# Supplementary Regulatory Capital and Pillar 3 Disclosure

## Third Quarter 2022

(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 *2021 Annual Report*. All amounts are in millions of Canadian dollars, unless otherwise indicated.

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 2022 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) The Bank has its own methods for managing capital and liquidity, and IFRS does not prescribe any particular calculation method. These measures are calculated using various OSFI guidelines and advisories, which are based on the standards, recommendations, and best practices of the Basel Committee on Banking Supervision (BCBS), as presented in the following table.

| OSFI guideline or advisory | Measure |
|---|---|
| Capital Adequacy Requirements | Common Equity Tier 1 (CET1) capital ratio<br>Tier 1 capital ratio<br>Total capital ratio<br>CET1 capital<br>Tier 1 capital<br>Tier 2 capital<br>Total capital<br>Risk-weighted assets<br>Maximum credit risk exposure under the Basel asset classes |
| Leverage Requirements | Leverage ratio<br>Total exposure |
| Total Loss Absorbing Capacity (TLAC) | Key indicators – TLAC requirements<br>Available TLAC<br>TLAC ratio<br>TLAC leverage ratio |

5) For certain prescribed tables formats where row 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 – Third Quarter 2022.*
(3) These pages are included in the *Supplementary Regulatory Capital and Pillar 3 Disclosure – Fourth Quarter 2021.*

## KM2 – Key Metrics - TLAC Requirements[1]

(millions of Canadian dollars)

| | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| | | | a | | | a | | |
| 1 | Total loss-absorbing capacity (TLAC) available | 31,549 | 29,887 | 29,462 | 27,492 | 26,748 | 25,576 | 24,602 |
| 1a | TLAC available with transitional arrangements for ECL provisioning not applied | 31,549 | 29,887 | 29,462 | 27,492 | 26,748 | 25,576 | 24,602 |
| 2 | Total RWA at the level of the resolution group | 111,377 | 107,478 | 106,168 | 104,358 | 103,139 | 98,705 | 97,183 |
| 3 | TLAC ratio: TLAC as a percentage of RWA (row 1 / row 2) (%) | 28.3% | 27.8% | 27.8% | 26.3% | 25.9% | 25.9% | 25.3% |
| 3a | TLAC ratio: TLAC as a percentage of RWA (row 1a / row 2) (%) with transitional arrangements for ECL provisioning not applied | 28.3% | 27.8% | 27.8% | 26.3% | 25.9% | 25.9% | 25.3% |
| 4 | Leverage ratio exposure measure at the level of the resolution group | 383,360 | 371,977 | 367,775 | 351,160 | 344,930 | 339,738 | 334,013 |
| 5 | TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure (row 1 / row 4) (%) | 8.2% | 8.0% | 8.0% | 7.8% | 7.8% | 7.5% | 7.4% |
| 5a | TLAC Leverage Ratio: TLAC as a percentage of leverage ratio exposure measure with transitional arrangements for ECL provisioning not applied (row 1a / row 4) (%) | 8.2% | 8.0% | 8.0% | 7.8% | 7.8% | 7.5% | 7.4% |
| 6a | Does the subordination exemption in the antepenultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply? | yes | yes | yes | yes | yes | yes | yes |
| 6b | Does the subordination exemption in the penultimate paragraph of Section 11 of the FSB TLAC Term Sheet apply? | no | no | no | no | no | no | no |
| 6c | If the capped subordination exemption applies, the amount of funding issued that ranks pari passu with Excluded Liabilities and that is 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. | n.a. | n.a. | n.a. | n.a. | n.a. |

(1) Minimum TLAC ratios is required since November 1, 2021. Rows 1, 3 and 5 incorporate expected credit loss transitional relief provided by OSFI as announced on March 27, 2020. Rows 1a, 3a and 5a represent TLAC available with transitional arrangements for ECL provisioning not applied.

# OV1 – Overview of RWA(1)

(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.

| | | Q3 2022 | Q2 2022 | Q1 2022 | Q4 2021 | Q3 2021 | Q3 2022 |
|---|---|---|---|---|---|---|---|
| | | a | b | b | b | b | c |
| | | RWA(1) | RWA(1) | RWA(1) | RWA(1) | RWA(1) | Minimum capital requirement(2) |
| 1 | **Credit risk (excluding counterparty credit risk)** | **79,036** | **75,524** | **75,604** | **73,421** | **71,820** | **6,323** |
| 2 | Of which: standardised approach (SA) | 16,948 | 16,353 | 17,284 | 15,984 | 14,788 | 1,356 |
| 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 | 62,088 | 59,171 | 58,320 | 57,437 | 57,032 | 4,967 |
| 6 | **Counterparty credit risk (CCR)** | **5,950** | **7,037** | **7,270** | **7,346** | **7,454** | **476** |
| 7 | Of which: standardised approach for counterparty credit risk | 4,155 | 5,010 | 5,205 | 5,495 | 5,676 | 332 |
| 8 | Of which: internal model method (IMM) | – | – | – | – | – | – |
| 9 | Of which: other CCR | 1,557 | 1,591 | 1,646 | 1,399 | 1,346 | 125 |
| 9a | Of which: exposures to central counterparties | 238 | 436 | 419 | 452 | 432 | 19 |
| 10 | **Credit valuation adjustment (CVA)** | **2,230** | **2,304** | **2,115** | **2,112** | **2,046** | **178** |
| 11 | **Equity positions under the simple risk weight approach(3)** | **812** | **885** | **896** | **945** | **1,016** | **65** |
| 12 | **Equity investments in funds – look-through approach** | **233** | **256** | **242** | **205** | **180** | **19** |
| 13 | **Equity investments in funds – mandate-based approach** | **–** | **–** | **–** | **–** | **–** | **–** |
| 14 | **Equity investments in funds – fall-back approach** | **–** | **–** | **–** | **–** | **–** | **–** |
| 15 | **Settlement risk** | **92** | **71** | **76** | **160** | **245** | **7** |
| 16 | **Securitization exposures in banking book** | **976** | **963** | **843** | **856** | **698** | **78** |
| 16a | Of which: subject to the transitional arrangement | – | – | – | – | – | – |
| 17 | Of which: securitization IRB approach (SEC-IRBA) | 127 | 177 | 181 | 244 | 189 | 10 |
| 18 | Of which: securitization external ratings-based approach (SEC-ERBA), including internal assessment approach (IAA) | 490 | 458 | 346 | 370 | 390 | 39 |
| 19 | Of which: securitization standardised approach (SEC-SA) | 359 | 328 | 316 | 242 | 119 | 29 |
| 20 | **Market risk** | **5,696** | **4,453** | **3,498** | **3,770** | **4,072** | **456** |
| 21 | Of which: standardised approach (SA) | 1,411 | 1,220 | 1,002 | 929 | 924 | 113 |
| 22 | Of which: internal model approach (IMA) | 4,285 | 3,233 | 2,496 | 2,841 | 3,148 | 343 |
| 23 | **Capital charge for switch between trading book and banking book** | **–** | **–** | **–** | **–** | **–** | **–** |
| 24 | **Operational risk** | **14,452** | **14,147** | **13,781** | **13,375** | **13,153** | **1,156** |
| 25 | **Amounts below the thresholds for deduction (subject to 250% risk weight)** | **1,900** | **1,838** | **1,843** | **2,168** | **2,455** | **152** |
| 26 | **Floor adjustment** | **–** | **–** | **–** | **–** | **–** | **–** |
| 27 | **Total (1+6+10+11+12+13+14+15+16+20+23+24+25+26)** | **111,377** | **107,478** | **106,168** | **104,358** | **103,139** | **8,910** |

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

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

(3) 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.

# LI1 – Differences Between Accounting and Regulatory Scopes of Consolidation and Mapping of Financial Statements with Regulatory Risk Categories[1]

(millions of Canadian dollars)

For the following table 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.

| | Q3 2022 | | | | | | |
|---|---|---|---|---|---|---|---|
| | 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 | 37,968 | 37,968 | 37,968 | – | – | 1,195 | – |
| Securities | | | | | | | |
| At fair value through profit or loss | 83,651 | 87,207 | 1,483 | – | 12 | 85,712 | – |
| At fair value through other comprehensive income | 9,247 | 18,693 | 18,691 | – | 2 | – | – |
| At amortized cost | 13,290 | 13,400 | 10,556 | – | 2,844 | – | – |
| | 106,188 | 119,300 | 30,730 | – | 2,858 | 85,712 | – |
| Securities purchased under reverse repurchase agreements and securities borrowed | 16,823 | 16,944 | – | 16,944 | – | – | – |
| Loans and acceptances | | | | | | | |
| Residential mortgage | 78,136 | 49,094 | 49,094 | – | – | – | – |
| Personal | 44,638 | 44,638 | 44,638 | – | – | – | – |
| Credit card | 2,318 | 2,318 | 906 | – | 1,271 | – | 141 |
| Business and government | 70,497 | 70,497 | 70,497 | – | 401 | 405 | – |
| | 195,589 | 166,547 | 165,135 | – | 1,672 | 405 | 141 |
| Customers' liability under acceptances | 6,287 | 6,287 | 6,287 | – | – | – | – |
| Allowances for credit losses | (952) | (388) | (388) | – | – | – | – |
| | 200,924 | 172,446 | 171,034 | – | 1,672 | 405 | 141 |
| Other | | | | | | | |
| Derivative financial instruments[3] | 13,956 | 14,914 | – | 14,914 | – | 13,019 | – |
| Investments in associates and joint ventures | 138 | 438 | 438 | – | – | – | – |
| Premises and equipment | 1,355 | 1,355 | 1,355 | – | – | – | – |
| Goodwill | 1,509 | 1,586 | – | – | – | – | 1,586 |
| Intangible assets | 1,579 | 1,312 | – | – | – | – | 1,312 |
| Other assets | 6,611 | 6,611 | 6,028 | – | – | – | 583 |
| | 25,148 | 26,216 | 7,821 | 14,914 | – | 13,019 | 3,481 |
| **Total assets** | **387,051** | **372,874** | **247,553** | **31,858** | **4,530** | **100,331** | **3,622** |
| Liabilities | | | | | | | |
| Deposits | 257,190 | 257,190 | – | – | – | 15,003 | 242,187 |
| Other | | | | | | | |
| Acceptances | 6,287 | 6,287 | – | – | – | – | 6,287 |
| Obligations related to securities sold short | 23,331 | 23,331 | – | – | – | 23,331 | – |
| Obligations related to securities sold under repurchase agreements and securities loaned | 30,138 | 36,981 | – | 36,981 | – | – | – |
| Derivative financial instruments[3] | 16,044 | 16,852 | – | 16,852 | – | 15,550 | – |
| Liabilities related to transferred receivables | 25,110 | 25,110 | – | – | – | – | 25,110 |
| Other liabilities | 6,344 | 6,344 | – | – | – | – | 6,344 |
| | 107,254 | 114,905 | – | 53,833 | – | 38,881 | 37,741 |
| Subordinated debt | 1,510 | 1,510 | – | – | – | – | 1,510 |
| **Total liabilities** | **365,954** | **373,605** | **–** | **53,833** | **–** | **53,884** | **281,438** |

(1) The basis of consolidation used for financial accounting purposes, described in Note 1 to the audited annual consolidated financial statements for the year ended October 31, 2021, 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

(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.

| | | Q3 2022 | | | | |
|---|---|---|---|---|---|---|
| | | 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)** | **369,252** | **247,553** | **4,530** | **31,858** | **100,331** |
| 2 | Liabilities carrying value amount under scope of regulatory consolidation (as per template LI1) | 92,167 | – | – | 53,833 | 53,884 |
| 3 | Total net amount under regulatory scope of consolidation | 277,085 | 247,553 | 4,530 | (21,975) | 46,447 |
| 4 | *Gross-up for repo-style transactions*[2] | 73,962 | – | – | 73,962 | – |
| 5 | *Potential future exposures (PFE)*[3] | 11,117 | – | – | 11,117 | – |
| 6 | *Off-balance sheet amounts*[4] | 222,081 | 59,038 | 3,848 | 123,540 | – |
| 7 | *Differences due to different netting rules, other than those already included in row 2 including collateral* | 5,998 | – | – | 5,998 | – |
| 8 | VaR amounts for Securities Financing Transactions (SFTs) | 8,495 | – | – | 8,495 | – |
| 9 | *Differences in valuations* | – | – | – | – | – |
| 10 | *Collateral for SFTs* | (172,225) | – | – | (172,225) | – |
| **11** | **Exposure amounts considered for regulatory purposes**[5] | **426,513** | **306,591** | **8,378** | **28,912** | **46,447** |

(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) Liabilities for repo-style transactions represent regulatory exposures under the counterparty credit risk framework. As these liabilities are deducted from the carrying value of assets in line 2, a gross-up is required to arrive at the exposure amount considered for regulatory purposes.

(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

(millions of Canadian dollars)

| | | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Reference[1] | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| | **Common Equity Tier 1 capital: instruments and reserves** | | | | | | | | |
| 1 | Directly issued qualifying common share capital plus related contributed surplus[2] | a + a' | 3,244 | 3,245 | 3,254 | 3,207 | 3,188 | 3,171 | 3,139 |
| 2 | Retained earnings | b | 15,174 | 14,473 | 13,719 | 13,028 | 12,492 | 11,704 | 10,998 |
| 3 | Accumulated other comprehensive income and other reserves | c | 27 | 54 | 23 | (32) | (151) | (169) | (167) |
| 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 | – | – | – | – | – | – | – |
| **6** | **Common Equity Tier 1 capital before regulatory adjustments** | | **18,445** | **17,772** | **16,996** | **16,203** | **15,529** | **14,706** | **13,970** |
| | **Regulatory adjustments to Common Equity Tier 1 capital** | | | | | | | | |
| 7 | Prudential valuation adjustments | | – | – | – | – | – | – | – |
| 8 | Goodwill (net of related tax liability) | e -w | (1,586) | (1,589) | (1,592) | (1,587) | (1,500) | (1,497) | (1,508) |
| 9 | Intangible assets other than mortgage-servicing rights | f - x | (1,312) | (1,298) | (1,264) | (1,251) | (1,245) | (1,240) | (1,222) |
| 10 | Deferred tax assets excluding those arising from temporary differences (net of related tax liability) | g | (38) | (33) | (34) | (34) | (39) | (42) | (41) |
| 11 | Accumulated other comprehensive income related to cash flow hedges | h | (71) | (73) | (39) | (23) | 115 | 114 | 249 |
| 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 | (634) | (377) | (34) | 39 | 56 | 117 | 140 |
| 15 | Defined benefit pension plan assets (net of related tax liability) | k - y | (583) | (612) | (566) | (481) | (471) | (305) | (196) |
| 16 | Investments in own shares (if not already netted off contributed surplus on reported balance sheet) | | – | – | – | – | – | – | – |
| 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) | | 49 | 43 | 48 | 107 | 129 | 144 | 171 |
| 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** | | **(4,175)** | **(3,939)** | **(3,481)** | **(3,230)** | **(2,955)** | **(2,709)** | **(2,407)** |
| **29** | **Common Equity Tier 1 capital (CET1)** | | **14,270** | **13,833** | **13,515** | **12,973** | **12,574** | **11,997** | **11,563** |
| **29a** | **CET1 with transitional arrangements for ECL provisioning not applied** | | **14,221** | **13,790** | **13,467** | **12,866** | **12,445** | **11,853** | **11,392** |
| | **Additional Tier 1 capital: instruments** | | | | | | | | |
| 30 | Directly issued qualifying Additional Tier 1 instruments plus related contributed surplus[2] | | 2,650 | 2,650 | 2,650 | 2,650 | 2,650 | 3,050 | 2,950 |
| 31 | of which: classified as equity under applicable accounting standards | v + z | 2,650 | 2,650 | 2,650 | 2,650 | 2,650 | 3,050 | 2,950 |
| 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 ' | – | – | – | – | – | – | – |
| 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 | – | – | – | – | – | – | – |
| 35 | of which: instruments issued by subsidiaries subject to phase out | | – | – | – | – | – | – | – |
| **36** | **Additional Tier 1 capital before regulatory adjustments** | | **2,650** | **2,650** | **2,650** | **2,650** | **2,650** | **3,050** | **2,950** |

(1) Reconciliation with Balance Sheet is presented on pages 12 and 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)

(millions of Canadian dollars)

| | | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| | | Reference[1] | | | | | | | |
| | **Additional Tier 1 capital: regulatory adjustments** | | | | | | | | |
| 37 | Investments in own Additional Tier 1 instruments | | – | – | – | – | (2) | (4) | – |
| 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 | | (2) | (2) | (1) | (1) | (1) | (1) | (1) |
| 41a | of which: Reverse mortgages | | (2) | (2) | (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** | | **(2)** | **(2)** | **(1)** | **(1)** | **(3)** | **(5)** | **(1)** |
| **44** | **Additional Tier 1 capital (AT1)** | | **2,648** | **2,648** | **2,649** | **2,649** | **2,647** | **3,045** | **2,949** |
| **45** | **Tier 1 capital (T1 = CET1 + AT1)** | | **16,918** | **16,481** | **16,164** | **15,622** | **15,221** | **15,042** | **14,512** |
| **45a** | **Tier 1 Capital with transitional arrangements for ECL provisioning not applied** | | **16,869** | **16,438** | **16,116** | **15,515** | **15,092** | **14,898** | **14,341** |
| | **Tier 2 capital: instruments and allowances** | | | | | | | | |
| 46 | Directly issued qualifying Tier 2 instruments plus related contributed surplus[2] | r | 1,500 | 750 | 750 | 750 | 750 | 750 | 750 |
| 47 | Directly issued capital instruments subject to phase out from Tier 2[2] | r' | – | – | – | 9 | 9 | 9 | 9 |
| 48 | Tier 2 instruments (and CET1 and AT1 instruments not included in rows 5 or 34) issued by subsidiaries and held by third parties (amount allowed in group Tier 2) | s | – | – | – | – | – | – | – |
| 49 | of which: instruments issued by subsidiaries subject to phase out | | – | – | – | – | – | – | – |
| 50 | Allowances for credit losses | t | 339 | 332 | 359 | 337 | 368 | 397 | 402 |
| **51** | **Tier 2 capital before regulatory adjustments** | | **1,839** | **1,082** | **1,109** | **1,096** | **1,127** | **1,156** | **1,161** |
| | **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) | | (23) | (164) | (150) | (75) | (45) | (45) | (84) |
| 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 | | (23) | (164) | (150) | (75) | (45) | (45) | (84) |
| 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** | | **(23)** | **(164)** | **(150)** | **(75)** | **(45)** | **(45)** | **(84)** |
| **58** | **Tier 2 capital (T2)** | | **1,816** | **918** | **959** | **1,021** | **1,082** | **1,111** | **1,077** |
| **59** | **Total capital (TC = T1 + T2)** | | **18,734** | **17,399** | **17,123** | **16,643** | **16,303** | **16,153** | **15,589** |
| **59a** | **Total Capital with transitional arrangements for ECL provisioning not applied** | | **18,734** | **17,399** | **17,123** | **16,643** | **16,303** | **16,153** | **15,589** |

(1) Reconciliation with Balance Sheet is presented on pages 12 and 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)

(millions of Canadian dollars)

| | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| **60** | **Total risk-weighted assets** | **111,377** | **107,478** | **106,168** | **104,358** | **103,139** | **98,705** | **97,183** |
| 60a | Common Equity Tier 1 Capital RWA (CET1) | 111,377 | 107,478 | 106,168 | 104,358 | 103,139 | 98,705 | 97,183 |
| 60b | Tier 1 Capital RWA | 111,377 | 107,478 | 106,168 | 104,358 | 103,139 | 98,705 | 97,183 |
| 60c | Total capital RWA | 111,377 | 107,478 | 106,168 | 104,358 | 103,139 | 98,705 | 97,183 |
| | **Capital ratios** | | | | | | | |
| 61 | Common Equity Tier 1 (as a percentage of risk weighted assets) | 12.8% | 12.9% | 12.7% | 12.4% | 12.2% | 12.2% | 11.9% |
| 61a | CET1 Ratio with transitional arrangements for ECL provisioning not applied | 12.8% | 12.8% | 12.7% | 12.3% | 12.1% | 12.0% | 11.7% |
| 62 | Tier 1 (as a percentage of risk weighted assets) | 15.2% | 15.3% | 15.2% | 15.0% | 14.8% | 15.2% | 14.9% |
| 62a | Tier 1 Capital Ratio with transitional arrangements for ECL provisioning not applied | 15.1% | 15.3% | 15.2% | 14.9% | 14.6% | 15.1% | 14.8% |
| 63 | Total capital (as a percentage of risk weighted assets) | 16.8% | 16.2% | 16.1% | 15.9% | 15.8% | 16.4% | 16.0% |
| 63a | Total Capital Ratio with transitional arrangements for ECL provisioning not applied | 16.8% | 16.2% | 16.1% | 15.9% | 15.8% | 16.4% | 16.0% |
| 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% | 8.0% |
| 65 | of which: capital conservation buffer requirement | 2.5% | 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% | 0.0% |
| 67 | of which: G-SIB buffer requirement | n.a. | 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% | 1.0% |
| 68 | Common Equity Tier 1 available to meet buffers (as a percentage of risk weighted assets) | 12.8% | 12.9% | 12.7% | 12.4% | 12.2% | 12.2% | 11.9% |
| | **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% | 8.0% |
| 70 | Tier 1 capital all-in target ratio | 9.5% | 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% | 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 | 976 | 705 | 694 | 668 | 696 | 695 | 435 |
| 73 | Significant investments in the common stock of financials | 438 | 419 | 392 | 363 | 381 | 369 | 353 |
| 74 | Mortgage servicing rights (net of related tax liability) | – | – | – | – | – | – | – |
| 75 | Deferred tax assets arising from temporary differences (net of related tax liabilities) | 322 | 316 | 346 | 505 | 601 | 608 | 563 |
| | **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) | 139 | 134 | 143 | 130 | 131 | 134 | 137 |
| 77 | Cap on inclusion of allowances in Tier 2 under standardised approach | 200 | 194 | 203 | 189 | 177 | 167 | 167 |
| 78 | Allowance eligible for inclusion in Tier 2 in respect of exposures subject to internal ratings-based approach (IRB) (prior to application of cap) | 200 | 199 | 216 | 208 | 237 | 263 | 265 |
| 79 | Cap on inclusion of allowances in Tier 2 under internal ratings-based approach | 452 | 440 | 436 | 433 | 431 | 415 | 407 |
| | **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 | | | | 194 | 194 | 194 | 194 |
| 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 | | | | 238 | 238 | 238 | 238 |
| 85 | Amount excluded from T2 due to cap (excess over cap after redemptions and maturities) | | | | – | – | – | – |

(1) Does not include the domestic stability buffer.

## CC2 – Reconciliation of Regulatory Capital to Balance Sheet[1]

(millions of Canadian dollars)

| | Q3 2022 | | |
|---|---|---|---|
| | Cross - Reference to Definition of Capital[2] | As in Report to Shareholders | Under scope of regulatory consolidation |
| **Assets** | | | |
| Cash and deposits with financial institutions | | 37,968 | 37,968 |
| Securities | | 106,188 | 119,300 |
| Non-significant investments in capital of other financial institutions reflected in regulatory capital | l | – | – |
| Other securities | | 106,188 | 119,300 |
| Assets purchased under reverse repurchase agreements and securities borrowed | | 16,823 | 16,944 |
| **Loans** | | | |
| Residential mortgage | | 78,136 | 49,094 |
| Personal | | 44,638 | 44,638 |
| Credit card | | 2,318 | 2,318 |
| Business and government | | 70,497 | 70,497 |
| Customers' liability under acceptances | | 6,287 | 6,287 |
| Less: Allowances for credit losses | | (952) | (388) |
| Allowance reflected in Tier 2 regulatory capital | t | – | (388) |
| Shortfall of allowances to expected loss | i | – | – |
| Allowances not reflected in regulatory capital | | – | (564) |
| **Other assets** | | | |
| Derivative financial instruments | | 13,956 | 14,914 |
| Other | | 11,192 | 11,302 |
| Goodwill | e | 1,509 | 1,586 |
| Intangibles assets | f | 2,934 | 1,579 |
| **Deferred tax assets** | | **203** | **681** |
| Deferred tax assets excluding those arising from temporary differences | g | – | 38 |
| Deferred tax assets arising from temporary differences exceeding regulatory thresholds | o | – | – |
| Deferred tax assets - realize through loss carrybacks | | – | 320 |
| Deferred tax assets - other temporary differences | | – | 323 |
| **Defined-benefit pension fund net assets** | k | **–** | **793** |
| **Significant investments in other financial institutions** | | **–** | **438** |
| Significant investments exceeding regulatory thresholds | m + n | – | – |
| Significant investments not exceeding regulatory thresholds | | – | 438 |
| **Other** | | **6,546** | **6,225** |
| **Total assets** | | **387,051** | **372,874** |

(1) The basis of consolidation used for financial accounting purposes, described in Note 1 to the audited annual consolidated financial statements for the year ended October 31, 2021, 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 $283 million and $4 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)

(millions of Canadian dollars)

| | Q3 2022 | | |
|---|---|---|---|
| | Cross - Reference to Definition of Capital[2] | As in Report to Shareholders | Under scope of regulatory consolidation |
| **Liabilities** | | | |
| Deposits | | 257,190 | 257,190 |
| Derivatives financials instruments | | 16,044 | 16,852 |
| Other liabilities | | 91,210 | 98,053 |
| Gains and losses due to changes in own credit risk on fair value liabilities | j | – | 634 |
| **Deferred tax liabilities** | | **13** | **13** |
| Related to goodwill | w | – | – |
| Related to intangibles | x | – | 268 |
| Related to pensions | y | – | 210 |
| Other deferred tax liabilities | | – | (465) |
| Other | | 91,197 | 97,406 |
| **Subordinated debt** | | **1,510** | **1,510** |
| Regulatory capital amortization of maturing debentures | | – | – |
| Fair value adjustment and unamortized issuance cost | | – | 10 |
| Subordinated debentures not allowed for regulatory capital | s | – | – |
| **Subordinated debentures used for regulatory capital** | | **–** | **1,500** |
| Allowed for inclusion in Tier 2 capital | r | – | 1,500 |
| Subject to phase out | r' | – | – |
| **Total liabilities** | | **365,954** | **373,605** |
| **Equity Attributable to Shareholders and holders of other equity instruments** | | **21,095** | **21,095** |
| Common shares | a | 3,189 | 3,189 |
| Contributed surplus | a' | 55 | 55 |
| Retained earnings | b | 15,174 | 15,174 |
| Accumulated Other Comprehensive Income (loss) | c | 27 | 27 |
| Net gains (losses) on instruments designated as cash flow hedges | h | 71 | 71 |
| Net foreign currency translation adjustments | | (21) | (21) |
| Other | | (23) | (23) |
| **Preferred shares and other equity instruments** | | **2,650** | **2,650** |
| of which: are qualifying | v | – | 2,650 |
| of which: are subject to phase out | v' | – | – |
| **Non-controlling interest** | | **2** | **2** |
| **Innovative instruments** | | **–** | **–** |
| of which: are qualifying | | – | – |
| of which: are subject to phase out | p' | – | – |
| Other | | – | – |
| **Portion allowed for inclusion into CET1** | d | **–** | **–** |
| **Portion allowed for inclusion into Tier 1 capital** | q | **–** | **–** |
| **Portion allowed for inclusion into Tier 2 capital** | s | **–** | **–** |
| **Portion not allowed for regulatory capital** | | **–** | **2** |
| **Total Equity** | | **21,097** | **21,097** |
| **Total Liabilities and Equity** | | **387,051** | **394,702** |

(1) The basis of consolidation used for financial accounting purposes, described in Note 1 to the audited consolidated financial statements for the year ended October 31, 2021, 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 $283 million and $4 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]

(millions of Canadian dollars)

| | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| | **Regulatory capital elements of TLAC and adjustments** | | | | | | | |
| 1 | Common Equity Tier 1 capital (CET1) | 14,270 | 13,833 | 13,515 | 12,973 | 12,574 | 11,997 | 11,563 |
| 2 | Additional Tier 1 capital (AT1) before TLAC adjustments | 2,650 | 2,650 | 2,650 | 2,650 | 2,650 | 3,050 | 2,950 |
| 3 | AT1 ineligible as TLAC as issued out of subsidiaries to third parties[2] | – | – | – | – | – | – | – |
| 4 | Other adjustments | (2) | (2) | (1) | (1) | (3) | (5) | (1) |
| 5 | AT1 instruments eligible under the TLAC framework | 2,648 | 2,648 | 2,649 | 2,649 | 2,647 | 3,045 | 2,949 |
| 6 | Tier 2 capital (T2) before TLAC adjustments | 1,839 | 1,082 | 1,109 | 1,096 | 1,127 | 1,156 | 1,161 |
| 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 | (23) | (164) | (150) | (75) | (45) | (45) | (84) |
| 10 | T2 instruments eligible under the TLAC framework | 1,816 | 918 | 959 | 1,021 | 1,082 | 1,111 | 1,077 |
| **11** | **TLAC arising from regulatory capital** | 18,734 | 17,399 | 17,123 | 16,643 | 16,303 | 16,153 | 15,589 |
| | **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 | 12,916 | 12,576 | 12,400 | 10,869 | 10,480 | 9,442 | 9,033 |
| 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** | 12,916 | 12,576 | 12,400 | 10,869 | 10,480 | 9,442 | 9,033 |
| | **Non-regulatory capital elements of TLAC: adjustments** | | | | | | | |
| 18 | TLAC before deductions | 31,650 | 29,975 | 29,523 | 27,512 | 26,783 | 25,595 | 24,622 |
| 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 | (101) | (88) | (61) | (20) | (35) | (19) | (20) |
| 21 | Other adjustments to TLAC | – | – | – | – | – | – | – |
| **22** | **TLAC available after deductions** | 31,549 | 29,887 | 29,462 | 27,492 | 26,748 | 25,576 | 24,602 |
| | **Risk-weighted assets and leverage exposure measure for TLAC purposes** | | | | | | | |
| 23 | Total risk-weighted assets adjusted as permitted under the TLAC regime | 111,377 | 107,478 | 106,168 | 104,358 | 103,139 | 98,705 | 97,183 |
| 24 | Leverage exposure measure | 383,360 | 371,977 | 367,775 | 351,160 | 344,930 | 339,738 | 334,013 |
| | **TLAC ratios and buffers** | | | | | | | |
| 25 | TLAC ratio (as a percentage of risk-weighted assets adjusted as permitted under the TLAC regime) | 28.3% | 27.8% | 27.8% | 26.3% | 25.9% | 25.9% | 25.3% |
| 26 | TLAC Leverage ratio (as a percentage of leverage exposure) | 8.2% | 8.0% | 8.0% | 7.8% | 7.8% | 7.5% | 7.4% |
| 27 | CET1 (as a percentage of risk-weighted assets) available after meeting the resolution group's minimum capital and TLAC requirements | 7.9% | 7.2% | 7.1% | n.a. | n.a. | 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% | 3.5% | 3.5% | 3.5% | 3.5% | 3.5% |
| 29 | Of which: capital conservation buffer | 2.5% | 2.5% | 2.5% | 2.5% | 2.5% | 2.5% | 2.5% |
| 30 | Of which: bank specific countercyclical buffer | – | – | – | – | – | – | – |
| 31 | Of which: D-SIB \ G-SIB buffer | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% |

(1) Minimum TLAC ratios is required since November 1, 2021.

(2) Additional Tier 1 capital and Tier 2 capital issued out of subsidiaries to third parties were eligible as TLAC up to January 1, 2022.

# TLAC3 – Creditor Ranking at Legal Entity Level[1]

(millions of Canadian dollars)

| | | Q3 2022 | | | | | | Q2 2022 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Creditor ranking | | | | | Sum (1 to 5) | Creditor ranking | | | | | Sum (1 to 5) |
| | | 1 | | | 4[2] | 5[3] | | 1 | | | 4[2] | 5[3] | |
| | | Most junior | 2 | 3 | Most senior | | | 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 | | 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 | 3,189 | 2,650 | 1,500 | 15,395 | – | 22,734 | 3,196 | 2,650 | 750 | 14,998 | – | 21,594 |
| 3 | Subset of row 2 that are excluded liabilities | – | – | – | 2,580 | – | 2,580 | – | – | – | 2,510 | – | 2,510 |
| **4** | **Total capital and liabilities less excluded liabilities (row 2 minus row 3)** | **3,189** | **2,650** | **1,500** | **12,815** | **–** | **20,154** | **3,196** | **2,650** | **750** | **12,488** | **–** | **19,084** |
| 5 | Subset of row 4 that are potentially eligible as TLAC | 3,189 | 2,650 | 1,500 | 12,815 | – | 20,154 | 3,196 | 2,650 | 750 | 12,488 | – | 19,084 |
| 6 | Subset of row 5 with 1 year ≤ residual maturity ‹ 2 years | – | – | – | 3,241 | – | 3,241 | – | – | – | 2,867 | – | 2,867 |
| 7 | Subset of row 5 with 2 years ≤ residual maturity ‹ 5 years | – | – | – | 7,113 | – | 7,113 | – | – | – | 7,150 | – | 7,150 |
| 8 | Subset of row 5 with 5 years ≤ residual maturity ‹ 10 years | – | – | 1,500 | 319 | – | 1,819 | – | – | 750 | 321 | – | 1,071 |
| 9 | Subset of row 5 residual maturity ≥ 10 years, but excluding perpetual securities | – | – | – | 2,142 | – | 2,142 | – | – | – | 2,150 | – | 2,150 |
| 10 | Subset of row 5 that is perpetual securities | 3,189 | 2,650 | – | – | – | 5,839 | 3,196 | 2,650 | – | – | – | 5,846 |

| | | Q1 2022 | | | | | | Q4 2021 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Creditor ranking | | | | | Sum (1 to 5) | Creditor ranking | | | | | Sum (1 to 5) |
| | | 1 | | | 4[2] | 5[3] | | 1 | | | 4[2] | 5[3] | |
| | | Most junior | 2 | 3 | Most senior | | | 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 | | 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 | 3,208 | 2,650 | 750 | 13,354 | – | 19,962 | 3,160 | 2,650 | 759 | 11,798 | – | 18,367 |
| 3 | Subset of row 2 that are excluded liabilities | – | – | – | 1,015 | – | 1,015 | – | – | – | 949 | – | 949 |
| **4** | **Total capital and liabilities less excluded liabilities (row 2 minus row 3)** | **3,208** | **2,650** | **750** | **12,339** | **–** | **18,947** | **3,160** | **2,650** | **759** | **10,849** | **–** | **17,418** |
| 5 | Subset of row 4 that are potentially eligible as TLAC | 3,208 | 2,650 | 750 | 12,339 | – | 18,947 | 3,160 | 2,650 | 759 | 10,849 | – | 17,418 |
| 6 | Subset of row 5 with 1 year ≤ residual maturity ‹ 2 years | – | – | – | 2,650 | – | 2,650 | – | – | – | 2,582 | – | 2,582 |
| 7 | Subset of row 5 with 2 years ≤ residual maturity ‹ 5 years | – | – | – | 7,367 | – | 7,367 | – | – | – | 6,227 | – | 6,227 |
| 8 | Subset of row 5 with 5 years ≤ residual maturity ‹ 10 years | – | – | 750 | 319 | – | 1,069 | – | – | 750 | 311 | – | 1,061 |
| 9 | Subset of row 5 residual maturity ≥ 10 years, but excluding perpetual securities | – | – | – | 2,003 | – | 2,003 | – | – | 9 | 1,729 | – | 1,738 |
| 10 | Subset of row 5 that is perpetual securities | 3,208 | 2,650 | – | – | – | 5,858 | 3,160 | 2,650 | – | – | – | 5,810 |

(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

(millions of Canadian dollars)

| | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Q3 | Q2 | Q1 | Q4 | Q3 | Q2 | Q1 |
| | **Accounting assets vs. leverage ratio exposure** | | | | | | | |
| 1 | Total consolidated assets as per published financial statements | 387,051 | 369,785 | 366,888 | 355,795 | 354,040 | 350,742 | 343,637 |
| 2 | Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation | 35 | 33 | 9 | (2) | 22 | 20 | 14 |
| 3 | Adjustment for securitized exposures that meet the operational requirements for the recognition of risk transference[1] | (78) | (78) | (78) | (114) | (65) | (65) | (65) |
| 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] | (402) | (1,559) | 3,217 | 2,252 | 3,420 | 5 | 3,859 |
| 6 | Adjustment for securities financing transactions (i.e. repos and similar secured lending)[2] | 4,296 | 3,969 | 6,416 | 3,936 | 4,752 | 5,157 | 3,754 |
| 7 | Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures) | 31,328 | 30,463 | 30,971 | 30,477 | 30,357 | 29,568 | 27,716 |
| 8 | Other adjustments | (38,870) | (30,636) | (39,648) | (41,184) | (47,596) | (45,689) | (44,902) |
| **9** | **Leverage Ratio Exposure** | **383,360** | **371,977** | **367,775** | **351,160** | **344,930** | **339,738** | **334,013** |

(1) OSFI's October 2018 Leverage Requirements Guideline now allows for the exclusion of securitized exposures that meet the operational requirements for risk transference.

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

# LR2 – Leverage Ratio Common Disclosure Template

(millions of Canadian dollars)

| | | 2022 | | | 2021 | | | |
|---|---|---|---|---|---|---|---|---|
| | | Q3 | 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) | 324,351 | 312,588 | 303,578 | 298,494 | 289,192 | 285,293 | 281,196 |
| 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) | (3,400) | (4,390) | (3,422) | (4,620) | (3,696) | (3,946) | (3,088) |
| 4 | (Asset amounts deducted in determining Basel III Tier 1 capital) | (3,594) | (3,609) | (3,497) | (3,379) | (3,143) | (2,978) | (2,721) |
| 5 | **Total on-balance sheet exposures** (excluding derivatives and SFTs) (sum of rows 1 to 4) | **317,357** | **304,589** | **296,659** | **290,495** | **282,353** | **278,369** | **275,387** |
| | **Derivative exposures** | | | | | | | |
| 6 | Replacement cost associated with all derivative transactions (where applicable net of eligible cash variation margin and/or with bilateral netting) | 3,521 | 9,375 | 5,867 | 6,437 | 5,898 | 3,998 | 4,811 |
| 7 | Add-on amounts for PFE associated with all derivative transactions | 9,637 | 11,790 | 12,666 | 12,282 | 12,767 | 11,278 | 11,913 |
| 8 | (Exempted CCP leg of client-cleared trade exposures) | – | – | – | – | – | – | – |
| 9 | Adjusted effective notional amount of written credit derivatives | 398 | 50 | 18 | 17 | 12 | 12 | 13 |
| 10 | (Adjusted effective notional offsets and add-on deductions for written credit derivatives) | – | – | – | – | – | – | – |
| 11 | **Total derivative exposures (sum of rows 6 to 10)** | **13,556** | **21,215** | **18,551** | **18,736** | **18,677** | **15,288** | **16,737** |
| | **Securities financing transaction exposures** | | | | | | | |
| 12 | Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions | 16,823 | 11,741 | 15,178 | 7,516 | 8,791 | 11,356 | 10,419 |
| 13 | (Netted amounts of cash payables and cash receivables of gross SFT assets) | (2,320) | (1,423) | (1,918) | (1,945) | (600) | (752) | (1,272) |
| 14 | CCR exposure for SFTs assets | 6,616 | 5,392 | 8,334 | 5,881 | 5,352 | 5,909 | 5,026 |
| 15 | Agent transaction exposures | – | – | – | – | – | – | – |
| 16 | **Total securities financing transaction exposures (sum of rows 12 to 15)** | **21,119** | **15,710** | **21,594** | **11,452** | **13,543** | **16,513** | **14,173** |
| | **Other off-balance sheet exposures** | | | | | | | |
| 17 | Off-balance sheet exposure at gross notional amount | 97,530 | 95,471 | 95,272 | 93,926 | 92,825 | 90,948 | 87,397 |
| 18 | (Adjustments for conversion to credit equivalent amounts) | (66,202) | (65,008) | (64,301) | (63,449) | (62,468) | (61,380) | (59,681) |
| 19 | **Off-balance sheet items (sum of rows 17 and 18)** | **31,328** | **30,463** | **30,971** | **30,477** | **30,357** | **29,568** | **27,716** |
| | **Capital and Total Exposures** | | | | | | | |
| 20 | **Tier 1 capital** | **16,918** | **16,481** | **16,164** | **15,622** | **15,221** | **15,042** | **14,512** |
| 20a | **Tier 1 Capital with transitional arrangements for ECL provisioning not applied** | **16,869** | **16,438** | **16,116** | **15,514** | **15,092** | **14,898** | **14,341** |
| 21 | **Total Exposures (sum of rows 5, 11, 16 and 19)** | **383,360** | **371,977** | **367,775** | **351,160** | **344,930** | **339,738** | **334,013** |
| | **Leverage Ratio** | | | | | | | |
| 22 | **Basel III leverage ratio** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.3%** |
| 22a | **Basel III leverage ratio with transitional arrangements for ECL provisioning not applied** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.4%** | **4.3%** |

# CR1 – Credit Quality of Assets[1]

(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.

**Q3 2022**

| | | a | b | c | d | e | f | g |
|---|---|---|---|---|---|---|---|---|
| | | Gross carrying values[2] of | | | Of which ECL accounting provisions for credit losses on SA exposures | | | |
| | | Default exposures[3] | Non-default exposures | Allowances for credit losses[4] | Allocated in regulatory category of Specific | Allocated in regulatory category of General | Of which ECL accounting provisions for credit losses on IRB exposures | Net values (a+b-c) |
| 1 | Loans[5] | 608 | 208,549 | 957 | 46 | 51 | 860 | 208,200 |
| 2 | Debt Securities | – | 30,961 | 6 | – | 2 | 4 | 30,955 |
| 3 | Off-balance-sheet commitments[6] | 8 | 94,567 | 130 | – | 6 | 124 | 94,445 |
| 4 | **Total** | **616** | **334,077** | **1,093** | **46** | **59** | **988** | **333,600** |

**Q2 2022**

| | | a | b | c | d | e | f | g |
|---|---|---|---|---|---|---|---|---|
| | | Gross carrying values[2] of | | | Of which ECL accounting provisions for credit losses on SA exposures | | | |
| | | Default exposures[3] | Non-default exposures | Allowances for credit losses[4] | Allocated in regulatory category of Specific | Allocated in regulatory category of General | Of which ECL accounting provisions for credit losses on IRB exposures | Net values (a+b-c) |
| 1 | Loans[5] | 603 | 195,192 | 920 | 39 | 39 | 842 | 194,875 |
| 2 | Debt Securities | – | 31,122 | 7 | – | 2 | 5 | 31,115 |
| 3 | Off-balance-sheet commitments[6] | 13 | 92,538 | 131 | – | 5 | 126 | 92,420 |
| 4 | **Total** | **616** | **318,852** | **1,058** | **39** | **46** | **973** | **318,410** |

**Q1 2022**

| | | a | b | c | d | e | f | g |
|---|---|---|---|---|---|---|---|---|
| | | Gross carrying values[2] of | | | Of which ECL accounting provisions for credit losses on SA exposures | | | |
| | | Default exposures[3] | Non-default exposures | Allowances for credit losses[4] | Allocated in regulatory category of Specific | Allocated in regulatory category of General | Of which ECL accounting provisions for credit losses on IRB exposures | Net values (a+b-c) |
| 1 | Loans[5] | 596 | 197,853 | 935 | 30 | 22 | 883 | 197,514 |
| 2 | Debt Securities | – | 27,061 | 6 | – | 2 | 4 | 27,055 |
| 3 | Off-balance-sheet commitments[6] | 12 | 92,247 | 145 | – | 6 | 139 | 92,114 |
| 4 | **Total** | **608** | **317,161** | **1,086** | **30** | **30** | **1,026** | **316,683** |

**Q4 2021**

| | | a | b | c | d | e | f | g |
|---|---|---|---|---|---|---|---|---|
| | | Gross carrying values[2] of | | | Of which ECL accounting provisions for credit losses on SA exposures | | | |
| | | Default exposures[3] | Non-default exposures | Allowances for credit losses[4] | Allocated in regulatory category of Specific | Allocated in regulatory category of General | Of which ECL accounting provisions for credit losses on IRB exposures | Net values (a+b-c) |
| 1 | Loans[5] | 653 | 188,199 | 1,003 | 25 | 10 | 968 | 187,849 |
| 2 | Debt Securities | – | 28,868 | 4 | – | 1 | 3 | 28,864 |
| 3 | Off-balance-sheet commitments[6] | 12 | 91,049 | 162 | – | 6 | 156 | 90,899 |
| 4 | **Total** | **665** | **308,116** | **1,169** | **25** | **17** | **1,127** | **307,612** |

(1) Excluding 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 Capital Adequacy Requirements (CAR) guideline.
(4) Represent allowances for credit losses according to IFRS 9.
(5) Including deposits with financial institutions.
(6) For completeness purposes, revocable commitments are included.

# CR2 – Changes in Stock of Defaulted Loans and Debt Securities

(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.

| | | Q3 2022 | Q2 2022 | Q1 2022 | Q4 2021 | Q3 2021 |
|---|---|---|---|---|---|---|
| | | a | a | a | a | a |
| 1 | Defaulted loans[1] and debt securities at beginning | 603 | 596 | 653 | 684 | 713 |
| 2 | Loans and debt securities that have defaulted since the last reporting period | 172 | 136 | 132 | 106 | 139 |
| 3 | Returned to non-defaulted status since the last reporting period | (31) | (21) | (23) | (19) | (23) |
| 4 | Amounts written off | (30) | (42) | (94) | (38) | (39) |
| 5 | Other changes[2] | (106) | (66) | (72) | (80) | (106) |
| **6** | **Defaulted loans[1] and debt securities at end** | **608** | **603** | **596** | **653** | **684** |

(1) Including deposits with financial institutions.
(2) Including net repayments and foreign exchange movements.

# CR3 – Credit Risk Mitigation Techniques - Overview

(millions of Canadian dollars)

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

| | | Q3 2022 | | | | | Q2 2022 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b1 | b | d | f | 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 | 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) | 127,253 | 81,860 | 74,243 | 7,398 | – | 116,196 | 79,562 | 72,134 | 7,082 | – |
| 2 | Debt securities | 30,961 | – | – | – | – | 31,122 | – | – | – | – |
| 3 | **Total** | **158,214** | **81,860** | **74,243** | **7,398** | **–** | **147,318** | **79,562** | **72,134** | **7,082** | **–** |
| 4 | Of which defaulted | 472 | 96 | 69 | 25 | – | 436 | 125 | 93 | 30 | – |

| | | Q1 2022 | | | | | Q4 2021 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | b1 | b | d | f | 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 | 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) | 121,524 | 76,895 | 69,858 | 6,801 | – | 111,619 | 77,205 | 69,360 | 7,500 | – |
| 2 | Debt securities | 27,061 | – | – | – | – | 28,868 | – | – | – | – |
| 3 | **Total** | **148,585** | **76,895** | **69,858** | **6,801** | **–** | **140,487** | **77,205** | **69,360** | **7,500** | **–** |
| 4 | Of which defaulted | 425 | 152 | 102 | 46 | – | 525 | 157 | 112 | 42 | – |

(1) Carrying amounts of on-balance sheet exposures are net of all three ECL Stages.
(2) Including deposits with financial institutions.

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

(millions of Canadian dollars)

| | 2022 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q3 | | | | | | Q2 | | | | | | Q1 | | | | | |
| | EAD - Gross Exposure[1] | | | | | | | | | | | | | | | | | |
| | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total |
| **Non-Retail Portfolio** | | | | | | | | | | | | | | | | | | |
| Agriculture | 7,210 | 572 | 6 | – | – | 7,788 | 6,981 | 591 | 5 | – | – | 7,577 | 6,789 | 546 | 5 | – | – | 7,340 |
| Oil & Gas[2] | 1,186 | 2,286 | 62 | – | – | 3,534 | 1,473 | 2,196 | 89 | – | – | 3,758 | 1,792 | 1,973 | 83 | – | – | 3,848 |
| Mining | 916 | 1,391 | 210 | – | 263 | 2,780 | 591 | 1,584 | 211 | – | 249 | 2,635 | 394 | 1,507 | 192 | – | 191 | 2,284 |
| Utilities[2] | 9,392 | 6,568 | 1,821 | – | 1 | 17,782 | 8,800 | 6,083 | 1,786 | – | – | 16,669 | 8,366 | 5,658 | 1,513 | – | – | 15,537 |
| *Utilities excluding Pipelines* | *7,079* | *3,671* | *1,613* | – | *1* | *12,364* | *6,654* | *3,562* | *1,610* | – | – | *11,826* | *6,211* | *4,144* | *1,361* | – | – | *11,716* |
| *Pipelines* | *2,313* | *2,897* | *208* | – | – | *5,418* | *2,146* | *2,521* | *176* | – | – | *4,843* | *2,155* | *1,514* | *152* | – | – | *3,821* |
| Construction Non-Real Estate[3] | 2,113 | 991 | 122 | – | – | 3,226 | 2,051 | 927 | 112 | – | – | 3,090 | 1,830 | 928 | 113 | – | – | 2,871 |
| Manufacturing[2] | 6,807 | 2,384 | 348 | – | – | 9,539 | 6,042 | 2,383 | 310 | – | – | 8,735 | 5,685 | 2,774 | 259 | – | – | 8,718 |
| Wholesale | 3,008 | 1,038 | 54 | – | – | 4,100 | 2,905 | 921 | 56 | – | – | 3,882 | 2,498 | 1,125 | 56 | – | – | 3,679 |
| Retail | 3,212 | 1,270 | 57 | – | – | 4,539 | 3,230 | 1,408 | 56 | – | – | 4,694 | 2,949 | 1,389 | 50 | – | – | 4,388 |
| Transportation | 2,294 | 1,321 | 91 | 46 | 1 | 3,753 | 2,187 | 1,143 | 98 | 60 | 1 | 3,489 | 2,030 | 1,264 | 92 | 48 | – | 3,434 |
| Communications | 1,701 | 1,509 | 241 | – | – | 3,451 | 1,634 | 1,438 | 313 | – | – | 3,385 | 1,594 | 2,067 | 321 | – | – | 3,982 |
| Financial Services[2] | 44,564 | 4,989 | 1,693 | 145,717 | 1,484 | 198,447 | 42,921 | 4,866 | 1,582 | 135,635 | 4,856 | 189,860 | 41,946 | 4,790 | 1,535 | 131,738 | 2,902 | 182,911 |
| Real Estate and Construction Real Estate[4] | 19,007 | 4,905 | 325 | – | – | 24,237 | 18,169 | 4,332 | 365 | – | – | 22,866 | 17,720 | 4,317 | 305 | – | – | 22,342 |
| Professional Services | 1,986 | 1,029 | 261 | – | – | 3,276 | 1,895 | 1,045 | 283 | – | – | 3,223 | 1,729 | 1,055 | 296 | – | – | 3,080 |
| Education & Health Care | 3,222 | 980 | 17 | 6 | – | 4,225 | 3,327 | 1,321 | 10 | 7 | – | 4,665 | 3,866 | 1,731 | 11 | 9 | – | 5,617 |
| Other Services | 6,514 | 2,185 | 481 | 49 | 27 | 9,256 | 6,070 | 2,275 | 501 | 47 | 27 | 8,920 | 5,971 | 2,121 | 919 | 51 | 27 | 9,089 |
| Government | 29,551 | 1,337 | 3 | 38,646 | 302 | 69,839 | 24,802 | 1,402 | 3 | 38,466 | 333 | 65,006 | 30,026 | 1,348 | 5 | 38,336 | 294 | 70,009 |
| Other[2] | 5,805 | 15 | 334 | 1,494 | 4 | 7,652 | 5,830 | 19 | 275 | 1,369 | 4 | 7,497 | 5,617 | 89 | 276 | 739 | 13 | 6,734 |
| **Total – Non-retail[5]** | **148,488** | **34,770** | **6,126** | **185,958** | **2,082** | **377,424** | **138,908** | **33,934** | **6,055** | **175,584** | **5,470** | **359,951** | **140,802** | **34,682** | **6,031** | **170,921** | **3,427** | **355,863** |

(1) EAD amounts are after securitization and excluding trading related portfolio.
(2) The presentation was changed in Q3 2022 to better align with borrower categories definition. Comparative figures have been revised.
(3) Including civil engineering loans, public-private partnership loans, and project finance loans.
(4) Including residential mortgages on dwellings of five or more units.
(5) Excluding SME retail exposure.

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

(millions of Canadian dollars)

| | 2021 | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q4 | | | | | | Q3 | | | | | | Q2 | | | | | |
| | EAD - Gross Exposure[1] | | | | | | | | | | | | | | | | | |
| | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total | Drawn | Undrawn commitments | Other | Repo-style transactions | Derivatives financial instruments | Total |
| **Non-Retail Portfolio** | | | | | | | | | | | | | | | | | | |
| Agriculture | 6,584 | 540 | 5 | – | – | 7,129 | 6,399 | 515 | 7 | – | – | 6,921 | 6,213 | 499 | 6 | – | – | 6,718 |
| Oil & Gas[2] | 1,849 | 1,660 | 79 | – | – | 3,588 | 1,958 | 1,923 | 55 | – | – | 3,936 | 2,116 | 1,978 | 138 | – | – | 4,232 |
| Mining | 473 | 1,477 | 197 | – | 160 | 2,307 | 473 | 1,326 | 198 | – | 141 | 2,138 | 589 | 1,153 | 198 | – | – | 1,940 |
| Utilities[2] | 8,255 | 5,093 | 1,383 | – | – | 14,731 | 7,441 | 5,010 | 1,391 | – | – | 13,842 | 7,341 | 4,607 | 1,463 | – | – | 13,411 |
| *Utilities excluding Pipelines* | *5,952* | *3,742* | *1,206* | – | – | *10,900* | *5,438* | *3,482* | *1,222* | – | – | *10,142* | *5,371* | *3,047* | *1,302* | – | – | *9,720* |
| *Pipelines* | *2,303* | *1,351* | *177* | – | – | *3,831* | *2,003* | *1,528* | *169* | – | – | *3,700* | *1,970* | *1,560* | *161* | – | – | *3,691* |
| Construction Non-Real Estate[3] | 1,775 | 1,034 | 113 | – | – | 2,922 | 1,654 | 1,165 | 104 | – | – | 2,923 | 1,452 | 1,071 | 107 | – | – | 2,630 |
| Manufacturing[2] | 5,466 | 2,731 | 335 | – | – | 8,532 | 5,408 | 2,584 | 324 | – | – | 8,316 | 5,278 | 2,674 | 326 | – | – | 8,278 |
| Wholesale | 2,506 | 1,031 | 56 | – | – | 3,593 | 2,847 | 1,061 | 51 | – | – | 3,959 | 2,524 | 959 | 53 | – | – | 3,536 |
| Retail | 2,833 | 1,433 | 42 | – | – | 4,308 | 2,940 | 1,485 | 41 | – | – | 4,466 | 2,748 | 1,519 | 41 | – | – | 4,308 |
| Transportation | 1,848 | 1,298 | 82 | 48 | 1 | 3,277 | 1,871 | 1,239 | 80 | 48 | 1 | 3,239 | 1,669 | 1,151 | 83 | 37 | – | 2,940 |
| Communications | 1,369 | 2,212 | 934 | – | – | 4,515 | 1,262 | 2,074 | 937 | – | – | 4,273 | 1,129 | 1,999 | 705 | – | – | 3,833 |
| Financial Services[2] | 36,180 | 4,929 | 1,594 | 121,821 | 2,251 | 166,775 | 39,862 | 4,562 | 1,643 | 123,044 | 2,233 | 171,344 | 37,982 | 4,487 | 1,505 | 120,908 | 2,101 | 166,983 |
| Real Estate and Construction Real Estate[4] | 16,924 | 4,347 | 292 | – | – | 21,563 | 17,274 | 4,561 | 283 | – | – | 22,118 | 15,752 | 4,592 | 275 | – | – | 20,619 |
| Professional Services | 1,599 | 1,134 | 300 | – | – | 3,033 | 1,561 | 1,096 | 291 | – | – | 2,948 | 1,504 | 1,088 | 289 | – | – | 2,881 |
| Education & Health Care | 3,871 | 1,728 | 11 | 3 | – | 5,613 | 3,903 | 1,605 | 12 | 6 | – | 5,526 | 3,682 | 1,893 | 11 | 19 | – | 5,605 |
| Other Services | 5,991 | 2,053 | 407 | 1 | – | 8,452 | 6,255 | 1,896 | 446 | 28 | – | 8,625 | 6,248 | 1,640 | 462 | 13 | – | 8,363 |
| Government | 30,461 | 1,373 | 5 | 33,339 | 291 | 65,469 | 31,051 | 1,416 | 5 | 30,954 | 238 | 63,664 | 32,425 | 1,633 | 6 | 32,324 | 210 | 66,598 |
| Other[2] | 5,156 | 53 | 282 | 1,552 | – | 7,043 | 5,006 | 174 | 431 | 1,881 | – | 7,492 | 4,836 | – | 432 | 1,632 | 1 | 6,901 |
| **Total – Non-retail[5]** | **133,140** | **34,126** | **6,117** | **156,764** | **2,703** | **332,850** | **137,165** | **33,692** | **6,299** | **155,961** | **2,613** | **335,730** | **133,488** | **32,943** | **6,100** | **154,933** | **2,312** | **329,776** |

(1) EAD amounts are after securitization and excluding trading related portfolio.
(2) The presentation was changed in Q3 2022 to better align with borrower categories definition. Comparative figures have been revised.
(3) Including civil engineering loans, public-private partnership loans, and project finance loans.
(4) Including residential mortgages on dwellings of five or more units.
(5) Excluding SME retail exposure.

# Net International Non-Retail Credit Risk Exposure at Default[1]

(millions of Canadian dollars)

| | 2022 | | | | | | | | | | | 2021 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q3 | | | | | | | | | Q2 | Q1 | Q4 | Q3 |
| | Asset Type | | | | | Client Type | | | | | | | |
| | Drawn | Undrawn commitments | Repo-style transactions[2] | Derivatives financial instruments | Other off-balance sheet items[3] | Corporate | Sovereign | Financial Institutions | Total | Total | Total | Total | Total |
| Europe[4] | 482 | 154 | 734 | 159 | 197 | 748 | 149 | 829 | **1,726** | **1,802** | **2,174** | **3,269** | **2,320** |
| United Kingdom | 1,250 | 99 | 940 | 1,215 | 5 | 273 | 43 | 3,193 | **3,509** | **3,860** | **4,104** | **4,251** | **4,756** |
| Latin America | 150 | 68 | 57 | 36 | – | 48 | 53 | 210 | **311** | **270** | **294** | **263** | **416** |
| Asia | 2,125 | 461 | 5,448 | 26 | 20 | 1,327 | 6,525 | 228 | **8,080** | **7,923** | **10,112** | **8,414** | **8,032** |
| Other | 55 | 2 | 140 | 191 | 3 | 304 | – | 87 | **391** | **456** | **387** | **363** | **400** |
| **Total[5]** | **4,062** | **784** | **7,319** | **1,627** | **225** | **2,700** | **6,770** | **4,547** | **14,017** | **14,311** | **17,071** | **16,560** | **15,924** |

(1) Exposure at default is the expected net exposure upon the default of an obligor. This amount is before any specific allowance or partial write-offs. For repo-style transactions and derivatives, the exposure presented is calculated as per the permitted regulatory approaches. These tables exclude equity exposures.
(2) Securities purchased under reverse repurchase agreements and sold under repurchase agreements as well as securities loaned and borrowed.
(3) Letters of guarantee, documentary letters of 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) Excluding United Kingdom.
(5) For drawn, undrawn commitments and other off-balance sheet items 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]

(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.

| | | Q3 2022 | | | | | | Q2 2022 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | a | b | c | d | e | f |
| | | Exposures before CCF and CRM | | Exposures post-CCF and CRM | | | | 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 | 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 | 2,309 | 800 | 2,309 | – | 1,212 | 52% | 2,320 | 828 | 2,320 | – | 1,216 | 52% |
| 2 | Non-central government public sector entities | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 3 | Multilateral development banks | 360 | – | 360 | – | – | 0% | 342 | – | 342 | – | – | 0% |
| 4 | Financial institutions | 1,018 | 4,826 | 1,018 | 292 | 694 | 53% | 1,081 | 4,771 | 1,081 | 244 | 820 | 62% |
| 5 | Securities firms | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 6 | Corporates | 8,588 | 1,007 | 8,588 | 258 | 4,900 | 55% | 8,540 | 733 | 8,540 | 213 | 4,776 | 55% |
| 7 | Regulatory retail portfolios | 4,595 | 255 | 4,595 | 99 | 3,142 | 67% | 4,403 | 273 | 4,403 | 101 | 2,974 | 66% |
| 8 | Secured by residential property | 8,149 | 136 | 8,149 | 55 | 2,868 | 35% | 7,779 | 181 | 7,779 | 56 | 2,705 | 35% |
| 9 | Secured by commercial real estate | 356 | – | 356 | – | 356 | 100% | 311 | – | 311 | – | 311 | 100% |
| 10 | Equity | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 11 | Past-due loans | 134 | – | 134 | – | 162 | 121% | 95 | – | 95 | – | 87 | 92% |
| 12 | Higher-risk categories | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 13 | Other assets[2] | 5,008 | – | 5,008 | – | 3,614 | 72% | 4,884 | – | 4,884 | – | 3,464 | 71% |
| **14** | **Total** | **30,517** | **7,024** | **30,517** | **704** | **16,948** | **54%** | **29,755** | **6,786** | **29,755** | **614** | **16,353** | **54%** |

| | | Q1 2022 | | | | | | Q4 2021 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | a | b | c | d | e | f |
| | | Exposures before CCF and CRM | | Exposures post-CCF and CRM | | | | 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 | 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 | 2,408 | 817 | 2,408 | – | 1,322 | 55% | 2,483 | 835 | 2,483 | – | 1,806 | 73% |
| 2 | Non-central government public sector entities | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 3 | Multilateral development banks | 366 | – | 366 | – | – | 0% | 260 | – | 260 | – | – | 0% |
| 4 | Financial institutions | 1,078 | 4,769 | 1,078 | 243 | 788 | 60% | 888 | 4,782 | 888 | 257 | 675 | 59% |
| 5 | Securities firms | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 6 | Corporates | 8,577 | 639 | 8,577 | 141 | 4,967 | 57% | 7,678 | 601 | 7,678 | 154 | 4,335 | 55% |
| 7 | Regulatory retail portfolios | 5,677 | 272 | 5,677 | 91 | 3,667 | 64% | 5,214 | 244 | 5,214 | 74 | 3,280 | 62% |
| 8 | Secured by residential property | 7,164 | 165 | 7,164 | 52 | 2,631 | 36% | 6,817 | 157 | 6,817 | 50 | 2,440 | 36% |
| 9 | Secured by commercial real estate | 231 | – | 231 | – | 231 | 100% | 207 | – | 207 | – | 207 | 100% |
| 10 | Equity | – | – | – | – | – | 0% | – | – | – | – | – | 0% |
| 11 | Past-due loans | 66 | – | 66 | – | 54 | 82% | 52 | 2 | 52 | – | 43 | 83% |
| 12 | Higher-risk categories | 42 | – | 42 | – | 63 | 150% | 4 | – | 4 | – | 6 | 150% |
| 13 | Other assets[2] | 4,974 | – | 4,974 | – | 3,561 | 72% | 4,808 | – | 4,808 | – | 3,192 | 66% |
| **14** | **Total** | **30,583** | **6,662** | **30,583** | **527** | **17,284** | **56%** | **28,411** | **6,621** | **28,411** | **535** | **15,984** | **55%** |

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

(2) For completeness purposes, row 13 "Other assets" is populated with all other assets except exposures that are subject to direct capital deductions, those that are treated in the off-balance sheet calculations and exposures below the threshold for deduction.

# CR5 – Standardised Approach - Exposures by Asset Classes and Risk Weights[1]

(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).

| | | Q3 2022 | | | | | | | | | | Q2 2022 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | a | b | c | d | e | f | g | h | i | j |
| | Risk weight / Asset classes | 0% | 10% | 20% | 35% | 50% | 75% | 100% | 150% | Others | Total credit exposures amount[2] | 0% | 10% | 20% | 35% | 50% | 75% | 100% | 150% | Others | Total credit exposures amount[2] |
| 1 | Sovereigns and their central banks | 1,097 | – | – | – | – | – | 1,212 | – | – | 2,309 | 1,104 | – | – | – | – | – | 1,216 | – | – | 2,320 |
| 2 | Non-central government public sector entities | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 3 | Multilateral development banks | 360 | – | – | – | – | – | – | – | – | 360 | 342 | – | – | – | – | – | – | – | – | 342 |
| 4 | Financial institutions | 155 | – | 567 | – | 15 | – | 573 | – | – | 1,310 | 145 | – | 442 | – | 13 | – | 725 | – | – | 1,325 |
| 5 | Securities firms | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | Corporates | 3,944 | – | – | – | – | – | 4,902 | – | – | 8,846 | 3,977 | – | – | – | – | – | 4,776 | – | – | 8,753 |
| 7 | Regulatory retail portfolios | 506 | – | – | – | – | 4,188 | – | – | – | 4,694 | 539 | – | – | – | – | 3,965 | – | – | – | 4,504 |
| 8 | Secured by residential property | 1,086 | – | – | 6,166 | 33 | 901 | 18 | – | – | 8,204 | 975 | – | – | 6,087 | 36 | 719 | 18 | – | – | 7,835 |
| 9 | Secured by commercial real estate | – | – | – | – | – | – | 356 | – | – | 356 | – | – | – | – | – | – | 311 | – | – | 311 |
| 10 | Equity | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 11 | Past-due loans | 10 | – | – | – | – | – | 48 | 76 | – | 134 | 11 | – | – | – | – | – | 77 | 7 | – | 95 |
| 12 | Higher-risk categories | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 13 | Other assets[3] | 1,394 | – | – | – | – | – | 3,614 | – | – | 5,008 | 1,238 | – | 228 | – | – | – | 3,418 | – | – | 4,884 |
| **14** | **Total** | **8,552** | **–** | **567** | **6,166** | **48** | **5,089** | **10,723** | **76** | **–** | **31,221** | **8,331** | **–** | **670** | **6,087** | **49** | **4,684** | **10,541** | **7** | **–** | **30,369** |

| | | Q1 2022 | | | | | | | | | | Q4 2021 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | g | h | i | j | a | b | c | d | e | f | g | h | i | j |
| | Risk weight / Asset classes | 0% | 10% | 20% | 35% | 50% | 75% | 100% | 150% | Others | Total credit exposures amount[2] | 0% | 10% | 20% | 35% | 50% | 75% | 100% | 150% | Others | Total credit exposures amount[2] |
| 1 | Sovereigns and their central banks | 1,087 | – | – | – | – | – | 1,321 | – | – | 2,408 | 677 | – | – | – | – | – | 1,806 | – | – | 2,483 |
| 2 | Non-central government public sector entities | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 3 | Multilateral development banks | 366 | – | – | – | – | – | – | – | – | 366 | 260 | – | – | – | – | – | – | – | – | 260 |
| 4 | Financial institutions | 158 | – | 459 | – | 13 | – | 691 | – | – | 1,321 | 133 | – | 414 | – | 11 | – | 587 | – | – | 1,145 |
| 5 | Securities firms | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 6 | Corporates | 3,751 | – | – | – | – | – | 4,967 | – | – | 8,718 | 3,497 | – | – | – | – | – | 4,335 | – | – | 7,832 |
| 7 | Regulatory retail portfolios | 879 | – | – | – | – | 4,889 | – | – | – | 5,768 | 915 | – | – | – | – | 4,373 | – | – | – | 5,288 |
| 8 | Secured by residential property | 630 | – | – | 5,760 | 30 | 785 | 11 | – | – | 7,216 | 776 | – | – | 5,309 | 30 | 740 | 12 | – | – | 6,867 |
| 9 | Secured by commercial real estate | – | – | – | – | – | – | 231 | – | – | 231 | – | – | – | – | – | – | 207 | – | – | 207 |
| 10 | Equity | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 11 | Past-due loans | 12 | – | – | – | – | – | 54 | – | – | 66 | 10 | – | – | – | – | – | 39 | 3 | – | 52 |
| 12 | Higher-risk categories | – | – | – | – | – | – | – | 42 | – | 42 | – | – | – | – | – | – | – | 4 | – | 4 |
| 13 | Other assets[3] | 1,199 | – | 268 | – | – | – | 3,507 | – | – | 4,974 | 1,375 | – | 302 | – | – | – | 3,131 | – | – | 4,808 |
| **14** | **Total** | **8,082** | **–** | **727** | **5,760** | **43** | **5,674** | **10,782** | **42** | **–** | **31,110** | **7,643** | **–** | **716** | **5,309** | **41** | **5,113** | **10,117** | **7** | **–** | **28,946** |

(1) Excluding items subject to securitization and counterparty credit risk frameworks. In the wholesale portfolio, for sovereign and banks asset classes, risk weights are based on external credit ratings issued by independent rating agencies (Moody's, Standard & Poor's, Fitch or DBRS) approved by our supervisor, OSFI.

(2) Post-CCF and Post-CRM.

(3) For completeness purposes, row 13 "Other assets" is populated with all other assets except exposures that are subject to direct capital deductions, those that are treated in the off-balance sheet calculations and exposures below the threshold for deduction.

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

(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.

| | Q3 2022 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 – insured** | 0.00 to ‹ 0.15 | 856 | – | 0% | 856 | 0.08% | 52,549 | 6.9% | | 13 | 1.5% | 1 | |
| | 0.15 to ‹ 0.25 | 298 | – | 0% | 298 | 0.19% | 12,326 | 7.9% | | 11 | 3.2% | – | |
| | 0.25 to ‹ 0.50 | 390 | – | 0% | 390 | 0.36% | 15,343 | 6.2% | | 16 | 4.0% | – | |
| | 0.50 to ‹ 0.75 | 286 | – | 0% | 286 | 0.60% | 6,682 | 5.0% | | 13 | 4.6% | – | |
| | 0.75 to ‹ 2.50 | 475 | – | 0% | 475 | 1.23% | 9,535 | 3.9% | | 26 | 5.7% | – | |
| | 2.50 to ‹ 10.00 | 90 | – | 0% | 90 | 4.43% | 2,006 | 3.1% | | 9 | 9.9% | – | |
| | 10.00 to ‹ 100.00 | 29 | – | 0% | 29 | 30.42% | 673 | 2.8% | | 5 | 16.4% | – | |
| | 100.00 (Default) | 14 | – | 0% | 14 | 100.00% | 240 | 2.8% | | 3 | 20.3% | – | |
| | Sub-total | 2,438 | – | 0% | 2,438 | 1.52% | 99,354 | 5.9% | | 96 | 3.9% | 1 | 4 |
| **Residential Mortgages and HELOCs – uninsured** | 0.00 to ‹ 0.15 | 40,809 | 18,750 | 36% | 47,650 | 0.07% | 243,636 | 19.6% | | 1,683 | 3.5% | 6 | |
| | 0.15 to ‹ 0.25 | 7,250 | 1,323 | 44% | 7,832 | 0.19% | 29,808 | 20.9% | | 683 | 8.7% | 3 | |
| | 0.25 to ‹ 0.50 | 7,091 | 1,287 | 63% | 7,899 | 0.34% | 25,773 | 21.8% | | 1,053 | 13.3% | 6 | |
| | 0.50 to ‹ 0.75 | 1,892 | 178 | 59% | 1,998 | 0.60% | 7,615 | 22.5% | | 419 | 21.0% | 3 | |
| | 0.75 to ‹ 2.50 | 3,078 | 186 | 71% | 3,209 | 1.14% | 11,933 | 21.2% | | 954 | 29.7% | 8 | |
| | 2.50 to ‹ 10.00 | 575 | 31 | 69% | 597 | 4.49% | 3,122 | 19.4% | | 372 | 62.3% | 5 | |
| | 10.00 to ‹ 100.00 | 125 | 1 | 211% | 127 | 20.77% | 797 | 19.8% | | 143 | 113.0% | 5 | |
| | 100.00 (Default) | 58 | 2 | 62% | 59 | 100.00% | 445 | 19.6% | | 104 | 176.1% | 4 | |
| | Sub-total | 60,878 | 21,758 | 39% | 69,371 | 0.34% | 323,129 | 20.1% | | 5,411 | 7.8% | 40 | 42 |
| **Qualifying revolving retail** | 0.00 to ‹ 0.15 | 741 | 7,103 | 76% | 6,126 | 0.05% | 922,977 | 79.9% | | 174 | 2.8% | 3 | |
| | 0.15 to ‹ 0.25 | 221 | 637 | 89% | 786 | 0.20% | 214,370 | 85.7% | | 78 | 9.9% | 1 | |
| | 0.25 to ‹ 0.50 | 304 | 390 | 84% | 632 | 0.36% | 128,165 | 81.4% | | 91 | 14.4% | 2 | |
| | 0.50 to ‹ 0.75 | 216 | 255 | 88% | 440 | 0.64% | 64,251 | 75.3% | | 95 | 21.5% | 2 | |
| | 0.75 to ‹ 2.50 | 513 | 254 | 94% | 753 | 1.42% | 195,807 | 83.3% | | 331 | 44.0% | 9 | |
| | 2.50 to ‹ 10.00 | 325 | 88 | 113% | 425 | 4.43% | 201,664 | 85.9% | | 422 | 99.5% | 16 | |
| | 10.00 to ‹ 100.00 | 53 | 10 | 79% | 61 | 19.02% | 30,300 | 86.8% | | 137 | 225.5% | 10 | |
| | 100.00 (Default) | 14 | – | 45% | 14 | 100.00% | 3,529 | 72.6% | | 17 | 121.9% | 9 | |
| | Sub-total | 2,387 | 8,737 | 78% | 9,237 | 0.70% | 1,761,063 | 80.9% | | 1,345 | 14.6% | 52 | 205 |
| **Other retail** | 0.00 to ‹ 0.15 | 2,022 | 2,522 | 64% | 3,624 | 0.06% | 129,787 | 51.7% | | 339 | 9.4% | 1 | |
| | 0.15 to ‹ 0.25 | 1,037 | 396 | 62% | 1,282 | 0.20% | 55,355 | 53.5% | | 302 | 23.6% | 1 | |
| | 0.25 to ‹ 0.50 | 1,600 | 368 | 63% | 1,834 | 0.37% | 77,880 | 52.5% | | 605 | 33.0% | 4 | |
| | 0.50 to ‹ 0.75 | 1,315 | 324 | 82% | 1,580 | 0.64% | 59,278 | 55.8% | | 769 | 48.7% | 6 | |
| | 0.75 to ‹ 2.50 | 5,573 | 214 | 77% | 5,738 | 1.36% | 190,170 | 38.2% | | 2,611 | 45.5% | 31 | |
| | 2.50 to ‹ 10.00 | 1,044 | 85 | 74% | 1,107 | 4.06% | 56,690 | 50.5% | | 848 | 76.6% | 23 | |
| | 10.00 to ‹ 100.00 | 284 | 13 | 52% | 291 | 22.97% | 11,213 | 52.9% | | 349 | 120.0% | 34 | |
| | 100.00 (Default) | 90 | 4 | 29% | 91 | 100.00% | 7,238 | 51.8% | | 53 | 58.0% | 53 | |
| | Sub-total | 12,965 | 3,926 | 66% | 15,547 | 1.95% | 587,611 | 47.3% | | 5,876 | 37.8% | 153 | 168 |

(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-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 including 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)

(millions of Canadian dollars)

| | Q3 2022 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 | 2,960 | 8,744 | 84% | 9,127 | 0.09% | 796 | 44.7% | 2.42 | 2,343 | 25.7% | 4 | |
| | 0.15 to < 0.25 | 15,446 | 16,956 | 90% | 27,936 | 0.20% | 3,335 | 37.3% | 2.42 | 8,656 | 31.0% | 20 | |
| | 0.25 to < 0.50 | 11,589 | 7,193 | 91% | 17,212 | 0.36% | 2,491 | 36.6% | 2.55 | 7,174 | 41.7% | 23 | |
| | 0.50 to < 0.75 | 13,347 | 4,971 | 91% | 17,191 | 0.56% | 2,646 | 35.1% | 2.26 | 7,902 | 46.0% | 33 | |
| | 0.75 to < 2.50 | 22,764 | 6,937 | 89% | 27,453 | 1.13% | 6,302 | 34.9% | 2.17 | 16,942 | 61.7% | 108 | |
| | 2.50 to < 10.00 | 3,345 | 721 | 72% | 3,943 | 4.42% | 872 | 34.6% | 1.53 | 3,645 | 92.4% | 60 | |
| | 10.00 to < 100.00 | 129 | 17 | 89% | 140 | 16.60% | 51 | 42.9% | 1.09 | 257 | 184.0% | 10 | |
| | 100.00 (Default) | 432 | 45 | 94% | 462 | 100.00% | 162 | 40.0% | 1.28 | 281 | 60.9% | 172 | |
| | Sub-total | 70,012 | 45,584 | 89% | 103,464 | 1.15% | 16,655 | 36.8% | 2.31 | 47,200 | 45.6% | 430 | 561 |
| **Sovereign** | 0.00 to < 0.15 | 60,260 | 6,950 | 98% | 66,515 | 0.01% | 617 | 8.8% | 2.08 | 547 | 0.8% | 1 | |
| | 0.15 to < 0.25 | 68 | – | 0% | 68 | 0.21% | 1 | 14.5% | 1.00 | 7 | 10.6% | – | |
| | 0.25 to < 0.50 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 0.50 to < 0.75 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 0.75 to < 2.50 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 2.50 to < 10.00 | – | 55 | 96% | 49 | 8.62% | 2 | 16.6% | 1.00 | 31 | 64.4% | 1 | |
| | 10.00 to < 100.00 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 100.00 (Default) | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | Sub-total | 60,328 | 7,005 | 98% | 66,632 | 0.02% | 620 | 8.8% | 2.08 | 585 | 0.9% | 2 | 2 |
| **Financial institutions** | 0.00 to < 0.15 | 3,743 | 785 | 44% | 4,182 | 0.05% | 67 | 49.5% | 1.43 | 757 | 18.1% | 1 | |
| | 0.15 to < 0.25 | 141 | 17 | 0% | 158 | 0.18% | 25 | 57.2% | 1.67 | 79 | 49.8% | – | |
| | 0.25 to < 0.50 | 8 | 132 | 85% | 140 | 0.36% | 8 | 26.7% | 1.08 | 47 | 33.1% | – | |
| | 0.50 to < 0.75 | 20 | 2 | 0% | 22 | 0.56% | 8 | 48.9% | 1.00 | 18 | 81.4% | – | |
| | 0.75 to < 2.50 | 954 | 6 | 100% | 1,600 | 1.88% | 10 | 19.1% | 1.83 | 674 | 42.1% | 6 | |
| | 2.50 to < 10.00 | – | – | 0% | – | 3.19% | 2 | 29.9% | 1.00 | – | 70.5% | – | |
| | 10.00 to < 100.00 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 100.00 (Default) | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | Sub-total | 4,866 | 942 | 49% | 6,102 | 0.54% | 120 | 41.2% | 1.53 | 1,575 | 25.8% | 7 | 6 |
| **Total (all portfolio)** | | **213,874** | **87,952** | **72%** | **272,791** | **0.69%** | **2,788,552** | **27.7%** | **2.00** | **62,088** | **25.0%** | **685** | **988** |

(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-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 including 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)

(millions of Canadian dollars)

| | Q2 2022 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 – insured** | 0.00 to ‹ 0.15 | 830 | – | 0% | 830 | 0.07% | 55,230 | 6.2% | | 10 | 1.2% | 1 | |
| | 0.15 to ‹ 0.25 | 242 | – | 0% | 242 | 0.19% | 12,638 | 7.2% | | 7 | 3.0% | – | |
| | 0.25 to ‹ 0.50 | 297 | – | 0% | 297 | 0.36% | 15,775 | 5.4% | | 10 | 3.5% | – | |
| | 0.50 to ‹ 0.75 | 186 | – | 0% | 186 | 0.60% | 6,711 | 4.3% | | 8 | 4.1% | – | |
| | 0.75 to ‹ 2.50 | 318 | – | 0% | 318 | 1.23% | 9,456 | 3.8% | | 18 | 5.5% | – | |
| | 2.50 to ‹ 10.00 | 68 | – | 0% | 68 | 4.37% | 2,067 | 3.1% | | 7 | 9.7% | – | |
| | 10.00 to ‹ 100.00 | 33 | – | 0% | 33 | 28.33% | 712 | 2.8% | | 5 | 16.2% | – | |
| | 100.00 (Default) | 17 | – | 0% | 17 | 100.00% | 312 | 2.8% | | 2 | 12.6% | – | |
| | Sub-total | 1,991 | – | 0% | 1,991 | 1.85% | 102,901 | 5.4% | | 67 | 3.4% | 1 | 3 |
| **Residential Mortgages and HELOCs – uninsured** | 0.00 to ‹ 0.15 | 34,841 | 17,694 | 50% | 43,669 | 0.07% | 229,745 | 18.9% | | 1,488 | 3.4% | 6 | |
| | 0.15 to ‹ 0.25 | 9,124 | 1,475 | 67% | 10,110 | 0.19% | 35,738 | 20.2% | | 860 | 8.5% | 4 | |
| | 0.25 to ‹ 0.50 | 9,324 | 1,508 | 73% | 10,426 | 0.34% | 32,752 | 21.0% | | 1,350 | 12.9% | 7 | |
| | 0.50 to ‹ 0.75 | 2,388 | 238 | 71% | 2,557 | 0.60% | 8,775 | 21.4% | | 512 | 20.0% | 3 | |
| | 0.75 to ‹ 2.50 | 2,840 | 203 | 73% | 2,988 | 1.09% | 10,314 | 20.9% | | 859 | 28.7% | 7 | |
| | 2.50 to ‹ 10.00 | 375 | 22 | 72% | 390 | 4.45% | 2,165 | 19.3% | | 239 | 61.4% | 3 | |
| | 10.00 to ‹ 100.00 | 98 | 2 | 85% | 100 | 25.70% | 660 | 19.8% | | 113 | 112.7% | 5 | |
| | 100.00 (Default) | 53 | 2 | 103% | 55 | 100.00% | 468 | 18.9% | | 89 | 162.2% | 5 | |
| | Sub-total | 59,043 | 21,144 | 53% | 70,295 | 0.33% | 320,617 | 19.6% | | 5,510 | 7.8% | 40 | 45 |
| **Qualifying revolving retail** | 0.00 to ‹ 0.15 | 750 | 6,980 | 76% | 6,027 | 0.05% | 920,866 | 79.6% | | 168 | 2.8% | 2 | |
| | 0.15 to ‹ 0.25 | 210 | 587 | 89% | 730 | 0.20% | 207,255 | 85.7% | | 72 | 9.9% | 1 | |
| | 0.25 to ‹ 0.50 | 289 | 365 | 84% | 596 | 0.36% | 125,172 | 81.2% | | 86 | 14.4% | 2 | |
| | 0.50 to ‹ 0.75 | 205 | 237 | 87% | 412 | 0.64% | 61,210 | 74.9% | | 88 | 21.5% | 2 | |
| | 0.75 to ‹ 2.50 | 485 | 238 | 94% | 709 | 1.42% | 192,097 | 83.1% | | 312 | 44.1% | 9 | |
| | 2.50 to ‹ 10.00 | 313 | 103 | 112% | 428 | 4.36% | 201,863 | 86.2% | | 423 | 98.7% | 16 | |
| | 10.00 to ‹ 100.00 | 50 | 10 | 78% | 57 | 19.32% | 29,407 | 86.3% | | 129 | 225.2% | 10 | |
| | 100.00 (Default) | 12 | – | 24% | 12 | 100.00% | 3,482 | 70.8% | | 9 | 74.6% | 8 | |
| | Sub-total | 2,314 | 8,520 | 78% | 8,971 | 0.68% | 1,741,352 | 80.6% | | 1,287 | 14.4% | 50 | 199 |
| **Other retail** | 0.00 to ‹ 0.15 | 2,080 | 2,493 | 63% | 3,657 | 0.06% | 129,082 | 51.2% | | 336 | 9.2% | 1 | |
| | 0.15 to ‹ 0.25 | 1,012 | 387 | 61% | 1,248 | 0.20% | 55,550 | 53.0% | | 291 | 23.3% | 1 | |
| | 0.25 to ‹ 0.50 | 1,500 | 362 | 62% | 1,724 | 0.37% | 77,153 | 53.1% | | 575 | 33.3% | 3 | |
| | 0.50 to ‹ 0.75 | 1,273 | 292 | 81% | 1,511 | 0.64% | 58,478 | 55.6% | | 733 | 48.5% | 5 | |
| | 0.75 to ‹ 2.50 | 5,102 | 209 | 76% | 5,260 | 1.30% | 185,605 | 36.8% | | 2,281 | 43.4% | 26 | |
| | 2.50 to ‹ 10.00 | 1,026 | 76 | 75% | 1,082 | 4.04% | 56,732 | 50.2% | | 824 | 76.2% | 22 | |
| | 10.00 to ‹ 100.00 | 243 | 11 | 50% | 249 | 22.91% | 10,769 | 52.8% | | 302 | 121.2% | 29 | |
| | 100.00 (Default) | 90 | 9 | 41% | 93 | 100.00% | 7,161 | 50.6% | | 66 | 70.4% | 53 | |
| | Sub-total | 12,326 | 3,839 | 65% | 14,824 | 1.91% | 580,530 | 46.9% | | 5,408 | 36.5% | 140 | 160 |

(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-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 including 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)

(millions of Canadian dollars)

| | Q2 2022 | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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 | 3,497 | 8,906 | 85% | 9,628 | 0.09% | 850 | 45.6% | 2.32 | 2,497 | 25.9% | 4 | |
| | 0.15 to ‹ 0.25 | 14,687 | 16,202 | 90% | 26,800 | 0.20% | 3,101 | 37.9% | 2.29 | 8,508 | 31.7% | 20 | |
| | 0.25 to ‹ 0.50 | 11,673 | 6,953 | 90% | 16,937 | 0.36% | 2,460 | 35.7% | 2.51 | 6,698 | 39.5% | 22 | |
| | 0.50 to ‹ 0.75 | 12,739 | 4,859 | 90% | 16,453 | 0.56% | 2,607 | 35.4% | 2.17 | 7,678 | 46.7% | 32 | |
| | 0.75 to ‹ 2.50 | 21,189 | 6,258 | 87% | 25,296 | 1.13% | 6,500 | 33.7% | 2.11 | 15,001 | 59.3% | 96 | |
| | 2.50 to ‹ 10.00 | 3,399 | 783 | 75% | 4,047 | 4.39% | 918 | 34.6% | 1.47 | 3,722 | 92.0% | 62 | |
| | 10.00 to ‹ 100.00 | 141 | 49 | 58% | 183 | 18.00% | 56 | 39.3% | 1.09 | 312 | 170.0% | 13 | |
| | 100.00 (Default) | 387 | 21 | 82% | 404 | 100.00% | 169 | 37.1% | 1.40 | 344 | 85.3% | 185 | |
| | Sub-total | 67,712 | 44,031 | 88% | 99,748 | 1.12% | 16,661 | 36.6% | 2.23 | 44,760 | 44.9% | 434 | 557 |
| **Sovereign** | 0.00 to ‹ 0.15 | 51,212 | 7,685 | 98% | 58,117 | 0.01% | 627 | 8.4% | 2.28 | 538 | 0.9% | 1 | |
| | 0.15 to ‹ 0.25 | 58 | – | 0% | 58 | 0.21% | 1 | 14.5% | 1.00 | 6 | 10.6% | – | |
| | 0.25 to ‹ 0.50 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 0.50 to ‹ 0.75 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 0.75 to ‹ 2.50 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 2.50 to ‹ 10.00 | – | 55 | 96% | 49 | 8.62% | 2 | 16.6% | 1.00 | 31 | 64.4% | 1 | |
| | 10.00 to ‹ 100.00 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 100.00 (Default) | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | Sub-total | 51,270 | 7,740 | 98% | 58,224 | 0.02% | 630 | 8.4% | 2.28 | 575 | 1.0% | 2 | 2 |
| **Financial institutions** | 0.00 to ‹ 0.15 | 5,639 | 415 | 6% | 6,113 | 0.05% | 70 | 47.7% | 1.30 | 1,008 | 16.5% | 2 | |
| | 0.15 to ‹ 0.25 | 283 | 17 | 0% | 299 | 0.20% | 28 | 46.7% | 1.37 | 117 | 39.1% | – | |
| | 0.25 to ‹ 0.50 | 23 | 132 | 85% | 155 | 0.36% | 7 | 28.2% | 1.19 | 55 | 35.5% | – | |
| | 0.50 to ‹ 0.75 | 16 | 2 | 0% | 17 | 0.56% | 8 | 47.4% | 1.00 | 14 | 78.7% | – | |
| | 0.75 to ‹ 2.50 | 637 | 6 | 100% | 1,285 | 1.84% | 8 | 11.5% | 2.23 | 370 | 28.8% | 3 | |
| | 2.50 to ‹ 10.00 | – | – | 0% | – | 3.20% | 2 | 29.9% | 1.00 | – | 70.6% | – | |
| | 10.00 to ‹ 100.00 | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | 100.00 (Default) | – | – | 0% | – | 0% | – | 0% | – | – | 0% | – | |
| | Sub-total | 6,598 | 572 | 25% | 7,869 | 0.36% | 123 | 41.3% | 1.45 | 1,564 | 19.9% | 5 | 7 |
| **Total (all portfolio)** | | **201,254** | **85,846** | **76%** | **261,922** | **0.68%** | **2,762,814** | **27.8%** | **2.00** | **59,171** | **25.1%** | **672** | **973** |

(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-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 including 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

(millions of Canadian dollars)

The following table presents a flow statement explaining variations in the credit RWA.

| | | Q3 2022 | | | Q2 2022 | | |
|---|---|---|---|---|---|---|---|
| | | | a | | | a | |
| | | Non-counterparty credit risk | Of which determined under an IRB approach | Counterparty credit risk[1] | Non-counterparty credit risk | Of which determined under an IRB approach | Counterparty credit risk[1] |
| 1 | **RWA at beginning** | **79,537** | **60,489** | **9,341** | **79,504** | **59,639** | **9,385** |
| 2 | Book size[2] | 3,450 | 2,663 | (950) | 1,561 | 1,356 | 219 |
| 3 | Book quality[3] | 226 | 226 | (285) | (857) | (830) | (540) |
| 4 | Model updates[4] | (74) | (74) | 87 | (708) | 233 | 42 |
| 5 | Methodology and policy[5] | – | – | – | – | – | – |
| 6 | Acquisitions and disposals | – | – | – | – | – | – |
| 7 | Foreign exchange movements | (90) | (44) | (13) | 37 | 91 | 235 |
| 8 | Other[6] | – | – | – | – | – | – |
| 9 | **RWA at end** | **83,049** | **63,260** | **8,180** | **79,537** | **60,489** | **9,341** |

| | | Q1 2022 | | | Q4 2021 | | |
|---|---|---|---|---|---|---|---|
| | | | a | | | a | |
| | | Non-counterparty credit risk | Of which determined under an IRB approach | Counterparty credit risk[1] | Non-counterparty credit risk | Of which determined under an IRB approach | Counterparty credit risk[1] |
| 1 | **RWA at beginning** | **77,755** | **58,831** | **9,458** | **76,414** | **58,417** | **9,500** |
| 2 | Book size[2] | 1,174 | 541 | (172) | 2,073 | 1,054 | (129) |
| 3 | Book quality[3] | (16) | (16) | (6) | (552) | (552) | 122 |
| 4 | Model updates[4] | 29 | 29 | – | (7) | (7) | – |
| 5 | Methodology and policy[5] | – | – | – | – | – | – |
| 6 | Acquisitions and disposals | – | – | – | – | – | – |
| 7 | Foreign exchange movements | 562 | 254 | 105 | (173) | (81) | (35) |
| 8 | Other[6] | – | – | – | – | – | – |
| 9 | **RWA at end** | **79,504** | **59,639** | **9,385** | **77,755** | **58,831** | **9,458** |

(1) Counterparty credit risk is comprised of derivatives, SFTs, trades cleared through central counterparties, and CVA RWA.
(2) The Book size item reflects organic changes in book size and composition (including new loans and maturing loans). RWA movements attributable to book size include increases or decreases in exposures, measured by exposure at default, assuming a stable risk profile.
(3) The Book quality item is the Bank's best estimate of changes in book quality related to experience, such as underlying customer behaviour or demographics, including changes resulting from model recalibrations or realignments and also including risk mitigation factors.
(4) The Model updates item is used to reflect implementations of new models, changes in model scope, and any other change applied to address model malfunctions.
(5) The Methodology and policy item presents the impact of changes in calculation methods resulting from changes in regulatory policies as a result, for example, of new regulations.
(6) The Other item captures changes that cannot be attributed to any other category.

# AIRB Credit Risk Exposure - Backtesting[1]

(millions of Canadian dollars)

| | 2022 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q3 | | | | | | Q2 | | | | | |
| | PD average estimated (%) | PD actual (%) | LGD average estimated (%)[2] | LGD actual (%)[3] | EAD estimated (%)[4] | EAD actual (%)[4] | PD average estimated (%) | PD actual (%) | LGD average estimated (%)[2] | LGD actual (%)[3] | EAD estimated (%)[4] | EAD actual (%)[4] |
| **Retail Portfolio**[5] | | | | | | | | | | | | |
| Insured residential mortgages[6] | 0.64% | 0.21% | 2.64% | n.a. | n.a. | n.a. | 0.72% | 0.21% | 2.64% | n.a. | n.a. | n.a. |
| Uninsured residential mortgages incl. HELOCs[7] | 0.27% | 0.13% | 20.67% | 4.29% | 89.23% | 88.15% | 0.28% | 0.12% | 21.48% | 3.85% | 91.03% | 86.69% |
| Qualifying revolving retail | 0.96% | 0.75% | 87.97% | 78.63% | 106.58% | 100.57% | 1.01% | 0.73% | 87.38% | 78.74% | 106.54% | 100.60% |
| Other retail | 1.49% | 0.73% | 41.40% | 30.54% | 82.20% | 76.35% | 1.53% | 0.71% | 41.29% | 30.83% | 79.82% | 72.11% |
| **Non-Retail Portfolio**[8] | | | | | | | | | | | | |
| Corporate | 1.00% | 0.19% | 31.26% | 19.23% | 96.31% | 79.06% | 1.06% | 0.20% | 30.94% | 19.45% | 94.60% | 74.37% |
| Sovereign[9] | 0.07% | 0.00% | 11.80% | n.a. | 88.30% | n.a. | 0.07% | 0.00% | 11.80% | n.a. | 88.30% | n.a. |
| Financial Institutions[9] | 0.51% | 0.00% | 39.00% | n.a. | 100.00% | n.a. | 0.45% | 0.00% | 39.00% | n.a. | 100.00% | n.a. |

| | 2022 | | | | | | 2021 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Q1 | | | | | | Q4 | | | | | |
| | PD average estimated (%) | PD actual (%) | LGD average estimated (%)[2] | LGD actual (%)[3] | EAD estimated (%)[4] | EAD actual (%)[4] | PD average estimated (%) | PD actual (%) | LGD average estimated (%)[2] | LGD actual (%)[3] | EAD estimated (%)[4] | EAD actual (%)[4] |
| **Retail Portfolio**[5] | | | | | | | | | | | | |
| Insured residential mortgages[6] | 0.78% | 0.18% | 2.64% | n.a. | n.a. | n.a. | 1.01% | 0.18% | 2.64% | n.a. | n.a. | n.a. |
| Uninsured residential mortgages incl. HELOCs[7] | 0.31% | 0.11% | 21.53% | 5.44% | 91.33% | 85.96% | 0.38% | 0.11% | 21.11% | 4.26% | 90.17% | 84.67% |
| Qualifying revolving retail | 1.07% | 0.73% | 86.63% | 77.97% | 106.59% | 100.56% | 1.07% | 0.73% | 85.54% | 76.13% | 106.70% | 100.65% |
| Other retail | 1.60% | 0.70% | 42.34% | 28.70% | 78.76% | 69.80% | 1.64% | 0.76% | 43.33% | 29.99% | 79.42% | 69.73% |
| **Non-Retail Portfolio**[8] | | | | | | | | | | | | |
| Corporate | 1.04% | 0.24% | 28.49% | 15.89% | 93.08% | 67.48% | 1.06% | 0.32% | 29.79% | 14.62% | 88.71% | 74.24% |
| Sovereign[9] | 0.06% | 0.00% | 11.80% | n.a. | 88.30% | n.a. | 0.07% | 0.00% | 11.80% | n.a. | 88.30% | n.a. |
| Financial Institutions[9] | 0.44% | 0.00% | 39.00% | n.a. | 100.00% | n.a. | 0.47% | 0.00% | 39.00% | 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 Q3 2022, estimated percentages are as of June 30, 2021 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

(millions of Canadian dollars)

| | Q3 2022 | | | | | Q2 2022 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 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** | **707** | **118** | **100%** | **766** | **812** | **772** | **126** | **100%** | **835** | **885** |

| | Q1 2022 | | | | | Q4 2021 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 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** | **782** | **125** | **100%** | **845** | **896** | **825** | **133** | **100%** | **892** | **945** |

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

(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.

| | | Q3 2022 | | | | | | Q2 2022 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | a | b | c | d | e | f |
| | | Replacement cost | Potential future exposure | EEPE(2) | Alpha used for computing regulatory EAD | EAD post-CRM | RWA | Replacement cost | Potential future exposure | EEPE(2) | Alpha used for computing regulatory EAD | EAD post-CRM | RWA |
| 1 | SA-CCR (for derivatives) | 2,480 | 7,142 | | 1.4 | 13,471 | 4,155 | 4,933 | 7,649 | | 1.4 | 17,615 | 5,010 |
| 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 | | | | | 13,223 | 1,557 | | | | | 11,825 | 1,591 |
| **6** | **Total** | | | | | | **5,712** | | | | | | **6,601** |

| | | Q1 2022 | | | | | | Q4 2021 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | c | d | e | f | a | b | c | d | e | f |
| | | Replacement cost | Potential future exposure | EEPE(2) | Alpha used for computing regulatory EAD | EAD post-CRM | RWA | Replacement cost | Potential future exposure | EEPE(2) | Alpha used for computing regulatory EAD | EAD post-CRM | RWA |
| 1 | SA-CCR (for derivatives) | 4,163 | 8,007 | | 1.4 | 17,038 | 5,205 | 4,583 | 7,980 | | 1.4 | 17,589 | 5,495 |
| 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 | | | | | 15,937 | 1,646 | | | | | 13,434 | 1,399 |
| **6** | **Total** | | | | | | **6,851** | | | | | | **6,894** |

(1) Excluding exposure and RWA for qualified central counterparties (QCCPs) and credit valuation adjustment (CVA).
(2) EEPE: Effective Expected Positive Exposure.

# CCR2 – Credit Valuation Adjustment (CVA) Capital Charge

(millions of Canadian dollars)

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

| | | Q3 2022 | | Q2 2022 | | Q1 2022 | | Q4 2021 | | Q3 2021 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | a | b | a | b | a | b | a | b |
| | | EAD post-CRM | RWA | EAD post-CRM | RWA | EAD post-CRM | RWA | EAD post-CRM | RWA | EAD post-CRM | RWA |
| | Total portfolios subject to the Advanced CVA capital charge | | | | | | | | | | |
| 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 | 9,105 | 2,230 | 10,971 | 2,304 | 10,453 | 2,115 | 10,582 | 2,112 | 11,134 | 2,046 |
| **4** | **Total subject to the CVA capital charge** | **9,105** | **2,230** | **10,971** | **2,304** | **10,453** | **2,115** | **10,582** | **2,112** | **11,134** | **2,046** |

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

(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 weights (riskiness attributed according to standardised approach).

| | Q3 2022 | | | | | | | | | Q2 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | d | e | f | g | h | i | a | b | c | d | e | f | g | h | i |
| Regulatory portfolio / Risk weight | 0% | 10% | 20% | 50% | 75% | 100% | 150% | Others | Total credit exposure | 0% | 10% | 20% | 50% | 75% | 100% | 150% | Others | Total credit exposure |
| Sovereigns | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Non-central government public sector entities (PSEs) | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Multilateral development banks (MDBs) | 68 | – | – | – | – | – | – | – | 68 | 75 | – | – | – | – | – | – | – | 75 |
| Financial institutions | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Securities firms | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Corporates | – | – | – | – | – | 663 | – | – | 663 | – | – | – | – | – | 677 | – | – | 677 |
| Regulatory retail portfolios | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Other assets[1] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **Total** | **68** | **–** | **–** | **–** | **–** | **663** | **–** | **–** | **731** | **75** | **–** | **–** | **–** | **–** | **677** | **–** | **–** | **752** |

| | Q1 2022 | | | | | | | | | Q4 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | c | d | e | f | g | h | i | a | b | c | d | e | f | g | h | i |
| Regulatory portfolio / Risk weight | 0% | 10% | 20% | 50% | 75% | 100% | 150% | Others | Total credit exposure | 0% | 10% | 20% | 50% | 75% | 100% | 150% | Others | Total credit exposure |
| Sovereigns | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Non-central government public sector entities (PSEs) | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Multilateral development banks (MDBs) | 39 | – | – | – | – | – | – | – | 39 | 4 | – | – | – | – | – | – | – | 4 |
| Financial institutions | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Securities firms | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Corporates | – | – | – | – | – | 667 | – | – | 667 | – | – | – | – | – | 554 | – | – | 554 |
| Regulatory retail portfolios | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| Other assets[1] | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| **Total** | **39** | **–** | **–** | **–** | **–** | **667** | **–** | **–** | **706** | **4** | **–** | **–** | **–** | **–** | **554** | **–** | **–** | **558** |

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

# CCR4 – IRB - CCR Exposures by Portfolio and PD Scale

(millions of Canadian dollars)

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

| | Q3 2022 | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 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 | 3,324 | 0.06% | 556 | 42.6% | 0.92 | 547 | 16.5% |
| | 0.15 to ‹ 0.25 | 3,009 | 0.19% | 513 | 44.5% | 1.16 | 1,008 | 33.5% |
| | 0.25 to ‹ 0.50 | 775 | 0.36% | 269 | 31.9% | 1.40 | 285 | 36.8% |
| | 0.50 to ‹ 0.75 | 971 | 0.56% | 196 | 38.8% | 2.10 | 374 | 38.5% |
| | 0.75 to ‹ 2.50 | 1,914 | 0.87% | 730 | 39.0% | 1.64 | 1,004 | 52.5% |
| | 2.50 to ‹ 10.00 | 150 | 4.04% | 75 | 51.8% | 1.03 | 211 | 140.7% |
| | 10.00 to ‹ 100.00 | – | 20.00% | 4 | 60.8% | 1.00 | 1 | 250.0% |
| | 100.00 (Default) | 1 | 100.00% | 2 | 39.1% | 1.36 | – | 0% |
| | Sub-total | 10,144 | 0.39% | 2,345 | 41.4% | 1.28 | 3,430 | 33.8% |
| **Sovereign** | 0.00 to ‹ 0.15 | 9,212 | 0.03% | 119 | 12.3% | 1.06 | 165 | 1.8% |
| | 0.15 to ‹ 0.25 | 106 | 0.21% | 2 | 13.1% | 0.01 | 7 | 6.6% |
| | 0.25 to ‹ 0.50 | 69 | 0.36% | 2 | 13.4% | 0.24 | 8 | 11.6% |
| | 0.50 to ‹ 0.75 | – | 0% | – | 0% | – | – | 0% |
| | 0.75 to ‹ 2.50 | – | 0% | – | 0% | – | – | 0% |
| | 2.50 to ‹ 10.00 | – | 0% | – | 0% | – | – | 0% |
| | 10.00 to ‹ 100.00 | – | 0% | – | 0% | – | – | 0% |
| | 100.00 (Default) | – | 0% | – | 0% | – | – | 0% |
| | Sub-total | 9,387 | 0.04% | 123 | 12.3% | 1.04 | 180 | 1.9% |
| **Financial institutions** | 0.00 to ‹ 0.15 | 5,887 | 0.06% | 69 | 49.1% | 0.89 | 1,106 | 18.8% |
| | 0.15 to ‹ 0.25 | 453 | 0.18% | 41 | 50.4% | 0.44 | 168 | 37.1% |
| | 0.25 to ‹ 0.50 | 53 | 0.36% | 9 | 49.6% | 0.32 | 27 | 50.9% |
| | 0.50 to ‹ 0.75 | 183 | 0.56% | 14 | 45.0% | 0.15 | 104 | 56.8% |
| | 0.75 to ‹ 2.50 | 50 | 1.06% | 22 | 46.2% | 0.11 | 34 | 68.0% |
| | 2.50 to ‹ 10.00 | – | 0% | – | 0% | – | – | 0% |
| | 10.00 to ‹ 100.00 | – | 0% | – | 0% | – | – | 0% |
| | 100.00 (Default) | – | 0% | – | 0% | – | – | 0% |
| | Sub-total | 6,626 | 0.09% | 155 | 49.0% | 0.83 | 1,439 | 21.7% |
| **Total (sum of portfolios)** | | **26,157** | **0.19%** | **2,623** | **33.0%** | **1.07** | **5,049** | **19.3%** |

(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)

(millions of Canadian dollars)

| | | Q4 2021 | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 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 | 2,285 | 0.06% | 497 | 47.4% | 0.83 | 428 | 18.7% |
| | 0.15 to ‹ 0.25 | 2,887 | 0.19% | 506 | 46.2% | 1.52 | 1,114 | 38.6% |
| | 0.25 to ‹ 0.50 | 1,257 | 0.36% | 246 | 47.7% | 1.41 | 669 | 53.2% |
| | 0.50 to ‹ 0.75 | 2,220 | 0.56% | 192 | 50.9% | 3.43 | 576 | 25.9% |
| | 0.75 to ‹ 2.50 | 4,147 | 0.91% | 710 | 43.4% | 1.23 | 1,243 | 30.0% |
| | 2.50 to ‹ 10.00 | 221 | 3.58% | 71 | 68.5% | 1.16 | 398 | 180.1% |
| | 10.00 to ‹ 100.00 | 4 | 14.00% | 4 | 61.0% | 1.05 | 11 | 275.0% |
| | 100.00 (Default) | 1 | 100.00% | 6 | 40.4% | 1.25 | 1 | 100.0% |
| | Sub-total | 13,022 | 0.55% | 2,232 | 46.8% | 1.62 | 4,440 | 34.1% |
| **Sovereign** | 0.00 to ‹ 0.15 | 9,903 | 0.03% | 126 | 11.8% | 1.15 | 177 | 1.8% |
| | 0.15 to ‹ 0.25 | 69 | 0.21% | 1 | 13.1% | – | 5 | 7.2% |
| | 0.25 to ‹ 0.50 | 25 | 0% | 2 | 24.7% | 1.00 | 5 | 20.0% |
| | 0.50 to ‹ 0.75 | – | 0% | – | 0% | – | – | 0% |
| | 0.75 to ‹ 2.50 | – | 0% | – | 0% | – | – | 0% |
| | 2.50 to ‹ 10.00 | – | 8.62% | 1 | 14.5% | 1.00 | – | 100.0% |
| | 10.00 to ‹ 100.00 | – | 0% | – | 0% | – | – | 0% |
| | 100.00 (Default) | – | 0% | – | 0% | – | – | 0% |
| | Sub-total | 9,997 | 0.03% | 130 | 11.8% | 1.14 | 187 | 1.9% |
| **Financial institutions** | 0.00 to ‹ 0.15 | 7,764 | 0.06% | 68 | 49.3% | 0.71 | 1,310 | 16.9% |
| | 0.15 to ‹ 0.25 | 695 | 0.17% | 34 | 49.6% | 0.52 | 233 | 33.5% |
| | 0.25 to ‹ 0.50 | 77 | 0.36% | 11 | 50.2% | 0.24 | 36 | 46.8% |
| | 0.50 to ‹ 0.75 | 161 | 0.56% | 15 | 46.3% | 0.39 | 89 | 55.3% |
| | 0.75 to ‹ 2.50 | 62 | 1.03% | 22 | 48.0% | 0.20 | 45 | 72.6% |
| | 2.50 to ‹ 10.00 | – | 0% | – | 0% | – | – | 0% |
| | 10.00 to ‹ 100.00 | – | 0% | – | 0% | – | – | 0% |
| | 100.00 (Default) | – | 0% | – | 0% | – | – | 0% |
| | Sub-total | 8,759 | 0.09% | 150 | 49.2% | 0.68 | 1,713 | 19.6% |
| **Total (sum of portfolios)** | | **31,778** | **0.26%** | **2,512** | **36.0%** | **1.17** | **6,340** | **20.0%** |

(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

(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.

| | Q3 2022 | | | | | | Q2 2022 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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(1) | Fair value of posted collateral(1) | Fair value of collateral received | | Fair value of posted collateral | | Fair value of collateral received(1) | Fair value of posted collateral(1) |
| | Segregated | Unsegregated | Segregated | Unsegregated | | | Segregated | Unsegregated | Segregated | Unsegregated | | |
| Cash | – | 12,172 | – | 2,601 | 37,435 | 24,121 | – | 14,028 | – | 3,628 | 32,172 | 19,622 |
| Securities issued or guaranteed by | | | | | | | | | | | | |
| Canadian government | 84 | 93 | 268 | 344 | 24,805 | 23,816 | 391 | 132 | 149 | 281 | 23,197 | 20,825 |
| Canadian provincial and municipal governments | 4 | 741 | 369 | 282 | 10,180 | 15,918 | 246 | 938 | 502 | 216 | 10,213 | 13,400 |
| U.S. Treasury, other U.S. agencies and other foreign governments | 2,179 | 29 | 670 | 5 | 32,213 | 28,853 | 935 | 27 | 373 | 57 | 32,551 | 26,254 |
| Other debt securities | 1,039 | 23 | 1,640 | – | 2,954 | 1,489 | 1,257 | 23 | 1,457 | – | 2,557 | 1,795 |
| Equity securities | – | – | – | – | 63,081 | 81,100 | – | – | – | – | 62,216 | 85,130 |
| **Total** | **3,306** | **13,058** | **2,947** | **3,232** | **170,668** | **175,297** | **2,829** | **15,148** | **2,481** | **4,182** | **162,906** | **167,026** |

| | Q1 2022 | | | | | | Q4 2021 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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(1) | Fair value of posted collateral(1) | Fair value of collateral received | | Fair value of posted collateral | | Fair value of collateral received(1) | Fair value of posted collateral(1) |
| | Segregated | Unsegregated | Segregated | Unsegregated | | | Segregated | Unsegregated | Segregated | Unsegregated | | |
| Cash | – | 11,205 | – | 2,993 | 29,241 | 20,502 | – | 9,539 | – | 4,021 | 23,600 | 15,215 |
| Securities issued or guaranteed by | | | | | | | | | | | | |
| Canadian government | 24 | 346 | – | 417 | 15,153 | 14,817 | 4 | 516 | – | 708 | 15,250 | 11,788 |
| Canadian provincial and municipal governments | 213 | 282 | 250 | 116 | 15,462 | 15,042 | 209 | 127 | – | 219 | 11,127 | 15,877 |
| U.S. Treasury, other U.S. agencies and other foreign governments | 1,471 | 30 | 524 | 47 | 35,613 | 26,085 | 95 | 65 | – | 3 | 37,715 | 24,150 |
| Other debt securities | 597 | 29 | 1,294 | 1 | 2,043 | 1,499 | 66 | 29 | – | – | 2,053 | 663 |
| Equity securities | – | – | – | – | 56,428 | 82,024 | – | – | – | – | 51,017 | 77,073 |
| **Total** | **2,305** | **11,892** | **2,068** | **3,574** | **153,940** | **159,969** | **374** | **10,276** | **–** | **4,951** | **140,762** | **144,766** |

(1) Excluding collateral from repurchase agreements guaranteed by bearer deposit notes issued by the Bank and covered bonds issued by the Bank.

# CCR6 – Credit Derivatives Exposures

(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.

| | Q3 2022 | | Q2 2022 | | Q1 2022 | | Q4 2021 | | Q3 2021 | |
|---|---|---|---|---|---|---|---|---|---|---|
| | a | b | a | b | a | b | a | b | a | b |
| | Protection purchased | Protection sold | Protection purchased | Protection sold | Protection purchased | Protection sold | Protection purchased | Protection sold | Protection purchased | Protection sold |
| **Notionals** | | | | | | | | | | |
| Credit default swaps | | | | | | | | | | |
| Indices, singles names and other | 2,464 | 1,263 | 2,142 | 997 | 2,755 | 1,371 | 2,565 | 638 | 2,417 | 246 |
| Tranches on indices | – | – | – | – | – | – | – | – | – | – |
| Total return swaps | 125 | – | 83 | – | 83 | – | 92 | – | 92 | – |
| Credit options | – | – | – | – | – | – | – | – | – | – |
| Other credit derivatives | – | – | – | – | – | – | – | – | – | – |
| **Total notionals** | **2,589** | **1,263** | **2,225** | **997** | **2,838** | **1,371** | **2,657** | **638** | **2,509** | **246** |
| **Fair values** | | | | | | | | | | |
| Positive fair value (asset) | 1 | 14 | 10 | 13 | 2 | 29 | 9 | 17 | 7 | 8 |
| Negative fair value (liability) | (29) | (2) | (23) | (3) | (54) | (1) | (64) | – | (64) | – |

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

(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.

| | | Q3 2022 | | Q2 2022 | | Q1 2022 | | Q4 2021 | | Q3 2021 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | a | b | a | b | a | b | a | b | a | b |
| | | EAD (post-CRM) | RWA | EAD (post-CRM) | RWA | EAD (post-CRM) | RWA | EAD (post-CRM) | RWA | EAD (post-CRM) | RWA |
| 1 | **Exposures to QCCPs (total)** | | **238** | | **436** | | **419** | | **452** | | **432** |
| 2 | Exposures for trades at QCCPs (excluding initial margin and default fund contributions); of which | 2,218 | 45 | 5,214 | 104 | 3,432 | 68 | 2,658 | 54 | 2,674 | 53 |
| 3 | (i) OTC derivatives | 192 | 4 | 204 | 4 | 400 | 8 | 386 | 8 | 228 | 5 |
| 4 | (ii) Exchange-traded derivatives | 1,516 | 31 | 4,557 | 91 | 2,386 | 47 | 1,738 | 35 | 1,880 | 37 |
| 5 | (iii) Securities financing transactions | 510 | 10 | 453 | 9 | 646 | 13 | 534 | 11 | 566 | 11 |
| 6 | (iv) Netting sets where cross-product netting has been approved | – | – | – | – | – | – | – | – | – | – |
| 7 | Segregated initial margin | 4,120 | | 4,563 | | 4,725 | | 6,535 | | 5,122 | |
| 8 | Non-segregated initial margin | 384 | – | 351 | – | 460 | – | 582 | – | 436 | – |
| 9 | Pre-funded default fund contributions | 419 | 193 | 684 | 332 | 646 | 351 | 520 | 398 | 722 | 379 |
| 10 | Unfunded default fund contributions | – | – | – | – | – | – | – | – | – | – |

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

# SEC1 – Securitization Exposures in the Banking Book

(millions of Canadian dollars)

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

| | | Q3 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **1,271** | **–** | **1,271** | **3,366** | **–** | **3,366** | **2,192** | **–** | **2,192** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 2,699 | – | 2,699 | – | – | – |
| 3 | Credit card | 1,271 | – | 1,271 | – | – | – | 154 | – | 154 |
| 4 | Other retail exposures | – | – | – | 667 | – | 667 | 2,038 | – | 2,038 |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **720** | **–** | **720** | **829** | **–** | **829** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | 167 | – | 167 | 2 | – | 2 |
| 9 | Lease and receivables | – | – | – | 547 | – | 547 | 827 | – | 827 |
| 10 | Other wholesale | – | – | – | 6 | – | 6 | – | – | – |
| 11 | Re-securitization | – | – | – | – | – | – | – | – | – |

| | | Q2 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **1,271** | **–** | **1,271** | **3,066** | **–** | **3,066** | **2,151** | **–** | **2,151** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 2,294 | – | 2,294 | – | – | – |
| 3 | Credit card | 1,271 | – | 1,271 | – | – | – | 154 | – | 154 |
| 4 | Other retail exposures | – | – | – | 772 | – | 772 | 1,997 | – | 1,997 |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **703** | **–** | **703** | **828** | **–** | **828** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | 130 | – | 130 | 2 | – | 2 |
| 9 | Lease and receivables | – | – | – | 567 | – | 567 | 826 | – | 826 |
| 10 | Other wholesale | – | – | – | 6 | – | 6 | – | – | – |
| 11 | Re-securitization | – | – | – | – | – | – | – | – | – |

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

# SEC1 – Securitization Exposures in the Banking Book (continued)

(millions of Canadian dollars)

| | | Q1 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **1,271** | **–** | **1,271** | **2,524** | **–** | **2,524** | **1,880** | **–** | **1,880** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 1,759 | – | 1,759 | 29 | – | 29 |
| 3 | Credit card | 1,271 | – | 1,271 | – | – | – | 107 | – | 107 |
| 4 | Other retail exposures | – | – | – | 765 | – | 765 | 1,744 | – | 1,744 |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **642** | **–** | **642** | **846** | **–** | **846** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | 113 | – | 113 | 22 | – | 22 |
| 9 | Lease and receivables | – | – | – | 524 | – | 524 | 824 | – | 824 |
| 10 | Other wholesale | – | – | – | 5 | – | 5 | – | – | – |
| 11 | Re-securitization | – | – | – | – | – | – | – | – | – |

| | | Q4 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **1,871** | **–** | **1,871** | **2,709** | **–** | **2,709** | **1,550** | **–** | **1,550** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 2,037 | – | 2,037 | 47 | – | 47 |
| 3 | Credit card | 1,871 | – | 1,871 | – | – | – | 107 | – | 107 |
| 4 | Other retail exposures | – | – | – | 672 | – | 672 | 1,396 | – | 1,396 |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **523** | **–** | **523** | **822** | **–** | **822** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | – | – | – | 4 | – | 4 |
| 9 | Lease and receivables | – | – | – | 518 | – | 518 | 818 | – | 818 |
| 10 | Other wholesale | – | – | – | 5 | – | 5 | – | – | – |
| 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

(millions of Canadian dollars)

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

| | | Q3 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **–** | **–** | **–** | **6** | **–** | **6** | **29** | **–** | **29** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 4 | – | 4 | 10 | – | 10 |
| 3 | Credit card | – | – | – | – | – | – | 19 | – | 19 |
| 4 | Other retail exposures | – | – | – | 2 | – | 2 | – | – | – |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| **6** | **Non-Retail** | **–** | **–** | **–** | **1** | **–** | **1** | **15** | **–** | **15** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | – | – | – | 12 | – | 12 |
| 9 | Lease and receivables | – | – | – | 1 | – | 1 | 3 | – | 3 |
| 10 | Other wholesale | – | – | – | – | – | – | – | – | – |
| 11 | Re-securitization | – | – | – | – | – | – | – | – | – |

| | | Q2 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **–** | **–** | **–** | **8** | **–** | **8** | **20** | **–** | **20** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 5 | – | 5 | – | – | – |
| 3 | Credit card | – | – | – | – | – | – | 20 | – | 20 |
| 4 | Other retail exposures | – | – | – | 3 | – | 3 | – | – | – |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| **6** | **Non-Retail** | **–** | **–** | **–** | **2** | **–** | **2** | **17** | **–** | **17** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | – | – | – | 12 | – | 12 |
| 9 | Lease and receivables | – | – | – | 2 | – | 2 | 5 | – | 5 |
| 10 | Other wholesale | – | – | – | – | – | – | – | – | – |
| 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 (continued)

(millions of Canadian dollars)

| | | Q1 2022 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **–** | **–** | **–** | **13** | **–** | **13** | **12** | **–** | **12** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 8 | – | 8 | – | – | – |
| 3 | Credit card | – | – | – | – | – | – | 12 | – | 12 |
| 4 | Other retail exposures | – | – | – | 5 | – | 5 | – | – | – |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **4** | **–** | **4** | **17** | **–** | **17** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | – | – | – | 12 | – | 12 |
| 9 | Lease and receivables | – | – | – | 4 | – | 4 | 5 | – | 5 |
| 10 | Other wholesale | – | – | – | – | – | – | – | – | – |
| 11 | Re-securitization | – | – | – | – | – | – | – | – | – |

| | | Q4 2021 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **–** | **–** | **–** | **18** | **–** | **18** | **24** | **–** | **24** |
| | Of which : | | | | | | | | | |
| 2 | Residential mortgages | – | – | – | 13 | – | 13 | – | – | – |
| 3 | Credit card | – | – | – | – | – | – | 24 | – | 24 |
| 4 | Other retail exposures | – | – | – | 5 | – | 5 | – | – | – |
| 5 | Re-securitization | – | – | – | – | – | – | – | – | – |
| 6 | **Non-Retail** | **–** | **–** | **–** | **4** | **–** | **4** | **27** | **–** | **27** |
| | Of which : | | | | | | | | | |
| 7 | Loans to corporates | – | – | – | – | – | – | – | – | – |
| 8 | Commercial mortgage | – | – | – | – | – | – | 12 | – | 12 |
| 9 | Lease and receivables | – | – | – | 4 | – | 4 | 15 | – | 15 |
| 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

(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.

| | | Q3 2022 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **5,357** | **–** | **–** | **–** | **–** | **1,271** | **3,836** | **250** | **–** | **127** | **384** | **25** | **–** | **10** | **30** | **2** | **–** |
| 2 | Traditional securitization | 5,357 | – | – | – | – | 1,271 | 3,836 | 250 | – | 127 | 384 | 25 | – | 10 | 30 | 2 | – |
| 3 | Of which securitization | 5,357 | – | – | – | – | 1,271 | 3,836 | 250 | – | 127 | 384 | 25 | – | 10 | 30 | 2 | – |
| 4 | Of which retail underlying | 4,637 | – | – | – | – | 1,271 | 3,116 | 250 | – | 127 | 312 | 25 | – | 10 | 24 | 2 | – |
| 5 | Of which wholesale | 720 | – | – | – | – | – | 720 | – | – | – | 72 | – | – | – | 6 | – | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| | | Q2 2022 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **5,040** | **–** | **–** | **–** | **–** | **1,771** | **3,269** | **–** | **–** | **177** | **352** | **–** | **–** | **14** | **29** | **–** | **–** |
| 2 | Traditional securitization | 5,040 | – | – | – | – | 1,771 | 3,269 | – | – | 177 | 352 | – | – | 14 | 29 | – | – |
| 3 | Of which securitization | 5,040 | – | – | – | – | 1,771 | 3,269 | – | – | 177 | 352 | – | – | 14 | 29 | – | – |
| 4 | Of which retail underlying | 4,337 | – | – | – | – | 1,771 | 2,566 | – | – | 177 | 282 | – | – | 14 | 23 | – | – |
| 5 | Of which wholesale | 703 | – | – | – | – | – | 703 | – | – | – | 70 | – | – | – | 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.

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

(millions of Canadian dollars)

**Q1 2022**

| | | 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** | **4,437** | **–** | **–** | **–** | **–** | **1,771** | **2,666** | **–** | **–** | **177** | **266** | **–** | **–** | **14** | **22** | **–** | **–** |
| 2 | Traditional securitization | 4,437 | – | – | – | – | 1,771 | 2,666 | – | – | 177 | 266 | – | – | 14 | 22 | – | – |
| 3 | Of which securitization | 4,437 | – | – | – | – | 1,771 | 2,666 | – | – | 177 | 266 | – | – | 14 | 22 | – | – |
| 4 | Of which retail underlying | 3,795 | – | – | – | – | 1,771 | 2,024 | – | – | 177 | 202 | – | – | 14 | 17 | – | – |
| 5 | Of which wholesale | 642 | – | – | – | – | – | 642 | – | – | – | 64 | – | – | – | 5 | – | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

**Q4 2021**

| | | 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** | **5,103** | **–** | **–** | **–** | **–** | **2,371** | **2,732** | **–** | **–** | **237** | **273** | **–** | **–** | **19** | **22** | **–** | **–** |
| 2 | Traditional securitization | 5,103 | – | – | – | – | 2,371 | 2,732 | – | – | 237 | 273 | – | – | 19 | 22 | – | – |
| 3 | Of which securitization | 5,103 | – | – | – | – | 2,371 | 2,732 | – | – | 237 | 273 | – | – | 19 | 22 | – | – |
| 4 | Of which retail underlying | 4,580 | – | – | – | – | 2,371 | 2,209 | – | – | 237 | 221 | – | – | 19 | 18 | – | – |
| 5 | Of which wholesale | 523 | – | – | – | – | – | 523 | – | – | – | 52 | – | – | – | 4 | – | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

(1) The Bank has no synthetic securitization exposure.

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

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

(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.

| | Q3 2022 | 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** | **2,966** | **21** | **34** | **–** | **–** | **–** | **876** | **2,145** | **–** | **–** | **106** | **334** | **–** | **–** | **9** | **27** | **–** |
| 2 | Traditional securitization | 2,966 | 21 | 34 | – | – | – | 876 | 2,145 | – | – | 106 | 334 | – | – | 9 | 27 | – |
| 3 | Of which securitization | 2,966 | 21 | 34 | – | – | – | 876 | 2,145 | – | – | 106 | 334 | – | – | 9 | 27 | – |
| 4 | Of which retail underlying | 2,173 | 19 | – | – | – | – | 273 | 1,919 | – | – | 45 | 281 | – | – | 4 | 23 | – |
| 5 | Of which wholesale | 793 | 2 | 34 | – | – | – | 603 | 226 | – | – | 61 | 53 | – | – | 5 | 4 | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| | Q2 2022 | 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** | **2,924** | **21** | **34** | **–** | **–** | **–** | **870** | **2,109** | **–** | **–** | **106** | **328** | **–** | **–** | **8** | **26** | **–** |
| 2 | Traditional securitization | 2,924 | 21 | 34 | – | – | – | 870 | 2,109 | – | – | 106 | 328 | – | – | 8 | 26 | – |
| 3 | Of which securitization | 2,924 | 21 | 34 | – | – | – | 870 | 2,109 | – | – | 106 | 328 | – | – | 8 | 26 | – |
| 4 | Of which retail underlying | 2,132 | 19 | – | – | – | – | 268 | 1,883 | – | – | 45 | 275 | – | – | 4 | 22 | – |
| 5 | Of which wholesale | 792 | 2 | 34 | – | – | – | 602 | 226 | – | – | 61 | 53 | – | – | 4 | 4 | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

(1) The Bank has no synthetic securitization exposure.

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

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

(millions of Canadian dollars)

| | | Q1 2022 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **2,666** | **27** | **33** | **–** | **–** | **29** | **685** | **2,012** | **–** | **4** | **80** | **316** | **–** | **–** | **6** | **25** | **–** |
| 2 | Traditional securitization | 2,666 | 27 | 33 | – | – | 29 | 685 | 2,012 | – | 4 | 80 | 316 | – | – | 6 | 25 | – |
| 3 | Of which securitization | 2,666 | 27 | 33 | – | – | 29 | 685 | 2,012 | – | 4 | 80 | 316 | – | – | 6 | 25 | – |
| 4 | Of which retail underlying | 1,861 | 19 | – | – | – | 29 | 63 | 1,788 | – | 4 | 15 | 264 | – | – | 1 | 21 | – |
| 5 | Of which wholesale | 805 | 8 | 33 | – | – | – | 622 | 224 | – | – | 65 | 52 | – | – | 5 | 4 | – |
| 6 | Of which re-securitization | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 7 | Of which senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |
| 8 | Of which non-senior | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – | – |

| | | Q4 2021 | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 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** | **2,319** | **21** | **32** | **–** | **–** | **47** | **699** | **1,626** | **–** | **7** | **97** | **242** | **–** | **1** | **8** | **19** | **–** |
| 2 | Traditional securitization | 2,319 | 21 | 32 | – | – | 47 | 699 | 1,626 | – | 7 | 97 | 242 | – | 1 | 8 | 19 | – |
| 3 | Of which securitization | 2,319 | 21 | 32 | – | – | 47 | 699 | 1,626 | – | 7 | 97 | 242 | – | 1 | 8 | 19 | – |
| 4 | Of which retail underlying | 1,531 | 19 | – | – | – | 47 | 63 | 1,440 | – | 7 | 15 | 221 | – | 1 | 1 | 17 | – |
| 5 | Of which wholesale | 788 | 2 | 32 | – | – | – | 636 | 186 | – | – | 82 | 21 | – | – | 7 | 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.

# 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. |