending)[(2)]	3,279	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)	22,941	23,050	22,162	21,492	21,796	20,713
8	Other adjustments	(4,136)	(4,571)	(4,087)	(4,401)	(4,777)	(5,299)
9	**Leverage Ratio Exposure**	**296,118**	**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			
		Q2	Q1	Q4	Q3	Q2	Q1
	Leverage ratio common disclosure						
	On-balance sheet exposures						
1	On-balance sheet items (excluding derivatives, SFTs and grandfathered securitization exposures but including collateral)	242,471	238,422	234,603	232,327	228,798	223,550
2	Gross-up for derivatives collateral provided where deducted from balance sheet assets pursuant to the operative accounting framework	–	–	–	–	–	–
3	(Deductions of receivables assets for cash variation margin provided in derivative transactions)	–	–	–	–	–	–
4	(Asset amounts deducted in determining Basel III Tier 1 capital)	(2,852)	(2,865)	(3,003)	(3,003)	(2,914)	(2,897)
5	**Total on-balance sheet exposures** (excluding derivatives and SFTs) (sum of rows 1 to 4)	**239,619**	**235,557**	**231,600**	**229,324**	**225,884**	**220,653**
	Derivative exposures						
6	Replacement cost associated with all derivative transactions (where applicable net of eligible cash variation margin and/or with bilateral netting)	3,007	2,483	3,897	4,034	4,270	3,991
7	Add-on amounts for PFE associated with all derivative transactions	10,058	8,463	7,373	6,502	6,725	8,166
8	(Exempted CCP leg of client-cleared trade exposures)	–	–	–	–	–	–
9	Adjusted effective notional amount of written credit derivatives	23	20	22	29	–	4
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	–	–	–	–	–	–
11	**Total derivative exposures (sum of rows 6 to 10)**	**13,088**	**10,966**	**11,292**	**10,565**	**10,995**	**12,161**
	Securities financing transaction exposures						
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	17,193	15,162	18,159	16,253	17,636	16,520
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	(662)	(2,063)	(2,974)	(1,127)	(2,196)	(4,637)
14	CCR exposure for SFTs assets	3,940	3,983	4,097	4,189	4,712	4,149
15	Agent transaction exposures	–	–	–	–	–	–
16	**Total securities financing transaction exposures (sum of rows 12 to 15)**	**20,471**	**17,082**	**19,282**	**19,315**	**20,152**	**16,032**
	Other off-balance sheet exposures						
17	Off-balance sheet exposure at gross notional amount	71,962	71,491	70,091	68,195	68,811	66,194
18	(Adjustments for conversion to credit equivalent amounts)	(49,022)	(48,441)	(47,928)	(46,703)	(47,016)	(45,481)
19	**Off-balance sheet items (sum of rows 17 and 18)**	**22,940**	**23,050**	**22,163**	**21,492**	**21,795**	**20,713**
	Capital and Total Exposures						
20	**Tier 1 capital**	**11,896**	**11,624**	**11,410**	**11,290**	**11,137**	**10,903**
21	**Total Exposures (sum of rows 5, 11, 16 and 19)**	**296,118**	**286,655**	**284,337**	**280,696**	**278,826**	**269,559**
	Leverage Ratio						
22	**Basel III leverage ratio**	**4.0%**	**4.1%**	**4.0%**	**4.0%**	**4.0%**	**4.0%**

CR1 – Credit Quality of Assets[1]

(unaudited) (millions of Canadian dollars)

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

		Q2 2019				Q1 2019			
		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		
1	Loans[5]	596	129,857	684	129,769	572	129,558	665	129,465
2	Debt Securities	–	16,360	1	16,359	–	16,791	1	16,790
3	Off-balance-sheet commitments[6]	24	69,391	62	69,353	22	68,892	62	68,852
4	**Total**	**620**	**215,608**	**747**	**215,481**	**594**	**215,241**	**728**	**215,107**

		Q4 2018			
		a	b	c	d
		Gross carrying values[2] of		Allowances for credit losses[4]	Net values (a+b-c)
		Default exposures[3]	Non-default exposures		
1	Loans[5]	593	129,888	659	129,822
2	Debt Securities	–	15,723	1	15,722
3	Off-balance-sheet commitments[6]	19	67,419	54	67,384
4	**Total**	**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

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019	Q1 2019
		a	a
1	Defaulted loans(1) and debt securities at beginning	572	593
2	Loans and debt securities that have defaulted since the last reporting period	200	226
3	Returned to non-defaulted status since the last reporting period	(32)	(47)
4	Amounts written off	(80)	(85)
5	Other changes(2)	(64)	(115)
6	**Defaulted loans(1) and debt securities at end**	**596**	**572**

(1) Includes deposits with financial institutions

(2) Includes net repayments and foreign exchange movements.

CR3 – Credit Risk Mitigation Techniques - Overview

(unaudited) (millions of Canadian dollars)

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

		Q2 2019				
		a	b1	b	d	f
		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]	68,496	61,937	56,564	5,279	–
2	Debt securities	16,360	–	–	–	–
3	**Total**	**84,856**	**61,937**	**56,564**	**5,279**	**–**
4	Of which defaulted	332	239	206	31	–

		Q1 2019				
		a	b1	b	d	f
		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
		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.
(2) Includes deposits with financial institutions.

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

(unaudited) (millions of Canadian dollars)

	2019												2018					
	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	5,080	316	4	–	–	5,400	4,919	288	4	–	–	5,211	4,794	321	4	–	–	5,119
Oil & Gas and Pipelines[2]	3,974	3,557	275	–	–	7,806	4,445	3,402	253	–	–	8,100	4,131	3,384	245	–	–	7,760
Oil and Gas	*2,659*	*2,158*	*147*	*–*	*–*	*4,964*	*2,792*	*2,035*	*147*	*–*	*–*	*4,974*	*2,582*	*2,058*	*151*	*–*	*–*	*4,791*
Pipelines & Other	*1,315*	*1,399*	*128*	*–*	*–*	*2,842*	*1,653*	*1,367*	*106*	*–*	*–*	*3,126*	*1,549*	*1,326*	*94*	*–*	*–*	*2,969*
Mining	687	937	135	–	–	1,759	915	976	146	–	–	2,037	959	878	137	–	–	1,974
Utilities	3,672	2,169	790	–	–	6,631	3,239	1,910	774	–	–	5,923	3,145	1,861	754	–	–	5,760
Construction Non-Real Estate[2][3]	1,393	867	118	–	–	2,378	1,215	585	109	–	–	1,909	1,236	427	122	–	–	1,785
Manufacturing[2]	5,878	2,151	218	–	–	8,247	5,294	1,999	217	–	–	7,510	5,283	1,878	233	–	–	7,394
Wholesale	2,593	603	56	–	–	3,252	2,092	700	55	–	–	2,847	2,102	693	52	–	–	2,847
Retail	3,333	1,162	44	–	–	4,539	3,349	1,018	46	–	–	4,413	2,970	1,052	43	–	–	4,065
Transportation[2]	1,537	775	71	8	–	2,391	1,514	1,066	69	19	–	2,668	1,488	1,070	71	31	–	2,660
Communications	1,394	882	627	–	–	2,903	1,560	816	819	–	–	3,195	1,608	644	193	–	–	2,445
Finance and Insurance	23,261	3,706	1,732	113,243	1,572	143,514	26,530	3,665	1,444	105,098	3,418	140,155	28,673	3,606	1,118	113,436	4,138	150,971
Real Estate and Construction Real Estate[2][4]	11,092	2,813	236	–	–	14,141	10,484	2,747	244	–	–	13,475	11,107	2,748	204	–	–	14,059
Professional Services	1,668	623	354	–	–	2,645	1,519	774	360	–	–	2,653	1,384	704	372	–	–	2,460
Education & Health Care[2]	3,242	1,401	8	2	–	4,653	3,326	1,318	7	2	–	4,653	3,153	1,219	8	3	–	4,383
Other Services	4,420	1,406	356	–	–	6,182	4,497	1,473	348	15	–	6,333	4,481	1,320	350	1	1	6,153
Government	4,596	1,353	3	15,269	197	21,418	4,489	1,438	3	20,389	232	26,551	2,119	1,288	3	19,979	46	23,435
Other	4,726	33	128	1,268	–	6,155	3,839	32	482	822	–	5,175	3,355	32	471	410	13	4,281
Total – Non-retail[5]	**82,546**	**24,754**	**5,155**	**129,790**	**1,769**	**244,014**	**83,226**	**24,207**	**5,380**	**126,345**	**3,650**	**242,808**	**81,988**	**23,125**	**4,380**	**133,860**	**4,198**	**247,551**

(1) EAD amounts are after securitization and exclude trading related portfolio.
(2) The presentation of certain borrower categories has 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																	
	Q3						Q2						Q1					
	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	4,657	327	6	–	–	4,990	4,338	417	6	–	–	4,761	4,156	268	7	–	–	4,431
Oil & Gas and Pipelines[2]	3,850	3,490	225	8	–	7,573	3,457	3,874	217	–	–	7,548	3,410	3,430	185	–	–	7,025
Oil and Gas	*2,458*	*2,148*	*131*	*8*	*–*	*4,745*	*2,302*	*2,146*	*129*	*–*	*–*	*4,577*	*2,244*	*1,972*	*117*	*–*	*–*	*4,333*
Pipelines & Other	*1,392*	*1,342*	*94*	*–*	*–*	*2,828*	*1,155*	*1,728*	*88*	*–*	*–*	*2,971*	*1,166*	*1,458*	*68*	*–*	*–*	*2,692*
Mining	808	838	120	–	–	1,766	764	861	120	–	–	1,745	385	833	45	–	–	1,263
Utilities	2,905	1,866	720	–	1	5,492	2,544	1,964	677	–	1	5,186	2,604	1,848	601	–	–	5,053
Construction Non-Real Estate[2][3]	1,388	370	91	–	–	1,849	1,502	449	96	–	–	2,047	1,403	311	109	–	–	1,823
Manufacturing[2]	5,029	1,751	242	–	–	7,022	4,614	1,919	256	–	–	6,789	4,336	2,049	235	–	–	6,620
Wholesale	2,128	578	56	–	–	2,762	2,090	580	43	–	–	2,713	1,936	589	37	–	–	2,562
Retail	2,973	1,128	41	–	–	4,142	3,068	1,119	46	–	–	4,233	3,126	1,106	45	–	–	4,277
Transportation[2]	1,446	1,013	67	30	–	2,556	1,487	835	66	32	–	2,420	1,467	793	65	29	–	2,354
Communications	1,627	646	194	–	–	2,467	1,567	778	193	–	–	2,538	1,408	832	190	–	–	2,430
Finance and Insurance	25,243	3,295	846	115,720	3,614	148,718	23,236	3,494	601	125,811	4,167	157,309	22,533	3,222	597	127,147	4,427	157,926
Real Estate and Construction Real Estate[2][4]	10,312	2,405	194	–	–	12,911	10,431	2,329	202	51	–	13,013	10,189	2,233	156	58	–	12,636
Professional Services	1,365	653	345	–	–	2,363	1,315	653	360	–	–	2,328	1,210	661	360	–	–	2,231
Education & Health Care[2]	3,175	1,030	7	6	–	4,218	3,042	1,264	8	3	–	4,317	3,092	1,162	9	5	–	4,268
Other Services	4,602	1,236	331	3	–	6,172	4,621	1,199	279	3	–	6,102	4,427	1,248	285	–	–	5,960
Government	5,448	1,183	12	19,611	447	26,701	4,480	1,349	18	18,584	–	24,431	4,450	1,376	16	19,100	–	24,942
Other	3,089	32	505	1,081	–	4,707	2,966	32	566	1,542	22	5,128	2,652	34	584	112	5	3,387
Total – Non-retail[5]	**80,045**	**21,841**	**4,002**	**136,459**	**4,062**	**246,409**	**75,522**	**23,116**	**3,754**	**146,026**	**4,190**	**252,608**	**72,784**	**21,995**	**3,526**	**146,451**	**4,432**	**249,188**

(1) EAD amounts are after securitization and exclude trading related portfolio.
(2) The presentation of certain borrower categories has 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 – Q2

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	61	37	257	–	–	**355**
Italy	–	–	–	–	2	**2**
Portugal	–	–	–	–	–	–
Spain	–	–	14	–	40	**54**
Total GIIPS	**61**	**37**	**271**	**–**	**42**	**411**
France	25	52	1,325	1	49	**1,452**
Germany	152	44	19	28	23	**266**
United Kingdom	513	21	17,154	1,722	1	**19,411**
Other Europe	118	3	1,999	176	11	**2,307**
Total – Credit Risk	**869**	**157**	**20,768**	**1,927**	**126**	**23,847**

2019 – Q1

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	52	22	317	–	1	**392**
Italy	–	–	–	–	–	–
Portugal	–	–	–	–	40	**40**
Spain	1	–	14	–	–	**15**
Total GIIPS	**53**	**22**	**331**	**–**	**41**	**447**
France	22	36	1,349	1	29	**1,437**
Germany	148	45	–	24	253	**470**
United Kingdom	786	–	16,612	941	4	**18,343**
Other Europe	100	4	1,643	169	9	**1,925**
Total – Credit Risk	**1,109**	**107**	**19,935**	**1,135**	**336**	**22,622**

2018 – Q4

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	54	19	6,578	6	–	**6,657**
Italy	–	–	99	–	1	**100**
Portugal	–	–	–	–	–	–
Spain	1	–	–	1	42	**44**
Total GIIPS	**55**	**19**	**6,677**	**7**	**43**	**6,801**
France	14	39	1,579	2	262	**1,896**
Germany	143	51	–	8	27	**229**
United Kingdom	538	–	18,101	3,015	3	**21,657**
Other Europe	87	4	1,837	102	9	**2,039**
Total – Credit Risk	**837**	**113**	**28,194**	**3,134**	**344**	**32,622**

Adjustment to exposure for collateral	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items(3)	Total
Total – Net Credit Risk(4) – 2019 Q2	**869**	**157**	**671**	**126**	**1,823**
Total – Net Credit Risk(4) – 2019 Q1	**1,109**	**107**	**587**	**336**	**2,139**
Total – Net Credit Risk(4) – 2018 Q4	**837**	**113**	**2,185**	**344**	**3,479**

2018 – Q3

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	49	14	6,135	3	–	**6,201**
Italy	–	–	200	–	1	**201**
Portugal	–	–	–	–	–	–
Spain	1	–	–	3	40	**44**
Total GIIPS	**50**	**14**	**6,335**	**6**	**41**	**6,446**
France	13	41	1,300	2	250	**1,606**
Germany	140	59	–	8	37	**244**
United Kingdom	384	–	18,156	1,733	2	**20,275**
Other Europe	51	4	153	98	9	**315**
Total – Credit Risk	**638**	**118**	**25,944**	**1,847**	**339**	**28,886**

2018 – Q2

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	66	–	6,232	10	–	**6,308**
Italy	–	–	100	–	1	**101**
Portugal	–	–	–	–	–	–
Spain	2	–	–	1	47	**50**
Total GIIPS	**68**	**–**	**6,332**	**11**	**48**	**6,459**
France	31	43	1,326	207	243	**1,850**
Germany	141	64	–	7	41	**253**
United Kingdom	565	1	16,137	1,837	2	**18,542**
Other Europe	86	4	2,182	112	9	**2,393**
Total – Credit Risk	**891**	**112**	**25,977**	**2,174**	**343**	**29,497**

2018 – Q1

	Drawn	Undrawn commitments	Repo-style transactions(2)	OTC derivatives	Other off-balance sheet items(3)	Total
Greece	–	–	–	–	–	–
Ireland	–	–	4,467	4	–	**4,471**
Italy	–	–	–	–	–	–
Portugal	–	–	–	–	–	–
Spain	–	–	–	7	46	**53**
Total GIIPS	**–**	**–**	**4,467**	**11**	**46**	**4,524**
France	147	34	768	206	315	**1,470**
Germany	–	–	–	2	37	**39**
United Kingdom	721	7	16,657	1,510	4	**18,899**
Other Europe	45	4	2,388	140	53	**2,630**
Total – Credit Risk	**913**	**45**	**24,280**	**1,869**	**455**	**27,562**

Adjustment to exposure for collateral	Drawn	Undrawn commitments	Net Repo-Style transactions and OTC derivatives	Other off-balance sheet items(3)	Total
Total – Net Credit Risk(4) – 2018 Q3	**638**	**118**	**1,291**	**339**	**2,386**
Total – Net Credit Risk(4) – 2018 Q2	**891**	**112**	**2,088**	**343**	**3,434**
Total – Net Credit Risk(4) – 2018 Q1	**913**	**45**	**1,575**	**455**	**2,988**

(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)

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019					
		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM			
	Assets classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
1	Sovereigns and their central banks	1,293	47	1,293	–	786	61%
2	Non-central government public sector entities	–	–	–	–	–	0%
3	Multilateral development banks	20	–	20	–	–	0%
4	Financial institutions	444	2,546	444	202	496	77%
5	Securities firms	–	–	–	–	–	0%
6	Corporates	3,022	570	3,022	95	1,933	62%
7	Regulatory retail portfolios	4,943	86	4,943	17	2,000	40%
8	Secured by residential property	4,406	39	4,406	19	1,669	38%
9	Secured by commercial real estate	108	–	108	–	108	100%
10	Equity	–	–	–	–	–	0%
11	Past-due loans	32	16	32	–	21	66%
12	Higher-risk categories	4	–	4	–	7	175%
13	Other assets(2)	13,557	–	13,557	–	3,231	24%
14	**Total**	**27,829**	**3,304**	**27,829**	**333**	**10,251**	**36%**

		Q1 2019					
		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM			
	Assets classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
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%**

(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.

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

(unaudited) (millions of Canadian dollars)

		Q4 2018					
		a	b	c	d	e	f
		Exposures before CCF and CRM		Exposures post-CCF and CRM			
	Assets classes	On-balance sheet amount	Off-balance sheet amount	On-balance sheet amount	Off-balance sheet amount	RWA	RWA density
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]

(unaudited) (millions of Canadian dollars)

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).

		Q2 2019									
		a	b	c	d	e	f	g	h	i	j
	Asset classes / Risk weight	0%	10%	20%	35%	50%	75%	100%	150%	Others	Total credit exposures amount (post-CCF and post-CRM)
1	Sovereigns and their central banks	507	–	–	–	–	–	786	–	–	1,293
2	Non-central government public sector entities	–	–	–	–	–	–	–	–	–	–
3	Multilateral development banks	20	–	–	–	–	–	–	–	–	20
4	Financial institutions	–	–	188	–	–	–	458	–	–	646
5	Securities firms	–	–	–	–	–	–	–	–	–	–
6	Corporates	1,183	–	–	–	–	–	1,934	–	–	3,117
7	Regulatory retail portfolios	2,292	–	–	–	–	2,668	–	–	–	4,960
8	Secured by residential property	620	–	–	2,986	11	758	50	–	–	4,425
9	Secured by commercial real estate	–	–	–	–	–	–	108	–	–	108
10	Equity	–	–	–	–	–	–	–	–	–	–
11	Past-due loans	11	–	–	–	–	–	20	1	–	32
12	Higher-risk categories	–	–	–	–	–	–	–	4	–	4
13	Other assets[2]	10,832	–	–	–	–	–	2,387	–	338	13,557
14	**Total**	**15,465**	**–**	**188**	**2,986**	**11**	**3,426**	**5,743**	**5**	**338**	**28,162**

		Q1 2019									
		a	b	c	d	e	f	g	h	i	j
	Asset classes / Risk weight	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**

(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] (continued)

(unaudited) (millions of Canadian dollars)

		Q4 2018									
		a	b	c	d	e	f	g	h	i	j
	Asset classes / Risk weight	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

(unaudited) (millions of Canadian dollars)

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.

	Q2 2019												
		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[8]	RWA density[9]	EL[10]	Allowances for credit losses
Residential Mortgages and HELOCs – insured	0.00 to < 0.15	674	–	–	674	0.08%	52,553	5.8%		7	1.1%	–	
	0.15 to < 0.25	296	–	–	296	0.20%	19,509	5.7%		7	2.3%	–	
	0.25 to < 0.50	404	–	–	404	0.36%	21,933	4.8%		12	2.9%	–	
	0.50 to < 0.75	207	–	–	207	0.60%	9,169	4.6%		8	4.0%	–	
	0.75 to < 2.50	301	–	–	301	1.31%	14,418	3.5%		15	5.1%	–	
	2.50 to < 10.00	103	–	–	103	4.85%	4,096	3.1%		10	9.8%	–	
	10.00 to < 100.00	66	–	–	66	28.89%	1,520	3.0%		11	16.2%	1	
	100.00 (Default)	41	–	–	41	100.00%	635	2.8%		5	12.3%	1	
	Sub-total	2,092	–	–	2,092	3.48%	123,833	4.9%		75	3.6%	2	5
Residential Mortgages and HELOCs – uninsured	0.00 to < 0.15	23,293	14,054	50%	30,250	0.07%	192,715	20.4%		1,072	3.5%	4	
	0.15 to < 0.25	6,099	947	68%	6,739	0.19%	30,341	23.0%		614	9.1%	3	
	0.25 to < 0.50	5,705	875	70%	6,316	0.34%	25,886	23.3%		861	13.6%	5	
	0.50 to < 0.75	2,226	183	72%	2,358	0.61%	9,621	23.5%		496	21.0%	3	
	0.75 to < 2.50	2,262	222	67%	2,412	1.28%	11,035	23.0%		804	33.3%	7	
	2.50 to < 10.00	680	44	66%	710	4.60%	3,874	22.6%		493	69.5%	7	
	10.00 to < 100.00	188	2	143%	190	23.67%	1,261	23.1%		233	122.2%	11	
	100.00 (Default)	98	2	138%	101	100.00%	704	22.2%		156	155.0%	12	
	Sub-total	40,551	16,329	52%	49,076	0.57%	275,437	21.4%		4,729	9.6%	52	30
Qualifying revolving retail	0.00 to < 0.15	733	5,477	39%	2,858	0.05%	881,158	79.2%		72	2.5%	1	
	0.15 to < 0.25	194	268	51%	331	0.20%	117,918	79.7%		28	8.6%	1	
	0.25 to < 0.50	309	297	54%	469	0.36%	146,352	80.0%		64	13.5%	1	
	0.50 to < 0.75	230	147	63%	322	0.63%	70,356	77.8%		67	20.8%	2	
	0.75 to < 2.50	642	206	65%	776	1.44%	230,741	82.8%		324	41.8%	9	
	2.50 to < 10.00	383	43	95%	424	4.47%	223,202	84.8%		394	93.0%	16	
	10.00 to < 100.00	67	3	69%	69	23.33%	30,571	83.0%		146	210.6%	14	
	100.00 (Default)	24	–	16%	24	100.00%	4,158	72.7%		35	145.9%	15	
	Sub-total	2,582	6,441	42%	5,273	1.44%	1,704,456	80.2%		1,130	21.4%	59	195
Other retail	0.00 to < 0.15	2,160	1,937	43%	2,992	0.06%	112,317	49.6%		258	8.6%	1	
	0.15 to < 0.25	827	180	68%	950	0.20%	44,094	53.6%		209	22.0%	1	
	0.25 to < 0.50	1,346	237	71%	1,514	0.36%	76,515	57.1%		511	33.7%	3	
	0.50 to < 0.75	1,039	206	81%	1,207	0.63%	53,175	58.5%		577	47.8%	4	
	0.75 to < 2.50	3,004	281	74%	3,213	1.39%	206,817	63.2%		2,295	71.5%	29	
	2.50 to < 10.00	913	65	74%	961	4.34%	68,656	66.0%		917	95.4%	28	
	10.00 to < 100.00	263	5	56%	265	18.84%	14,900	64.5%		356	134.3%	33	
	100.00 (Default)	105	2	62%	106	100.00%	6,890	57.4%		178	166.8%	50	
	Sub-total	9,657	2,913	53%	11,208	2.32%	583,364	57.6%		5,301	47.3%	149	135

(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) Risk weighted assets before applying the 1.06 scaling factor.
(9) Total risk-weighted assets to EAD post-CRM.
(10) 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)

(unaudited) (millions of Canadian dollars)

	Q2 2019												
		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[8]	RWA density[9]	EL[10]	Allowances for credit losses
Corporate	0.00 to ‹ 0.15	1,341	3,006	74%	4,611	0.08%	758	46.6%	2.33	1,118	24.2%	2	
	0.15 to ‹ 0.25	12,368	9,669	82%	24,010	0.21%	3,592	36.3%	2.66	7,521	31.3%	18	
	0.25 to ‹ 0.50	9,672	4,782	81%	15,587	0.36%	2,359	35.6%	2.42	6,098	39.1%	20	
	0.50 to ‹ 0.75	7,333	1,916	89%	9,852	0.56%	2,596	33.0%	2.28	4,165	42.3%	18	
	0.75 to ‹ 2.50	13,444	2,451	84%	17,053	1.13%	6,157	33.7%	1.95	9,428	55.3%	65	
	2.50 to ‹ 10.00	2,160	272	69%	2,595	4.80%	1,240	29.4%	1.69	1,980	76.3%	38	
	10.00 to ‹ 100.00	196	17	73%	212	17.25%	55	30.2%	1.02	275	129.6%	11	
	100.00 (Default)	303	2	40%	309	100.00%	211	26.2%	1.19	252	81.6%	120	
	Sub-total	46,817	22,115	81%	74,229	1.11%	16,968	35.5%	2.33	30,837	41.5%	292	322
Sovereign	0.00 to ‹ 0.15	23,582	4,439	97%	29,478	0.01%	579	8.9%	2.57	487	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	68	21	95%	90	5.61%	5	14.8%	1.66	41	45.6%	1	
	10.00 to ‹ 100.00	–	–	–	–	–	–	–	–	–	–	–	
	100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	
	Sub-total	23,650	4,460	97%	29,568	0.03%	584	8.9%	2.57	528	1.8%	1	2
Financial institutions	0.00 to ‹ 0.15	1,362	348	–	1,823	0.05%	70	42.1%	1.95	279	15.3%	–	
	0.15 to ‹ 0.25	1,163	5	10%	1,168	0.23%	14	23.0%	1.01	258	22.1%	1	
	0.25 to ‹ 0.50	34	342	95%	426	0.36%	13	11.4%	2.04	63	14.7%	–	
	0.50 to ‹ 0.75	3	13	100%	16	0.56%	2	48.3%	1.00	9	59.4%	–	
	0.75 to ‹ 2.50	14	8	100%	21	0.86%	11	46.7%	1.00	16	77.7%	–	
	2.50 to ‹ 10.00	–	–	–	–	3.16%	3	39.5%	1.00	–	119.2%	–	
	10.00 to ‹ 100.00	–	–	–	–	–	–	–	–	–	–	–	
	100.00 (Default)	–	–	–	–	–	–	–	–	–	–	–	
	Sub-total	2,576	716	48%	3,454	0.16%	113	31.9%	1.64	625	18.1%	1	1
Total (all portfolio)		**127,925**	**52,974**	**67%**	**174,900**	**0.87%**	**2,704,755**	**29.4%**	**2.40**	**43,225**	**24.7%**	**556**	**690**

(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) Risk weighted assets before applying the 1.06 scaling factor.
(9) Total risk-weighted assets to EAD post-CRM.
(10) 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)

(unaudited) (millions of Canadian dollars)

	Q4 2018												
		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(8)	RWA density(9)	EL(10)	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) Risk weighted assets before applying the 1.06 scaling factor.
(9) Total risk-weighted assets to EAD post-CRM.
(10) 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)

(unaudited) (millions of Canadian dollars)

	Q4 2018												
		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(8)	RWA density(9)	EL(10)	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	277
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	2
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	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) Risk weighted assets before applying the 1.06 scaling factor.
(9) Total risk-weighted assets to EAD post-CRM.
(10) 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

(unaudited) (millions of Canadian dollars)

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

		Q2 2019	Q1 2019	Q4 2018
		a	a	a
		RWA	RWA	RWA
1	**RWA at beginning**	**47,097**	**46,640**	**44,971**
2	Book size(1)	93	721	1,479
3	Book quality(2)	49	(254)	195
4	Model updates(3)	30	–	(72)
5	Methodology and policy(4)	–	–	–
6	Acquisitions and disposals(5)	–	–	–
7	Foreign exchange movements(6)	126	(10)	67
8	Other(7)	–	–	–
9	**RWA at end**	**47,395**	**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]

(unaudited) (millions of Canadian dollars)

	2019											
	Q2						Q1					
	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]
Retail portfolio[5]												
Insured residential mortgages[6]	0.80%	0.66%	2.64%	n.a.	n.a.	n.a.	0.84%	0.65%	2.64%	n.a.	n.a.	n.a.
Uninsured residential mortgages incl. HELOCs[7]	0.34%	0.31%	21.51%	8.16%	95.95%	78.17%	0.35%	0.34%	21.43%	9.04%	92.60%	80.58%
Qualifying revolving retail	1.34%	1.20%	79.88%	73.65%	100.40%	102.32%	1.35%	1.18%	75.00%	75.80%	100.37%	102.00%
Other retail	1.63%	1.07%	66.80%	59.42%	94.94%	88.39%	1.59%	1.10%	67.01%	62.45%	95.78%	87.90%
Non-Retail Portfolio[8]												
Corporate	1.01%	0.37%	34.65%	30.41%	84.18%	85.45%	1.01%	0.40%	36.57%	29.40%	79.91%	76.06%
Sovereign[9]	0.07%	0.00%	11.54%	n.a.	88.30%	n.a.	0.04%	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.	0.35%	0.00%	40.75%	n.a.	100.00%	n.a.

	2018											
	Q4						Q3					
	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]
Retail portfolio[5]												
Insured residential mortgages[6]	0.85%	0.64%	2.64%	n.a.	n.a.	n.a.	1.06%	0.62%	2.64%	n.a.	n.a.	n.a.
Uninsured residential mortgages incl. HELOCs[7]	0.36%	0.32%	21.57%	9.43%	93.02%	84.32%	0.37%	0.26%	22.15%	11.08%	91.49%	84.43%
Qualifying revolving retail	1.36%	1.15%	74.64%	75.40%	100.18%	101.60%	1.26%	1.16%	77.45%	78.68%	99.24%	100.62%
Other retail	1.63%	1.05%	67.53%	59.30%	95.65%	88.31%	1.68%	1.30%	66.64%	58.90%	95.59%	88.62%
Non-Retail Portfolio[8]												
Corporate	1.01%	0.46%	35.57%	32.01%	79.10%	71.09%	1.27%	0.50%	37.11%	28.10%	77.64%	68.47%
Sovereign[9]	0.03%	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]	0.41%	0.00%	40.75%	n.a.	100.00%	n.a.	0.59%	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 Q2 2019, estimated percentages are as of March 31st, 2018 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

(unaudited) (millions of Canadian dollars)

	Q2 2019					Q1 2019				
	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA
Equities under the materiality exemption	**839**	**102**	**100%**	**890**	**943**	**816**	**110**	**100%**	**871**	**924**

	Q4 2018				
	On-balance sheet amount	Off-balance sheet amount	RW	Exposure amount	RWA
Equities under the materiality exemption	**823**	**102**	**100%**	**874**	**926**

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

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019					
		a	b	c	d	e	f
		Replacement cost	Potential future exposure	EEPE[2]	Alpha used for computing regulatory EAD	EAD post-CRM	RWA
1	SA-CCR (for derivatives)	2,193	7,184		1.4	13,128	4,087
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					7,142	966
6	**Total**						**5,053**

		Q1 2019					
		a	b	c	d	e	f
		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
		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

(unaudited) (millions of Canadian dollars)

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

		Q2 2019		Q1 2019		Q4 2018	
		a	b	a	b	a	b
		EAD post-CRM	RWA	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	8,340	1,151	6,845	1,020	6,018	405
4	**Total subject to the CVA capital charge**	**8,340**	**1,151**	**6,845**	**1,020**	**6,018**	**405**

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

(unaudited) (millions of Canadian dollars)

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).

	Q2 2019								
	a	b	c	d	e	f	g	h	i
Regulatory portfolio / Risk weight	0%	10%	20%	50%	75%	100%	150%	Others	Total credit exposure
Sovereigns	–	–	–	–	–	–	–	–	–
Non-central government public sector entities (PSEs)	–	–	–	–	–	–	–	–	–
Multilateral development banks (MDBs)	18	–	–	–	–	–	–	–	18
Financial institutions	–	–	–	–	–	–	–	–	–
Securities firms	–	–	–	–	–	–	–	–	–
Corporates	–	–	–	–	–	436	–	–	436
Regulatory retail portfolios	–	–	–	–	–	–	–	–	–
Other assets[(1)]	–	–	–	–	–	–	–	–	–
Total	**18**	**–**	**–**	**–**	**–**	**436**	**–**	**–**	**454**

	Q1 2019								
	a	b	c	d	e	f	g	h	i
Regulatory Portfolio / Risk weight	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**

	Q4 2018								
	a	b	c	d	e	f	g	h	i
Regulatory Portfolio / Risk weight	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

(unaudited) (millions of Canadian dollars)

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

		Q2 2019						
		a	b	c	d	e	f	g
	PD scale(1)	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	824	0.06%	417	42.9%	0.05	75	9.1%
	0.15 to ‹ 0.25	431	0.17%	226	58.2%	0.02	127	29.5%
	0.25 to ‹ 0.50	18	0.36%	60	39.6%	–	6	33.3%
	0.50 to ‹ 0.75	2	0.56%	25	39.5%	–	1	50.0%
	0.75 to ‹ 2.50	125	0.86%	98	44.6%	0.01	53	42.4%
	2.50 to ‹ 10.00	–	–	–	–	–	–	–
	10.00 to ‹ 100.00	–	–	–	–	–	–	–
	100.00 (Default)	–	–	–	–	–	–	–
	Sub-total	1,400	0.17%	826	47.7%	0.04	262	18.7%
Sovereign	0.00 to ‹ 0.15	3,339	0.04%	95	11.1%	0.36	46	1.4%
	0.15 to ‹ 0.25	30	0.21%	1	11.6%	–	2	6.7%
	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	3,369	0.04%	96	11.1%	0.36	48	1.4%
Financial institutions	0.00 to ‹ 0.15	2,130	0.06%	15	50.5%	0.48	242	11.4%
	0.15 to ‹ 0.25	372	0.18%	16	50.8%	0.12	120	32.3%
	0.25 to ‹ 0.50	147	0.36%	11	50.4%	0.21	75	51.0%
	0.50 to ‹ 0.75	172	0.56%	11	50.0%	0.06	108	62.8%
	0.75 to ‹ 2.50	73	1.21%	23	48.2%	–	54	74.0%
	2.50 to ‹ 10.00	–	–	–	–	–	–	–
	10.00 to ‹ 100.00	–	–	–	–	–	–	–
	100.00 (Default)	–	–	–	–	–	–	–
	Sub-total	2,894	0.15%	76	50.5%	0.38	599	20.7%
Total (sum of portfolios)		**7,663**	**0.11%**	**998**	**33.0%**	**0.59**	**909**	**11.8%**

(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)

(unaudited) (millions of Canadian dollars)

	Q4 2018							
		a	b	c	d	e	f	g
	PD scale[1]	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	15.2%
Sovereign	0.00 to < 0.15	3,509	0.04%	94	1.2%	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	1.3%
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	16.3%
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

(unaudited) (millions of Canadian dollars)

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.

	Q2 2019						Q1 2019					
	a	b	c	d	e	f	a	b	c	d	e	f
	Collateral used in derivative transactions				Collateral used in SFTs		Collateral used in derivative transactions				Collateral used in SFTs	
	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral	Fair value of collateral received		Fair value of posted collateral		Fair value of collateral received	Fair value of posted collateral
	Segregated	Unsegregated	Segregated	Unsegregated			Segregated	Unsegregated	Segregated	Unsegregated		
Cash	–	5,020	–	660	–	–	–	5,012	–	1,308	4	–
Securities issued or guaranteed by												
Canadian government	7	58	–	956	2,936	1,276	2	47	–	662	3,160	508
Canadian provincial and municipal governments	–	32	–	51	2,966	1,660	–	80	–	136	3,395	5,017
U.S. Treasury, other U.S. agencies and other foreign governments	64	63	–	7	100	719	63	59	–	–	548	3,409
Other debt securities	–	15	–	–	82	396	–	14	–	–	88	481
Equity securities	–	–	–	–	11,443	16,481	–	–	–	–	8,350	12,239
Total	**71**	**5,188**	**–**	**1,674**	**17,527**	**20,532**	**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
	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

(unaudited) (millions of Canadian dollars)

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

	Q2 2019		Q1 2019		Q4 2018	
	a	b	a	b	a	b
	Protection purchased	Protection sold	Protection purchased	Protection sold	Protection purchased	Protection sold
Notionals						
Credit default swaps						
Indices, singles names and other	3,005	936	1,943	252	1,784	88
Tranches on indices	–	–	–	–	–	–
Total return swaps	162	–	161	–	162	–
Credit options	–	–	–	–	–	–
Other credit derivatives	–	–	–	–	–	–
Total notionals	**3,167**	**936**	**2,104**	**252**	**1,946**	**88**
Fair values						
Positive fair value (asset)	1	27	5	7	10	1
Negative fair value (liability)	(78)	–	(42)	–	(36)	–

CCR8 – Exposures to Central Counterparties (CCP)[1]

(unaudited) (millions of Canadian dollars)

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.

		Q2 2019		Q1 2019		Q4 2018	
		a	b	a	b	a	b
		EAD (post-CRM)	RWA	EAD (post-CRM)	RWA	EAD (post-CRM)	RWA
1	**Exposures to QCCPs (total)**		**181**		**276**		**198**
2	Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which	1,182	24	1,088	21	3,356	67
3	(i) OTC derivatives	36	1	51	1	1,002	20
4	(ii) Exchange-traded derivatives	1,077	22	917	18	2,304	46
5	(iii) Securities financing transactions	69	1	120	2	50	1
6	(iv) Netting sets where cross-product netting has been approved	–	–	–	–	–	–
7	Segregated initial margin	2,117		2,123		2,125	
8	Non-segregated initial margin	45	–	127	–	88	2
9	Pre-funded default fund contributions	389	157	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

(unaudited) (millions of Canadian dollars)

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

		Q2 2019								
		a	b	c	e	f	g	i	j	k
				Bank acts as originator			Bank acts as sponsor			Banks acts as investor[1]
		Traditional	Synthetic[2]	Sub-total	Traditional	Synthetic[2]	Sub-total	Traditional	Synthetic[2]	Sub-total
1	**Retail**	**675**	**–**	**675**	**2,162**	**–**	**2,162**	**1,148**	**–**	**1,148**
	Of which :									
2	Residential mortgages	–	–	–	1,850	–	1,850	336	–	336
3	Credit card	675	–	675	–	–	–	12	–	12
4	Other retail exposures	–	–	–	312	–	312	800	–	800
5	Re-securitization	–	–	–	–	–	–	–	–	–
6	**Non-Retail**	**–**	**–**	**–**	**282**	**–**	**282**	**730**	**–**	**730**
	Of which :									
7	Loans to corporates	–	–	–	–	–	–	–	–	–
8	Commercial mortgage	–	–	–	–	–	–	10	–	10
9	Lease and receivables	–	–	–	270	–	270	720	–	720
10	Other wholesale	–	–	–	12	–	12	–	–	–
11	Re-securitization	–	–	–	–	–	–	–	–	–

		Q1 2019								
		a	b	c	e	f	g	i	j	k
				Bank acts as originator			Bank acts as sponsor			Banks acts as investor[1]
		Traditional	Synthetic[2]	Sub-total	Traditional	Synthetic[2]	Sub-total	Traditional	Synthetic[2]	Sub-total
1	**Retail**	**661**	**–**	**661**	**2,188**	**–**	**2,188**	**1,111**	**–**	**1,111**
	Of which :									
2	Residential mortgages	–	–	–	1,870	–	1,870	299	–	299
3	Credit card	661	–	661	–	–	–	12	–	12
4	Other retail exposures	–	–	–	318	–	318	800	–	800
5	Re-securitization	–	–	–	–	–	–	–	–	–
6	**Non-Retail**	**–**	**–**	**–**	**278**	**–**	**278**	**672**	**–**	**672**
	Of which :									
7	Loans to corporates	–	–	–	–	–	–	–	–	–
8	Commercial mortgage	–	–	–	–	–	–	12	–	12
9	Lease and receivables	–	–	–	270	–	270	660	–	660
10	Other wholesale	–	–	–	8	–	8	–	–	–
11	Re-securitization	–	–	–	–	–	–	–	–	–

(1) Represents the investment positions purchased in third-party deals.
(2) The Bank has no synthetic securitization exposure.

SEC2 – Securitization Exposures in the Trading Book

(unaudited) (millions of Canadian dollars)

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

		Q2 2019								
		a	b	c	e	f	g	i	j	k
				Bank acts as originator			Bank acts as sponsor			Banks acts as investor(1)
		Traditional	Synthetic(2)	Sub-total	Traditional	Synthetic(2)	Sub-total	Traditional	Synthetic(2)	Sub-total
1	**Retail**	**–**	**–**	**–**	**–**	**–**	**–**	**36**	**–**	**36**
	Of which :									
2	Residential mortgages	–	–	–	–	–	–	28	–	28
3	Credit card	–	–	–	–	–	–	8	–	8
4	Other retail exposures	–	–	–	–	–	–	–	–	–
5	Re-securitization	–	–	–	–	–	–	–	–	–
6	**Non-Retail**	**–**	**–**	**–**	**–**	**–**	**–**	**17**	**–**	**17**
	Of which :									
7	Loans to corporates	–	–	–	–	–	–	–	–	–
8	Commercial mortgage	–	–	–	–	–	–	12	–	12
9	Lease and receivables	–	–	–	–	–	–	5	–	5
10	Other wholesale	–	–	–	–	–	–	–	–	–
11	Re-securitization	–	–	–	–	–	–	–	–	–

		Q1 2019								
		a	b	c	e	f	g	i	j	k
				Bank acts as originator			Bank acts as sponsor			Banks acts as investor(1)
		Traditional	Synthetic(2)	Sub-total	Traditional	Synthetic(2)	Sub-total	Traditional	Synthetic(2)	Sub-total
1	**Retail**	**–**	**–**	**–**	**–**	**–**	**–**	**20**	**–**	**20**
	Of which :									
2	Residential mortgages	–	–	–	–	–	–	8	–	8
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	–	–	–	–	–	–	–	–	–

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

(unaudited) (millions of Canadian dollars)

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

		Q2 2019																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)[2]				Capital charge after cap			
		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%
1	**Total exposures**	**3,065**	**–**	**28**	**26**	**–**	**–**	**3,119**	**–**	**–**	**–**	**369**	**–**	**–**	**–**	**30**	**–**	**–**
2	Traditional securitization	3,065	–	28	26	–	–	3,119	–	–	–	369	–	–	–	30	–	–
3	Of which securitization	3,065	–	28	26	–	–	3,119	–	–	–	369	–	–	–	30	–	–
4	Of which retail underlying	2,783	–	28	26	–	–	2,837	–	–	–	341	–	–	–	28	–	–
5	Of which wholesale	282	–	–	–	–	–	282	–	–	–	28	–	–	–	2	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

		Q1 2019																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)[2]				Capital charge after cap			
		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	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	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

(1) The Bank has no synthetic securitization exposure.

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

SEC 4 – Securitization Exposures in the Banking Book and Associated Capital Requirements[1]
- Bank Acting as Investor -

(unaudited) (millions of Canadian dollars)

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

		Q2 2019																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)[2]				Capital charge after cap			
		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%
1	**Total exposures**	**1,868**	**–**	**10**	**–**	**–**	**320**	**758**	**800**	**–**	**50**	**80**	**128**	**–**	**4**	**6**	**10**	**–**
2	Traditional securitization	1,868	–	10	–	–	320	758	800	–	50	80	128	–	4	6	10	–
3	Of which securitization	1,868	–	10	–	–	320	758	800	–	50	80	128	–	4	6	10	–
4	Of which retail underlying	1,148	–	–	–	–	320	28	800	–	50	2	128	–	4	–	10	–
5	Of which wholesale	720	–	10	–	–	–	730	–	–	–	78	–	–	–	6	–	–
6	Of which re-securitization	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
7	Of which senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
8	Of which non-senior	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

		Q1 2019																
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
		Exposure values (by RW bands)					Exposure values (by regulatory approach)				RWA (by regulatory approach)[2]				Capital charge after cap			
		≤ 20% RW	> 20% to 50% RW	>50% to 100% RW	>100% to 1250% RW	1250% RW	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	SA/SSFA	1250%	IRBA	ERBA/IAA	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	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

(1) The Bank has no synthetic securitization exposure.

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

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 mainly includes the qualifying portion of the subordinated debentures and the collective allowance on non-impaired loans eligible for credit risk.
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.