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Basel Capital Adequacy Reporting (BCAR) 2023

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Accompanying Documents
- News Release
- Letter
- FAQ
- Summary of OSFI's proposed changes: Q2-2023 BCAR
- BCAR 2023 Return (XLSX, 2.25 MB)
- Technical Specification (XLSX, 3.17 MB)
- BCAR Sample XML March 20, 2023 (XML, 403 KB)
- BCAR XSD March 20, 2023 (XSD, 5.74 MB)
- BCAR 2023 Change Control Log

Related Documents
- 2023 Capital Adequacy Requirements

General Information

Purpose

The BCAR return ("the return") collects the data to calculate the risk-based capital ratio of the reporting institution, as well as details of the calculation. For domestic systemically important banks (D-SIBs), this return also collects the data to calculate the risk-based Total Loss Absorbing Capacity (TLAC) ratio of the reporting D-SIB, as well as details of the calculation.

Statutory

Section 628 of the *Bank Act* and Section 495 of the *Trust and Loan Companies Act*.

Application

This return applies to all deposit-taking institutions except foreign bank branches. The BCAR Short Form is available only to subsidiaries of internal ratings based (IRB) approach banks under certain conditions. Please refer to the criteria provided in the General Instructions section of this document.

Publication

Certain information from this return is available on a total and institution-by-institution basis on the OSFI website at http://www.osfi-bsif.gc.ca/.

Frequency

Institutions with fiscal year-ends of October - Quarterly - January, April, July and October
Institutions with fiscal year-ends of December - Quarterly - March, June, September and December

Contact Person

For business and/or interpretation questions, contact Alex Pande (✉ Alex.Pande@osfi-bsif.gc.ca), Capital and Liquidity Standards Division. For all technical questions, contact Returns Admin (✉ RA-RRS.Support@osfi-bsif.gc.ca).

Reporting Dates

The return must be completed on a quarterly fiscal basis and filed within 30 days of the quarter-end date.

Contact Agency

OSFI.

General Instructions

The BCAR is to be completed using the methodologies and calculations described in OSFI's Capital Adequacy Requirements (CAR) Guideline (the "guideline") and, if applicable, OSFI's Total Loss Absorbing Capacity (TLAC) Guideline. The BCAR instructions should be read in conjunction with the CAR and, if applicable, TLAC guidelines.

The BCAR schedule numbers correspond to the chapter numbers in the guideline. For example, Schedules 10.010, 10.020, etc. correspond to Chapter 1 of the CAR Guideline while Schedules 20.010, 20.020 etc. correspond to Chapter 2 of the CAR Guideline, and so on.

The purpose of these instructions is to ease completion of the return by referencing its components to the applicable section(s) of the guideline (e.g., section 3.1.1). In addition to guideline references, these instructions provide supplementary explanations for selected sections or cells data points in the return. Further guidance is provided through cross-referencing formulas in the return itself.

Generally, the BCAR must be completed by all banks (including federal credit unions (FCU)), bank holding companies and federally regulated trust and loan companies. These OSFI-regulated entities are collectively referred to herein as institutions. However, in certain circumstances, an institution may complete a shorter version of the return, referred to as the BCAR Short Form. In addition, certain sections or cells in the return may apply to specific types of institutions only (e.g. D-SIBs or federal credit unions FCUs).

These instructions provide guidance on how to complete the full BCAR return.

Validation Rules

The BCAR contains schedules that carry forward amounts from one schedule to another. Validation rules ensure that the amounts are correctly carried forward. The BCAR validation rules are posted on OSFI's website.

Data Point Address (DPA)

There are 4-digit "non-dimensional" DPAs that are contained in the uniquely structured (non-dimensional) schedules in the BCAR, such as Schedule 20.010 Capital and TLAC Elements. The return also includes dimensional schedules, in which there are no DPAs, instead individual data points can be referred to by a series of numbers representing a combination of metrics and dimensions.

Types of Validation Rules

There are two types of validation rules: pre-edit or structural rules, and business rules. If an institution fails any of the pre-edit validation rules, the business validation rules cannot be processed. When issues with the pre-edit rules are identified, the institution will be advised and the return must be corrected and re-filed.

1. Pre-Edit or Structural Rules

Pre-edit rules ensure a file is sent in the correct format including such things as the institution code. The BCAR has additional pre-edit rules that ensure DPAs have the correct sign (i.e., + or -).

2. Business Validation Rules

Business validation rules ensure that calculations are correct (e.g., subtotals, exposure multiplied by risk-weight, etc.). These rules also ensure that where certain options under the capital adequacy framework are mutually exclusive, only one method is reported.

There are two types of rules within this space:

(a) Non-dimensional rules

Non-dimensional rules have one occurrence each. A unique equation spells out each rule, listing all data-points involved. These rules include cross return validations which ensure that certain figures agree with amounts reported in other regulatory returns (e.g. Consolidated Balance Sheet (M4), etc.).

(b) Dimensional rules

Dimensional rules define relationships that occur many times in multiple schedules and many times within a schedule. They include, for example, aggregation rules that are sums of columns and rows. Dimensional validation rules were generated using a generic approach, whereby a rule checking for a given relationship between various measures was coded and applied to multiple combinations of rows, columns, and schedules.

Validation rule terminology and tolerances are found at the end of this document.

BCAR Short Form for IRB institutions

The BCAR Short Form is comprised of a subset of schedules from the full BCAR return. In order to qualify for completing BCAR Short Form, an institution must meet the following three criteria:

1. The institution's parent is an operating company regulated by OSFI and the parent has adopted an internal ratings based (IRB) approach to credit risk;
2. The institution is a fully consolidated subsidiary and has adopted the same IRB approach as their parent; and
3. At least 95% of the institution's credit risk exposures are captured under the IRB approach.

N.B. Even when these conditions are met, under certain circumstances, OSFI may require filing of the full BCAR.

The reporting frequency and calculations required for completing the schedules in the BCAR Short Form are the same as for the full BCAR, with the exception that summary information related to risk weighted assets (RWAs) (Schedule 10.020), expected loss (Schedule 20.030), and exposures (Schedule 10.070) are not carried forward from other schedules.

BCAR Short Form is limited to the following schedules from the full BCAR return:

10.010 Ratio Calculations
10.020 Summary of RWAs and Exposures at Default (EAD)
10.050 Off-balance Sheet Exposures Excluding Derivatives and Securitization Exposures
10.070 Balance Sheet Coverage by Risk Type and Reconciliation to the Consolidated Balance Sheet
20.010 Capital and Total Loss Absorbing Capacity (TLAC) Elements
20.020 Qualifying Capital Issued Out of Subsidiaries
20.030 Allowance for Impairment: Capital Treatment
30.010 Minimum Capital Required for Operational Risk
40.120 Standardized Approach – Subordinated Debt, Equity and Other Capital Instruments
40.290 Other Credit RWAs
60.030 Summary of Banking Book Securitization Exposures
70.030 Derivative Contracts
70.040 Central counterparty (CCP) credit RWAs
90.010 Minimum Capital Required for Market Risk

Qualifying institutions that opt to file the BCAR Short Form should notify OSFI at least 30 days in advance of their first BCAR Short Form filing. Notification should be sent to Returns Administration, Regulatory Data Management Division (RA-RRS.Support@osfi-bsif.gc.ca) and to the Lead Supervisor of the institution's parent. Note that if an institution opts to file BCAR Short Form, it should not submit data in respect of any BCAR schedules other than those listed above.

N.B. Institutions completing BCAR Short Form must be able to provide OSFI with supporting information, on an as-requested basis, at a level of detail comparable but not necessarily identical to that contained in the schedules of the full BCAR.

BCAR for Category III Institutions (Category III BCAR)

The Category III BCAR is comprised of a subset of schedules from the full BCAR return. In order to qualify for completing the Category III BCAR, an institution must be a Category III SMSB, as described in the SMSB Capital and Liquidity Guideline.

The reporting frequency required for completing the schedules in the Category III BCAR are the same as for the full BCAR.

The Category III BCAR is limited to the following schedules from the full BCAR return:

10.011 Simplified Risk-Based Capital Ratio (SRBCR) Calculations for Category III SMSBs
10.041 Countercyclical Buffer (CCyB) Requirement for Category III SMSBs
20.010 Capital and Total Loss Absorbing Capacity (TLAC) Elements
20.020 Qualifying Capital Issued Out of Subsidiaries
20.030 Allowance for Impairment: Capital Treatment
30.010 Minimum Capital Required for Operational Risk
40.120 Standardized Approach – Subordinated Debt, Equity and Other Capital Instruments
40.280 Equity Investments in Funds
40.290 Other Credit RWAs

The schedule-specific instructions for the schedules listed above will specify which cells, if any, are not required to be completed by institutions filing the Category III BCAR.

Category III institutions filing the Category III BCAR should notify OSFI at least 30 days in advance of their first filing. Notification should be sent to Returns Administration, Regulatory Data Management Division (RA-RRS.Support@osfi-bsif.gc.ca) and to their Lead Supervisor. Note that institutions filing the Category III BCAR should not submit data in respect of any BCAR schedules other than those listed above.

Basis of Measurement and Reporting Units

The basis of measurement used for reporting on-balance sheet exposures in the return is the same as that used for financial statements prepared in accordance with International Financial Reporting Standards (IFRS), i.e. the balance sheet value determined for accounting purposes, with the following exceptions:

a. own-use property plant and equipment (PP&E):

   1. For own-use PP&E that is accounted for using the revaluation model, reported exposures should be based on an adjusted book value that reverses the impact of the following:

      - the balance of any revaluation surplus included in Other Comprehensive Income (OCI); and
      - accumulated net after-tax revaluation losses that are reflected in retained earnings (REs) as a result of subsequent revaluations

   2. For own-use PP&E that is accounted for using the cost model, and where the deemed value of the property was determined at conversion to IFRS by using fair value, reported exposures should be based on an adjusted book value that reverses the impact of after-tax unrealized fair value gains and losses reflected in REs at conversion to IFRS.

b. certain financial instruments in the banking book:

   For these financial instruments, reported exposures and EAD (under the standardized approach and IRB approach, respectively) should be based on amortized cost, with amortized cost calculated as defined by IFRS:

   1. Loans fair valued under the (i) fair value option, or (ii) fair value hedge; and
   2. Debt and loans fair valued through OCI.

All dollar amount data should be reported in thousands of Canadian dollars. Calculations yielding percentages should be reported to two decimal places. Variables such as probability of default (PD) and loss given default (LGD) should be expressed in percent, for example a reported PD of 0.0525 means 0.0525%. PDs should be reported with up to four decimal places and LGDs with up to two decimal places. The format of other units of reporting are specified in the applicable sections of these instructions.

Scope of Reporting Entity

The scope of application is, subject to specific exceptions, a fully consolidated basis by the reporting institution. Specific exceptions are described in section 1.1 of the CAR Guideline.

Credit Risk Schedule Completion

With respect to the schedules containing data on credit RWAs, institutions must fill out only those schedules, or portions of schedules, that pertain to the respective methodology(ies) they have adopted. For example, an institution that has exclusively adopted an IRB approach should not provide data on the schedules, or portions of schedules, pertaining to the standardized approach. Institutions that have approval to use more than one credit risk approach must report any particular exposure under only one of the authorized approaches.

The nature of the portfolios of assets that an institution must report in the credit risk schedules, (i.e. banking and/or trading book portfolios), depends on the applicability of the market risk framework. See the Banking Versus Trading Book section of this document.

On the IRB schedules, when at least one of the Gross exposure (M9) and Adjusted EAD (M1 or M2) measures are populated with a non-zero value in a PD band for a particular exposure type, all the other measures (e.g., PD, LGD, Maturity, RWA, Expected loss) on that same row, in the main section of the schedule (excluding memo sections), must be populated even if RWA is zero. For example, although the out-migration of whole exposures in a PD band due to credit risk mitigation causes the adjusted EAD (M1 or M2) and RWA to be zero, all the other measures on the same PD band should be filled in even if the adjusted exposure (M1 or M2) and RWA are zero. If a value for a measure is zero (e.g., the adjusted exposure (M1 or M2) and RWA), the filer should populate it with zero rather than leaving blank.

Credit Risk Treatment of Securitization Exposures

In both the standardized and IRB approaches, securitization exposures receive different credit risk treatment and are generally reported separately from all other exposures. Securitization exposures are defined in section 6.1 of the guideline as exposures with a senior/subordinated structure, including non-proportional credit protection.

In cases where the assets underlying the securitization are reported on the institutions' balance sheet, the operational requirements for recognizing credit risk transfer, described in section 6.3, must be met in order to exclude the underlying assets from the general credit risk treatment and instead follow the securitization treatment.

All exposures that do not meet the definition of securitization exposures or that do not meet the relevant operational requirements should be reported as if they had not been securitized, following the general banking book credit risk treatment.

Banking Book Exposure Classes

The credit risk portion of the return is designed to capture banking book exposures separately from those exposures in the trading book that attract credit risk. Banking book data is collected by exposure class and, within each class, by exposure type. The exposure classes, excluding exposures treated under the securitization framework, are as follows:

2020 BCAR Exposure Class	2023 BCAR Exposure Class	2023 CAR Guideline Reference
Sovereign	Sovereigns and Central Banks	Sections 4.1.1 and 5.2.1(ii)
Sovereign	Public Service Entities (PSEs) *	Sections 4.1.2 and 5.2.1(iii)
Sovereign	Multilateral Development Banks (MDBs)	Sections 4.1.3 and 5.2.1(ii)
Bank	Banks (excluding Covered Bonds)	Section 4.1.4 and 5.2.1(iv)
Bank	Covered Bonds	Sections 4.1.5 and 5.2.1(iv)
Corporate	Corporate	Sections 4.1.7 and 5.2.1(i)
Corporate	Specialized Lending	Sections 4.1.7 and 5.2.1(i)
Other credit risk-weighted assets	Subordinated Debt, Equity and Other Capital Instruments	Section 4.1.8 and 5.2.1(iv)
Other retail	Regulatory Retail	Sections 4.1.9 and 5.2.1(v)
Other retail	Non-regulatory Retail	Sections 4.1.9 and 5.2.1(v)
Retail residential mortgages	Residential Real Estate	Sections 4.1.11 and 5.2.1(v)
Retail residential mortgages	Residential Real Estate Exposures that do not meet expectations related to B-20	Sections 4.1.11 and 5.2.1(v)
Retail residential	Commercial Real Estate (CRE)	Sections 4.1.12 and 5.2.1(i) An exposure secured by any immovable property that is not residential real estate.

mortgages		Subcategories: • General CRE – an exposure secured by any immovable property that is not residential real estate. These exposures do not meet the criteria of income-producing CRE and land acquisition, development and construction (ADC). • Income-Producing CRE – CRE where the prospects for servicing the loan materially depend on the cash flows generated by the property securing the loan, rather than on the capacity of the borrower to service the debt from other sources, and the land ADC criteria are not applicable.
Corporate	Land acquisition, development and construction (ADC)	Sections 4.1.13 and 5.2.1(i)
Retail residential mortgages	Reverse Mortgages	Section 4.1.14
Retail residential mortgages	Mortgage-Backed Securities (MBS)	Section 4.1.15
Other credit risk-weighted assets	Other credit risk-weighted assets	Section 4.1.23
Equity	Equity Investments in Funds	Section 4.1.22 and 5.2.2(iii)

* All PSEs should be recorded in their respective PSE Schedule, regardless of the guarantee or backing of central/provincial governments. Schedule 50.020 should include the backstop portion for PMI-insured mortgages, however this memo is currently on schedule 50.010 (will be corrected after 2023).

Exposure Types

Exposure Classes are further broken down into the following credit risk exposure sub-types:

Exposure Type	Guideline Reference / Definition
Drawn commitment	Section 4.1.17 and 5.2.1(ix)
Undrawn commitment	Section 4.1.17 and 5.2.1(ix)
Repo-style	Section 4.1.18 and 5.4.1(ii)

Transactions *	
OTC Derivatives *	Sections 4.1.19 Bi-lateral OTC derivative contracts, together with OTC and exchange-traded contracts transacted through a non-qualifying central counterparty.
Other off-balance sheet	Section 4.1.18 and 5.4.1(iii) Includes all off-balance sheet arrangements other than OTC derivatives and undrawn commitments.
Model risk add-on RWA	IRB Schedules only: Incremental RWAs due to the deficiency of internal models should be reported here until revised models are implemented. Incremental RWAs can be imposed by OSFI or be self-imposed by institutions.

* These exposure types also apply to credit risk in the Trading Book.

Exposure Classification and Credit Risk Mitigation (CRM)

Credit risk mitigation techniques recognized for capital adequacy purposes include guarantees, credit derivatives, and collateral that meet specific criteria set out in sections 4.3 and 5.6.4 of the CAR Guideline.

For reporting purposes, generally all exposures are initially reported pre-CRM, "Before CRM" in the BCAR, and must be classified according to the exposure class of the original obligor. However post-CRM, most exposures are reported according to the asset class of the ultimate guarantor or collateral. CRM is reported as follows:

Guarantees and Credit Derivatives CRM Techniques

- SA: If a guarantor belongs to the same asset class as the obligor, the guarantee is reflected by shifting an exposure from the risk weight of the obligor to the risk weight applicable to the guarantor. If a guarantor belongs to a different asset class from the original obligor, the guaranteed exposures should move from the original obligor's asset class schedule to the guarantor's asset class schedule by reporting a negative value under CRM on the obligor's schedule, and a positive value under CRM on the guarantor's schedule.
- IRB Approach: Reflected through either:

    i. exposures affected by CRM move from original obligor schedules to schedules for CRM providers. or
    ii. exposures where the LGD adjustment approach is used, the borrower will be placed in the PD band of the original obligor (on the schedule of the CRM provider).

Collateral CRM Techniques

- Depending on the credit risk approach, collateral is reflected through an adjustment to one of the following: the risk weight (simple approach), the exposure amount (comprehensive approach) or LGD estimates.
- When collateral is reflected through risk weights (the simple approach) under the SA, the approach should follow that for guarantees and credit derivatives. That is, after CRM the collateralized exposure will be reported under the asset class of the collateral.
- When collateral is reflected in exposure or LGD, then the exposure remains under the asset class of the obligor.

Defaulted Exposures

The SA differentiates between the level of provisions for exposures other than residential real estate, and materiality of repayments dependent on cash flows of the property for residential real estate exposures, to determine the appropriate risk weight for an exposure. Within each exposure class and type, the standardized approach schedules collect defaulted exposures separately from "non-defaulted" exposures. The definition of defaulted standardized approach exposures is provided in section 4.1.21 of the CAR Guideline.

The IRB approaches differentiate between exposures to obligors in default and those not in default to determine the appropriate capital charge. Within each exposure class and type, the IRB schedules collect defaulted exposures separately from "non-defaulted" exposures, as applicable to each approach. The definition of default for IRB approaches is provided in section 5.8.6(ii) of the CAR Guideline.

Simplified Treatment

Institutions using the standardized approach that qualify to apply the simplified treatment may use the simplified treatment to particular asset classes. These asset classes are banks, covered bonds, corporates, qualifying revolving and non-revolving regulatory retail, residential real-estate and commercial real-estate. The applicable standardized approach schedules include the simplified treatment single risk weight, which is titled accordingly.

Banking Book versus Trading Book

With the exception of schedules 70.010 for standardized approach and 70.020 for IRB approach, exposure class schedules capture credit risk in the banking book. Schedules 70.010 and 70.020 capture the trading book and contain only repo-style transactions and OTC derivatives exposure types. These are the only exposure types in the trading book that attract a credit risk capital charge if an institution is eligible for the market risk framework[1]. The criteria for requiring market risk capital calculations are provided in Chapter 9 of the CAR Guideline. Trading book exposures are reported without reference to allowances, given that exposures in the trading book are marked to market.

If an institution's overall trading portfolio is not sufficiently material to qualify for a separate market risk capital charge (reported on schedule 90.010), an institution must complete the banking book exposure class schedules (i.e., the 40 and 50 series schedules depending on the credit risk approach) and *report both their total banking and trading book exposures*, and leave schedules 70.010 and 70.020 blank. Similarly, the securitization schedules (60.010, 60.020 and 60.030) must include both the institution's total banking and trading book securitization exposures if a separate charge for market risk is not calculated.

If an institution is completing trading book schedules 70.010 and/or 70.020 and has master netting agreements that cover OTC derivatives in both the banking and trading books, it will be necessary to allocate the credit equivalent amount exposure at default (EAD) between the banking and trading book schedules. A proration should be based on the notional amounts in the relevant netting set.

80% Threshold calculation for IRB banks

Chapter 1 of the CAR Guideline states that OSFI will monitor compliance with the 80% IRB threshold for institutions that have been approved to use the IRB approach. The 80% threshold is not reported on the BCAR; however, the following detail is provided to help inform institutions on how this threshold will be measured. The 80% threshold is measured in terms of gross exposure and total credit risk-weighted exposures:

Exposure

% IRB Exposure Calculation = SUM (IRB Exposure DPAs) / SUM (Total Exposure DPAs)

IRB Exposure DPAs
= 10199-10176 (from schedule 10.020)

Total Exposure DPAs
= 10000-10189-10185-10181-10177-10167-10163-10159 (from schedule 10.020)

% IRB RWA Calculation = IRB RWA DPA / Total RWA DPA
= (1322-10171) / (1386 -10187-10183-10179-10172-10165-10161-10157)

Schedule-Specific Instructions

Schedule 10.010 - Ratio Calculations

Ratio Calculations

The calculation of the risk-based capital ratio is described in section 1.6 of the guideline. For D-SIBs, the calculation of the risk-based TLAC ratio is described in OSFI's TLAC Guideline. The target capital ratios section of the schedule refer to the minimum capital requirements set out in section 1.6 of the guideline plus any mandated capital buffers set out in section 1.7 of the guideline. The OSFI target TLAC ratio refers to the minimum risk-based TLAC ratio set by the Superintendent by order plus the Domestic Stability Buffer (DSB). All ratios are expressed in percent.

Adjustment [to RWAs] for floor: The adjustment to RWAs for floor must only be calculated by institutions using an IRB approach for credit risk. The adjustments are calculated according to section 1.9 of the guideline. Details related to the calculation of the RWA floor adjustment are reported on Schedule 10.030.

Institution's own internal capital and TLAC targets: Internal capital targets are those that have been set by management and approved by the Board. The items in this memo section relating to capital must be reported by all institutions, apart from an institution's own internal TLAC target which must only be reported by D-SIBs.

Schedule 10.011 - Simplified Risk-Based Capital Ratio Calculations for Category III SMSBs

The calculation of the simplified risk-based capital ratios is described in section 1.6.2 of the CAR Guideline. The target capital ratios section of the schedule refer to the minimum capital requirements set out in section 1.6 of the guideline plus any mandated capital buffers set out in section 1.7 of the guideline. All ratios are expressed in percent.

Total Assets are from the balance sheet (i.e. DPA 1045 from the M4 return).

CET1, Additional Tier 1 and Tier 2 capital deductions are from BCAR schedule 20.010.

Operational Risk RWA is calculated by multiplying total minimum capital required for operational risk from Schedule 30.010 by 12.5.

Institution's own internal capital targets: Internal capital targets are those that have been set by management and approved by the Board. The items in this section relating to capital must be reported by all Category III institutions.

Memo Items

Information on Category III SMSBs' derivatives, off-balance sheet exposures and securities financing transactions (SFTs) are reported in this section as memo items but are not included in the calculation of the simplified risk-based capital ratios. Although this information is only reported quarterly in the BCAR, Category III SMSBs are required to inform OSFI if they exceed the thresholds for either derivative or off-balance sheet exposures, as detailed in section III of the SMSB Capital and Liquidity Requirements Guideline, at any time (including intra-quarter).

Derivatives

In this section, institutions report the total notional principal amount of derivatives. Interest rate and foreign exchange derivatives are reported separately as SMSBs may still meet the criteria for Category III if the notional amount of these derivatives is below the threshold in section III of the SMSB Capital and Liquidity Requirements Guideline.

Off-Balance Sheet Items

In this section, institutions report the notional amount of off-balance sheet (OBS) items listed in the table. These are converted into credit exposure equivalents by applying credit conversion factors (CCFs) to the notional amount of the exposure. If the OBS item is treated as a derivative exposure per the institution's relevant accounting standard, then the item must be included in the derivative memo item above. Institutions may refer to the Leverage Requirements Returns (LRR) Instructions section 4 for additional information (including definitions) for each of the OBS items.

Section III of the SMSB Capital and Liquidity Requirements Guideline details the maximum amount of total OBS exposure institutions may have at any time in order to meet the criteria for Category III.

Securities Financing Transactions (SFTs)

In this section, institutions report information on SFT activities. SFTs are transactions such as repurchase agreements, reverse repurchase agreements, security lending and borrowing, and margin lending transactions, where the value of the transactions depends on market valuations and the transactions are often subject to margin agreements.

Institutions must report the Notional Amount of SFT Agent Transactions and Gross value of All Other SFTs (after adjusting for sale accounting transactions). Please refer to section 3 of the Leverage Requirements Returns (LRR) Instructions, for additional information on SFTs to be reported in this section.

Schedule 10.020 - Summary of RWAs and EAD

Although a main change in the 2023 CAR Guideline is the removal of the option to use the Advanced (AIRB) approach for certain asset classes, in this schedule the Foundation (FIRB) or Advanced (AIRB) data is still being captured in order to track banks' use of IRB. The option to apply the AIRB approach for exposures to Financial Institutions (including Banks) and Large Corporates has been eliminated and institutions will be required to use the FIRB or standardized approaches for these exposures. Institutions will be allowed to apply the FIRB approach for portfolios other than Financials and Large Corporates on a case-by-case basis where there is a deficiency of loss data, subject to the existing capital model approval process. Financial Institutions for the scope of FIRB, includes all institutions to which the 1.25 correlation parameter multiplier is applied.

In addition to the RWA details, this schedule now reports EAD by exposure class. The RWA and EAD data in this schedule are generally carried forward from supporting schedules in the return. For asset classes under the standardized approach that are subject to the 1.5 multiplier for currency mismatch, the RWA Standardized amount includes the incremental RWAs (related to the 1.5 multiplier) from Schedule 10.090 as well as the RWAs carried forward from the respective schedule in the return. Nonetheless, only the Total IRB RWA column will reconcile, and have validation rules linking, to the respective BCAR IRB schedules. RWAs and EADs reported on the IRB schedules for these classes must be carried forward to the appropriate column on Schedule 10.020 according to the calculation approach used

Credit or market RWAs calculated on the deducted portion of non-significant investments in financials (if included above): If, on the exposure class or market risk schedules, an institution's reporting system calculates RWA on the total non-significant investments in financials, rather than just on the portion of the net investments that are not deducted from capital, the institution may use this line to back out the excess RWA that can be identified (i.e. the RWA that is calculated on the portion of the investment that is also reported on Schedule 40.290 with a 0% risk weight).

Schedule 10.030 - Summary of Capital Floor RWAs

This schedule collects details on the capital floor calculation described in section 1.5 of the guideline. All institutions using internal model-based approaches for credit risk, counterparty credit risk, or market risk, are required to report this schedule unless otherwise agreed with OSFI. Institutions using the standardized approach to credit risk, counterparty credit risk, and market risk are not subject to the capital floor and are not required to report this schedule, including, but not limited to, subsidiaries using the standardized approach with a parent that uses the IRB approach.

The RWA floor adjustment is based on the difference between the 'floor requirement' (section 1.5.1) and the 'before-floor requirement' (section 1.5.2). The floor requirement is calculated by applying the floor adjustment factor to standardized credit, market and operational risk RWA, less 12.5 x allowances eligible to be included in capital net of any shortfall deduction. The before floor requirement is calculated as credit, market, and operational risk RWAs, as reported on Schedule 10.020, less 12.5 x allowances eligible to be included in capital net of any shortfall deduction.

The floor adjustment factor is normally set a 72.5%, however OSFI may require institutions to apply a higher or lower factor depending on the results of reviews of individual institutions. This factor will be phased-in over 3 years, starting at 65% in 2023 and rising 2.5% per year to 72.5% in 2026.

Standardized credit risk RWA should be calculated using approaches that do not require IRB model approval. For securitization exposures this includes SEC-ERBA and SEC-SA and other approaches reported on Schedule 60.010 of the BCAR. In the calculation of standardized credit risk RWA on IRB portfolios, the IRB definition of default may be used as an operational simplicity. As a component of standardized credit risk RWA, 'other credit risk assets' should include CVA RWA, while excluding any supervisory add-ons to RWA that relate to model risk. Credit Risk Exposures and RWA should be reported according to the Asset Class of the original obligor.

The standardized market risk RWA is calculated as 12.5 x the sum of the value at risk (VaR) and standardized approach capital charges as outlined in Chapter 9, while excluding the comprehensive risk measure (CRM), incremental risk charge (IRC), and stressed VaR (SVaR) capital charges.

The 'allowances eligible for inclusion in Tier 2 capital under the floor' are total general allowances, subject to a cap of 1.25% of credit RWAs, as calculated under the floor.

The memo item "Memo: Capital floor credit RWAs by ultimate guarantor" collects EAD and RWA of credit risk exposures by ultimate guarantor regardless of the method used to reflect the guarantee in the exposure class schedules, e.g. PD substitution, or LGD adjustment, consistent with Schedule 10.060.

Schedule 10.040 – Countercyclical Buffer (CCyB)

General Methodology

The CCyB is outlined in section 1.7.2 of the guideline. Institutions with operations outside Canada will look at the geographic location of their private sector credit exposures in accordance with section 1.7.2 of the guideline and calculate their institution specific CCyB requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures. This buffer is presented in the datapoint address (DPA) 1190 on schedule 10.010.

RWA for Private Sector Credit Exposures (M44): Private sector exposures are based on the location of ultimate risk. Location of ultimate risk is defined as the country where the guarantor of financial claims resides. For securitizations exposures, ultimate risk is based on the residence of the debtor of the underlying credit, security or derivatives contract. Additional information is available in the FAQ section the Basel Framework, RBC30 – Buffers above the regulatory minimum available at: https://www.bis.org/basel_framework/chapter/RBC/30.htm. Institutions are expected to reciprocate the buffers implemented by every jurisdiction listed on the dedicated page of the BIS website. Private sector credit exposures include all private sector credit exposures that attract a credit risk capital charge (RWAs), excluding the Bank asset class, Trading Book asset class in credit risk and Other credit RWAs except for Significant investments in commercial entities & Investment property.

Geographic Weight for jurisdiction (%) (M45): The weighting applied to the buffer in place in each jurisdiction will be the institution's credit risk charge (RWAs) that relates to private sector credit exposures in that jurisdiction divided by the institution's total credit risk charge that relates to private sector credit exposures across all jurisdictions.

CCyB add-on rate (M46): The add-on rate is found in the BIS website (www.bis.org/bcbs/ccyb/index.htm). The add-on rate should be the effective rate at the date of reporting and be reported to four decimal places.

Weighted buffer add-on (%) (M47): A weighted buffer add-on for each country is the product of the geographic weight (M45) and CCyB Add-on rate (M46). The total weighted buffer add-on percentage for all countries/jurisdictions should be reported in the DPA 1190 of schedule 10.010. The Weighted buffer add-on should be reported to four decimal places.

Schedule 10.041 – Countercyclical Buffer (CCyB) for Category III SMSBs

This schedule is to be completed by Category III SMSBs. The instructions are the same as schedule 10.040 except that private sector credit exposures are reported as the asset (i.e., balance sheet) value instead of RWA. Geographic weight for jurisdictions are then calculated based on the institution's asset value that relates to private sector credit exposures in that jurisdiction divided by the institutions total asset value that relates to private sector credit exposures across all jurisdictions.

The total weighted buffer add-on percentage for all countries/jurisdictions should be reported in the DPA 16017 of schedule 10.011. The Weighted buffer add-on should be reported to four decimal places.

Schedule 10.050 - Off-balance Sheet Exposures Excluding Derivative and Securitization Exposures

Securitization-related exposures and derivative contracts are excluded from this schedule and are captured separately in schedules 60.030 and 70.030, respectively. Off-balance sheet items including undrawn commitments are described in section 4.1.18 of the guideline.

Schedule 10.050 splits off-balance sheet instruments between the type of credit risk approach used – standardized, FIRB, and AIRB or, in the case of retail undrawn commitments, between standardized and IRB. While a retail/non-retail split is required for undrawn commitments, no such split is required for other off-balance sheet instruments. Other off-balance sheet instruments in the IRB Retail asset class, if any, should be included in the AIRB columns. Similarly, any undrawn commitments reported for equity exposures on schedule 40.120, 40.280 and 50.290, and undrawn commitments or other off-balance sheet items reported using the IRB slotting approach on schedule 50.150, should be included in the Standardized and AIRB columns on schedule 10.050.

Prescribed credit conversion factors (CCF) are provided in sections 4.1.18 and 4.1.19 of the guideline for the standardized approach and section 5.4.1 (iii) for the FIRB and AIRB approaches. The CCFs for exposures under the IRB retail approaches are determined according to section 5.4.2(iii).

Exposures and credit equivalent amounts are reported gross of allowances and before any CRM.

The total notional principal and credit equivalent amounts reported on schedule 10.050 should equal the sum of these amounts (Gross credit equivalent amount) reported for Undrawn Commitments (split by regulatory retail and non-regulatory retail) and Other Off-Balance Sheet exposure types in the exposure class schedules for the standardized and IRB approaches.

Schedule 10.060 - Gross Exposures by Original Obligor and by Ultimate Guarantor

This schedule provides a breakdown of standardized and IRB gross exposures and RWAs by exposure class. The exposures and RWAs reported for each class should include all the applicable exposure types (e.g., drawn, undrawn, OTC derivatives, etc.). Details are reported in a matrix that includes exposures pre-CRM by original obligor, exposures not guaranteed to original obligor, RWA for guaranteed exposure by ultimate guarantor and RWA for exposure not guaranteed.

Pre-CRM Exposure by Original Obligor: Exposure amounts by original obligor should reconcile to the "Pre-CRM" gross exposure amounts reported for each exposure class in the credit risk schedules.

RWA for guaranteed exposure, by Ultimate Guarantor: RWA of guaranteed exposures is to be reported in the row of the obligor's exposure class and in the column of the guarantor's exposure class. Similar to the above-described reporting of exposures, Guaranteed exposures must be reported by ultimate guarantor regardless of the method used to reflect the guarantee in the exposure class schedules, e.g. PD substitution or LGD adjustment. The final column collects the RWA of exposures not guaranteed, corresponding with the same exposures reported in the column "Exposure Not Guaranteed (exposure to original obligor)".

Examples:

1. An uninsured residential mortgage would have its EAD reported under the "Exposure Not Guaranteed (exposure to original obligor" column and its associated RWA reported in the column "RWA for Exposure Not Guaranteed (RWA associated with exposure to original obligor)", all under the "General Residential Real Estate" row.

2. Similarly, a residential mortgage that is insured by CMHC would have its exposures and RWA reported in the corresponding "Sovereign" columns (under 'Guaranteed exposure' and 'RWA for guaranteed exposure' respectively) of the " General Residential Real Estate " row.

Schedule 10.070 - Balance Sheet Coverage by Risk Type and Reconciliation to Consolidated Balance Sheet

General Methodology

Schedule 10.070 summarizes the balance sheet assets covered in the BCAR, by exposure type and risk framework. It compiles the exposures reported under the credit risk framework, and adds the balance sheet assets that attract a specific risk charge under the market risk framework. Adjustments are made to avoid double counting of particular assets such as those that attract both credit and specific market risks.

To confirm the integrity of the capital adequacy calculations, schedule 10.070 reconciles the balance sheet for capital purposes, from the BCAR to the institution's consolidated balance sheet for accounting purposes, from the Consolidated Balance Sheet (M4). Reconciliation items include the translation from equity to consolidation accounting for subsidiaries that are not consolidated for capital adequacy purposes.

Credit Risk section: With two exceptions, all of the figures in this section are carried forward or calculated from data reported in other schedules. Assets related to securitization, including the gain on sale, should equal the on-balance sheet securitization exposures reported on schedule 60.030. To the extent that a gain on sale included on schedule 60.030 is reported net of tax, and does not match the asset amount recorded on the balance sheet, an adjustment is required to yield the associated asset balance. The adjustment should be reported on schedule 10.070 in the "Other" subcomponent (DPA 8877) of the line "Securitization-related assets not recognized for capital ratio calculations but consolidated for balance sheet purposes".

The amount of liabilities and non-cash securities lending included in repo-style transaction exposures and the specific allowance, if any, on equities treated under the IRB approach, are figures reported in the Credit Risk section that are not provided elsewhere in the return.

Gross Exposure before CRM: Exposures treated under the standardized approach are gross of all allowances whereas exposures treated under the IRB approach are gross of all allowances and partial write-offs. For the portfolios treated under the IRB approach, the column **Stage 3 Allowance** should contain Stage 3 allowances together with partial write-offs (i.e. specific allowances).

Market Risk section: Reports balance sheet assets subject to specific risk charge under the market risk framework. Spot balances as at the BCAR reporting date should be recorded, determined on the same recognition basis (i.e. trade or settlement date) as used for accounting purposes. The asset balances reported on this basis may not necessarily be the same as those used for calculating the associated VaR under the internal model approach to market risk.

Balance Sheet Assets Included in both credit and market risk: This deduction is made to eliminate double counting of certain assets and is limited to trading book repo-style assets on the balance sheet that attract both credit and specific market risk.

Portion of non-significant investments in financials: If, on the exposure class or market risk schedules, an institution's reporting system calculates RWA on the total non-significant investments in financials, rather than just on the portion of the net investments that are not deducted from capital, the deducted portion of the investment will be counted twice on schedule 10.070 (once in assets carried from the credit risk exposure class schedules or entered in the market risk balance sheet lines listed on schedule 10.070; and once from inclusion in Other Assets carried from schedule 40.290). Any duplicate amount of the investment should be deducted using this line.

Securitization-related adjustments: The securitization-related exposures reported in the Credit Risk section on the upper portion of Schedule 10.070 are the on-balance sheet exposures determined for capital ratio purposes according to Chapter 6 of the guideline. However, the balance sheet is based on asset recognition/derecognition rules under IFRS accounting. As the two measurement bases will likely yield different "on-balance sheet" values, the differences must be reported in the appropriate adjustment lines to arrive at the total assets as per consolidated balance sheet. For example, for assets securitized by a bank but not derecognized for accounting purposes, the retained interest exposure recognized for credit risk must be reported in the line " 'On-balance sheet' securitization exposures recognized for capital ratio but not for consolidated balance sheet purposes" (DPA 8928). The amount recognized as a balance sheet asset for accounting purposes must be reported in the line "Non-derecognized securitized assets" (DPA 8875), a subcomponent of "Securitization-related assets not recognized for capital ratio calculations but consolidated for balance sheet purposes". Similarly, third party assets that are consolidated for accounting purposes but not recognized as a credit risk exposure must be reported on the subcomponent line "Consolidated securitization assets" (DPA 8876).

Liquidity facilities provided by the reporting bank to consolidated securitization entities remain off-balance sheet and are not reported on schedule 10.070.

Adjustment to reflect differences in balance sheet exposure amounts resulting from measurement bases used for accounting purposes (fair values) + Group 2 cryptoassets that are deducted from Capital. The "Other" line item (DPA 8936) accommodates two separate items together:

1. the measurement basis used for calculating RWAs may not be on the same basis – fair value or amortized cost – as used for accounting purposes. Until advised otherwise, the adjustment (in respect of own-use property) should be included in this item. And,
2. cryptoassets deducted from capital should be included in this item as well to avoid double counting through the balance sheet reconciliation (same as DPA 1532 on schedule 20.010)

Schedule 10.080 Summary of All Insured Mortgages and HELOCs

This schedule presents details on all insured mortgages and HELOCs split by RWAs and PD band, for Standardized and IRB credit risk approaches respectively. Details are provided on the original loan, loans insured by CMHC and loans insured by a private mortgage insurer (PMI).

There are separate tables reporting original loans with (i) guarantees treated under the SA and (ii) guarantees treated under the IRB approach. RWAs for the original loan should be reported pre-CRM.

Schedule 10.090 Summary of All Standardized Approach Exposures Subject to Currency Mismatch Multiplier

This schedule presents the RWAs for exposures that are subject to the 1.5 currency mismatch multiplier as outlined in section 4.1.16. The Total Incremental RWAs related to the 1.5 currency mismatch multiplier by asset class on this schedule are included with the Standardized approach RWAs by asset class on schedule 10.020. The Memo Item, Total Risk-weighted Assets for exposures subject to currency mismatch multiplier, has been added to present the total RWAs for these exposures, not only the incremental currency mismatch multiplier amount.

Schedule 20.010 - Capital and TLAC Elements

Eligible capital elements, adjustments, and deductions from capital are described in Chapter 2 of the guideline, the TLAC Guideline, and in all related advisories published on OSFI's website. Eligible TLAC elements, adjustments and deductions are described in the TLAC Guideline. Certain positive and negative adjustments to regulatory capital may be subject to reversal by D-SIBs in calculating TLAC available.

The capital and TLAC elements listed on Schedule 20.010 are generally based on an institution's consolidated balance sheet. Certain line items adjust these figures to recognize where capital elements (including stock surplus, retained earnings (REs) and accumulated other comprehensive income (AOCI)) differ from accounting and capital adequacy purposes. The adjustment for fair value gain or loss arising from changes in an institution's own credit rating should be made to REs or to AOCI depending on the accounting treatment. The adjustment for contributed surplus removes amounts not related to common shares from common equity tier 1 (CET1) capital, which may be included in Tier 1 or Tier 2 capital if the surplus relates to corresponding capital instruments. Other line items are adjusted through deductions from capital. These adjustments are further outlined in the CAR and TLAC guidelines and in the advisories published on OSFI's website that deal with accounting and capital-related matters.

Holdings of instruments in financial institutions that represent significant investments are reported separately, split between (i) investments in deconsolidated subsidiaries; and (ii) other significant investments and interests in joint ventures. The equity method of accounting is the foundation for determining the deduction for investments in deconsolidated subsidiaries and interests in joint ventures, and may also be the basis of accounting for other substantial investments.

As outlined in section 2.3.1 of the guideline, goodwill included in the valuation of significant investments in the capital and Other TLAC Instruments of banking, financial, and insurance entities should also be deducted from CET1.

Section A – Calculation of Total Capital and TLAC Available

Present each subcomponent of regulatory capital (CET1, Additional Tier 1, Tier 2, Total Capital and TLAC available) both gross and net of deductions. Several subtotals of adjusted CET1, reflecting successive levels of deductions, are calculated before arriving at net CET1. These subtotals are referenced in the derivation of the various CET1 threshold deductions.

Reverse mortgage exposures that exceed 80% LTV should be deducted from CET1 capital while the remaining amount is risk-weighted at 100%[2].

Significant investments in commercial entities that in aggregate exceed 10% of CET1 capital (DPA 12106) should be deducted from Adjusted CET1 capital (DPA 1534), while amounts less than this threshold are risk-weighted at 250% (section 2.3.1). The 250% risk-weight is not applicable to Category III SMSBs as the amounts less than the 10% threshold are included in Adjusted Total Assets in the Simplified Risk-Based Capital Ratio.

The following items are deducted from CET1 capital (section 2.3.1).

- Prepaid portfolio insurance assets (non-conforming to OSFI's amortization expectations)
- Non-payment and non-delivery on non-Delivery vs. Payment (DvP) transactions
- Portion of the exposure below the materiality threshold on credit protection
- Exposures to non-qualifying central counterparties (CCPs)
- Equity investment in funds subject to the fall-back approach (section 4.1.22)

As described in sections 2.3.1 to 2.3.3, deductions for significant investments in the Additional Tier 1 and Tier 2 capital instruments of banking, financial, and insurance entities are applied on a corresponding deduction basis (e.g. an investment in Additional Tier 1 capital is deducted from the investing institution's Additional Tier 1 capital; an investment in Tier 2 capital is deducted from the investing institution's Tier 2 capital). Significant investments in Other TLAC instruments issued by D-SIBs and/or global systemically important banks (G-SIBs) are deducted from the investing institution's Tier 2 capital.

In light of the recent interim approach to cryptoassets, Group 2 cryptoassets should be included in DPA 1532 (placeholder) as part of the deductions to CET1 capital. To ensure reconciliation with balance sheet values, an accompanying entry should be made in DPA 8936 on schedule 10.070.

Investments of a D-SIB or a G-SIB in its own Other TLAC Instruments should be deducted from TLAC available.

As outlined in section 2.3.1 and section 2.3.2, if an institution has insufficient capital in a particular tier from which to make the required deductions, the remainder of the deduction amount (i.e. after bringing the net capital for that tier to zero) is deducted from the next highest tier of capital. There are specific line items on the schedule to accommodate these deduction transfers.

Schedule 20.010 also contains four additional sections that provide supporting information or calculations.

Section B – Calculation of the deduction for investments in the capital of banking, financial and insurance entities where the reporting FI does not have a significant investment in the entity

Calculates the deduction for "non-significant" investments, as outlined in sections 2.3.1 to 2.3.3.

In section B1, holdings of Other TLAC Instruments that represent "insignificant investments" are aggregated and compared to 5% of Adjusted CET1. For D-SIBs, the 5% threshold may only be used in respect of holdings of Other TLAC Instruments that have been designated under the market-making exemption set out in section 2.3.3. For D-SIBs and G-SIBs, amounts in excess of the 5% threshold are deducted from Tier 2 capital. For all other institutions, holdings in excess of the 5% threshold may be aggregated with holdings of CET1, Additional Tier 1, and Tier 2 and taken into account in calculating the 10% threshold, as described below.

In section B2, holdings of CET1, Additional Tier 1, Tier 2, and eligible Other TLAC Instruments in institutions that represent "insignificant investments" are aggregated and compared to 10% of Adjusted CET1. For D-SIBs and G-SIBs, Other TLAC Instruments may only be included under the 10% threshold where those holdings were not previously held under the 5% threshold. Amounts exceeding the 10% threshold are deducted, with the amount to deduct from each tier of capital determined through a pro-rata allocation. Deductions of holdings of Other TLAC Instruments shall be applied to Tier 2 capital. These deductions are referred to in section A as allocated threshold deductions.

Note that, for purposes of these calculations, investments in the Federal Reserve Bank and Federal Home Loan banks are not considered investments in "financials", and should be reported on Schedule 40.280. In addition, long cash equity positions in banking, financial and insurance entities, held against short synthetic positions for hedging purposes, where sufficient liquidity exists in the relevant market (equities included in major indices would meet this criteria) and the trades are managed together, are not considered "investments" in financials and should not be reported on Schedule 20.010. These equity exposures should be reported on the credit risk schedule 40.280 or market risk schedule 90.010.

Section C – Calculation of deductions for significant investments in common equity of financials; mortgage servicing rights; and deferred tax assets arising from temporary differences

Significant investments in common equity, mortgage servicing rights and deferred tax assets relating to temporary differences are subject to two levels of threshold deductions, described in section 2.3.1. The first level, referred to in section A as individual threshold deductions, compares each of the three elements individually to 10% of adjusted CET1 after the allocated threshold deduction. Any excesses are deducted from CET1. The second layer of deductions aggregates into a basket the amount of the three elements not deducted individually, and compares the basket to 15% of CET1 after all deductions. The excess is deducted from CET1. For purposes of reporting exposures on Schedule 40.290 Other Credit RWAs, the basket-related deduction is allocated pro-rata between the three elements.

Section D – Phase-out of non-qualifying capital instruments (FCUs only)

Beginning in the year that a provincial credit union continues as an FCU, outstanding capital instruments that are considered non-qualifying for capital purposes under Basel III, but were recognized as regulatory capital under provincial requirements, are to be phased out from capital pursuant to sections 2.4 of the guideline. The phase-out factor, the cap percentage for non-qualifying capital instruments recognized in capital during transition reporting period, is reported in DPA1656. The cap will change each year during the transition period, commencing at 90% in the first year of continuance and reducing by 10% in each subsequent year as outlined in section 2.4.

Section E – Memo Items

A number of deductions are determined net of eligible tax liabilities or short positions. The amounts used as offsets, as reported in section E Memo Items, cannot exceed the associated asset balances before offset.

Schedule 20.020 – Qualifying Capital Issued Out of Subsidiaries

Specific rules govern the inclusion, in a reporting parent's capital, of qualifying instruments issued out of consolidated subsidiaries. These are described in Chapter 2 of the guideline as follows:

- CET1 instruments: Sections 2.1.1

Tier 1 instruments: Sections 2.1.2.2
Tier 2 instruments: Sections 2.1.3.2

Schedule 20.020 collects information by tier of capital issued by the reporting institution's consolidated subsidiaries and determines the amounts eligible for inclusion in the reporting institution's capital. The information is collected by individual subsidiary ("Sub 1" through "Sub 8"). Total amounts recognized in the reporting institution's capital, by tier, are carried forward to Schedule 20.010. Information is collected separately for subsidiaries that are banks and subsidiaries that are not banks.

Schedule 20.030 - Allowance for Impairment: Capital Treatment

Schedule 20.030 provides supporting calculations for the amount of eligible general allowance and excess/shortfall in allowances included in capital. These amounts are subject to the limits described in section 2.1.3.7 of the guideline.

General Methodology

Generally, an institution using the standardized approach that meets all the principles and criteria in OSFI's IFRS 9 guideline may include its general allowances, defined as Stage 1 and Stage 2 allowances under IFRS 9 allowances held against performing loans, in Tier 2 capital, up to 1.25% of its credit RWAs[3]. Throughout BCAR, general allowances are to be reported in cells labelled "Stage 1 and Stage 2 allowances" and specific allowances are to be reported in cells labeled "Stage 3 allowances and partial write-offs".

An institution approved for the use of an IRB approach must compare its allowance for credit losses to IRB expected loss amounts and deduct any shortfall in allowance from Common Equity Tier 1 capital. Subject to certain conditions, and with prior written approval from OSFI, it may include excess allowances in Tier 2 capital up to the lesser of 0.6% of IRB credit RWAs and amount of the general allowance.

All institutions that do not meet the conditions for including allowances in Tier 2 capital must complete Schedule 20.030. This includes the upper section summarizing allowances, together with the applicable portions of the Standardized and/or IRB sections. Institutions that have been disallowed from including allowances in Tier 2 capital must report a "zero" must for DPA 1998 (standardized methodology – "Eligible Stage 1 and Stage 2 allowance for inclusion in Tier 2 capital") and for DPA 2500 (IRB methodology – "Excess allowance for inclusion in Tier 2 capital").

Net Stage 1 and Stage 2 allowance allocated to standardized and IRB portfolios: This calculation is described in sections 2.1.3.7 and 5.7.2 of the guideline.

Note that the total consolidated Stage 1 and Stage 2 allowances, used as a starting point for this calculation, cannot include an allowance taken on originated assets that receive securitization treatment for capital purposes but that are reported on the balance sheet, with provisioning, for accounting purposes. Such allowances are removed along with allowances held in respect of subsidiaries that are deconsolidated for capital purposes, prior to allocation to standardized or IRB portfolios.

IRB Methodology – Eligible Allowance (including partial write-offs): This calculation, which excludes equity and securitizations, is outlined in section 5.7.2(i) of the guideline. The table "Stage 3 allowance and partial write-offs (in respect of IRB portfolios)" also excludes the trading book, as the balance sheet value of these exposures should represent market value, obviating the need for allowances. Institutions must report the allowance under the stage of the allowance under IFRS 9, regardless of the credit risk approach used for calculating the associated RWAs (i.e. FIRB or AIRB).

The table "Internal allocation of Stage 1 and Stage 2 allowance (in respect of IRB portfolios)" collects details of the institution's internal allocation of general allowances by asset class and exposure type. The internal allocation should align with the allocation of allowances an institution uses for internal and external reporting and is also expected to align with the 'Stage 1 and Stage 2 allowances allocated to IRB portfolios' reported on this schedule. Allowances held against securitization exposures themselves (excluding allowances held against the underlying securitized assets) in respect of IRB portfolios are reported as a memo item.

The "Stage 3 + partial write-off" table also excludes specific allowances, defined as Stage 3 allowances and partial write-offs under IFRS 9, taken on originated assets that are treated under the securitization framework. Specific allowances taken on securitization exposures, for example on investments in securities, as well as any specific allowances taken on the originated assets underlying the securitization (which may only be netted against 1250% risk-weighted exposures), are recognized consistently under the various securitization approaches.

An unrealized loss on a banking book exposure, that is fair valued for accounting purposes, may be reported under "Stage 3 + partial write-off" on this table if all of the following conditions are met:

1. the exposure is impaired;
2. the exposure is reported at amortized cost for capital ratio purposes; and
3. the impairment is recognized in net income and, as a result, as a reduction in total capital determined on Schedule 20.010.

IRB Methodology – Expected Loss Amounts: This calculation is outlined in section 5.7.1 of the guideline. Expected Loss Amounts reported in this table are carried forward from the supporting exposure class schedules. Amounts in respect of wholesale exposures must be reported under the IRB approach, consistent with the IRB methodology used as indicated on schedule 10.020.

Excess allowance (for inclusion in Tier 2 capital): The excess allowance included in capital cannot exceed the amount of general allowance allocated to the IRB portfolios. Accordingly, the limit on excess allowance eligible for inclusion in capital is the minimum of the calculated excess allowance, the general allowance allocated to the IRB portfolios, and 0.6% of credit RWAs under the IRB approaches.

Schedule 30.010 – Operational risk

General Methodology

Capital requirements for operational risk are described in Chapter 3 of the guideline. DSIBs and Category I SMSBs with annual Adjusted Gross Income greater than $1.5 billion must use the Standardized Approach (SA). Other Category I SMSBs may also use the SA if they have received approval from OSFI, otherwise they must use the Simplified Standardized Approach (SSA). Category II and III SMSBs must use the SSA. Institutions must use **either** the SA or the SSA (i.e. not a combination of both).

Section A – Simplified Standardized Approach (SSA)

The SSA is based on three years (12 quarters) of Adjusted Gross Income, which is multiplied by 15% to determine the minimum operational risk capital requirement. These three years should consist of 12 rolling quarters with Year A representing the four most historical quarters and Year C running up to and including the current quarter (i.e. the quarter for which the capital adequacy ratios are being calculated).

Adjusted Gross Income for each four quarter period is the sum of the following:

- The lesser of (i) the absolute value of net interest income (i.e. net interest income less net interest expense), and (ii) 2.25% of interest earning assets;
- Dividend income;
- The absolute value of fee and commission income;
- The absolute value of other income;
- The absolute value of net profit/loss (trading book); and,
- The absolute value of net profit/loss (banking book).

Adjusted Gross Income should also:

- exclude income related to insurance subsidiaries that are not consolidated for capital adequacy reporting purposes; and,
- include any adjustments for mergers, acquisitions and divestitures (see below for details)

The following table shows the corresponding line items in the Consolidated Statement of Income (P3) or Consolidated Balance Sheet (M4) return that should be used to calculate Adjusted Gross Income for operational risk capital when using the SSA:

Line Item in BCAR Schedule 30.010, Section A	Line Item in other OSFI Return for Reference
Interest Earning Assets	The sum of M4 lines 1(b), 2(a), 2(b)(i), and 3
Net Interest Income (excluding Dividends)	P3 line 14 *less* P3 line 2(c)(ii)
Dividend Income	P3 line 2(c)(ii)
Fee and Commission Income	P3 line 19 *excluding:* • P3 line 19(q); and • P3 line 19(s)
Other Income	P3 line 19(s)
Net Profit/Loss (trading book)	P3 line 17
Net Profit/Loss (banking book)	P3 line 18

The Adjustment for Mergers, Acquisitions and Divestitures in Section A is meant to ensure that Adjusted Gross Income reflects the current activities of the institution. This line should be completed if an institution either:

a. Has acquired or merged with another entity within the past 12 fiscal quarters, and income from the acquired or merged entity is not already included in Adjusted Gross Income; or,
b. Has divested of a part of the business within the past 12 fiscal quarters, and has received approval from OSFI to exclude income from any divested businesses for the purposes of the operational risk capital calculation.

Section 3.3 of the CAR provides more detail on estimating Adjusted Gross Income for acquired or merged entities when actual income is not available for any of the previous 12 fiscal quarters.

Section B – Standardized Approach (SA)

The SA is based on the Business Indicator, which is multiplied by a series of marginal factors to calculate the Business Indicator Component, then multiplied by an Internal Loss Multiplier, to determine the minimum operational risk capital requirement.

Section B(i) – Business Indicator Component

Under the standardized approach, institutions first calculate a Business Indicator (BI) in section B(i). The BI is the sum of the Interest, Leases, Dividend Component (ILDC), Services Component (SC) and Financial Component (FC), which are derived from institutions' balance sheets and income statements for the past 12 rolling quarters (years 8, 9 and 10, with year 10 being the latest 4 quarters). The table below describes each line item in Section B(i) and, where appropriate, provides examples for greater clarity. Where possible, the last column of the table below indicates line item(s) in the OSFI P3, M4 or Z4 returns that institutions should use for referencing. In some cases, the reference does not exactly match the BCAR definition, but may help identify where the BCAR data is included in other regulatory returns.

Line Item in BCAR Schedule 30.10, Schedule B(i)	Description and examples	Line Item in other OSFI Returns for Reference
Interest-		The sum of M4 lines 1(b), 2(a), 2(b)(i), and

Earning Assets		3 gross of (i.e. before) any deduction for expected credit losses, *plus* deposits with Bank of Canada Z4 line 1(a)(ii)
Interest Income		P3 line 7 *less* P3 line 2(c)(ii)
Interest Expense	*(this item should be reported as a positive value)*	P3 line 13
Absolute Value of Net Interest Income	Absolute value of (Interest Income less Interest Expense)	n/a
Dividend income		P3 line 2(c)(ii)
Interest, Leases and Dividend Component	Minimum of • 2.25% of the average of Interest Earning Assets at the end of Year 8, Year 9 and Year 10; and, • the average of the past three years of the Absolute Value of Net Interest Income *plus* • the average of the past three years of Dividend Income	n/a
Gross fee and commission income	Any income or revenue received for providing fee-based advice and services (gross of any fees and expenses paid). Includes income or revenue received by the bank as outsourcer of financial services. Examples include fee and commission income from: • Retail banking services • Securities (issuance, origination, reception, transmission, execution of orders on behalf of customers) • Advisory • Clearing and settlement • Asset management • Custody • Fiduciary transactions • Payment services • Structured finance • Servicing of securitizations	Fee and commission income in P3 line 19 (a)-(p), **gross of any fee and commission expenses that have been netted against these line items**

	• Loan commitments and guarantees given • Foreign transactions	
Fee and commission expense	Fees and commissions paid for *financial services*. Includes outsourcing fees paid by the bank for the supply of financial services, but not outsourcing fees paid for the supply of non-financial services (e.g., logistical, IT, human resources) Examples include fee and commission expenses from: • Clearing and settlement • Custody • Servicing of securitizations • Loan commitments and guarantees received • Credit card activities • Foreign transactions • Mortgage lending (e.g. brokers, appraisal, property registration) *(this item should be reported as a positive value)*	Any fee and commission expenses that were netted against fee and commission income reported in P3 lines 19 (a)-(p) *plus* Any other financial service fee and commission expenses reported in P3 line 25
Other operating income	Income from ordinary banking operations not included elsewhere in the BI. Income from operating leases should not be included in this item. Examples of other operating income include: • Rental income from investment properties. • Share of the income of investments carried using the equity method – including JVs	Income (gross of any losses) reported in P3 line 19(s) *plus* any income in P3 line 19 (excluding 19(q)) that was not included in Gross Fee and Commission Income, **gross of any expenses or losses netted against this income**
Other operating expenses	Expenses and losses from ordinary banking operations not included elsewhere in the BI. Expenses from operating leases should not be included in this item. Examples of other operating expenses include: • Losses incurred as a consequence of operational loss events (e.g., fines, penalties, settlements, replacement cost of damaged assets), which have not been provisioned/reserved for in previous years. • Expenses related to establishing provisions/reserves for operational loss events. • Share of the losses on investments carried using the equity method – including JVs Please note that this line should not include administrative expenses, or other items detailed in the bullet points listed after the table at the end of Annex 3-1 in CAR Chapter 3. *(this item should be reported as a positive value)*	Losses included (or netted against income) in P3 line 19(s) *plus* Any losses due to operational loss events included in P3 lines 23, 24 or 25 *plus* Any expenses or losses included (or netted against income) in P3 line 19 (excluding 19(q)) that were not included in Fee and Commission Expense

Services Component	Maximum of: • the average of the past three years of Gross Fee and Commission Income; and, • the average of the past three years of Fee and Commission Expense *plus* Maximum of • the average of the past three years of Other Operating Income; and, • the average of the past three years of Other Operating Expense	n/a
Absolute Value of Net Profit (Loss) on the Trading Book		Absolute value of P3 line 17
Absolute Value of Net Profit (Loss) on the Banking Book		Absolute value of P3 line 18
Financial Component	Average of the past three years of the Absolute Value of Net Profit (Loss) on the Trading Book *plus* Average of the past three years of the Absolute Value of Net Profit (Loss) on the Non-Trading Book	n/a

Note that when calculating BI, the sub-items at the end of Annex 3-1 in Chapter 3 of the CAR should not contribute to any of the items in the ILDC, SC or FC.

Adjustments for Mergers, Acquisitions and Divestitures

The Adjustment for Mergers and Acquisitions and the Adjustment for Divestitures in Section B(i) are meant to ensure that the BI reflects the current activities of the institution.

The **Adjustment for Mergers and Acquisitions** line should be completed if an institution has acquired or merged with another entity within the past 12 fiscal quarters, and income and expenses from the acquired or merged entity is not consolidated into the institution's financial statements for the past 12 fiscal quarters, and therefore is not already included in the BI. This line should include the BI for acquired or merged entities, only including income and expenses for those years where it has not already been included in the BI before adjustments. CAR Chapter 3, Section 3.4.7 provides more detail on how to estimate BI for acquired or merged entities when actual income is not available for the previous 12 fiscal quarters.

Example

An institution acquired a business two years ago (i.e. at the beginning of Year 9 in Schedule B(i)). Year 9 and Year 10 in the institution's BI calculation already include income and expenses of the acquired business, since it was consolidated into the institution starting in Year 9. For Year 8, the acquired business was not consolidated into the institution's P3 and M4 Return, and therefore income from the acquired business is not included in the calculation of the BI for Year 8.

In this case, the institution should include an Adjustment for Mergers and Acquisitions by calculating a BI using actual financial data of the acquired business for Year 8, and zeros for Years 9 and 10.

For example, if the acquired business had $100MM of interest income, $80MM of interest expense and $2MM in Dividend Income in Year 8, and $2B in interest-earning assets at the end of Year 8, the ILDC to calculate the BI for the purposes of the Adjustment for Mergers and Acquisitions, should be calculated as follows.

$MM	Year 8	Year 9	Year 10	3-Year Average
Interest-Earning Assets	2,000,000	0	0	666,667
2.25% of 3-year average of Interest-Earning Assets				15,000
Interest Income	100,000	0	0	
Interest Expense	80,000	0	0	
Absolute Value of Net Interest Income	20,000	0	0	6,667
Dividend Income	2,000	0	0	667
Interest, Lease and Dividend Component (ILDC)				7,334

The **Adjustment for Divestitures** line should be completed if:

- an institution has divested of a part of the business within the past 12 fiscal quarters;
- income and expenses from the divested business are included in the BI; and,
- the institution has received approval from OSFI to exclude income from the divested business for the purposes of the operational risk capital calculation.

The Adjustment for Divestitures should be calculated on the same basis as the Adjustment for Mergers and Acquisitions, i.e. a BI for the divested business is calculated only including actual financial data from the divested business for those years in which it has been consolidated into the institution's BI before adjustments, with zeros for other years. This adjustment should be reported as a positive number that will be subtracted from BI.

The BI (after Adjustments for Mergers, Acquisitions and Divestitures) is calculated by adding the Adjustment for Mergers and Acquisitions, and subtracting the Adjustment for Divestitures, from the BI Before Adjustments.

The **Business Indicator Component (BIC)** is calculated as:

- 12% of BI (after Adjustments for Mergers, Acquisitions and Divestitures), plus
- 3% of BI (after Adjustments for Mergers, Acquisitions and Divestitures) above $1.5 billion, plus
- 3% of BI (after Adjustments for Mergers, Acquisitions and Divestitures) above $45 billion.

Section B(ii) – Operational Loss Events

Section B(ii) uses historical operational loss event data to calculate the Loss Component (LC). This section includes aggregated data on the number and amount of losses due to operational risk events for the past 40 rolling quarters (years 1-10, with year 10 being the latest 4 quarters). Data in Section B(ii) should be reported on a one-quarter lag relative to other parts of the BCAR, such that year 10 will be the four quarters ending one quarter *before* the latest fiscal quarter-end, with the preceding years reported in the same way (i.e. such that year 1 will begin 41 quarters before the current fiscal quarter-end).

Loss events should be included if they meet the definition of operational loss – as set out in CAR Chapter 3 – and if their net impact inside the ten years (forty quarters) of the collection period is at least $30,000. Loss events often result in multiple accounting impacts. These accounting impacts could be losses or recoveries, and may be spread out across multiple years. To determine whether a loss event meets the reporting threshold, the net aggregate impact of the loss event inside the forty-quarter window should be calculated. For example, if a loss event results in a loss impact of $16,000 in one year within the forty-quarter window, and $17,000 in another year within the forty-quarter window, both of these losses should be included. On the other hand, in the case of a loss event that produces a loss of $1 billion outside of the forty-quarter window, a loss of $300 million within the forty-quarter window, and a recovery of $500 million inside the forty-quarter window, the loss of $300 million and the recovery of $500 million should not be included because the total net impact of this loss event inside the forty-quarter window is negative and, thus, less than $30,000.

For the purposes of B(ii), provision/reserve increases associated with an operational loss event should be treated as gross losses, and provision/reserve releases associated with an operational loss event (including partial provision/reserve releases)should be treated as recoveries. If recoveries outweigh losses in a quarter, that quarter will have negative net total losses. However, the sum of the forty quarters must be non-negative, because all loss impacts and recoveries included should stem from loss events with a net impact over the forty quarters of at least $30,000.

For losses from uncollected revenue where no accounting date is available (see CAR Chapter 3, paragraph 31(b)(iii)), institutions may use either the date in which the revenue should have been collected, or the date on which the decision was made not to collect the revenue, instead of the accounting date to determine when to report the loss event, and whether the event should be included in the forty-quarter window.

Adjustments for Mergers, Acquisitions and any parts of the institution that do not have 10 years of loss data

The amount of net losses over the ten-year period reported in Section B(ii) must reflect mergers and acquisitions to ensure that the Loss Component reflects all of the current activities of the institution. Therefore, institutions must separately report any net losses for merged or acquired entities over the past 10 years that have not been consolidated into the institution's loss data set (i.e. losses from the acquired entity that occurred before it was acquired by the institution). If actual loss data is not available for any merged or acquired business within the 10-year reporting window, it must be estimated and reported separately using the methodology in Section 3.4.7 of CAR Chapter 3. This line item is only applicable for mergers and acquisitions of legal entities (i.e. no adjustment for mergers and acquisitions is required for asset purchases).

Similarly, if there are any other parts of the institution that have not been collecting loss data for any part of the 10-year window, loss data for any missing years for these parts of the institution must also be estimated and reported separately using the methodology in Section 3.4.7 of CAR Chapter 3.

The following table provides a more detailed description of each line item in Section B(ii):

Section B(ii) Line Item	Description
Total Amount of Gross Losses (before adjustments)	Total amount of gross losses in each four-quarter period that originate from loss events with a net impact above $30,000 in the forty quarters of the reporting window. Note: A loss event may contribute less than $30,000 to the gross losses of a given four quarters, but its impacts must still be included in the gross losses of such a four-quarter period if the aggregate amount of

	the loss event results in more than $30,000 of net loss in the forty-quarter window. Gross losses related to loss events that do not meet the reporting threshold should not be included
Total Amount of Loss Recoveries (before adjustments)	Total amount of loss recoveries in each four-quarter period that originate from loss events with a net impact above $30,000 in the forty-quarter window. Note: Recoveries related to loss events that do not meet the reporting threshold should not be included
Total Amount of Net Losses (before adjustments)	Total Amount of Gross Losses less Total Amount of Net Losses
Total Amount of Net Losses of Merged or Acquired Businesses Before Acquisition (actual)	Total amount of **actual** net losses from all acquired businesses for each four-quarter period that has not been consolidated into the institution's loss data set. This will typically include losses that occurred before the date of acquisition. This line should not include any losses already included in the line "Total Amount of Net Losses (before adjustments)".
Total Amount of Net Losses of Merged or Acquired Businesses (estimated)	Total amount of **estimated** net losses from acquired businesses for each four-quarter period. This will typically include estimated losses from before the date of acquisition when actual loss data is not available or does not meet the loss data expectations set out in CAR Chapter 3.
Total Amount of Other Estimated Net Losses	Total amount of any other estimated net losses. This includes losses from any other parts of an institution that have not been collecting loss data, or where loss data does not meet the expectations set out in CAR Chapter 3, for any part of the 10-year window
Total Amount of Net Losses Qualifying for Exclusion	Total amount of net losses qualifying for exclusion in each four-quarter period. The institution should assess which loss events qualify for exclusion (see Section 3.4.5 in Chapter 3 of the CAR), and obtain approval from OSFI before excluding any losses.
Total Amount of Net Losses (after adjustments)	Total Amount of Net Losses (before adjustments) *plus* Total Amount of Net Losses of Merged or Acquired Businesses Before Acquisition (actual) *plus* Total Amount of Net losses of Merged or Acquired Businesses before Acquisition (estimated) *plus* Total Amount of Other Estimated Net Losses *less* Total amount of net losses qualifying for exclusion

Loss Component	Ten-year average of Total Amount of Net Losses (after adjustments) multiplied by 15.
Number of Loss Events Contributing to Total Amount of Gross Losses (before adjustments)	Number of loss events contributing to the Total Amount of Gross Losses (before adjustments) for each four quarter period. Loss events should only be included if their net impact is above $30,000 in the forty-quarter window. Note: Loss events may contribute losses to multiple years, thus they may be counted in multiple years (i.e. four quarter periods). However, loss events should only be counted once in each four quarter period even if they originate multiple loss impacts in the four quarter period.
Number of Loss Events Contributing to Total Amount of Net Losses of Merged or Acquired Businesses Before Acquisition (actual)	Number of loss events contributing to the Total Amount of Net Losses of Merged or Acquired Businesses Before Acquisition (actual) for each four quarter period. Loss events should only be included if their net impact is above $30,000 in the forty-quarter window. Note: Loss events may contribute losses to multiple years, thus they may be counted in multiple years (i.e. four quarter periods). However, loss events should only be counted once in each four quarter period even if they originate multiple loss impacts in the four quarter period.
Number of Loss Events Qualifying for Exclusion	The number of loss events contributing to the Total Amount of Net Losses Qualifying for Exclusion for each four quarter period. Note: Loss events may contribute losses to multiple years, thus they may be counted in multiple years (i.e. four quarter periods). However, loss events should only be counted once in each four quarter period even if they originate multiple loss impacts in the four quarter period.
Number of Loss Events Contributing to Total Gross Losses (after adjustments)	Number of Loss Events Contributing to Total Amount of Gross Losses (before adjustments) *plus* Number of Loss Events Contributing to Total Amount of Net Losses of Merged or Acquired Businesses Before Acquisition (actual) *less* Number of loss events qualifying for exclusion
Total estimated net losses over the ten-year period	This line item is not applicable if an institution's loss data is comprehensive and represents operational losses for all parts of the institution, including merged/acquired businesses, for the past ten years. However, if an institution does not have operational loss data for any subsidiary, division, business unit, etc. for any part of the past ten years, the institution must total the estimated net losses over the ten-year period for all of these parts of the business, and report the sum of these estimated net losses in this line item. This line item should equal the ten-year sum of "Total Amount of Net Losses of Merged or Acquired Businesses (estimated)" and "Total Amount of Other Estimated Net Losses" above.
as a % of total net losses (after adjustments)	The previous line item (Total estimated net losses over the ten-year period) divided by the Total net losses (after adjustments) from Section B(ii).

Section B(iii) - Calculation of the ILM and Capital Charge

The Internal Loss Multiplier (ILM) is calculated as follows:

$$ILM = \ln\left(\exp(1) - 1 + (LC/BIC)^{0.8}\right)$$

Note that institutions can only report an ILM less than one if they meet the minimum standards for the use of loss data, detailed in Chapter 3 of the CAR.

The Operational Risk Capital Charge using the SA is equal to the ILM multiplied by the BIC.

Example

Following is an example of how institutions should report Schedule B when they have mergers, acquisitions and/or divestitures:

An institution is reporting using the SA for the first time this quarter and has the following operational losses over the past ten years in its data set:

Institution's Loss Data (including acquisitions and divestitures when consolidated)

Year	1	2	3	4	5	6	7	8	9	10
$ million										
Total amount of gross losses (before any adjustment for M&A)	100	80	70	110	130	180	30	210	140	100
Total amount of loss recoveries (before any adjustment for M&A)	10	10	0	0	10	20	0	90	10	10
Total amount of net losses (before any adjustment for M&A)	90	70	70	110	120	160	30	120	130	90

The loss data in the table above includes losses from two acquired businesses **from the effective date of each acquisition**. Outside of these acquisitions, the data set is comprehensive and includes operational losses for the entire bank for the past ten years.

Acquisition A (the first acquisition) was acquired eight years ago (i.e. at the beginning of Year 3 in Schedule B(ii)). Prior to the acquisition, Acquisition A had the following actual operational losses:

Acquisition A - Actual Loss Data

Year	1	2	3	4	5	6	7	8	9	10
$ million										
Total amount of gross losses	10	8								
Total amount of loss recoveries	1	1								
Total amount of net losses	9	7								

Acquisition B (the second acquisition) was acquired two years ago (i.e. at the beginning of Year 9 in Schedule B(ii)). Prior to the acquisition, Acquisition B had the following actual operational losses:

Acquisition B Actual Loss Data

Year	1	2	3	4	5	6	7	8	9	10
$ million										

Total amount of gross losses					4	3	2	6		
Total amount of loss recoveries					0	0	0	1		
Total amount of net losses					4	3	2	5		

Acquisition B did not collect operational loss data for years 1-4, so the institution must estimate losses for these years. Because the institution had an ILM less than one in Q3 of Year 8 (i.e. the previous reporting quarter from when Acquisition B was acquired), net losses for Acquisition B in Years 1-4 must be estimated at 1% of Acquisition B's BI (as per CAR Chapter 3, section 3.4.7). At the time of acquisition at the end of Year 8, the institution calculated the BI of Acquisition B as $500 million (using financial data from years 6-8), so **net losses are estimated at $5 million per year for years 1-4**.

The institution also just acquired another bank (Acquisition C) in the past quarter. Acquisition C had the following actual operational losses:

Acquisition C Actual Loss Data

Year	1	2	3	4	5	6	7	8	9	10
$ million										
Total amount of gross losses			2	2	1	1	1	3	2	2
Total amount of loss recoveries			0	0	0	0	0	0	0	0
Total amount of net losses			2	2	1	1	1	3	2	2

Acquisition C does not have high-quality operational loss data for years 1-2, so the institution must estimate losses for these years. Because the institution had an ILM of less than one in Q3 of Year 10, net losses for Acquisition C in Years 1-2 must be estimated at 1% of Acquisition C's BI. The institution has difficulty getting the necessary financial information to calculate the BI for Acquisition C, but is able to calculate the Adjusted Gross Income for Acquisition C in Year 10 as $240 million. The institution then multiplies the Adjusted Gross Income by 125% ($240 million x 1.25 = $300 million), so **net losses are estimated at $300 million x 1% = $3 million per year for years 1-2**.

In addition to these acquisitions, the institution sold a subsidiary (Subsidiary D) one year ago (i.e. at the beginning of Year 10). The institution has received approval from OSFI to exclude the BI and operational losses of Subsidiary D for the purposes of calculating operational risk capital requirements. The following operational losses from Subsidiary D are included in the institution's operational loss data

Subsidiary D Actual Loss Data

Year	1	2	3	4	5	6	7	8	9	10
$ million										
Total amount of gross losses	8	9	12	12	11	11	11	13	12	
Total amount of loss recoveries	1	1	0	0	0	0	0	0	0	
Total amount of net losses	7	8	12	12	11	11	11	13	12	

The institution should adjust its BI and loss data reported in Section B as follows:

For Section B(i) – The institution should calculate an Adjustment to BI for Mergers and Acquisitions using Year 8 financial data from Acquisition B (and zeros for Years 9 and 10) and using 125% of Year 10 Adjusted Gross Income for Acquisition C. The institution should also calculate an Adjustment to BI for Divestitures using Year 8 and 9 financial data from Bank D (and zeros for Year 10). After these adjustments, the institution calculates a **BI (after adjustments) of $13,000 million** and a **BIC of $1,905 million** (12%*$13,000 million + 3%*$11,500 million).

For Schedule B(ii) - The institution should report actual and estimated net losses for merged and acquired businesses before acquisition as follows:

Year	1	2	3	4	5	6	7	8	9	10
$ million										
Total amount of net losses of merged or acquired businesses before acquisition (actual)	9	7	2	2	5	4	3	8	2	2
Total amount of net losses of merged or acquired businesses before acquisition (estimated)	8	8	5	5						
Total amount of other estimated net losses										

The institution should then also report the following to account for the sale of Acquisition D last year:

Year	1	2	3	4	5	6	7	8	9	10
Total amount of net losses qualifying for exclusion	7	8	12	12	11	11	11	13	12	7

The institution would then report the following for net losses (after adjustments) each year, by adding net losses from the data set (from the first table) to the adjustments for mergers and acquisitions above, and then subtracting the total amount of net losses qualifying for exclusion:

Year	1	2	3	4	5	6	7	8	9	10
Total amount of net losses (after adjustments)	100	77	65	105	114	153	22	115	120	85

The institution would then report a Loss Component of $1,434 million (equal to 15 times average total net losses (after adjustments) over the past 10 years).

Within the 10-year window, the institution estimated a total of $20 million in net losses for Years 1-4 for Acquisition B and a total of $6 million in net losses for Years 1-2 for Acquisition C. The total estimated losses of $26 million represents 2.7% of the total amount of net losses after adjustments (i.e. 26/956). Under the Memo Items in Section B(ii), the institution would therefore report the following:

Total amount of estimated net losses over the ten-year period	26
as a % of total net losses (after adjustments)	2.7%

The institution would calculate an ILM = ln (exp(1) – 1 + (1,434,000 / 1,905,000)0.8) = 0.92

*The institution would report an operational risk capital charge of $1,753 million = (BIC*ILM) = $1,905*0.92.*

40 Series Schedules - Credit RWAs under the Standardized Approach

General Methodology

The standardized approach to calculating credit RWAs is outlined in Chapter 4 of the guideline. Generally, net exposures (gross exposure less specific allowances) are multiplied by prescribed risk weight factors to arrive at RWAs. The risk weight factors vary depending on the exposure class, the external credit assessment associated with the exposure, and whether the simplified treatment is being employed for eligible asset classes. The exposure amount and/or the risk weight factor are adjusted to reflect the impact of CRM.

Columns for "Before CRM"

All exposures before CRM are reported according to the risk weight of the obligor. Exposures are reported both gross (gross of all allowances for credit loss), and net (gross less Stage 3 allowances). The net figure is used for calculating RWAs.

Repo-style transactions are reported according to the exposure class of the counterparty to the repo-style transaction. The capital charge for these transactions is described in sections 4.1.19 of the guideline.

Both notional and credit equivalent amounts are reported for the exposure types of undrawn commitments, OTC derivatives, and other off-balance sheet items. The total notional and gross credit equivalent amounts for undrawn commitments and other off-balance sheet items across all standardized exposure classes should reconcile to the total for the exposure type reported on schedule 10.050 (Off-balance sheet exposures excluding derivatives and securitization exposures).

Exposures to mortgage-backed securities that incorporate tranching of credit risk are to be reported on Schedule 60.010 Securitization exposures subject to the standardized approach or the external ratings based approach.

Columns for "CRM Adjustments to Net Exposure"

Credit risk mitigation for the standardized approach is discussed in detail in section 4.3 of the guideline. Note that, with respect to reflecting the impact of collateral, institutions must apply either the simple or the comprehensive approach (not a combination of both) for their entire banking book; and that only the comprehensive approach is available for the trading book (see section 4.3.3(iii) of the guideline).

Guarantees & credit derivatives (M14) and collateral under the simple approach (M15): Negative dollar amounts in these columns, offset by positive dollar amounts within the same columns (on the same, or on another schedule), are used to represent the movement of an exposure amount out of its pre-CRM (original obligor) risk weight and into the after-CRM risk weight (risk weight of the guarantor or collateral). One column is provided to reflect the risk weight impact of guarantees and credit derivatives, and a separate column for the impact of collateral under the simple substitution approach. The treatment of credit risk mitigation is described in section 4.3 of the guideline. Where the guarantor or collateral is of a different asset class than the obligor, the positive amounts may be reported on a different schedule from the negative amounts.

Insured residential mortgages should be reported as exposures with risk weights as per section 4.3.5(vi) of the guideline. Mortgage insurance in Canada is considered a guarantee and institutions may recognize the risk-mitigating effect of the guarantee where the operational requirements for guarantees as well as the additional operational requirements for mortgage insurance specified in section 4.3.5(iii) of the guideline are met. The column for guarantees and credit derivatives (M14) should be used to move the exposure from mortgage schedules to the guarantor schedules risk weight post-CRM.

Additionally, schedule 10.080 includes a section capturing information on insured Canadian mortgages and HELOCs, split according to whether insurance is provided by a sovereign or by a private corporation. This section should include all insured mortgages irrespective of whether the insurance is recognized as a credit risk mitigant for regulatory capital purposes.

Collateral under the comprehensive approach (M16): Negative dollar figures in this column represent the amount by which the pre-CRM exposure dollar value must be adjusted to arrive at the post-collateral adjusted exposure. With respect to repo-style transactions, adjustments may be positive or negative. The comprehensive approach for determining an adjusted exposure amount is summarized in section 5.1.2(i).

RWAs: The risk weight factors applicable to each of the exposure classes are provided in sections 4.1.1 to 4.1.24. The risk weights for different types of defaulted exposures are discussed separately in section 4.1.21.

Schedule 40.120 - Standardized Approach – Subordinated Debt, Equity and Other Capital Instruments

Note for Category III SMSBs Only: Category III SMSBs are not required to calculate RWAs for exposures. For sections A, B, C and D, Category III SMSBs are only required to complete the gross and net exposure columns. For section E, Category III SMSBs are only required to complete the DPAs in the "Balance" column.

Schedule 40.280 - Equity Investments in Funds

The treatment of Equity Investments in Funds is outlined in section 4.1.22 of the guideline. Exposures subject to the fallback approach are deducted from CET1 capital in schedule 20.010 per treatment in section 2.3.1 of the guideline.

Note for Category III SMSBs Only: Category III SMSBs are not required to calculate RWA for exposures. For section A, Category III SMSBs must complete the "Notional" and "Exposure" columns. For section B, Category III SMSBs must complete the "Exposure" column.

Schedule 40.290 - Other Credit RWAs

Section A - Standardized Approach Other Assets

This schedule captures banking book balance sheet assets that are not reported elsewhere in the standardized approach to credit risk. If the reporting institution is not subject to the market risk framework, all banking and *trading book assets* not included in the standardized approach must be included in this section.

General Methodology

In section A, an exposure is multiplied by a prescribed risk weight factor to arrive at a risk-weighted asset. Risk-weights are as per section 4.1.23 of the guideline.

Unrealized gains on derivatives: This line item, risk-weighted at 0%, contains asset balances that are reflected in derivative exposures reported on Schedule 70.030 Derivative Contracts. This line item must exclude any balances of collateral pledged to OTC counterparties that are accounted for as obligations due from the counterparties. The receivables established as a result of pledging collateral should be included in the exposure class credit risk schedules and risk-weighted commensurate with the counterparty.

Unsettled non-DvP trades: As indicated in section 7.2.2, unsettled non-DvP transactions where the second leg is less than five days late should normally be given the same treatment as a loan exposure to the counterparty; i.e. included in the respective standardized approach exposure class schedule. However, if these exposures are not material they may be given a uniform risk weight of 100% and be reported in the line "Unsettled non-DvP trades less than 5 days late". If the second leg of a non-DvP transaction is five days late or more, it must be deducted from CET1 capital per treatment outlined in section 2.3.1.

Right of use asset: Once an institution implements IFRS 16, any right of use assets recorded on-balance sheet are to be reported in this section at a 100% risk weight.

Prepaid portfolio mortgage insurance conforming to OSFI's amortization expectations: should be reported in section A of schedule 40.290 at a 100% risk weight, as per CAR section 4.1.23.

Prepaid portfolio mortgage insurance non-conforming to OSFI's amortization expectations: is subject to a deduction from capital (deduction is net of eligible short positions, or deferred tax liabilities, as applicable), as outlined in CAR section 2.3.1. This line item is to be reported in Section A (risk weighted at 0%), as well as in Schedule 20.010.

Unallocated accrued interest and other miscellaneous receivables: As a general rule, accrued interest receivable should be included with and given the same credit risk treatment as the exposure amount to which it relates. However, if accrued interest is not significant, institutions have the option to include it on schedule 40.290 in the line "Unallocated accrued interest" with a 100% risk weight, or a higher risk-weight as OSFI may require on a case-by-case basis.

In limited situations, there may be miscellaneous receivables for which an IRB institution can identify a counterparty but which, by temporary waiver, extension, or materiality exemption, are not included in the IRB calculations. RWAs for these exposures must be calculated using the standardized approach and reported on the appropriate standardized approach schedules.

OSFI expects minimal use of the line "Other Assets not included in standardized approach" on schedule 40.290. Use is limited to assets for which a counterparty cannot readily be determined and for which there is no other specific line item on the schedule. As a rule, these Other Assets should be risk weighted at 100%[4].

Adjustments to gross balances to reflect balance sheet assets: Certain items in the upper portion of section A are reported on a different basis than balance sheet assets measured for accounting purposes. For example, summing the various deferred tax asset items yields deferred tax assets on a gross basis (i.e. before netting that is recognized for accounting purposes). In addition, figures carried from Schedule 20.010 for investments in own shares or in financials include both cash positions (balance sheet) as well as synthetic positions. The adjustments required to yield balance sheet asset figures for these items are made in this adjustments section.

Other Items of Note: Current tax assets should be treated as Sovereign exposures and reported under schedule 40.010 using the appropriate risk weights. Intangibles should be deducted from capital pursuant to treatment outlined in Chapter 2.

Section B - Failed DvP Trades (banking and trading book)

The calculation of credit RWAs for failed DvP trades is outlined in section 7.2.2. Receivables booked in respect of DvP trades (e.g. where cash is delivered to a clearing house), are risk-weighted at 0% and can be included in the line "Other assets not included in standardized or IRB approaches" in Section A of the schedule.

Note for Category III SMSBs Only: Category III SMSBs are not required to calculate RWA for exposures (i.e. only the "Balance" column is required to be completed).

Schedules 60.010, 60.020 and 60.030 - Securitization – Credit Risk Treatment

All securitization-related exposures that meet the definitions and operational requirements of the credit risk framework for securitization are reported on schedule 60.030 Securitization Exposures. Only credit equivalent amounts are captured for the off-balance sheet exposures.

The credit risk treatments of the banking book securitization exposures reported on schedule 60.030 are detailed on schedules 60.010 and 60.020, for the approaches that do not require an institution to have an IRB-approved model and approaches that do require an IRB-approved model, respectively.

General Methodology

The credit risk framework for securitization exposures is provided in Chapter 6 of the guideline and it is to be applied independently of the accounting treatment of the exposure. As indicated in section 6.5, the framework applies to all securitization exposures, including the provision of credit risk mitigants to a securitization transaction, investments in asset-backed securities (if tranched), retention of a subordinated tranche, and extension of a liquidity facility or credit enhancement. Securitization exposures where the underlying assets are reported on-balance sheet must meet the assessment of transferring significant credit risk to third parties described in section 6.3. If this assessment is not met, the underlying assets must be risk-weighted as if they had not been securitized and reported with other balance sheet and off-balance sheet exposures on the 40 series standardized approach schedules, or 50 series IRB approach schedules. The deduction from capital for gains on sale must continue to be reported in Part A of the appropriate securitization schedule (schedule 60.010 or 60.020).

There is a hierarchy of approaches to securitization, as indicated in section 6.5.2. Institutions that have IRB approval for the exposures underlying a securitization and have sufficient information to apply their IRB models must apply the SEC-IRBA approach for the exposure (reported on schedule 60.020). Otherwise, if the exposure is externally rated, then institutions must apply the SEC-ERBA approach for the exposure (reported on schedule 60.010). If neither of those approaches are available, the SEC-SA is to be applied (reported on schedule 60.010), with the exception of unrated liquidity facilities where the commercial paper (CP) is rated, where the IAA may be applied (reported on schedule 60.010). Section 6.5.2.3 requires that institutions that use mixed-use IRB/standardized approach for the underlying exposures must treat the pool as a standardized approach pool for securitization calculations unless 95% of the underlying exposures are IRB.

If an institution has provided *implicit* support to a securitization structure, the calculation of RWAs must follow the methodology outlined in section 6.8. In this case, the exposures requiring a credit risk charge must be reported with other balance sheet and off-balance sheet exposures on the 40 series standardized approach schedules or 50 series IRB approach schedules. The deduction from capital for gains on sale must continue to be reported in Part A of the appropriate securitization schedule (schedule 60.010 or 60.020).

Schedules 60.010 and 60.020 distinguish between senior and non-senior exposures as well as between securitization exposures excluding resecuritization, and resecuritization exposures. Resecuritization exposures must be reported on Schedule 60.010, as these exposures must use the standardized approach (SEC-SA). The definition of a senior exposure is provided in section 6.2.1.12 of the guideline. The definitions of securitization and resecuritization exposures are provided in section 6.1. STC Transactions are defined in section 6.10 as transactions that meet the criteria for simple, transparent, and comparable (STC) securitizations outlined in appendix 6-1 for term securitizations and appendix 6-2 for exposures to, or funded by ABCP conduits.

The on and off-balance sheet exposures reported on schedules 60.010 and 60.020 combine synthetic and traditional securitizations and should reconcile in total to the "Total Exposure (credit equivalent amount for off-balance sheet)" figures reported net of specific allowances on Schedule 60.030 for standardized and IRB, respectively. Note that Schedule 60.030 combines both the securitization exposures excluding resecuritization, and the resecuritization exposures, as reported on schedule 60.010, as well as securitization exposures from schedule 60.020. On both Schedule 60.010 and 60.020, exposures may be netted against Stage 3 allowances held against the securitization itself, and originators may also net Stage 3 allowances held against assets underlying assets against associated 1250% risk-weighted securitization exposures. Netting of both allowances should be applied to the gross exposure column to arrive at the net exposure column.

Schedule 60.010– Securitization Exposures Subject to the Standardized Approach or the External Ratings Based Approach

General Methodology

The external ratings based (SEC-ERBA) methodology for securitization exposures is outlined in section 6.6.2, and the standardized methodology (SEC-SA) for securitization exposures is outlined in section 6.6.4 of the guideline. Exposures are given a risk-weight treatment with recognition of credit risk mitigation or, in the case of gains on sales, are deducted from capital. SEC-ERBA exposures are distinguished from SEC-SA exposures and other unrated exposures. Schedule 60.010 is divided into four main sections and one summary section. Exposures are reported after the application of risk weight caps and floors, with exposures impacted by risk weight caps reported in Section D and excluded from the sections B and C.

"Total exposures net of Stage 3 allowances" should reconcile to the total of the net exposures in sections A, B, C and D of the schedule and to the total of the standardized exposures reported on schedule 60.030.

Section A - Select originator securitization exposures

The treatment of gains on sale and credit-enhancing interest-only (CEIO) strips, net of gain on sale is described in section 6.5.1. The gains on sale and CEIO strips reported on schedule 60.010 should be those that are associated with the securitization transactions for which the standardized approach is used. The basis for reporting interest-only strips (i.e. fair market value or full notional balance) should be the same as that used for accounting purposes.

Section B – SEC-ERBA exposures

All securitization exposures using the external ratings based approach and exposures for which a rating can be inferred are reported in section B. Resecuritization exposures are excluded. All off-balance sheet instruments (e.g., externally-rated direct credit substitutes) are given a 100% CCF, except for eligible servicer cash advances facilities, as reported in schedule 60.030. The appropriate treatment of externally rated exposures is explained in section 6.6.2 and conditions for when an inferred rating can be used are in section 6.6.2.4.

Risk Weight: Exposures should be reported in the row that corresponds with the external rating of the securitization exposure. The risk weight for each exposure must be calculated based on the external rating, seniority, maturity, and thickness (if non-senior) of the note as described in section 6.6.2. The resulting risk-weight should lie within the range indicated in the risk weight column.

CRM Adjustments to Net Exposures for guarantees & credit derivatives and collateral under the simplified approach: Negative dollar amounts in these redistribution columns, offset by positive dollar amounts within the same column, are used to represent the movement of an exposure amount out of its pre-CRM (original obligor) rating and risk weight, and into the risk weight of the guarantor or collateral. The total amount of rated exposures does not change under this substitution approach.

CRM Adjustments to Net Exposure for collateral under the comprehensive approach: The impact of collateral using the comprehensive approach is reported in this column. Negative amounts are reported to indicate the amount by which pre-CRM exposures are reduced to arrive at the adjusted exposure.

Weighted Average Maturity: This collects the exposure-weighted average maturity of the exposures in a given row. The calculation of maturity is explained in section 6.2.1.15.

Section C (i) – Unrated exposures measured under Standardized Approach (SEC-SA)

Section C is similar in structure to section B, with the columns for redistribution of net exposures for guarantees, credit derivatives, and collateral so that impact of these credit risk mitigants are reflected in the "After CRM" figures.

The standardized approach treatment is outlined in section 6.6.4. Inputs to this approach include the attachment and detachment points of the securitization exposure, as well as the standardized approach capital that would be required for the underlying assets if they were not securitized.

Attachment and detachment points are defined in section 6.6.1.5. In general, the attachment and detachment points refer to the priority of principal repayments, with the tranche that receives principal payments last in the payment waterfall (i.e. absorbs the first losses of the structure) receiving an attachment point of zero. The detachment point of one tranche is equal to the attachment of the next more senior tranche in the capital stack, and a detachment point of 100 applies to the most senior tranche of a securitization (i.e. the tranche that receives principal payments first in the waterfall).

Resecuritization exposures, defined in paragraph 8 of Chapter 6 of the guideline, must be reported using the standardized approach, with a p-factor of 1.5 and a floor of 100%, as described in section 6.7. Resecuritization exposures cannot be reported in section D as the caps are not applicable for these exposures.

Section C (ii) – Other Unrated Exposures

The treatment of unrated exposures where the standardized approach cannot be applied is generally a risk weight of 1250%. Exposures subject to the risk weight cap for the most senior exposure in a securitization as well as the overall capital cap are reported in section D.

Section D - All exposures subject to caps based on KSA or a Standardized Approach risk weight

This section collects information on exposures subject to the two maximums or caps applied to securitization exposures based on standardized risk weights described in section 6.6.5.

The first such cap is a 'look through' risk weight cap described in 6.6.5.1; the risk weight applied to the most senior tranche in a securitization structure cannot be higher than the standardized approach risk weight that would apply to the assets underlying the securitization.

The second such cap refers instead to capital required described in 6.6.5.2. The total capital required for holding one or more tranches of a securitization cannot be higher than the standardized RWA for all of the assets underlying the securitization. Furthermore, if an institution holds less than 100% of each tranche, then the cap is based on the highest percentage of a tranche held. By way of an example, an institution that holds a 10% 'vertical slice' or ownership of all tranches in a securitization structure would have their RWA for all of their retained tranches capped at 10% of the standardized RWA that would be required if all of the underlying assets were held.

Section E – Summary

This section summarizes the total RWA and amounts deducted from CET1 capital for securitization exposures reported in section A through D.

Section F – Memo items

This section collects as a memo item the reduction in risk-weighted assets for amounts retained that exceed KSA (the cap, or maximum capital requirement indicated in section 6.6.5.2), which can also be seen as the amount that was excluded from capital requirements for exceeding the cap as a risk-weighted asset equivalent ("the excess"). Total risk-weighted assets already includes the total RWA for exposures subject to caps, values reported here are reported as a memo item.

The second memo item summarizes the total RWA of exposures subject to a 1250% risk weight reported in sections A through D above.

Schedule 60.020 – Securitization Exposures Subject to IRB Approval

This schedules collect information on internal ratings based approach (SEC-IRBA) and internal assessment approach (IAA) exposures, consistent with the hierarchy of approaches outlined in section 6.5.2. Exposures are given a risk-weight treatment with recognition of credit risk mitigation or, in the case of gains on sales, are deducted from capital. Institutions must receive OSFI approval for models used under the SEC-IRBA. In order to use the IAA, institutions must receive OSFI agreement and the conduit must issue commercial paper that is externally rated. Schedule 60.020 is divided into four main sections and one summary section.

When completing sections A to D of schedule 60.020, the full amount of securitization exposures should be reflected in the calculations after applying the relevant floor (i.e. 10% for STC-compliant and 15% for non-STC securitizations). Exposures benefiting from either of the two caps on capital requirements (i.e. the 'look-through' and KIRB caps, see section 6.6.5) are excluded from the section for the approach used and instead reflected in the section D. Capital requirements removed in this way are reported in the memo item in the summary section at the end of Schedule 60.020. Across sections A-D, all allowances eligible to be netted against exposures (including both stage 3 allowances on the securitization itself as well as all allowances held against assets underlying 1250% risk-weighted exposures) should be applied to the gross exposure column to arrive at the Net exposure column.

The cell "Total exposures net of Stage 3 allowance" should reconcile to the total of the net exposures reported in sections A, B, C, and D and to the total of the IRB exposures reported on schedule 60.030.

Section A - Select originator securitization exposures

The treatment of gains on sale and credit-enhancing interest-only strips, net of gain on sale is described in paragraph 40 of Chapter 6. The gains and CEIO strips reported on schedule 60.010 should be those that are associated with the securitization transactions for which the IRB approach is used for the underlying assets. The basis for reporting interest-only strips (i.e. fair market value or full notional balance) should be the same as that used for accounting purposes.

Section B – SEC-IRBA Exposures

Exposures for which the institution has an approved IRB model and is able to calculate capital required for their exposure are required to measure their credit risk using the SEC-IRBA (see hierarchy of approaches, section 6.5.2). Details of the SEC-IRBA are provided in section 6.6.1.

Credit risk mitigation of the underlying exposures is recognized in the calculation of KIRB as per section 6.6.1.1. Examples of how to incorporate dilution risk into the calculation are provided in Appendix 6-3.

Exposures where the SEC-IRBA provides a result that is higher than one of the caps are reported the relevant line items of section D, and are excluded from section B.

Section C - Securitization exposures subject to the internal assessment approach (IAA)

All exposures for which an internal assessment is mapped to an external rating are reported in section B. Resecuritization exposures are excluded and reported separately on Schedule 60.010. All off-balance sheet instruments (e.g., direct credit substitutes and liquidity facilities) are given a 100% CCF, with the exception of eligible servicer cash advances facilities, as reported in schedule 60.030. The criteria for using an internal assessment approach are detailed in section 6.6.3.

CRM Adjustments to Net Exposures for guarantees & credit derivatives, and collateral under the simplified approach: Negative dollar amounts in these redistribution columns, offset by positive dollar amounts within the same column, are used to represent the movement of an exposure amount out of its pre-CRM (original obligor) rating and risk weight, and into the risk weight of the guarantor or collateral. The total amount of rated exposures does not change under this substitution approach.

CRM Adjustments to Net Exposures for collateral under the comprehensive approach: The impact of collateral using the comprehensive approach is reported in this column. Negative amounts are reported to indicate the amount by which pre-CRM exposures are reduced to arrive at the adjusted exposure.

Weighted Average Maturity: This collects the exposure-weighted average maturity of the exposures in a given row. The calculation of maturity is explained in section 6.2.1.15.

Section D - Exposures subject to caps based on KIRB or an IRB EL-adjusted risk weight

This section collects information on exposures subject to the two maximums or caps applied to securitization exposures based on IRB EL-adjusted risk weights, described in section 6.6.5.

The first such cap is a 'look through' risk weight cap described in section 6.6.5.1; the risk weight applied to the most senior tranche in a securitization structure cannot be higher than the KIRB 'risk weight' that would apply to the assets underlying the securitization. The risk weight for the purpose of this cap is equal to the total RWA on the underlying pool plus 12.5 times the EL of the pool, all divided by the EAD of the pool.

The second such cap refers instead to dollars of RWA and is described in 6.6.5.2. The total dollars of RWA for holding one or more tranches of a securitization structure cannot be higher than the total RWA plus 12.5 EL of all of the assets underlying the securitization. Furthermore, if an institution holds less than 100% of each tranche, then the cap is based on the highest percentage of a tranche held. By way of an example, an institution that holds a 10% 'vertical slice' or ownership of all tranches in a securitization structure would have their RWA for all of their retained tranches capped at 10% of the standardized RWA that would be required if all of the underlying assets were held.

Exposures to which the SEC-IRBA or IAA cannot be applied and which are not subject to caps based on KIRB should be reported on Schedule 60.010.

Section E - Summary of credit-risk treatment of securitization exposures, approaches requiring IRB approval

This section summarizes the total RWA and amount deducted from CET1 capital for securitization exposures reported in Sections A through D above.

Section F - Memo items

This section collects as a memo item the reduction in risk-weighted assets for amounts retained that exceed KIRB (the cap, or maximum capital requirement indicated in section 7.6.5.2), which can also be seen as the amount that was excluded from capital requirements for exceeding either of the caps is expressed as a risk-weighted asset equivalent ("the excess"). Total risk-weighted assets already includes the total for exposures subject to the caps, values reported here are reported as a memo item.

A second memo item summarizes the total RWA of exposures subject to a 1250% risk weight reported in sections A through C above.

Schedule 60.030 Summary of Banking Book Securitization Exposures

Generally, all securitization-related exposures are reported on schedule 60.030, broken down by the type of credit risk approach used. Exposures impacted by implicit securitization support (section 6.8) and exposures that do not meet the assessment of significant risk transfer (section 6.3) are treated as if the exposures had not been securitized and accordingly are reported on the appropriate exposure class schedules for credit risk (e.g., schedules 50.160 to 50.250 in the case of IRB Regulatory Retail). All securitization-related gains on sale are included on schedule 60.030 in on-balance sheet exposures.

A distinction is made between senior and non-senior exposures. The definition of a senior exposure is provided in section 6.2.1.12 of the guideline, and generally refers to the most senior exposure in a structure. As well, STC-compliant securitizations (section 6.10) are reported separately from non-STC compliant securitizations.

Exposures are reported before any credit risk mitigation taken on the securitization exposure.

The notional amounts of off-balance sheet exposures are converted to credit equivalent amounts by applying prescribed CCFs. The instruments eligible for each of these factors are described in section 6.5.1.1, with servicer cash advances or facilities defined in section 6.2.1.13.

Credit RWAs under IRB Approaches

General Methodology

The IRB approaches to calculating credit RWAs are described in Chapter 5 of the guideline. Generally, a risk weight formula designed to reflect unexpected loss is applied to the gross exposure at default (EAD) to arrive at RWAs. The formula employs risk component factors such as probability of default (PD), loss given default (LGD), and in some cases, maturity (M). The PD, LGD and/or the risk-weight formula are adjusted as appropriate to reflect credit risk mitigation. There are two possible methodologies for calculating RWAs for IRB wholesale[5] exposures: institutions using the AIRB approach generally provide their own estimates of each of the risk components while institutions under the FIRB approach must use prescribed factors for LGD and EAD. Institutions require prior approval from OSFI in order to use an IRB approach.

One risk weight formula is used for corporate, sovereign, and bank exposures (with SMEs treated as corporate requiring a firm size adjustment), and another formula for retail. Certain subclasses use different correlation factors in the risk-weight formula.

With respect to the specialized lending subclasses, an institution might not qualify for a PD/LGD approach. In these cases, it must use a Supervisory Slotting approach to calculate RWAs (see schedule 50.150).

Within the corporate and retail exposure classes, eligible purchased receivables are given unique treatment, whereby RWAs are calculated separately for default and for dilution risk. Purchased receivables are defined in section 5.2.1(viii) of the guideline and the calculation of RWAs for these exposures is described in section 5.6.

Treatment of Guarantees in the FIRB and AIRB Approaches: Substitution

The methodology for recognizing guarantees within the FIRB and AIRB approaches is a substitution approach whereby, generally, the PD together with the risk-weight formula of the *guarantor* are substituted for those of the obligor[6]. Details are provided in section 5.2.5.

The option to apply the AIRB approach for exposures to Financial Institutions (including Banks) and Large Corporates has been eliminated and institutions will be required to use the FIRB or standardized approaches for these exposures. Institutions will be allowed to apply the FIRB approach for portfolios other than Financials and Large Corporates on a case-by-case basis where there is a deficiency of loss data, subject to the existing capital model approval process. Financial Institutions for the scope of FIRB, includes all institutions to which the 1.25 correlation parameter multiplier in CAR Chapter 6 is applied.

50 Series Schedules – IRB Approach

Schedules 50.010 to 50.140 - Wholesale IRB Exposures:

Credit risk mitigation for the IRB approaches is discussed in detail in section 5.4.1(ii) of the guideline. See also section 5.4.1(ii) of the guideline, in respect of modelling the EAD of repo-style transactions and OTC derivatives.

Both FIRB and AIRB wholesale exposures are reported on the same set of IRB schedules. Institutions must indicate on Schedule 10.020 which approach, FIRB or AIRB, was applied.

Columns for "Before CRM"

Estimated PD %: Under the IRB approaches, institutions associate a PD with each exposure. The criteria for deriving PDs are provided in section 5.4.1(i) of the guideline. Institutions may group PDs into bands, each defined by a lower and an upper boundary. When there is a PD floor for a specific asset class, the first PD band of the IRB schedule should be the PD floor for the asset class (e.g., 0% for Sovereign, 0.05% for Corporate) instead of an average PD of the PD band. An estimated PD in this column is the exposure-weighted average PD of a PD band, based on exposures assigned to PDs after credit risk mitigation. Institutions should report according to the PD bands they use for internal risk management purposes. The return accommodates, for each exposure class and type, up to 25 bands for institution-provided PDs. An additional band, to which all defaulted exposures must be assigned, has a prescribed PD of 100% in both the FIRB and AIRB approaches. The definition of default is as per section 5.8.5(ii) of the guideline.

Estimated PDs should be reported in ascending order. If an institution reports fewer than 25 PDs for exposures not in default, these should be provided in the upper-most rows of the column, with the remaining rows left blank.

For any particular combination of exposure class and type, the reported PD bands should include both the PDs associated with the original obligors of the exposures as well as with the associated guarantors [7]. Note that, for reporting purposes, a PD band should not have lower and upper boundaries that cross over the PD floor applicable to the obligor.

Notional Principal Amount and Gross exposure (Exposure at Default) before CRM: All exposures before credit risk mitigation are reported according to the PD of the obligor. Exposures are reported gross of all allowances for credit loss and partial write-offs.

An exception to gross exposures being reported *before* credit risk mitigation in the "Before CRM" columns is OTC derivatives. The EAD of these instruments may reflect the impact of collateral if the EAD was derived using an internal model that incorporates this credit risk mitigant.

The internal model method (IMM) of calculating EAD accommodates cross-product netting between repo-style transactions and OTC derivatives (see Internal Model Method section for Schedule 70.030 - Derivatives). In such cases, the gross exposure amount of the repo-style transactions in the relevant netting set must not be reported as a repo-style transaction but instead be combined and reported with the notional amount of OTC derivatives.

If a particular combination of exposure class and type includes a PD that is lower than the allowable PD floor for that exposure class (i.e., in order to accommodate sovereign guarantors), there should be no exposure reported for that PD in the "Before CRM" columns.

Columns for "CRM Adjustments to Net Exposure":

Guarantees and credit derivatives: Negative dollar amounts in this column, offset by positive dollar amounts, are used to represent the movement of an exposure amount out of its pre-CRM (original obligor) PD and into the after-CRM PD. Total exposures by class and by type do not change under this substitution approach. This treatment of guarantees and credit derivatives is outlined in section 5.4.1(ii) for the FIRB approach. AIRB institutions have the option of substituting/adjusting PDs to recognize the impact of guarantees, in accordance with section 5.4.1(ii). Exposures included in the "Gross Exposures" column should be moved from their pre-CRM PD to their after-CRM PD using this "Guarantees and credit derivatives" column.

Institutions should reflect the sovereign guarantee as credit risk mitigation by, for example, using this redistribution column to reflect the appropriate PD substitution. Exposures to mortgage-backed securities that incorporate tranching of credit risk are to be reported on Schedule 60.020 – IRB approach for securitizations.

Exposures from the wholesale IRB schedules that are guaranteed by qualifying central counterparties (CCPs) are not adjusted for under "Adjustments for CRM", instead to reflect this guarantee an adjustment must be made to the exposure's LGD. See "Memo Item for IRB-approved Institutions using LGD Adjustment to Reflect Guarantees" in this section for details.

Repo-style transaction exposure: This column adjusts the gross exposure at default of repo-style transactions to reflect, where permitted, the impact of collateral and master netting agreements. Figures reported in this column represent the amount by which gross exposure must be decreased or increased to equal the adjusted EAD derived from (i) an approved internal model (see section 7.1.5 of the guideline), or (ii) in the case of repo-style transactions with master netting agreements for which EAD is not modelled, the adjusted exposure calculated pursuant to section 5.4.1(ii).

Columns for "After CRM"

Adjusted EAD, where: Adjusted gross exposure at default for any particular PD band is the sum of the "before CRM" gross exposure plus the adjustments for credit risk mitigation. In the case of OTC derivatives and repo-style transactions, there are two columns available for reporting adjusted EAD. EADs calculated to reflect the impact of collateral must be reported in the first of the two columns ("Collateral is reflected in EAD"). Falling into this category are repo-style transactions subject to master netting agreements as well as repo-style transactions and OTC derivatives for which EAD is determined using approved models that take collateral, *if any*, into account in accordance with section 7.1.5 of the guideline. All other exposures must be reported in the second column, "Collateral is not reflected in EAD".

Weighted Ave. LGD: The LGDs associated with individual exposures are prescribed for the FIRB approach in section 5.4.1(ii). Institutions under the AIRB approach derive their own LGDs, in accordance with section 55.4.1(ii). An exposure's LGD is adjusted, as appropriate, to reflect the presence of eligible credit risk mitigation:

Guarantees and credit derivatives may be reflected through an adjustment to/in the derivation of an exposure's LGD, depending on the methodology, FIRB or AIRB, as indicated in section 5.4.1(ii).

Except as noted below, collateral may be reflected through an adjustment to/in the derivation of an exposure's LGD, depending on the methodology, as indicated in section 5.4.1(ii).

LGD adjustments are *not* made for collateral in the case of repo-style transactions subject to master netting agreements. As noted above, collateral is reflected in the calculation of the *EAD* which, if not modelled, is derived through a comprehensive approach that takes collateral and master netting agreements into account. LGD adjustments are also not made in the case of repo-style transactions and OTC derivatives if these exposures' EAD is modelled to recognize collateral (see section 7.1.5.1).

While individual exposures must be assigned to specific LGDs (supervisory-provided in FIRB; institution-derived in AIRB), only weighted average LGDs are reported in the return. For any particular PD band, individual LGDs are weighted by gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given LGD.

There are two columns available for reporting weighted average LGDs. The first ("Adjusted for CRM excluding collateral") applies only to repo-style transactions and OTC derivatives and must be completed if an institution has reported exposures in the column "Collateral is reflected in EAD". The reported LGD applicable to these exposures must not reflect the impact of collateral. Weighted average LGDs for all other exposures are reported in the second weighted average LGD column ("Adjusted for CRM"). LGDs reported here are applicable to the exposures reported in the column "Collateral is not reflected in EAD" and reflect the impact of any collateral on those exposures. If applicable, LGDs reported in both columns may reflect the impact of guarantees on the associated exposures, pursuant to the references provided earlier.

For purchased receivables, report the weighted average LGD associated with the *default* risk (for dilution risk, LGD is set at 100%, as per section 5.6.2).

Weighted Ave. Maturity: For purposes of calculating RWAs under the IRB approaches, the maturity of an individual exposure is determined according to section 5.3.1 of the guideline. If the EADs of repo-style transactions or derivatives are modelled, then maturity is calculated using the formula in section 7.1.5.3 of the guideline. While individual EADs must be assigned an explicit maturity for calculating their RWAs, only weighted average maturities are reported in the return. These maturities should be expressed in years to two decimal places. For any particular PD band, individual maturities are weighted by gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given maturity.

Note that the maturity of OTC derivatives should be reported consistent with section 6.3.2(iv), notwithstanding that these instruments may attract a maturity *adjustment* of "1" in the RWA calculation if the reporting institution meets the conditions outlined in section 4.1.8.1.

Weighted Avg. Firm Size (for SMEs treated as Corporate): The risk weight formula for SMEs treated as corporate exposures includes an adjustment for firm size. The firm size of a SME is reported in thousands of dollars and determined in accordance with section 5.3.1(ii) of the guideline.

While a firm size must be identified for each SME exposure treated as corporate, only weighted average firm sizes are reported in the return. For any particular PD band, individual sales are weighted by gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given firm size. *Sales* is the level of annual sales associated with gross exposures (unless pursuant to section 6.3.1(ii), the institution has been permitted to use total assets instead of sales).

RWAs: RWAs of exposures not in default are calculated using the risk-weight formula appropriate to the reported exposure class.

RWAs for exposures in default are based on the amount by which a defaulted exposure's LGD (which is reflected in the "LGD" columns for these exposures) exceeds its expected loss (as reflected in the "Expected Loss Amount" column for these exposures). For this calculation, institutions using AIRB provide their own estimate of LGD and their best estimate of expected loss. Application of the formula by institutions using FIRB results in RWAs of zero[8].

Calculations of RWAs for specific exposure classes subject to the FIRB and AIRB approaches are described for Corporate, Sovereign, PSE, Bank and Specialized Lending in section 5.3.1.

Specialized lending subclasses of Corporate for which the reporting institution does not meet the requirements for estimating PDs cannot use the risk-weight formulas referred to above. RWAs in these cases are calculated using a Supervisory Slotting approach and are reported in schedule 50.150.

Expected Loss Amount: Expected loss for an exposure is calculated according to section 5.7.1(i). Generally, expected loss for an exposure not in default is equal to its PD x LGD where LGD represents the downturn LGD. This LGD is prescribed for institutions under the FIRB approach, and is estimated pursuant to section 7.8.7(vii), by institutions under the AIRB approach. The expected loss for an exposure in default (PD of 100%) is equal to, for the FIRB approach, the prescribed LGD; and for the AIRB approach, the *best estimate of expected loss*, which takes into account current economic conditions as indicated in section 7.8.7(vii).

An expected loss *amount* reported in BCAR, is derived by multiplying expected loss (which is expressed as a percent) by adjusted EAD. Where supervisory slotting is used in respect of specialized lending, expected loss amounts are calculated on schedule 50.150, pursuant to section 7.7.1(ii).

Memo Item for AIRB-approved Institutions using LGD Adjustment to Reflect Guarantees

The memo item captures those guaranteed exposures to which an AIRB-approved institution applies an LGD adjustment to reflect guarantees on its wholesale exposures, rather than the substitution treatment described in section 5.4.1(ii). Exposures reported in the memo item are a subset of those reported in the main portion of the schedule (associated with the obligor) and are reported according to the same set of Estimated PDs. The "LGD-adjustment" exposures are broken down in the memo item by exposure class of the guarantor(s).

In addition, exposures from the wholesale IRB schedules that are guaranteed by qualifying central counterparties (CCPs) are to be reported in the memo item. These exposures should be reported with "after-guarantee" LGDs that result in the risk weight appropriate to the qualifying CCP guarantor(s), i.e. 2% or 4%[9] as per section 4.1.9. For reporting purposes, qualifying CCP-guaranteed exposures are to be reported as exposures guaranteed by the "Bank" class of guarantor. To avoid double counting, these exposures are not to be reported on schedule 70.040.

LGD on Guaranteed exposures, before recognition of guarantees: For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of guaranteed exposures before any LGD adjustment for recognition of guarantees. As applicable, these LGDs should be after any adjustment for collateral.

LGD on Guaranteed exposures, after recognition of guarantees: For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of guaranteed exposures after any adjustment for recognition of guarantees. As applicable, these LGDs should be after any adjustment for collateral.

These LGDs should be included in the calculation of the "after-CRM" LGDs that are reported in the main portion of the schedule.

Schedules 50.010, 50.060, 50.220, 50.230, 50.240, 50.250, 50.250a, and 50.250b – Credit Risk weighted Assets under the IRB Approach for Insured Retail Residential Mortgage, HELOC

Memo Items for IRB Insured residential mortgages and HELOCs

The memo item section captures the information related to insured residential mortgages and HELOCs that appear in each of the schedules 50.010, 50.060, 50.220, 50.230, 50.240, 50.250, 50.250a, and 50.250b, after recognition of CRM. Specifically, exposures on schedule 50.060 should represent exposures for which the PD of the private mortgage insurer is substituted for the PD of the original obligor, exposures on schedule 50.010 should represent exposures for which the PD of the sovereign guarantor is substituted for the PD of the original obligor, and exposures on schedules 50.220, 50.230, 50.240, 50.250, 50.250a, and 50.250b should represent insured exposures for which the recognition of the guarantee is done using LGD adjustment, and exposures for which the institution has chosen not to recognize credit risk mitigation for regulatory capital.

The exposures reported in these sections represent a subset of the exposures reported in the main portions of the schedules.

Exposure (at PD of original obligor) (M48): The exposures should be reported at the PD estimated for the original obligor in this column. For schedules 50.010 and 50.060, this column should represent a subset of the exposures in the column "Guarantees, credit derivatives" (M14). For schedules 50.220, 50.230, 50.240, 50.250, 50.250a, and 50.250b, this column should represent a subset of the exposures in the column "After CRM - Adjusted EAD, where: collateral is not reflected in EAD (M2)".

Redistribution of exposures for insured mortgages (M49): Applicable to schedules 50.010 and 50.060 only. Negative dollar amounts in this column, offset by positive dollar amounts, are used to represent the movement of an exposure amount out of its pre-CRM (original obligor) PD and into the after-CRM PD. This column should be a subset of the column "Guarantees, credit derivatives" (M14).

Weighted Ave. LGD (adjusted for CRM after application of floor)(%) (M50): Refer to instructions for "Weighted Average LGD Adjusted for CRM (collateral is not reflected in EAD)[5, 6] (M5)" for details for this field. This column should represent LGDs associated with exposures in "Exposure (at PD of original obligor) (M48)".

Weighted Ave. Maturity (years) (M51): Applicable to schedules 50.010 and 50.060 only. Refer to instructions for "Weighted Ave. Maturity (years) (M6)" for details for this field.

Risk-weighted Assets (M52): RWA for insured exposures after recognition of credit risk mitigation for exposures reported in M48.

Expected Loss Amount (M53): EL for insured exposures after recognition of credit risk mitigation for the exposures reported in M48.

Schedules 50.010, 50.060, 50.190, 50.220, 50.230, 50.240, 50.250, 50.250a, and 50.250b – Credit Risk weighted Assets under the IRB Approach for Insured exposures subject to DLGD floor

This memo item section captures the information related to the DLGD floor for insured exposures. Because the DLGD floor applies to the LGD before credit risk mitigation (i.e., to the LGD of the uninsured exposure), this section should include only exposures for which the DLGD floor has increased the LGD of the equivalent uninsured exposure, after recognition of collateral (i.e. pre-CRM LGD).

Insured exposures bound by LGD floor (M61): Subset of the exposures reported in column "After CRM - Adjusted EAD, where: collateral is not reflected in EAD (M2)", for which, before recognition of credit risk mitigation, the DLGD floor resulted in an increase of the LGD.

LGD on insured exposures bound by DLGD floor, before DLGD floor (%) (M62): For each estimated PD, LGD reported in this column should represent the exposure-weighted average pre-CRM LGD of insured exposures included in the column "Insured exposures bound by LGD floor (M61)" before any LGD adjustment for the DLGD floor. As applicable, these LGDs should be after any adjustment for collateral.

LGD on insured exposures bound by DLGD floor, after DLGD floor (%) (M63): For each estimated PD, LGD reported in this column should represent the exposure-weighted average pre-CRM LGD of insured exposures included in the column "Insured exposures bound by LGD floor (M61)" after adjustments for the DLGD floor. As applicable, these LGDs should be after any adjustment for collateral.

Schedule 50.150 - IRB Specialized Lending Slotting Approach

Institutions that do not meet the criteria for estimating a PD for specialized lending exposures must use a supervisory slotting approach to determine RWAs for these exposures. Only those specialized lending exposures not reported in the PD/LGD schedules for IRB Specialized Lending schedules (50.100 to 50.140) should be reported in schedule 50.150.

General Methodology

The calculations of RWAs and expected loss amounts under the slotting approach are described in sections 5.5.1 to 5.5.2 and 5.5.3 respectively. Generally, RWAs for specialized lending under the slotting approach are determined by applying prescribed risk weight factors to the exposures. Expected loss amounts are calculated by multiplying exposures by an appropriate expected loss factor and by 8%. The prescribed risk-weight and expected loss factors vary depending on the supervisory category of the exposure.

The criteria for determining the internal grades and related supervisory rating are provided in section 5.5.1, as well as in Appendix 5-2 of the guideline.

Schedules 50.160 to 50.210 – Credit Risk weighted Assets under the IRB Approach for Retail

General Methodology

The methodology for IRB retail is provided in section 5.4 of the guideline. Generally, the calculation of RWAs for retail portfolios closely follows that for AIRB wholesale exposures, except that retail has a unique risk weight formula that does not incorporate a factor for maturity. Different classes of retail (residential mortgages, qualifying revolving retail, and Non-regulatory retail) use different correlation factors in the risk-weight formula (section 5.4.1).

The treatment of guarantees and credit derivatives in the IRB Retail approach is discussed in section 5.4.2(ii) of the guideline. Treatment of collateral is the same as in the AIRB approach -- see section 5.2.5. See also section 7.1.5 of the guideline, in respect of modelling the EAD of repo-style transactions and OTC derivatives.

Columns for "Before CRM"

Estimated PD: Under the IRB Retail approach, institutions associate a PD with each exposure or pool/segment of exposures. Institutions may group PDs into bands, each defined by a lower and an upper boundary. An estimated PD in this column is the exposure-weighted average PD of a PD band, based on exposures assigned to PDs after credit risk mitigation. Institutions should report according to the PD bands they use for internal risk management purposes. The return accommodates, for each exposure class and type, up to 25 bands for institution-provided PDs. The minimum allowable PD (PD floor) is 0.1% for non-transactors and 0.05 % for all other exposures. An additional band, to which all defaulted exposures must be assigned, has a prescribed PD of 100%. The definition of default is as per section 6.8.7(ii).

Estimated PDs should be reported in ascending order. If an institution reports fewer than 25 PDs for exposures not in default, these should be provided in the upper-most rows of the column, with the remaining rows left blank.

Notional Principal Amount and Gross exposure (Exposure at Default) before CRM: All exposures before credit risk mitigation are reported according to the PD of the obligor. Exposures are reported gross of all allowances for credit loss and partial write-offs.

An exception to gross exposures being reported *before* credit risk mitigation in the "Before CRM" columns is OTC derivatives. The EAD of these instruments may reflect the impact of collateral if the EAD was derived using an internal model that incorporates this credit risk mitigant.

Columns for "CRM Adjustments to Net Exposure":

Guarantees and Credit Derivatives: Retail exposures that are guaranteed by Corporate, Sovereign, or Bank entities, with the impact of the guarantee reflected through a PD adjustment, must be shown as decreases to the retail class with an accompanying increase in the exposure class of the guarantor.

Adjustment to repo-style transaction exposure: This column appears on schedule 50.190 for SBEs treated as Regulatory Retail and schedule 50.210 for Non-regulatory Retail. The column adjusts the gross exposure at default of repo-style transactions to reflect, where permitted, the impact of collateral and master netting agreements. Figures reported in this column represent the amount by which gross exposure must be decreased or increased to equal the adjusted EAD derived from (i) an approved internal model (see section 7.1.5 of the guideline), or (ii) in the case of repo-style transactions with master netting agreements for which EAD is not modelled, the adjusted exposure calculated pursuant to section 5.4.1.

Columns for "After CRM"

Adjusted exposure (EAD): Adjusted gross exposure at default for any particular PD band is the sum of the "before CRM" gross exposure plus the adjustments for credit risk mitigation.

On schedules 50.180, 50.190 and 50.210, there are two columns available for reporting the adjusted EAD of OTC derivatives and repo-style transactions (these exposure types are not included on schedule 50.220 and 50.230 for General and Income-Producing Residential Mortgages excluding HELOCs, schedule 50.240 and 50.250 for General and Income-Producing HELOCS). EADs calculated to reflect the impact of collateral must be reported in the first of the two columns ("Collateral is reflected in EAD"). Falling into this category are repo-style transactions subject to master netting agreements as well as repo-style transactions and OTC derivatives for which EAD is determined using approved models that take collateral, *if any*, into account in accordance with section 7.1.5 of the guideline. All other exposures must be reported in the second column, "Collateral is not reflected in EAD".

Weighted Ave. LGD: Under the IRB approach, institutions derive their own LGDs in accordance with section 5.4.2(i) of the guideline. Except as noted below, an exposure's LGD may be adjusted to reflect eligible collateral.

LGD adjustments are *not* made for collateral in the case of repo-style transactions subject to master netting agreements. Collateral is reflected in the calculation of the *EAD* which, if not modelled, is derived through a comprehensive approach that takes collateral and master netting agreements into account (see section 5.4.1). LGD adjustments are also not made in the case of repo-style transactions and OTC derivatives if the model used to derive these exposures' EAD is designed to recognize collateral (see section 5.4.2 (iii)).

While the IRB Retail methodology requires that individual or pools of exposures be assigned to specific LGDs, only weighted average LGDs are reported in the return.

On 50.190 and 50.200 there are two columns available for reporting weighted average LGDs. The first ("Adjusted for CRM excluding collateral") applies only to repo-style transactions and OTC derivatives and must be completed if an institution has reported exposures in the column "Collateral is reflected in EAD". The reported LGD applicable to these exposures must not reflect the impact of collateral. Weighted average LGDs for all other exposures are reported in the second weighted average LGD column ("Adjusted for CRM"). LGDs reported here are applicable to the exposures reported in the column "Collateral is not reflected in EAD" and reflect the impact of any collateral on those exposures.

For purchased receivables, report the weighted average LGD associated with the *default* risk (for dilution risk, LGD is set at 100%, as per section 5.6.2).

RWAs: RWAs of exposures not in default are calculated using the risk-weight formula appropriate to the exposure class. For exposures in default RWAs are based on a comparison of each exposure's estimated LGD (which is reflected in the "LGD" columns for these exposures) to the institution's best estimate of expected loss on the exposure (as reflected in the "Expected Loss Amount" column for these exposures).

Calculations of RWAs for specific IRB Retail exposure classes are described in section 5.3.2 as follows:

Residential Mortgages (including HELOCs) - section 5.3.2(i)
Qualifying Revolving Retail - section 5.3.2(ii)
Other Regulatory Retail (incl. SBEs treated as Regulatory Retail) - section 5.3.2(iii)

Expected Loss Amount: Expected loss for an exposure is calculated according to section 5.7.1. Generally, expected loss for an exposure not in default is equal to its PD x LGD where LGD represents the downturn LGD. Under the IRB Retail approach, this LGD is estimated pursuant to section 6.8.7(vii). The expected loss for an exposure in default (PD of 100%) is equal to the *best estimate of expected loss*, which takes into account current economic conditions as indicated in section 5.8.5 (vii).

An expected loss *amount* reported in BCAR, is derived by multiplying expected loss (which is expressed as a percent) by adjusted EAD.

Memo Item for Institutions using LGD Adjustment to Reflect Guarantees

The memo item captures those guaranteed exposures to which an institution applies an LGD adjustment to reflect guarantees on its retail exposures, rather than the substitution treatment described in section 5.4.2. Exposures reported in the memo item are a subset of those reported in the main portion of the schedule (associated with the obligor) and are reported according to the same set of Estimated PDs.

LGD on Guaranteed exposures, before recognition of guarantees: For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of guaranteed exposures before any LGD adjustment for recognition of guarantees. As applicable, these LGDs should be after any adjustment for collateral.

LGD on Guaranteed exposures, after recognition of guarantees: For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of guaranteed exposures after any adjustment for recognition of guarantees. As applicable, these LGDs should be after any adjustment for collateral.

These LGDs should be included in the calculation of the "after-CRM" LGDs that are reported in the main portion of the schedule.

Schedules 50.220 to 50.250b – Credit Risk weighted Assets under the IRB Approach for Residential Real Estate and HELOC (both General and Income-Producing)

Memo Item for IRB Uninsured mortgage DLGD floor

The memo item captures those uninsured exposures to which an institution applies a DLGD floor. Exposures reported in the memo item are a subset of those reported in the main portion of the schedule (associated with the obligor) and are reported according to the same set of estimated PDs[10].

LGD on uninsured exposures bound by DLGD floor, before DLGD floor (%) (M42): For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of uninsured exposures before any LGD adjustment for the DLGD floor. As applicable, these LGDs should be after any adjustment for collateral.

LGD on uninsured exposures bound by DLGD floor, after DLGD floor (%) (M43): For each estimated PD, LGD reported in this column should represent the exposure-weighted average LGD of uninsured exposures after any adjustment for the LGD floor. As applicable, these LGDs should be after any adjustment for collateral.

These LGDs should be included in the calculation of the "after-CRM" LGDs that are reported in the main portion of the schedule.

Schedule 70.030 - Derivative Contracts

Generally, all derivatives are subject to a capital requirement for default risk. Bilateral OTC derivatives, and exchange-traded and OTC derivatives transacted through a qualifying central counterparty are reported separately on schedule 70.030. Note that derivatives transacted with a *non-qualifying* central counterparty must be reported as bilateral OTC contracts for purposes of reporting notional principal amounts in section A and exposures for default risk in section B of the schedule.

RWAs for the default risk on bilateral OTC derivatives (including OTC and exchange-traded contracts transacted through a non-qualifying central counterparty) are reported on the exposure class schedules (e.g. Corporate, Sovereign, Bank). RWAs for default risk on derivatives transacted through a qualifying central counterparty are reported on schedule70.040 Central Counterparty Credit Risk-weighted Assets. In addition to a charge for default risk, bilateral OTC derivatives are subject to a charge for credit valuation losses; derivatives transacted through a central counterparty are subject to initial margin and default fund charges. Credit valuation adjustments on bilateral OTC derivatives are reported on schedule 80.010.

Section A - All Derivatives – Notional Principal Amount

The notional amounts of all derivatives – regardless of whether they attract a capital charge or whether they are in the banking or trading book – are reported in section A.

Notional amounts are reported by product type (e.g., credit derivatives, interest rate, foreign exchange, commodity etc.) and by contract type. Precious metals and all other commodity contracts (energy, agriculture, base metals, etc.) are to be reported under 'Commodity Contracts'. The notional amounts are further broken down by maturity band with a consolidated 'Total all derivatives' section.

All credit derivatives are reported in section A of schedule 70.030. In the capital framework, credit derivatives through which the reporting institution has *acquired* protection for hedging either banking book exposures or counterparty credit risk on trading book OTC derivatives are treated as credit risk mitigants. Banking book credit derivatives through which the reporting institution has *provided* protection are also reported on schedule 10.050 as direct credit substitutes.

Section B – Counterparty Credit Risk Exposure for Default Risk Capital Requirements

General Methodology

Section B of schedule 70.030 collects information on the credit equivalent amount of derivatives, which is the basis for the default risk capital requirements. Only in limited circumstances are certain derivatives excluded from this calculation, for example, credit derivatives provided or acquired for the purposes of credit protection in the banking book[11]. There are two methods that can be used for calculating the credit equivalent amount, or EAD, of derivatives. The Standardized Approach for Counterparty Credit Risk (SA-CCR) for determining credit equivalent amounts is detailed in the guideline in section 7.1.6. Contracts are divided into margined contracts and unmargined contracts and various measures are reported separately for margined contracts and unmargined contracts in schedule 70.030. The internal model method (IMM) is described in section 7.1.5.

The total outstanding credit equivalent amounts reported on schedule 70.030 for bilateral OTC derivatives should equal the credit equivalent amounts reported for OTC derivatives across the exposure class schedules for the standardized and IRB credit risk approaches. Note that derivative exposures to non-qualifying central counterparties, which are reported as bilateral OTC derivatives, must be treated under the *Standardized approach* for credit risk.

(i) Standardized Approach for counterparty credit risk

Under the SA-CCR, the EAD of a derivative is generally calculated as alpha multiplied by the sum of its replacement cost (RC), if positive, plus an amount for potential future credit exposure (PFE). The alpha is currently 1.4. Replacement cost is determined according to section 7.1.7.1. The PFE is calculated for a derivative regardless of whether its replacement cost is positive or negative and is generally calculated according to sections 7.1.7.2 to 7.1.7.18. The treatment of multiple margin agreements and multiple netting sets is described in section 7.1.7.19.

To calculate the EAD of a number of derivative contracts, negative replacement costs can offset positive replacement costs if the conditions for netting are met. These conditions are outlined in section 7.1.7.1.

For bilateral OTC derivatives, an *outstanding* credit equivalent amount is calculated as the credit equivalent amount (net of reduction, if any, for client trades cleared through qualifying CCPs) plus, by counterparty, a credit valuation adjustment (CVA) for loss (losses are reported as negative values). Calculation of the reduction for CVA losses is described in section 7.1.2, paragraph 13 of the guideline.

For trades where specific wrong-way risk has been identified, the CAR Guideline specifies the EAD amount. To report the RC and PFE components, the following guidance is provided:

The RC is computed as per the CAR Guideline. The PFE is computed as follows:

PFE = EAD/1.4 - RC

In order to allocate the EAD to the different derivative types, the following guidance is provided:

Replacement Cost

Since all trades can be assigned to a derivative type, this treatment relies on knowing the replacement cost for individual trades and allocating the RC according to the rules below. This should result in the total replacement cost for derivative trades being equal to the sum of the replacement cost for each derivative type.

Unmargined trades

For unmargined trades, RC = max {V-C,0} where V is the value of the trade and C is collateral other than variation margin.

1. V - C > 0, then trades with a positive value will be assigned an RC equal to {V (trade) / V (all trades with positive values in netting set)} * (V-C). Trades with a negative value get an RC of 0.
2. If V - C =< 0, then all trades receive an RC of 0.

Margined Trades

For margined trades, RC = max{V-C; TH + MTA – NICA;0},where V is the value of the trade, C is collateral including VM, TH is the threshold, MTA is the minimum transfer amount and NICA is the net independent collateral amount as defined in the SA-CCR rules in Chapter 7 of the guideline.

1. If V - C is the dominant term, then the output is the same as for scenario #1 for unmargined trades.
2. If TH + MTA - NICA is the dominant term, then each trade is assigned an RC equal to 1/N * (TH + MTA - NICA), where N is the number of trades in the netting set[12].
3. If 0 is the dominant term, then all trades receive an RC of 0 as in scenario #2 above.

In both cases, this should ensure that the sum of the RCs in a netting set is equal to the netting set's RC as per the formulations in the SA-CCR.

Potential Future Exposure

PFE add-ons are computed at the derivative type level so the calculation by derivative type should be straightforward. For clarity, we note that banks should compute the aggregate netting set level multiplier and apply it to each derivative type's PFE add-ons to determine the reported PFE for each derivative type within a netting set. As such, the total PFE for all derivative trades should be equal to the sum of the PFEs for individual derivative types.

(ii) Internal Model Method

Use of an internal model requires prior approval from OSFI.

The notional amount of contracts reported in this section should not include written options as these derivatives do not attract counterparty credit risk.

EAD calculated under the IMM equals effective expected positive exposure ("effective EPE") times a factor, alpha. Alpha should be reported to two decimal places. Effective EPE must be calculated and reported on two separate bases: 1) using current parameter calibrations, and 2) using stressed parameter calibrations. The effective EPE on which the default risk capital requirement is based is the method which yields the higher EPE for the *total* portfolio. Effective EPE for default risk capital charge for sub-portfolios in the section B (ii) of schedule 70.030 should be based on the same method for the total Effective EPE for default risk capital charge in (d) Total (AE). The internal model method is detailed in sections 7.1.4 to 7.1.5. Cross-product netting permissible within this method is presented in section 7.1.3.

If, in the future, an institution approved for use of an IMM has repo-style transactions eligible for cross-product netting with derivatives, the eligible repo-style transactions must be included on Schedule 70.030 together with the various derivative product types. For bilateral OTC and non-qualifying CCP transactions, the netted EAD must be reported as an OTC derivative exposure on the applicable exposure class schedules. For qualifying CCP transactions, the netted EAD should be reported with the derivative exposures reported in section A of Schedule 70.040. The cells relating to repo-style transactions in section B(ii) of Schedule 70.030 are currently denoted as "For future use".

For bilateral OTC derivatives, an *outstanding* EAD is calculated as EAD plus, by counterparty, a credit valuation adjustment (CVA) for loss (losses are reported as negative values). Calculation of the reduction for CVA losses is described in section 7.1.2.

The results of models that are designed to take collateral into account are reported separately from those that do not incorporate collateral.

If an institution using IMM is also approved to use (i) the IRB approach for calculating credit risk RWA and (ii) an internal market risk model for the specific interest rate risk of bonds, it should – under certain conditions – use a full maturity adjustment capped at 1 in its calculation of RWA for default counterparty credit risk.

Schedule 70.040 Central Counterparty (CCP)

Section A – Exposures to Qualifying Central Counterparties

Exposures net of collateral should be reported in the exposure column.

Trade exposures (default risk) refers to counterparty credit risk exposure to central counterparties (CCPs) as defined in section 7.1.1.1 of the guideline. The derivatives exposures used in the calculation of RWA for default risk in this section should equal the total EAD (gross of allowances) reported for exchange-traded and OTC derivatives with qualifying CCPs in section B of Schedule 70.030 Derivative Contracts, adjusted for collateral where applicable. Initial margin refers to collateral posted to CCPs as defined in section 7.1.1.1 of the guideline.

Default fund exposures are deducted from CET1 capital.

Section B – Default Fund Contributions to Non-Qualifying Central Counterparties

In addition to default risk and CVA capital requirements (wherein exposures to non-qualifying CCPs are reported as bilateral OTC derivatives), exposures to non-qualifying CCPs are deducted from CET1 capital.

Section C – Total central CCP credit-risk weighted assets

Sum of total risk-weighted assets for exposures to qualifying CCPs and total default fund contributions.

Schedule 80.010 – Credit Valuation Adjustments (CVA) Risk-Weighted Assets

Credit Valuation Adjustments (CVA) on Bilateral OTC Derivatives

Two methods for calculating the capital charge for CVA risk on OTC derivatives are outlined in section 8.1 of the guideline. The Advanced method is used predominantly for portfolios whose EAD has been determined using the Internal Models Method (IMM), if the reporting institution is also approved for a specific interest rate risk VaR model for bonds (see section 8.1.1 of the guideline). The Standardized method, which is outlined in section 8.1.2, is used for most other portfolios. The total exposure reported in section C should equal the total EAD (gross of allowances) reported for bilateral OTC derivatives in section B of Schedule 70.030 Derivative Contracts, adjusted for collateral where applicable.

Schedule 90.010 – Market Risk

Only those institutions that meet the qualifying criteria for computing market risk capital requirements are to complete schedule 90.010. The qualifying criteria, as well as details of market risk calculations, are described in Chapter 9 of the guideline.

General Methodology

Institutions qualifying for the market risk framework must calculate capital requirements for interest rate and equity risks on instruments in the trading book. The charges comprise both specific and general risk components. In addition, these institutions must calculate general risk charges for foreign exchange and commodities risk on instruments throughout their banking and trading books.

There are two basic methodologies available for calculating capital required under the market risk framework – the standardized approach and an internal models approach. These are mutually exclusive for any particular portfolio. The standardized methodology is a building block approach that uses a number of prescribed factors and breakdowns of portfolios by long and short positions. The internal models approach is based on institution-specific models for Value at Risk (VaR), stressed Value at Risk (SVaR), incremental risk charge (IRC), and a comprehensive risk measure (MCRM). Institutions may not use internal models without prior approval from OSFI.

It should be noted that the only permissible approach for calculating the interest rate position specific risk capital requirement in respect of tranched products and basket credit default swaps (not eligible for inclusion in a correlation trading portfolio) is the standardized approach.

Section A - Internal Model Requirements

Requirements for qualifying internal models are summarized in section 9.4.2 and detailed in section 9.11 of the guideline.

Only results from approved models may be reported in section A of schedule 90.010. Where approved models are not in use, the general market risk and/or specific risk for those trading book exposures must be calculated using the standardized approach and reported in section B.

When reporting required market risk capital, general market risk and specific risk must be segregated in order to apply the appropriate multipliers. Where a reporting institution has obtained approval from OSFI to model portfolio (total) interest rate and/or equity risk (i.e., general market and specific risks combined) instead of separately modelling general market risk and specific risk, the reporting institution must treat the portfolio (total) interest rate and/or equity risk *entirely* as specific risk, for the purposes of calculating required market risk capital both within its VaR and SVaR models.

Section A(i) Value at Risk Component

General Market Risk VaR

For models that generate separate specific risk and general market risk values, Total VaR (item reference (F)[13] on schedule 42) is calculated by adding total general market risk VaR (item A), modelled interest rate specific risk (item B) and modelled equity specific risk (item D). If either equity specific risk (item D) or interest rate specific risk (item B) is not separately modelled (i.e. only portfolio (total) risk is modelled), the following applies:

- The modelled specific risk item must be left blank, and the corresponding portfolio (total) risk item (items E and/or C) must be reported. The corresponding general market risk data entry must be left blank.
- Portfolio (total) interest rate risk and/or portfolio (total) equity risk must be backed out of the modelled general market risk VaR in order to obtain total general market risk VaR for capital adequacy purposes[14], as reported in item A. To do so, it is assumed that there is a correlation of zero between total general market risk and portfolio (total) equity risk, or between total general market risk and portfolio (total) interest rate risk. For instance, if total general market risk VaR was modelled to include total equity risk, then, general market risk VaR for capital adequacy purposes is equal to a square root of (GMRm2 – Total Equity VaR2) where GMRm is modelled general market risk VaR.

Consolidated Value at Risk (without correlation benefit)

To calculate total VaR without correlation benefit (item F), full correlation (i.e., ρ=1) between general market and specific risk is assumed. This permits the summation of total GMRc (item A), modelled interest rate specific risk (item B) and modelled equity specific risk (item D). Where the internal model does not provide an estimate of specific risk, specific risk may be replaced with portfolio (total) risk (items C and/or E). In this case, the corresponding cells for modelled specific risk must be left blank, and vice versa.

$$F = A + (B \text{ or } C) + (D \text{ or } E)$$

Consolidated Value at Risk (modelled correlation)

To calculate diversified total VaR (item M) in the absence of an OSFI-approved modelling methodology, a correlation of zero between general market and specific risk should be assumed.

Using item references, item M is equal to a square root of (A2 + [(B or C) + (D or E)]2).

Multiplier Level

The multipliers, unless otherwise specified, are as follows:

- Multiplier level for general market risk: 3
- Multiplier level for interest rate specific or portfolio (total) risk: 3
- Multiplier level for equity specific or portfolio (total) risk: 3

VaR multipliers should be reported with up to 2 decimal places.

Incremental Risk Charge (IRC)

Requirements for qualifying internal IRC models are summarized in Appendix 9-9 of the guideline.

Where a reporting institution has obtained approval from OSFI to utilize an IRC model for the purposes of measuring interest rate specific default and migration risk for non-tranched products and eligible hedging instruments, it must report the measured capital charge in DPA 7930. This measured capital charge is the greater of the most recent estimate and the 12-week average. The multiplier attributed to IRC measured charges is 1.0.

Modelled Comprehensive Risk Measure (MCRM)

Requirements for qualifying internal MCRMs are summarized in Section 9.11.5.2 of the guideline.

Where a reporting institution has obtained approval from OSFI to utilize a MCRM for the purposes of measuring interest rate specific risk for tranched correlation trading products and eligible hedging instruments, it must report the MCRM in DPA 7701. This MCRM is the greater of the most recent value and the 12-week average. The multiplier attributed to the MCRM is 1.0.

The MCRM is subject to a floor of 8% of the capital requirement that results from applying the standardized approach to the correlation trading portfolio (section B(ii)(b) of Schedule 42). In addition, a supervisory adjustment may be applied based on outcomes of mandatory stress tests for the correlation trading portfolio as described in section 9.11.5.2. Unless advised otherwise, the supervisory adjustment is nil and the comprehensive risk measure after adjustment, reported in DPA 7702, should equal the pre-adjustment MCRM after standardized floor.

Section A(ii) Stressed Value at Risk Component

Institutions must report data in this section using stressed-VaR models for the same risk categories for which they have approved VaR models. Multipliers are set at the minimum of 3 for general market risk and specific risk components unless directed to be increased by the supervisor. Stressed VaR multipliers should be reported with up to 2 decimal places.

Section A(iii) Risks not in VaR Component

Subject to OSFI's permission to use this component, institutions must report data in this section for any capital add-ons related to Risks not in VaR (RNIV). RNIVs represent missing risk factors for which institutions cannot meet the internal model approval requirements for inclusion in sections A(i) or A(ii). Institutions should apply, where appropriate, a similar methodology to each individual RNIV as is applied in the determination of Stressed VaR. In other words, the individual RNIV measure should be taken at the 99th percentile confidence, with a multiplier of 3, over a 10 day holding period and should, where appropriate, be calibrated to the stressed period used at the enterprise level. Any individual RNIV that exceeds 1% of total market risk capital requirements must be reported in this DPA. If there are multiple contributory sources of RNIVs that exceed 1%, institutions must report the simple sum of RNIV measures in this section.

Section B - Standardized Approach Requirements

The standardized approach to calculating market risk charges is summarized in section 9.4.1 and detailed in section 9.10 of the guideline.

From the detailed calculations that are necessary to calculate capital requirements under the standardized approach, for non-tranched products only high-level results are required to be reported in the return. The Capital Charge summary table at the top of Section B captures separately the specific and general risk capital charges for each of the market risks.

In the case of the specific risk charge for interest rate position risk (DPA 7857), institutions must provide a breakdown between tranched and non-tranched products. The *non-tranched* component is reported in section B(i). Section B(ii) collects supporting detail in respect of the different categories of *tranched* products and associated hedges.

Section B(ii) Interest Rate Position Specific Risk - Tranched products & hedges

Section B(ii) is divided into three sections, B(ii)(a) to (c). Note that Section B(ii)(b) captures the series of options that are available in the standardized approach in respect of correlation trading portfolios, and is the basis of the standardized floor that is applied to the *MCRM* in Section A. Accordingly all institutions subject to the market risk framework – including those approved for a MCRM – must complete (as applicable) section B(ii) in its entirety.

For tranched products and hedges in the trading book an institution must calculate the capital requirement for interest rate position specific risk using a combination of methodologies described in Chapter 7 of the guideline (the securitization framework) with some alternative treatments described below. If an institution has not received approval from OSFI to apply an IRB approach to credit risk in its banking book and it is not permitted to apply one of the alternative treatments below, it must use the standardized securitization approach for its trading book tranched products and hedges. If an institution has AIRB approval, it must use the IRB securitization approaches for the trading book tranched products and hedges.

Capital charges other than 100% resulting from the standardized and IRB securitization approaches must be reported in the relevant Capital Charge column – Standardized or IRB. Exposures that attract a 1250% risk weight under either the standardized or IRB approach are reported in the single 100% capital charge column.

Section B(ii)(a) Non-correlation Trading Portfolios - Net position – summation of net long and absolute value of net short positions

Institutions must independently determine:

1. the total specific risk capital charge that would apply just to net long positions in non-correlation trading portfolio securitizations; and
2. the total specific risk capital charge that would apply just to net short positions in non-correlation trading portfolio securitizations.

Section B(ii)(a) must be completed based on the summation of 1) and 2) above, applying the methodologies described below. Rated and unrated instruments are reported separately.

Rated: If an instrument is externally rated BB- or greater and an institution has approval to apply an IRB method for credit risk, then the institution must apply the securitization IRB Ratings Based Approach (RBA) to these trading book instruments (DPA 7740). Institutions without IRB approval must apply the standardized securitization approach (DPA 7739). In either case the securitization charge should be applied to the sum of net long positions and the absolute value of the sum of net short positions.

If a securitization product is externally related below BB-, the institution must enter the exposure amount in the 100% capital charge column (DPA 7742), with exposure equal to the sum of the net long positions and the absolute value of the sum of net short positions.

Unrated: For unrated securitization products, the institution must enter the exposure amount in the 100% capital charge column (DPA 7745) unless it can apply one of the following 3 alternative treatments, summarized in section 9.10.1.1:

Treatment a) (charge other than 100% reported in DPA 7743; 100% capital charge reported in DPA 7745) is to apply the IRB securitization Supervisory Formula (SF) approach provided the institution is approved to apply an IRB approach to credit risk in the banking book. A charge is calculated by multiplying the risk-weighted asset that results from applying the SF by 8%.

Treatment b) (charge other than 100% reported in DPA 7743; 100% capital charge reported in DPA 7745) is to apply the SF approach provided the institution has approval to utilize VaR models for the determination of specific risk to the underlying reference assets that make up the particular unrated securitization product. A charge is calculated by multiplying the risk-weighted asset that results from applying the SF by 8%.

Treatment c) (charge other than 100% reported in DPA 7746; 100% capital charge reported in DPA 7748) is to calculate a charge by multiplying a securitization exposure by a concentration ratio times 8% of the weighted average risk weight that would apply under the standardized approach, unless the concentration ratio equals or exceeds 12.5, in which case the securitization exposure receives a 100% capital charge.

Section B(ii)(b) Correlation Trading Portfolios

For correlation trading portfolio eligible tranched products, a similar treatment to that in section B(ii)(a) for non-correlation trading portfolios is applied, but independently to net long positions and to the absolute value of net short positions. Non-tranched hedging instruments are reported separately for each, with the charge for these instruments determined using the standardized interest rate position specific risk (i.e. non-tranched product) framework.

The ultimate interest rate specific position risk capital charges (BN) and (BO) are equal to those of either the net long positions (BJ and BK) or of the net short positions (BL and BM), whichever position yields the higher total charge.

Section B(ii)(c) Basket Credit Default Swaps

This section itemizes capital charges associated with first to default and nth to default products. Instruments with external ratings below BB- are assigned a 100% capital charge.

Total capital required for interest rate position specific risk on tranched products

For institutions not approved to use a MCRM, the total standardized specific risk charge for interest rate position risk on tranched products (DPAs 7791 and 7792) are equal to the sum of the respective charges reported in sections B(ii)(a) to (c). For institutions approved for a MCRM, DPAs 7791 and 7792 should exclude the standardized correlation trading portfolio charges reported in section B(ii)(b).

Section C – Total Minimum Capital Charge for Market Risk (not including deductions)

This line aggregates the market risk charges related to

- internal models, i.e. from VaR, IRC, and MCRM; as well as from stressed VaR, and
- standardized approaches.

These charges are carried forward to Schedule 10.020 Summary of RWAs and EAD, where they are multiplied by 12.5 to arrive at a risk-weighted asset.

Section D – Valuation Adjustments for Less Liquid Positions

Additional valuation adjustments on less liquid positions beyond financial reporting requirements are described in section 9.8.4 of the guideline and are reported in this section. The total reported as a valuation adjustment must be reported in the Common Equity Tier 1 capital deduction "Valuation adjustments related to illiquid positions" (illustrative DPA 3_004) on Schedule 20.010 Capital Elements.

Section E - Memo Item – Quarterly Backtesting of Consolidated Value at Risk Model – One-day Value at Risk

Number of exceptions: Report the number of exceptions that occurred during the quarter. An exception is an instance when an end-of-day's VaR measure is less than the next day's hypothetical loss (or, where hypothetical outcomes are not available, the next day's actual trading loss).

The one-day value at risk, averaged over the quarter by dividing the sum of one day VaRs by the number of business days for the quarter for which VaR was calculated.

If an institution reports any exceptions for the quarter, it must also report the average divergence for the period which is the sum of divergences (exception loss – value at risk) divided by the number of exceptions.

Exception Loss and *value at risk* are, respectively, the hypothetical/actual loss and the VaR associated with an exception that occurred during the quarter.

Abbreviations

ACM Assets to capital multiple
AIRB Advanced internal ratings based (approach)
AMA Advanced measurement approach
ABCP Asset-backed commercial paper
AOCI Accumulated other comprehensive income
BIA Basic indicator approach
BCBS Basel Committee on Banking Supervision
CCF Credit conversion factor
CCP Central counterparty

CCyB Countercyclical buffer
CEA Credit equivalent amount
CEIO Credit enhancing interest-only (strips)
CEM Current exposure method
CET1 Common equity tier 1 capital
CRM Credit risk mitigation
CVA Credit valuation adjustments
DvP Delivery versus payment
EAD Exposure at default
EL Expected loss
FIRB Foundation internal ratings based (approach)
HELOC Home equity line of credit
HVCRE High volatility commercial real estate
IAA Internal assessment approach
IFRS International Financial Reporting Standard
IMM Internal model method
IO Interest-only (strip)
IRB Internal ratings based (approach)
NIF Note issuance facility
PD Probability of default
LGD Loss given default
M Maturity
MCRM Modelled comprehensive risk measure
MDB Multilateral development bank
NHA National Housing Act
OTC Over-the-counter
PO Principal-only (strip)
PSE Public sector entity
QRR Qualifying revolving retail
RBA Ratings-based approach
RUF Revolving underwriting facility
RWA Risk weighted assets
SA-CCR Standardized approach to counterparty credit risk
SBE Small business entity
SF Supervisory formula
SL Specialized lending
SME Small- and medium- sized entity
TSA The standardized approach (in respect of operational risk)
UL Unexpected loss
VaR Value at risk
VIE Variable interest entity

Validation Rule Terminology and Tolerances

Terminology and Tolerances

1. Rule Number

Non-dimensional Rules

Example: RS:142625002-1

- RS stands for Rule Set
- 142625002 is the rule number. A non-dimensional rule number can have eight or nine digits. If the rule number has eight digits, the first number represents the Schedule number where the target DPA appears. If the rule number has nine digits, the first two numbers represent the Schedule number where the target DPA appears. The four digits that follow the schedule number represent the target DPA. The example has nine digits. Therefore 142625002 refers to Schedule 14 and target DPA 2625. The last 3 digits act as a counter to differentiate between RS numbers when a given DPA is the target in more than one rule. In this example, this is the second rule that contains target DPA 2625.
- -1 is the number of occurrences of the rule. All non-dimensional rules have an occurrence number of 1.

Dimensional Rules

E.g. Start Rule ID RS:130-0 End Rule ID RS:130-245

- RS stands for Rule Set
- 130 is the rule number.
- -245 is the number of occurrences of the rule. Dimensional rules have occurrence numbers of 1 and greater.

2. ABS

ABS denotes absolute value. In some rules, the notation "SUM ABS" is used to signify the summation of the absolute value of a number of DPAs regardless as to whether they are reported as a positive or negative value.

3. TST

The expression "TST" is used in rules that have conditions.

For example, RS427904001-1

TST IS (($7889 <> 0)); (TST and ($7904 <> 0)) or (not TST) "TST IS" should be considered an *if statement*. If data point 7889 is not equal to 0, then data point 7904 should not be equal to 0.

4. GENGROUP

Some error messages for dimensional rules contain the expression GENGROUP. GENGROUP is used when a validation rule involves the aggregation of a number of DPAs. The email feedback will provide the rule using GENGROUP – e.g. @BA_GENGROUP5317184. The DPAs included in the group are listed in square brackets after the group name.

5. Tolerances

For certain rules there are tolerances whereby a validation error will not be generated unless the error exceeds a tolerance level. In most cases, the tolerances allows for a difference of plus or minus 10 between reported amounts and the amounts generated by applying the validation rules.

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1 Repo-style transactions and OTC derivatives attract both a credit risk charge and a charge for market risk under the framework outlined in the CAR Guideline.

2 The 100% risk weight is not applicable to Category III SMSBs as these assets are included in Adjusted Total Assets in the Simplified Risk-Based Capital Ratio.

3 Category III SMSBs should use Adjusted Total Assets, instead of credit RWA, when calculating the general allowances eligible for inclusion in Tier 2 capital.

4 0% and 20% risk weights are included for the line Other Assets not included in standardized approach on schedule 40.290 to accommodate possible future need. The only exceptions for using the 0% risk weight line is to report (i) that portion of reverse mortgages receiving deduction treatment, (ii) cash posted to qualifying CCPs as initial margin or as pre-funded default fund contributions, (iii) cash posted to non-qualifying CCPs as pre-funded default fund contributions, (iv) any receivables in respect of DvP trades.

5 In this context, wholesale refers to the Sovereign, PSE, PSEs, Bank, Covered Bonds, Securities Firms and Other Financial Institutions Treated as Bank, Corporate (Large, Mid-sized, SMEs treated as Corporate and Securities Firms and Other Financial Institutions Treated as Corporate), , Specialized Lending (including Project Financing, Object Financing, Commodity Financing, HVCRE and Slotting Approach) and Bank exposure classes in the Banking Book (excluding securitization), as well as the Trading Book exposure class.

6 Note that, under certain conditions, in the AIRB approach guarantees may instead be recognized through an *adjustment* to LGD. In these cases, the LGD is adjusted instead of substituting the guarantor's PD and risk-weight function.

7 Guarantors associated with exposures that are reported in the class after any exposure class shifts for guarantees.

8 FIRB banks compare expected loss to LGD. Per section 6.7.1(i), expected loss for a defaulted FIRB exposure equals the supervisory LGD. Therefore, LGD minus EL equals zero.

9 Due to the supervisory formula's linearity with respect to LGD, the "after guarantee" LGD for an exposure that qualifies for a 2% risk weight can be calculated as: (2% * EAD * LGD') / RWA' , where LGD' and RWA' are values calculated prior to the recognition the guarantee.

10 Only those exposures for which the DLGD floor is greater than both the 10% LGD floor and the institution's own estimate of LGD should be included in this memo item section.

11 Credit derivatives held in the trading book and not hedging banking book items or the counterparty credit risk on other trading book derivatives are included in Part B of schedule 70.030.

12 For this specific scenario, institutions may choose to allocate the RC to trades within a netting set differently. For example, the RC may be equally distributed to trades with positive RC or it may distributed according to the relative size of the PFEs of the trades within a netting set. Regardless of the allocation method chosen, it must be used consistently across all netting sets.

13 Note that the item references in these instructions represent the cells included in the "At reporting date" calculations. However, these instructions also apply to "60-day average" calculations.

14 This reflects the removal of risk factors containing specific risk.

Modified Date: 2023-07-24