

BASEL CAPITAL ADEQUACY RETURN (BCAR)

PURPOSE

This return provides 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 provides the risk-based 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 IRB banks under certain conditions. Please refer to the criteria provided in the General Instructions.

PUBLICATION

Certain information from this return is available on a total and institution-by-institution basis on the OSFI website at 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

Provide name and phone number of the person to contact at your FRFI regarding any questions about this return.

REPORTING DATES

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

WHERE TO SUBMIT

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

Generally, BCAR must be completed by all banks, 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 BCAR Short Form. In addition, certain sections or cells in the return may apply to specific types of institutions only (e.g. D-SIBs, federal credit unions).

These instructions provide guidance on how to complete the full BCAR ("the return"). The reporting frequency and calculations required for completing the schedules in BCAR Short Form are the same as for the full BCAR, with the exception that summary information related to risk weighted assets (Schedule 2), expected loss (Schedule 4), and exposures (Schedule 45) are not carried forward from other schedules.

BCAR Short Form

BCAR Short Form comprises 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) 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.

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

- 1 Ratio Calculations
- 2 Summary of Risk-weighted Assets
- 3 Capital and TLAC Elements
- 3A Qualifying Capital Issued Out of Subsidiaries
- 4 Allowance for Impairment: Capital Treatment
- 38 Other Credit Risk-weighted Assets
- 39 Off-balance Sheet Exposures Excluding Derivatives and Securitization Exposures
- 40 Derivative Contracts
- 41 Securitization Exposures
- 42 Minimum Capital Required for Market Risk
- 43 Minimum Capital Required for Operational Risk
- 45 Balance Sheet Coverage by Risk Type and Reconciliation to the Consolidated Balance Sheet

Qualifying institutions that opt for filing 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 (returnsadmin@osfi-bsif.gc.ca) and to the lead supervisor for 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 full BCAR.

Basis of Measurement and Reporting Units

The measurement basis used for reporting balance sheet exposures in the return is the same as that used for financial reporting, i.e. the balance sheet value determined for accounting purposes, with the exceptions of:

- a) own-use property plant and equipment.

For own-use property 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; and
- accumulated net after-tax revaluation losses that are reflected in retained earnings at conversion to IFRS or as a result of subsequent revaluations.

For own-use property 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 retained earnings at conversion to IFRS.

- b) certain financial instruments in the banking book:

- 1) loans fair valued under (i) Fair Value Option, or (ii) Fair Value Hedge; and
- 2) debt and loans fair valued under Available for Sale accounting, *if the exposures are reported under the IRB credit risk framework.*

For the financial instruments noted above, reported exposures should be based on amortized cost, with amortized cost calculated as defined by IFRS.

All dollar amounts 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; LGDs with up to two decimal places. Other units of reporting are specified in the applicable section 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 guideline.

Calculation versus Reporting Detail

The schedules in this return are designed to provide the overall calculation of the risk-based capital and TLAC ratios, as well as certain breakdowns regarding key components and risk factors. In many cases – particularly in respect of the IRB approaches – an institution must prepare more detailed breakdowns and calculations in order to derive the summary data required by the return. For example, IRB schedules require weighted average LGD information instead of full matrices by individual LGD band. Nevertheless, an institution must calculate risk-weighted assets using the full amount of detail available. As a result, the reported figures will not necessarily be sufficiently detailed to enable a precise replication of the risk-weighted asset calculations.

Credit Risk and Schedule Completion

There are two broad methodologies available for calculating capital requirements associated with credit risk – the standardized, and the IRB approaches. Prior approval from OSFI is required in order to use IRB.

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

The nature of the portfolios 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 section for Banking Versus Trading Book in this document.

The schedule listing at the front of the return indicates which schedules require completion given the methodology(ies) adopted for credit risk.

Credit Risk Treatment of Securitization-related Exposures

In both the standardized and IRB approaches, securitization-related exposures receive different credit risk treatment, and are generally reported separately from, all other exposures. Securitization-related exposures are defined in section 7.1 of the guideline.

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, which exclude exposures treated under the securitization framework, are as follows:

Exposure Class	Guideline Reference / Definition
Corporate	<p>For both the standardized and IRB approaches, in general, a corporate exposure is defined as (for IRB, see Section 6.2.1(i)):</p> <p>A debt obligation of a corporation, partnership, or proprietorship. Corporate exposures include debt obligations and obligations under derivatives contracts of corporations, partnerships, limited liability companies, proprietorships and special purpose entities (including those created specifically to finance and/or operate physical assets). Loans to or derivative contracts with a pension fund, mutual fund, or similar counterparty are treated as corporate exposures unless the institution is able to use a look through approach. Pension/mutual/hedge funds and income trusts contracts are also treated as corporate exposures.</p>
	<p>Also includes:</p> <ul style="list-style-type: none"> · securities firms that do not meet the criteria for Bank as provided in section 3.1.6, · PSEs that are significantly in competition with the private sector (as per section 3.1.3), · PSEs in foreign jurisdictions that are given corporate treatment by the national supervisor in the jurisdiction of origin (section 3.1.3), · mortgage-backed securities, if not tranching, and · asset-backed securities, if not tranching <p>A distinction is made in the IRB approaches for the SMEs treated as Corporate subclass, defined in section 6.3.1(ii).</p> <p>A further distinction is made in the IRB approaches for the Specialized Lending subclass. Specialized lending comprises five sub-classes, defined in section 6.2.1(i). The return collects IRB data for high-volatility commercial real estate (HVCRE) separately from the other four subclasses (non-HVCRE).</p> <p><i>Note: OSFI has not adopted the HVCRE subclass for exposures in Canada, but recognizes that institutions may have exposures in other jurisdictions where the supervisor has categorized certain types of commercial real estate as HVCRE.</i></p>
Sovereign	<p>Sections 3.1.1 to 3.1.2, and section 6.2.1(ii). Also includes:</p> <ul style="list-style-type: none"> · PSEs that qualify as Government of Canada under section 3.1.3, · PSEs in foreign jurisdictions that are given sovereign treatment by the national supervisor in the jurisdiction of origin, and · multilateral development banks that meet the 0% criteria listed in section 3.1.4.

Exposure Class	Guideline Reference / Definition
Bank	Banks and DTIs as described in section 3.1.5. Also includes: <ul style="list-style-type: none"> · multilateral development banks that do not meet the 0% criteria listed in section 3.1.4, · securities firms that meet the criteria for Bank treatment as per section 3.1.6 · PSEs, defined in section 3.1.3, with the exception of those given Sovereign or Corporate treatment
Residential Mortgage	Sections 3.1.9 and 3.1.10 for the standardized approach and section 6.2.1(iv) for the IRB approach. A further distinction is made in the IRB approach for the Home Equity Lines of Credit (HELOCs) subclass, which comprises lines of credit secured by equity in a residential property. As set out in section 3.1.10, reverse mortgages must be treated under the Standardized approach and reported on Schedule 9 Retail Residential Mortgages.
Other Retail	Retail excluding residential mortgages. Retail is defined in section 3.1.8 for the standardized approach; and separately in section 6.2.1(iv) for the IRB approach. A further distinction is made in the IRB approach for the Qualifying Revolving Retail (QRR) subclass, defined in section 6.2.1(v).
SBEs treated as Other Retail	Section 3.1.8 for the standardized approach and section 6.2.1(iv) for the IRB approach.
Equity	For the standardized approach, equity exposures comprise those instruments reported as equity on the reporting institution's balance sheet together with instruments that would qualify as Tier 1 capital. For the IRB approach, see section 6.2.1(vi).

Note: Bankers' acceptances (BAs) issued by the reporting institution and own BAs purchased should be classified according to the exposure class of the beneficiary. Other banks' BAs purchased should be classified as "Bank" exposures.

Exposure Classification and Credit Risk Mitigation (CRM)

Credit risk mitigants recognized for capital adequacy purposes comprise guarantees, credit derivatives, and collateral that meet specific criteria set out in the guideline.

For reporting purposes, generally all exposures -- both pre-CRM *and* post-CRM -- must be classified according to the exposure class of the original obligor. Within the *obligor's* exposure class, CRM is reported as follows:

- Guarantees are reflected in the standardized approach by shifting an exposure from the risk weight of the obligor to the risk weight applicable to the guarantor.
- Guarantees are generally reflected in the IRB approaches through
 - (i) a substitution framework that uses the risk-weight formula relevant to the guarantor and shifts an exposure from the PD band of the obligor to the PD band appropriate to the guarantor, or
 - (ii) an adjustment framework that uses the risk-weight formula relevant to the obligor and adjusts the LGD of the exposure to take into account the guarantee, or
 - (iii) a double default framework that uses the obligor's risk weight formula, adjusted to take into account the LGD and PD of the guarantor.
- Depending on the credit risk approach, collateral is reflected through an adjustment to one of the following: the risk weight, the exposure amount or the LGD.

Except in limited circumstances regarding guarantees and credit derivatives, exposures should not shift classes as a result of credit risk mitigation.

Exposures must shift exposure classes only under circumstances where (i) the exposure is reported under one of the IRB approaches, (ii) the exposure is treated under the substitution framework, *and* (iii) the exposure is guaranteed by an eligible guarantor that is subject to a different risk weight formula than the obligor. In these cases, exposures are initially included in the exposure class of the obligor. Guarantees must be reported as decreases in exposures to the obligor (i.e., to the retail and SME classes) and as offsetting increases in the exposure class of the guarantor (i.e., corporate, sovereign, and/or bank).

Exposure Types

Exposure Classes are further broken down into the following credit risk Exposure Types:

Exposure Type	Guideline Reference / Definition
Drawn	The amount of funds invested or advanced to a customer. Includes accrued interest and dividends receivable on these amounts.
Undrawn commitments	Commitments are defined in section 3.5 of the guideline. An undrawn commitment is the difference between the advised authorized* amount and the drawn amount (e.g., the unused portion of a line of credit). It does not include items such as pre-approved mortgages that primarily serve to lock in an interest rate.
Repo-style Transaction**	Comprises non-centrally cleared repurchase and reverse repurchase agreements, securities lending and borrowing, together with these types of exposures if transacted through a non-qualifying central counterparty. See definitional portions of sections 3.1.13 and 3.1.14. <i>Note:</i> Where an institution acts as an agent to arrange a repo-style transaction and provides a guarantee to its customer, and there is a master netting arrangement between the client whose securities are being lent and the counterparty to the transaction, this may be reported as a repo-style transaction.
OTC Derivatives**	Bi-lateral OTC derivative contracts, together with OTC and exchange-traded contracts transacted through a non-qualifying central counterparty. See section 4.1.1 and sections 3.2.9 to 3.2.17.
Other off-balance sheet	Section 3.2.1 to 3.2.8 (all off-balance sheet arrangements other than derivatives and undrawn commitments). <i>Note:</i> Where an institution acts as an agent to arrange a repo-style transaction and provides a guarantee to its customer, and there is no master netting arrangement between the client whose securities are being lent and the counterparty to the transaction, this must be reported as “Other off-balance sheet” (direct credit substitutes).

* Advised authorized refers to commitments, firm or unconditionally cancellable, that are communicated to the customer in writing.

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

Reporting Combinations of Exposure Classes and Types

The IRB approaches require a more detailed breakdown of some exposure classes than does the standardized approach. For example, HELOCs are reported as a separate class under IRB whereas they are included in the Retail Residential Mortgage class in the schedules for the standardized approach. As well, not all exposure types are applicable to every exposure class. The following table indicates the reporting combinations:

Matrix of Credit-risk Exposure Classes and Types

		Drawn	Undrawn commitments	Repo-style transactions	OTC Derivatives	Other off-balance sheet
Banking Book	Corporate (<i>excluding SMEs treated as corporate* and specialized lending*</i>)	S, I	S, I	S, I	S, I	S, I
	<i>Specialized lending – HVCRE*</i>	I	I		I	I
	<i>Specialized lending – Non-HVCRE*</i>	I	I		I	I
	<i>SMEs treated as Corporate*</i>	I	I	I	I	I
	Sovereign	S, I	S, I	S, I	S, I	S, I
	Bank	S, I	S, I	S, I	S, I	S, I
	Retail Residential Mortgages (<i>excl. HELOCs*</i>)	S, I	S, I			S, I
	<i>HELOCs*</i>	I	I			I
	Other Retail (<i>excl. SBEs treated as Other Retail and Qualifying Revolving Retail*</i>)	S, I	S, I	S, I	S, I	S, I
	<i>Qualifying Revolving Retail*</i>	I	I			I
	SBEs treated as Other Retail	S, I	S, I	S, I	S, I	S, I
	Equity	S, I	S, I			
Trading Book				S, I	S, I	

S = Standardized approach

*Italics**, I = IRB approach (FIRB, AIRB, or IRB) only

Past Due Loans and Defaulted Exposures

The standardized approach differentiates between past due loans and other loans to determine the appropriate risk weight for an exposure. The schedules for the standardized approach collect information by risk weight but do not include separate lines called “past due loans”.

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 6.8.7(ii).

Banking Versus Trading Book

With the exception of schedules 13 and 28, exposure class schedules are denoted as capturing credit risk in the banking book. Schedules 13 (Standardized) and 28 (IRB) are denoted as *trading book* and contain only the exposure types of repo-style transactions and OTC derivatives. 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 framework¹. The criteria for requiring market risk capital calculations are provided at the beginning of Chapter 9 of the guideline.

If an institution's overall trading portfolio is not sufficiently material to qualify for a separate market risk capital charge (reported on schedule 42), an institution must complete the exposure class schedules denoted as banking book (i.e., schedules 5 to 12, 22 to 27, 29 to 36 depending on the credit risk approach) *encompassing both their banking and total trading books*, and leave schedules 13 and 28 blank. Similarly, the securitization schedules (14, 37 and 41) must include trading book securitization exposures if a separate charge for market risk is not calculated.

If an institution is completing trading book schedules 13 and/or 28 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) between the banking and trading book schedules. A proration should be based on the notionals in the relevant netting set.

80% Threshold calculation for IRB banks

Chapter 1 of the 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:

(i) *Exposure*

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

IRB Exposure DPAs

= 8512 + 8513 + 8514 + 8515 + 8516 + 8517 + 8518 + 8519 + 8520 + 8521 + 8522 + 8523 + 8524 + 8525 + 8526 +
8527 (from Schedule 44 of BCAR)
+ 7684 + 7698 (from Schedule 41 of BCAR)
+ 3207 (from Schedule 35 of BCAR)

Total Exposure DPAs

= 8529 (from Schedule 44 of BCAR)
+ 7663 + 7664 + 7678 + 7684 + 7698 (from Schedule 41 of BCAR)
+ 3207 (from Schedule 35 of BCAR)

(ii) *Risk-weighted assets*

%IRB RWA Calculation = IRB RWA DPA / Total RWA DPA
= 1324 / 1388 (from Schedule 2 of BCAR)

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 guideline.

OSFI recognizes that the implementation of the revised securitization framework will result in exposures measured under the external ratings based approach (SEC-ERBA) being classified as standardized, while under the previous framework these exposures were (under the RBA) classified as IRB for the purposes of this threshold and institutions may need a period of time to adjust to this change. To reflect this, DPAs 2722 and 2734, corresponding with SEC-ERBA exposures and RWA respectively may be considered IRB rather than standardized in the above calculation of the 80% threshold.

Schedule 1 - Ratio Calculations

Ratio Calculations

The calculation of the risk-based capital ratio is described in section 1.5 of the guideline. For D-SIBs, the calculation of the risk-based TLAC ratio is described in OSFI's TLAC Guideline. The lines relating to target capital ratios refer to the minimum capital requirements set out in section 1.5 of the guideline plus any mandated capital buffers set out in section 1.6 of the guideline. The target TLAC ratio refers to the minimum risk-based TLAC ratio set out in the TLAC Guideline. All ratios are expressed in percent.

Adjustment [to risk-weighted assets] for floor: These items must be calculated only by institutions using an IRB approach for credit risk. The adjustments are calculated according to section 1.9 of the guideline. Details of the calculation of the adjustment for floor are reported on Schedule 2A.

Memo Item 1: Institution's own internal capital and TLAC targets: The items in this memo section relating to capital must be reported by all institutions. Institutions should report internal capital targets that have been set by management and approved by the Board. The line item relating to an institution's own internal TLAC target is to be reported by D-SIBs only.

Memo Item 2: Capital ratios without Expected Credit Loss (ECL) Transitional Arrangements: In order to address operational issues stemming from COVID-19, OSFI introduced an adjustment to capital for ECL provisioning, for a 3-year period ending in the fourth quarter of 2022. This transitional arrangement results in a portion of allowances that would otherwise be included in Tier 2 capital to be instead included in CET1 capital. This section reports the institutions risk-based capital ratios excluding the ECL transitional arrangements.

Schedule 2 - Summary of Risk-weighted Assets

The figures in this schedule are generally carried forward from supporting schedules in the return. IRB institutions must report a "1" in the appropriate cell at the top of Schedule 2 indicating the approach used – Foundation (FIRB) or Advanced (AIRB) – for their wholesale exposure classes (e.g. Corporate, SMEs treated as Corporate, Sovereign, Bank). Risk-weighted assets reported on the IRB schedules for these classes must be carried forward to the appropriate column on Schedule 2 according to the calculation approach used. Given that there is no FIRB / AIRB distinction in the capital framework for specialized lending – slotting; retail; equity; and securitizations, any IRB risk-weighted assets for these exposure classes are entered only into the Total IRB column.

Adjustment to IRB risk-weighted assets for scaling factor: This calibration adjustment represents the difference between the credit risk-weighted assets calculated using the IRB approaches (as reported in schedules 22A to 37), and IRB risk-weighted assets that result from application of a scaling factor. With the scaling factor “S” expressed as a multiple, the adjustment is calculated as:

$$(S - 1) \times (\text{Subtotal IRB credit risk-weighted assets, adjusted to exclude securitization risk-weighted assets}^2)$$

The level of the scaling factor is 1.06.

Credit or market risk-weighted assets 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 38 with a 0% risk weight). Adjustments for excess RWA calculated using the IRB credit risk approach should reflect the IRB scaling factor as appropriate.

Schedule 2A - Summary of risk-weighted assets under the capital floor

This schedule collects details on the capital floor calculation described in section 1.9 of Chapter 1. All institutions using the AIRB approach to credit risk are required to report this schedule unless otherwise agreed with OSFI.

The RWA floor adjustment is based on the difference between the ‘floor requirement’ and the ‘before-floor requirement’. The floor requirement is calculated by applying the floor adjustment factor to standardized credit and market 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 RWA as filed on Schedule 2, less 12.5 x allowances eligible to be included in capital net of any shortfall deduction.

The floor adjustment factor is normally set a 75%, however OSFI may require institutions to apply a higher or lower factor depending on the results of reviews of individual institutions.

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 14 of BCAR. In the calculation of standardized credit risk RWA on IRB portfolios, the IRB definition of default may be used as a practical expedient. 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 risk weighted assets, as calculated under the floor.

The memo item “Memo: Capital floor credit risk-weighted assets 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, double default, or LGD adjustment, consistent with Schedule 44.

² Although excluded from the 1.06 scaling factor here, the SEC-IRBA includes the scaling factor in K_{IRB} .

The table below provides additional details of the revised floor calculation.

Asset Class/Exposure type	Approach	Guideline reference for treatment in the revised floor
Corporate	Standardized	CAR Chapter 3: 3.1.7 and 3.1.16
Sovereign	Standardized	CAR Chapter 3: 3.1.1 through 3.1.4 and 3.1.16
Bank	Standardized	CAR Chapter 3: 3.1.5, 3.1.6 and 3.1.16
Retail Mortgages (incl. HELOCs)	Standardized	CAR Chapter 3: 3.1.9 through 3.1.12 and 3.1.16
Other retail, excl. SBEs	Standardized	CAR Chapter 3: 3.1.8 and 3.1.16
SBEs treated as Other Retail	Standardized	CAR Chapter 3: 3.1.8 and 3.1.16
Equity	Standardized	CAR Chapter 3: 3.1.18, and 3.1.19
Trading Book	Standardized	CAR Chapter 3: 3.1.13, 3.1.14 and 3.1.16
Securizations	Standardized	CAR Chapter 7, excluding paragraph 54 of section 7.4.2
Other Credit RWA (incl. CCPs and failed and non- DvP trades)	Standardized	CAR Chapter 3: 3.1.19, Chapter 2 and Chapter 4
CVA	Std or Adv*	CAR Chapter 4
Market Risk	Basel 2	CAR Chapter 9: Standardized and VaR (i.e. excluding 9.11.5.2 (CRM), Appendix 9-9 (IRC), and paragraph 199i (SVaR))

*CVA RWA should be the same under both Modelled RWA and Floor RWA.

Schedule 3 - 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 3 are generally based on an institution's consolidated balance sheet. Certain line items adjust these figures to recognize where capital elements (including contributed surplus, retained earnings and accumulated other comprehensive income (AOCI)) differ for 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 retained earnings or to AOCI depending on the accounting treatment. The adjustment for contributed surplus removes amounts not related to common shares from 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. For example, short positions in an institution's own shares that are recognized for accounting purposes as a positive balance in an institution's common shares as well as long positions in an institution's own shares not recognized for accounting purposes should be deducted from CET1 capital rather than netted against common shares. 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, 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. However, intangible assets related to these significant investments should be included as part of the significant investment amount and treated as per section 2.3.1 of the guideline.

Section A – Calculation of Total Capital and TLAC Available

Section A shows the derivation of net common equity tier 1 (CET1), net tier 1, total capital, total TLAC available. Each subcomponent (CET1, Additional Tier 1, Tier 2, TLAC available) are presented 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 this tier's various threshold deductions.

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 G-SIBs are deducted from the investing institution's Tier 2 capital.

Investments of a D-SIB or 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 3 also contains four additional sections that provide supporting information or calculations.

Section B – Calculation of Basel III 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

Calculation of the deduction for “non-significant” investments is outlined in sections 2.3.1 to 2.3.3. 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 described in the following sentence. 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 continue to be reported on Schedule 12 (Standardized Equity) or Schedule 35 (IRB Equity). 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 3. These equity exposures should be reported on the applicable credit risk (Schedules 12 or 35) or market risk (Schedule 42) schedules.

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

Significant investments in common equity, deferred tax assets relating to temporary differences, and mortgage servicing rights 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 deduction 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 38 Other Credit Risk-weighted Assets, the basket-related deduction is allocated pro-rata between the three elements.

Section D – Phase-out of non-qualifying capital instruments

Instruments that are considered non-qualifying for capital purposes under Basel III are to be phased out from capital pursuant to sections 2.4.2 and 2.4.3 of the guideline. The phase-out factor, reported in datapoint 1656, will change each year during the transition period, as indicated in section 2.4.2.

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 3A – 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 2.1.1.2
- Tier 1 instruments: Sections 2.1.2.2
- Tier 2 instruments: Sections 2.1.3.2

Schedule 3A 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 3 Capital Elements. Information is collected separately for subsidiaries that are banks and subsidiaries that are not banks.

Schedule 4 - Allowance for Impairment: Capital Treatment

Schedule 4 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 risk-weighted assets. For financial institutions that continue to record allowances under IAS 39, general allowances are defined as all allowances on performing loans and specific allowances are defined as allowances on non-performing loans. 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 risk-weighted assets and amount of the general allowance.

Institutions that do not **meet the conditions for including allowances in Tier 2 capital** must nevertheless complete Schedule 4. This includes the upper section summarizing the general allowance, together with the applicable portions of the Standardized and/or IRB sections. A "zero" must be reported for datapoint 1998 (standardized methodology – "Eligible Stage 1 and Stage 2 allowance for inclusion in Tier 2 capital") and for datapoint 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 section 2.1.3.7 of the guideline. The proportion of credit risk-weighted assets under each of the standardized and IRB approaches to total risk-weighted assets under those approaches must be expressed in percent.

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, **or any other allowances taken on securitization exposures. Such allowances should be removed along with allowances held in respect of subsidiaries that are deconsolidated for capital purposes.**

Standardized Methodology – Eligible Stage 1 and Stage 2 allowance for inclusion in Tier 2 capital: The limit on the eligible general allowance, defined as Stage 1 and Stage 2 allowances under IFRS 9, is based on a percentage of credit risk-weighted assets associated with the standardized approach. In determining this limit, any risk-weighted assets not directly calculated under the standardized or IRB approaches (i.e., those included in schedule 38 for other credit risk-weighted assets) are allocated to the standardized approach based on standardized risk-weighted assets as a proportion of total standardized and IRB risk-weighted assets.

IRB Methodology – Eligible Allowance (including partial write-offs): This calculation, which excludes equity and securitizations, is outlined in section 6.7.2(i) of the guideline. The table "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 risk-weighted assets (i.e. FIRB or AIRB).

The table "Memo: Internal allocation of Stage 1 and Stage 2 allowance (in respect of IRB portfolios)" collects 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 not expected to align with the 'Stage 1 and Stage 2 allowances allocated to IRB portfolios' reported on this schedule. This information is collected as a memo item and is not included in the calculation eligible allowances.

Note that “Stage 3 + partial write-off” in the table 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 3.

IRB Methodology – Expected Loss Amount: This calculation is outlined in section 6.7.1 of the guideline. Expected Loss Amounts reported on this table are carried forward from the supporting exposure class schedules. Amounts in respect of wholesale exposures must be reported as either FIRB or AIRB, consistent with the IRB methodology used as indicated on schedule 2.

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 risk-weighted assets under the IRB approaches. To determine credit risk-weighted assets under the IRB approaches, any risk-weighted assets not directly calculated under the standardized or IRB approaches (i.e., those included in schedule 38 for other credit risk-weighted assets) are allocated to IRB based on IRB risk-weighted assets as a percentage of total standardized and IRB risk-weighted assets.

ECL Transitional Arrangements: To address issues stemming from COVID-19, OSFI introduced an adjustment to capital for ECL provisioning. The calculation of this adjustment is outlined in the letter dated April 9, 2020³.

For exposures treated under either the standardized approach or IRB approach, institutions should compare Stage 1 and 2 allowances allocated to the respective credit risk approach at the end of the BCAR filing period to the baseline amount of Stage 1 and 2 allowances. The baseline amount is calculated at the quarter ending December 31, 2019, for December 31 year-end institutions, or January 31, 2020, for October 31 year-end institutions. If there is an increase in allowances, this amount should be multiplied by 1 – tax rate and the result should be adjusted by the scaling factor. The scaling factor is set at 70% in fiscal 2020, 50% in fiscal 2021 and 25% in fiscal 2022.

For the tax rate, institutions may choose to apply their effective corporate tax rate for the quarter (calculated as the institutions' income tax expense for the quarter divided by income before income tax expenses for the quarter) or the actual tax rate applied to determine the deferred tax assets related to stage 1 and 2 allowances.

Under the standardized approach, the resulting amount should be added to CET1 capital. Under the IRB approach, the lower of the resulting amount and the excess allowances eligible for inclusion in Tier 2 capital, should be added to CET1 capital.

Please refer to the April 9th letter for additional details.

³ Available at: https://www.osfi-bsif.gc.ca/Eng/fi-if/in-ai/Pages/20200409_dti_let.aspx

Schedules 5 to 13 - Credit Risk-weighted Assets under the Standardized Approach

General Methodology

The standardized approach to calculating credit risk-weighted assets is outlined in Chapter 3 of the guideline. Generally, net exposures (gross exposure less specific allowances) are multiplied by prescribed risk weight factors to arrive at risk-weighted assets. The risk weight factors vary depending on the exposure class and the external credit assessment associated with the exposure. The exposure amount and/or the risk weight factor are adjusted to reflect the impact of credit risk mitigation.

Columns for “Before CRM”

All exposures before credit risk mitigation are reported according to the risk weight of the obligor. With the exception of schedule 13 for Trading Book, exposures are reported both gross (of all allowances for credit loss), and net (gross less specific allowances). The latter figure is used for calculating risk-weighted assets. Trading book exposures are reported without reference to allowances, given that exposures in the trading book are marked to market.

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 3.1.13 and 3.1.14 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 39 (Off-balance sheet exposures excluding derivatives and securitization exposures).

On schedule 5 for Corporate, the only Drawn amounts that may be reported with a risk weight of 35% are pass-through mortgage-backed securities where the pool is qualifying residential mortgages meeting the conditions outlined in sections 3.1.11 and 3.1.12 of the guideline. Exposures to mortgage-backed securities that incorporate tranching of credit risk are to be reported on Schedule 14 – Securitization exposures subject to the standardized approach or the external ratings based approach.

Columns for “Adjustments for CRM”

Credit risk mitigation for the standardized approach is discussed in detail in section 5.1 of the guideline. Note that, with respect to reflecting the impact of collateral, institutions may choose either the simple or the comprehensive approach (not a combination) for their banking book; and that only the comprehensive approach is available for the trading book (see section 5.1.2(i) of the guideline).

Redistribution of net exposures for guarantees & credit derivatives, and collateral: Negative dollar amounts in these columns, offset by positive dollar amounts within the same columns, 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). Total exposures by class and by type do not change under this substitution approach. 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 guarantees and credit derivatives is described in section 5.1.2(iii) of the guideline. The simple approach for collateral is summarized in section 5.1.2(i).

NHA mortgage-backed securities that are eligible for a 0% risk weight pursuant to section 3.1.11 of the guideline should initially be reported as exposures with a 35% risk weight. The redistribution column for guarantees and credit derivatives should be used to move the exposure from the 35% risk weight to 0%.

Insured residential mortgages should be reported as exposures with risk weights as per section 3.1.9 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 Chapter 5 of the guideline are met. The redistribution column for guarantees and credit derivatives should be used to move the exposure from the original risk weight to the risk weight post-CRM.

Additionally, schedule 9 includes a memo item section capturing information on insured retail residential mortgages, 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. Columns (h) and (l) represent a subset of the exposures in column (b), reported according to the asset class of the provider of insurance. For example, if the institution treats a portion of a mortgage insured by a private corporation as a sovereign exposure, this should be reflected in the redistribution column of mortgages insured by a corporate (column (m)).

Adjustment to net exposure for collateral under the comprehensive approach: 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).

Risk-weighted Assets: The risk weight factors applicable to each of the exposure classes are provided in sections 3.1.1 to 3.1.15. The risk weights for different types of past due loans are discussed separately in section 3.1.16.

It should be noted that, notwithstanding the grouping of exposures within an exposure class for reporting purposes, institutions must apply the risk weight appropriate to individual exposures within a class. For example, multilateral development banks (MDBs) that do not meet the criteria for a 0% risk weight are reported in the Bank class. Nevertheless the risk weight factor for MDBs rated BBB+ to BBB- differs from that applicable to “banks” as defined in section 3.1.5.

Schedule 12- Banking Book Equity under the Standardized Approach

The treatment of Equity Investment in Funds is outlined in section 3.1.18 of the guideline.

Schedules 14 and 37 - 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 41 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 41 are detailed on schedules 14 and 37, 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 7 of the guideline and it is to be applied independently of the accounting treatment of the exposure. As indicated in section 7.5.1, the framework applies to all securitization exposures, including the provision of credit risk mitigants to a securitization transaction, investments in asset-backed securities (if tranching), 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 Chapter 7, paragraph 27. 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 schedules 5 to 11 (standardized approach), 22 to 27 (Foundation and Advanced IRB approaches), or 29 to 34 (IRB approach). The deduction from capital for gains on sale must continue to be reported in Part A of the appropriate securitization schedule (schedule 14 or 37).

There is a hierarchy of approaches to securitization, as indicated in section 7.5.2. 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 37). Otherwise if the exposure is externally rated, then institutions must apply the SEC-ERBA approach for the exposure (reported on schedule 14). If neither of those approaches are available, the SEC-SA is to be applied (reported on schedule 14), with the exception of unrated liquidity facilities where the commercial paper (CP) is rated, where the IAA may be applied (reported on schedule 37). Section 7.5.2.3 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 risk-weighted assets must follow the methodology outlined in section 7.8. In this case, the exposures requiring a credit risk charge must be reported with other balance sheet and off-balance sheet exposures on schedules 5 to 11 (standardized approach), 22 to 27 (Foundation and Advanced IRB approaches), or 29 to 34 (IRB approach). The deduction from capital for gains on sale must continue to be reported in Part A of the appropriate securitization schedule (schedule 14 or 37).

Schedules 14 and 37 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 14, as these exposures must use the standardized approach (SEC-SA). The definition of a senior exposure is provided in section 7.2.1.12 of the guideline. The definitions of securitization and resecuritization exposures are provided in section 7.1. STC Transactions are defined in section 7.10 as transactions that meet the criteria for simple, transparent, and comparable (STC) securitizations outlined in appendix 7-1 for term securitizations and appendix 7-2 for exposures to, or funded by ABCP conduits.

The on and off-balance sheet exposures reported on schedules 14 and 37 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 41 for standardized and IRB, respectively. Note that schedule 41 combines both the securitization exposures excluding resecuritization, and the resecuritization exposures, as reported on schedule 14, as well as securitization exposures from schedule 37. On both Schedule 14 and 37, 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.

Transitional arrangements

There will be no transitional arrangements for transactions entered into after December 31, 2018. For transactions entered into prior to 2019, certain aspects of the framework will not apply until Q1 2021. For these transactions, during this transitional period:

- 1) the new quantitative test of significant risk transfer (which requires a reduction in required capital of 60%) will not apply,
- 2) externally rated originator exposures may be treated under the ERBA rather than SEC-IRBA, and
- 3) the assessment of the STC criteria can instead assess whether the transaction could reasonably be modified to meet the STC criteria.

No separate template is proposed for transactions subject to these transitional arrangements and these transactions should instead be reported in schedules 14, 37 and 41 as appropriate. For instance, a transaction that does not meet the STC criteria today, but could readily be modified to do so should be reported as an STC-securitization. And an own-asset securitization exposure that previously met your assessment of significant risk transfer, but fails the new quantitative test may be reported on schedule 14 or 37 as a securitization.

Schedule 14 – Standardized Approach for Securitization – Credit Risk Treatment

General Methodology

The external ratings based (SEC-ERBA) methodology for securitization exposures is outlined in section 7.6.2, and the standardized methodology (SEC-SA) for securitization exposures is outlined in section 7.6.4 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 14 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 41.

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 7.5.1. The gains on sale and CEIO strips reported on schedule 14 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% credit conversion factor, except for eligible servicer cash advances facilities, as reported in schedule 41. The appropriate treatment of rated exposures is explained in section 7.6.2 and conditions for when an inferred rating can be used are in section 7.6.2.4.

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 7.6.2. The resulting risk-weight should lie within the range indicated in the risk weight column.

Redistribution of net exposures for guarantees & credit derivatives, and collateral: 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.

Adjustment 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.

Maturity: This collects the exposure-weighted average maturity of the exposures in a given row. The calculation of maturity is explained in section 7.2.1.15.

Section C (i) – Standardized Approach (Sec-SA) exposures

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 7.6.4. 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 7.6.1.5. 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 5 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 7.7. 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 K_{SA} 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 7.6.5.

The first such cap is a ‘look through’ risk weight cap described in 7.6.5.1; 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 7.6.5.2. 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 sections 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 K_{SA} (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 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.

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

Credit Risk-weighted Assets under IRB Approaches

General Methodology

The IRB approaches to calculating credit risk-weighted assets are described in Chapter 6 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 risk-weighted assets. 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 risk-weighted assets for IRB wholesale⁴ 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 subclass of corporate, an institution might not qualify for a PD/LGD approach. In these cases, it must use a Supervisory Slotting approach to calculate risk-weighted assets (see schedule 29).

Within the corporate and retail exposure classes, eligible purchased receivables are given unique treatment, whereby risk-weighted assets are calculated separately for default and for dilution risk. Purchased receivables are defined in section 6.2.1(vii) of the guideline and the calculation of risk-weighted assets for these exposures is described in section 6.6. The schedules for corporate and retail exposures include a memo section breaking out certain information in respect of the purchased receivables that are included in those exposure classes.

⁴ In this context, wholesale refers to the Corporate (including Specialized Lending and SMEs treated as Corporate), Sovereign, and Bank exposure classes in the Banking Book (excluding securitization), as well as the Trading Book exposure class.

***Treatment of Guarantees in the FIRB and AIRB Approaches:
Substitution and Double Default Frameworks***

There are primarily two methodologies for recognizing guarantees within the FIRB and AIRB approaches. The first is a substitution approach whereby, generally, the PD together with the risk-weight formula of the *guarantor* are substituted for those of the obligor.⁵ Details are provided in section 5.2.5. The second approach is referred to as the double default framework. Under this framework, risk-weighted assets are calculated using the risk-weight formula of the *obligor*, adjusted to recognize the PD of both the obligor and guarantor, as well as the LGD of the guarantor. In order to qualify for the double default framework, an exposure must meet the criteria set out in section 5.2.5. For any individual exposure that meets the requirements, a reporting institution has the option of applying either the substitution or double default framework.

**Schedules 22 to 25 (suffix “A”), and 26 to 28 -
Wholesale IRB Exposures Not Subject to Double Default Framework:**

Exposures reported on these schedules either do not have guarantees recognized for capital adequacy purposes, or have guarantees that are not eligible for the double default framework. In addition, these schedules include exposures that are eligible for the double default framework but for which the reporting institution has opted to apply the substitution approach (this option is provided in section 5.2.5).

Credit risk mitigation for the IRB approaches is discussed in detail in section 5.2 of the guideline. See also section 4.1.5 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 2 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 6.3.2(i) of the guideline. 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. 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 6.8.7(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.

With the exception of Sovereign exposures, the minimum allowable PD (PD floor) is 0.03%. Sovereign exposures may have a PD as low as 0%. Note that, if any exposures are assigned a PD of 0%, for reporting purposes the 0% must be reported as a separate Estimated PD and not be included in a band with non-zero PDs for which a weighted average (Estimated) PD is calculated.

⁵ 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.

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 guarantors⁶. 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 40 - 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 “Adjustments for CRM”:

Increase in Exposure for Guarantees, Credit Derivatives: This column appears only on the FIRB and AIRB schedules for Corporate, Sovereign, and Bank. Guarantees provided by these entities on Retail or SME exposures, with the impact of the guarantee reflected through a PD substitution or adjustment, must be shown as increases to the wholesale entities’ exposures and decreases to the retail or SME class. This facilitates use of the appropriate risk weight formula and allows reasonableness checks on the risk weight calculations. Exposures reported in this column must be reported in the PD band that corresponds with the PD of the original obligor, specifically its pre-CRM PD. These exposures can then be moved to their after-CRM PD to reflect the effect of the guarantee using the “Redistribution of exposures” column described below.

Decrease in Exposure for Guarantees, Credit Derivatives: For wholesale IRB exposures, this column appears only on the schedules for SMEs treated as Corporate (schedule 25). Exposures to SMEs treated as Corporate that are guaranteed by Corporate, Sovereign, or Bank entities, with the impact of the guarantee reflected through a PD substitution or adjustment, must be shown as decreases to the SME exposure class (whose risk weight formula differs from that for the Corporate, Sovereign, and Bank classes) with an accompanying increase in the exposure class of the guarantor.

Redistribution of exposures for 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 5.2.5 for the FIRB approach. AIRB institutions have the option of substituting/adjusting PDs to recognize the impact of guarantees, in accordance with section 5.2.5. Exposures included in both the “Gross Exposures” and “Increase in Exposure for Guarantees, Credit Derivatives” columns should be moved from their pre-CRM PD to their after-CRM PD using this “Redistribution of exposures for guarantees and credit derivatives” column.

⁶ Guarantors associated with exposures that are reported in the class after any exposure class shifts for guarantees.

Investments in or exposures to pass-through MBS (that meet the conditions of section 3.1.12 of the guideline), where the pool is NHA-insured qualifying residential mortgages, are reported on schedule 22 Corporate. 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 37 – 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 AIRB-approved Institutions using LGD Adjustment to Reflect Guarantees” in this section for details.

Adjustment to 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 4.1.5 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 5.2.5.

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 4.1.5 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 6.3.2(ii). Institutions under the AIRB approach derive their own LGDs, in accordance with section 5.2.5. 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, as follows:

- FIRB – section 5.2.5
- AIRB – section 5.2.5

Except as noted below, collateral may be reflected through an adjustment to/in the derivation of an exposure’s LGD as follows:

- FIRB – section 5.2.5
- AIRB – section 5.2.5

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 4.1.5.1).

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, a weighted average LGD is calculated as follows:

$$\text{Weighted Ave. LGD} = \left[\sum_{i=1}^n \$EAD_i \times LGD_i \right] \div \sum_{i=1}^n \$EAD_i, \text{ where}$$

$\$EAD_i$ is gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given LGD, and

LGD_i is the LGD, after permitted adjustments for credit risk mitigation, associated with $\$EAD_i$

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 6.6.2).

Weighted Ave. Maturity: For purposes of calculating risk-weighted assets under the IRB approaches, the maturity of an individual exposure is determined according to section 6.3.2(iv) of the guideline. If the EADs of repo-style transactions or derivatives are modelled, then maturity is calculated using the formula in section 4.1.5.3 of the guideline. While individual EADs must be assigned an explicit maturity for calculating their risk-weighted assets, 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, the weighted average maturity is calculated as follows:

$$\text{Weighted Ave. Maturity} = \left[\sum_{i=1}^n \$EAD_i \times Maturity_i \right] \div \sum_{i=1}^n \$EAD_i, \text{ where}$$

$\$EAD_i$ is gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given maturity; and

$Maturity_i$ is the maturity associated with $\$EAD_i$

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 Ave. 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 6.3.1(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, the weighted average firm size is calculated as follows:

$$\text{Weighted Ave. Firm Size} = \left[\sum_{i=1}^n \$EAD_i \times Sales_i \right] \div \sum_{i=1}^n \$EAD_i, \text{ where}$$

$\$EAD_i$ is gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given firm size, and

$Sales_i$ is the level of annual sales associated with $\$EAD_i$. (unless pursuant to section 6.3.1(ii), the institution has been permitted to use total assets instead of sales)

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

Risk-weighted assets 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 risk-weighted assets of zero⁷.

Calculations of risk-weighted assets for specific exposure classes subject to the FIRB and AIRB approaches are described in section 6.3.1, as follows:

- Corporate, Bank, Sovereign
- Corporate HVCRE
- SMEs treated as Corporate

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. Risk-weighted assets in these cases are calculated using a Supervisory Slotting approach and are reported in schedule 29.

Expected Loss Amount: Expected loss for an exposure is calculated according to section 6.7.1(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 6.8.7(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 6.8.7(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 29, pursuant to section 6.7.1(ii).

⁷ 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.

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 5.2.5. 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%⁸ 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 38.

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.

Columns for Weighted Ave. PD of Guarantor: For each Estimated PD, institutions must report the exposure-weighted average PD of the guarantor(s), calculated separately by guarantor exposure class.

Schedules 22A, 26, 30 and 31 –
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 22, 26, 30 and 31, after recognition of CRM. Specifically, exposures on schedule 22 should represent exposures for which the PD of the corporate guarantor is substituted for the PD of the original obligor, exposures on schedule 26 should represent exposures for which the PD of the sovereign guarantor is substituted for the PD of the original obligor, and exposures on schedules 30 and 31 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.

⁸ 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.

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 22A and 26, this column should represent a subset of the exposures in the column “Increase in exposure for guarantees, credit derivatives” (M10). For schedules 30 and 31, 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 22A and 26 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 “Redistribution of exposures for 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 22A and 26 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 22, 26, 30, 32 and 34 –

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.

Schedules 22 to 25 (suffix “B”) - Wholesale IRB Exposures Subject to Double Default Framework

These schedules are very similar to those for the substitution framework (schedules 22A to 25A, and 26 to 28) and the instructions for completion are generally the same. The double default framework for guarantees is detailed in section 6.3.1. Discussed below are those columns in the double default schedules that differ in form or in calculation from those in the substitution framework.

The double default framework is available for a limited set of obligor and guarantor combinations, as detailed in section 5.2.5. Accordingly, double default schedules are provided only for the exposure classes of Corporate, Specialized lending HVCRE, Specialized lending Non-HVCRE, and SMEs treated as Corporate. PSEs that would otherwise be included in the Bank exposure class, but are subject to the double default framework, should be included in the schedules for Corporate exposures.

If a reporting institution applies the double default framework to a SBE that would otherwise be classified as a retail exposure, this exposure must be reported from the outset in the double default schedule for SMEs treated as Corporate.

Under the double default framework, expected loss is considered to be zero (see section 6.7.1(i) of the guideline). Accordingly, the double default schedules do not include a column for expected loss amounts.

Estimated PD of Obligor: This column is similar to that of “Estimated PD” in the substitution framework. However, only PDs applicable to the obligors in the exposure class are reported, as there is no PD substitution in the double default framework. Accordingly, no PD lower than the floor applicable to the exposure class (0.03%) should be reported. The double default framework is not available for exposures in default.

Weighted Ave. LGD: In the double default framework, the LGD of an individual exposure is generally considered to be the LGD of a comparable direct exposure to the guarantor. However, under certain conditions, the LGD of the obligor may apply. See section 6.3.1. Like the weighted average LGD columns in the substitution framework, there are two columns provided for LGD depending on whether EAD is calculated to recognize any collateral.

Weighted Ave. PD of Guarantor: For each PD band of obligor, report the weighted average PD associated with the eligible guarantor(s). The PDs used in deriving the weighted average should respect the floor associated with the guarantors’ exposure classes (0.03%).

Weighted Ave. Maturity of credit protection: In determining the weighted average maturity of the credit protection under the double default framework, no individual exposure can be assigned a maturity of less than one year (see section 6.3.1).

Note that the maturity of credit protection in respect of OTC derivatives should be reported consistent with section 6.3.1, 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.

Risk-weighted Assets: The double default framework is not available for exposures in default. For exposures not in default, risk-weighted assets are calculated using the formula described in section 6.3.1. For SMEs treated as Corporate, a firm size adjustment should be applied.

Schedule 29 - IRB Slotting Approach for Specialized Lending

Institutions that do not meet the criteria for estimating a PD for specialized lending exposures must use a supervisory slotting approach to determine risk-weighted assets for these exposures. Only those specialized lending exposures not reported in the PD/LGD schedules for IRB (23 and 24) should be reported in schedule 29.

General Methodology

The calculations of risk-weighted assets and expected loss amounts under the slotting approach are described in sections 6.3.1(iii) and 6.7.1(ii) respectively. Generally, risk-weighted assets 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 6.8.3(iii), as well as in Appendix 6-2 of the guideline.

Schedules 30 to 34 – Credit Risk weighted Assets under the IRB Approach for Retail

General Methodology

The methodology for IRB retail is provided in section 6.4 of the guideline. Generally, the calculation of risk-weighted assets 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 other retail) use different correlation factors in the risk-weight formula (section 6.4.1).

The treatment of guarantees and credit derivatives in the IRB Retail approach is discussed in section 6.4.2(ii) of the guideline. Treatment of collateral is the same as in the AIRB approach -- see section 5.2.5. See also section 4.1.5 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 0.03%. 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 “Adjustments for CRM”:

Decrease in Exposure for Guarantees, 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 32 for Other Retail (excluding QRR and SBEs) and schedule 34 for SBEs treated as Other 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 4.1.5 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 5.2.5.

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 32 and 34, 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 30 for Residential Mortgages excluding HELOCs, schedule 31 for HELOCs, and schedule 33 for Qualifying Revolving Retail). 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 4.1.5 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 6.4.2(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 5.2.5). 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 4.1.5.1).

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. For any particular PD band, the weighted average LGD is calculated as follows:

$$\text{Weighted Ave. LGD} = \left[\sum_{i=1}^n \$EAD_i \times LGD_i \right] \div \sum_{i=1}^n \$EAD_i, \text{ where}$$

$\$EAD_i$ is gross exposure at default assigned to the PD band after permitted adjustments for credit risk mitigation, for a given LGD; and

LGD_i is the LGD, after permitted adjustments for credit risk mitigation, associated with $\$EAD_i$

On schedules 32 and 34 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 6.6.2).

Risk-weighted Assets: Risk-weighted assets of exposures not in default are calculated using the risk-weight formula appropriate to the exposure class. For exposures in default risk-weighted assets 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 risk-weighted assets for specific IRB Retail exposure classes are described in section 6.4.1 as follows:

Residential Mortgages (including HELOCs)	section 6.4.1(i)
Qualifying Revolving Retail	section 6.4.1(ii)
Other Retail (incl. SBEs treated as Other Retail)	section 6.4.1(iii)

Expected Loss Amount: Expected loss for an exposure is calculated according to section 6.7.1. 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 6.8.7(vii).

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

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 5.2.5. 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).

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.

Columns for Weighted Ave. PD of Guarantor: For each Estimated PD, institutions must report the exposure-weighted average PD of the guarantor(s), calculated separately by guarantor exposure class.

Schedules 30, 31, 32 and 34 – Credit Risk weighted Assets under the IRB Approach for Retail Residential Mortgage, HELOC, Other Retail and SBE treated as Other Retail

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 PDs⁹.

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 35 - Credit Risk-weighted Assets under the IRB Approach for Equity

General Methodology

In the IRB approach, equity exposures are measured on the same basis as used for financial reporting purposes.

The IRB approaches to calculating credit risk-weighted assets for equity in the banking book are described in section 6.5 of the guideline. Section A of schedule 35 collects drawn and undrawn equity exposures excluding investments in funds separately from investments in funds to arrive at the total drawn and undrawn banking book equity exposures. Under the IRB approaches, equity exposures take into account net long positions (balance sheet assets offset by short positions in the same instrument appearing on the liability side of the balance sheet) together with the absolute value of net short positions (balance sheet liabilities net of long positions in the same instrument recorded on the asset side of the balance sheet). Accordingly, total drawn IRB banking book equity exposures, which are reported in section A of schedule 35, do not necessarily correspond to an asset balance reported on the balance sheet. The memo item “Decrease (increase) to Drawn exposure amount to arrive at asset balance of equity exposures” represents the amount by which total drawn equity exposures must be adjusted to arrive at the asset balance that is carried forward to the balance sheet reconciliation on schedule 45.

The calculation of risk-weighted assets is divided into three mutually exclusive sections (sections B, C and D), the completion of which depends on the materiality of an institution’s equity portfolio and equity investment in funds. Immaterial equity portfolios are reported in section B, which mirrors the Standardized approach with exposures represented by long (asset) positions as recorded on the balance sheet. Materiality criteria are provided in section

⁹ Only those exposures for which the DLGD floor is greater than both the 10% LGD floor (described in section 6.2.4) and the institution’s own estimate of LGD should be included in this memo item section.

6.5.1(iii)¹⁰. Note that any legislated programme exposure in excess of the amount eligible for IRB exclusion pursuant to section 6.5.1(iii)¹⁰ must be included with other equity exposures in performing the materiality test. Total risk-weighted assets for the overall portfolio are reported in section E.

For material equity portfolios, which are reported in section C, there are generally two market-based approaches – a simple risk-weight method and/or a models method. On a very limited basis a PD/LGD approach instead of a market-based approach is also available. Certain equity exposures are exempt from these approaches and attract a standard risk weight. The guideline references for these calculations are:

Exclusions from the IRB approach ¹¹	section 6.5.1(iii)
PD/LGD approach	section 6.5.1(ii)
Market-based approaches:	
Simple risk-weight method	section 6.5.1(i)
Models method	section 6.5.1(i)
Equity investment in funds:	
Look-through approach	section 6.5.3
Mandate-based approach	section 6.5.3
Fallback approach	section 6.5.3

Market-based approaches:

Gross long positions, together with the absolute value of net open short positions should be reported as “Exposures”. Short positions eligible for offsetting long positions (not exceeding the associated long position) should be reported under the heading “Offsetting values”.

Equity investment in funds:

Equity exposures indirectly held through investments in funds may qualify for the materiality exemption as per section 6.5.1(iii), as long as the sum of the indirect and direct equity exposures is still below the threshold specified in section 6.5.1(iii).

Schedule 36 - PD/LGD Approach for IRB Equity

The PD/LGD approach is only available for non-tier 1 perpetual preferred shares without a redeemable feature and perpetual preferred shares with a redeemable feature at the issuer’s option.

General Methodology

The methodology for calculating risk-weighted assets under the PD/LGD approach is described in section 6.5.1(ii). The methodology is similar to the FIRB approach for corporate exposures, with a prescribed LGD of 90% and a maturity of five years used in the risk weight formula. The method also incorporates a scaling factor and minimum risk weights. Weighted average scaling factors should be reported to two decimal places.

¹⁰ For purposes of determining materiality according section 6.5.1(iii) and legislated programme IRB exclusion pursuant to section 6.5.1(iii), “Tier 1 plus Tier 2 capital” is defined as Net Tier 1 plus Net Tier 2 capital.

¹¹ Exclusion of legislated programmes from the IRB approach is limited to 10% of Net Tier 1 plus Net Tier 2 capital.

The risk-weighted asset for an equity exposure is initially derived using the risk-weight formula. However, if the resulting amount plus 12.5 times a calculated expected loss amount (where expected loss is calculated as $PD \times LGD \times \text{exposure}$) is less than the amount derived by applying the minimum risk weight set out in section 6.5.1(ii), the minimum risk weight must be used to calculate risk-weighted assets. Note that, if for any exposure, the minimum risk weight is applied as a result of this test, then no expected loss amount should be reported for that exposure.

Schedule 37 - Securitization exposures subject to IRB approval – Credit Risk Treatment

See also earlier section “Schedules 14 and 37 - Securitization – credit risk treatment”.

General Methodology

These 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 7.5.2. 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 37 is divided into four main sections and one summary section.

When completing sections A to D, 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 K_{IRB} caps, see section 7.6.5) 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 37. 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 allowances” should reconcile to the total of the net exposures reported in sections A, B, C, and E and to the total of the IRB exposures reported on schedule 41.

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 39. The gains and CEIO strips reported on schedule 37 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 7.5.2). Details of the SEC-IRBA are provided in section 7.6.1.

Credit risk mitigation of the underlying exposures is recognized in the calculation of K_{IRB} as per section 7.6.1.1. Examples of how to incorporate dilution risk into the calculation are provided in Appendix 7-3.

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 14. All off-balance sheet instruments (e.g., direct credit substitutes and liquidity facilities) are given a 100% credit conversion factor, with the exception of eligible servicer cash advances facilities, as reported in schedule 41. The criteria for using an internal assessment approach are detailed in section 7.6.3.

Redistribution of net exposures for guarantees & credit derivatives, and collateral: 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.

Adjustment 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 7.2.1.15.

Section D - Exposures subject to caps based on K_{IRB}

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 7.6.5.

The first such cap is a 'look through' risk weight cap described in section 7.6.5.1; the risk weight applied to the most senior tranche in a securitization structure cannot be higher than the K_{IRB} '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 7.6.5.2. 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 K_{IRB} should be reported on Schedule 14.

Section E - Summary

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 K_{IRB} (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 the cap 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 38 - Other Credit Risk-weighted Assets

Section A - Balance sheet assets not included in standardized or IRB approaches

This schedule generally captures banking book balance sheet assets that are not reported elsewhere in the standardized, FIRB, AIRB, or IRB approaches 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 or IRB approaches 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 3.1.18 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 40 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 4.2.2, 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 IRB or standardized exposure class schedules. 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 (if not included in standardized or IRB approaches)”. If the second leg of a non-DvP transaction is five days late or more, it must be assigned a risk weight of 1250%.

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.

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 (e.g., standardized or IRB) as the exposure amount to which it relates. However, if accrued interest is not significant, institutions have the option to include it on schedule 38 in the line “Unallocated accrued interest” with a 100% risk weight or such higher factor 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. Risk-weighted assets 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 or IRB approaches” on schedule 38. 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%¹². Examples of assets that should be reported on this line, and are risk weighted at 100%, are prepaid expenses such as property taxes and utilities, as well as deferred charges such as mortgage origination costs.

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 3 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.

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

The calculation of credit risk-weighted assets for failed DvP trades is outlined in section 4.2.2. Receivables booked in respect of DvP trades (eg. 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.

Section C – 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 4.1.7 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 4.1.7.1 of the guideline). The Standardized method, which is outlined in section 4.1.7.2, 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 40 Derivative Contracts, adjusted for collateral where applicable. The amounts reported in this section are before adjustment for CVA phase-in reported on Schedule 2.

Section D – 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 4.1.1.1 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 40 Derivative Contracts, adjusted for collateral where applicable. Initial margin refers to collateral posted to CCPs as defined in section 4.1.1.1 of the guideline.

Default fund exposures and risk weighted assets are to be calculated as per section 4.1.9.1(B) of the guideline.

In limited circumstances, institutions with explicit waivers may use an **Alternative Approach** to calculate the capital requirement associated with their exposures to qualifying central counterparties. The Alternative Approach is outlined in section 4.1.9.3 of the guideline.

¹² 0% and 20% risk weights are included for the line Other Assets not included in Standardized or IRB Approaches on schedule 38 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.

Section E – 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 subject to a risk-weight of 1250% on the default fund contributions.

Schedule 39 - Off-balance Sheet Exposures Excluding Derivative and Securitization Exposures

Derivative and securitization-related exposures are excluded from this schedule and are captured separately in schedules 40 and 41, respectively. Undrawn commitments are described in section 3.5 of the guideline and other categories of off-balance sheet instruments are described in sections 3.2.1 to 3.2.8.

Schedule 39 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 book, if any, should be included in the AIRB columns. Similarly, any undrawn commitments reported for IRB equity exposures on schedule 35, and undrawn commitments or other off-balance sheet items reported using the IRB slotting approach on schedule 29, should be included in the AIRB columns on schedule 39.

Prescribed credit conversion factors are provided in sections 3.3 and 3.5 of the guideline for the standardized approach and section 6.3.2 for the FIRB approach. The credit conversion factors for exposures under the AIRB and IRB Retail approaches are determined according to section 6.3.2 and section 6.4.2(iii) respectively.

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

The total notional principal and credit equivalent amounts reported on schedule 39 should equal the sum of these amounts reported for exposure types Undrawn Commitments (retail and non-retail) and Other Off-Balance Sheet in the exposure class schedules for the standardized and IRB approaches.

Schedule 40 - 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 40. 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.

Risk-weighted assets 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). Risk-weighted assets for default risk on derivatives transacted through a qualifying central counterparty are reported on schedule 38 Other 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. These additional charges are reported on schedule 38.

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. Product types are described in sections 3.4.1 to 3.4.5 and Appendix 5-2 of the guideline. Precious metals and all other commodity contracts (energy, agriculture, base metals, etc.) are to be reported under 'Commodity Contracts'. Contract types are described in sections 3.2.9 to 3.2.17. 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 40. 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 39 as direct credit substitutes.

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

General Methodology

Section B of schedule 40 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 book¹³. 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 4.1.6. Contracts are divided into margined contracts and unmargined contracts and various measures are reported separately for margined contracts and unmargined contracts in schedule 40. The internal model method (IMM) is described in sections 4.1.3 to 4.1.5.

The total outstanding credit equivalent amounts reported on schedule 40 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 4.1.6.1. The PFE is calculated for a derivative regardless of whether its replacement cost is positive or negative and is generally calculated according to sections 4.1.6.2 to 4.1.6.18. The treatment of multiple margin agreements and multiple netting sets is described in section 4.1.6.19.

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 4.1.6.1.

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 4.1.2, paragraph 12 of the guideline.

¹³ 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 40.

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:

$$\text{PFE} = \text{EAD}/1.4 - \text{RC}$$

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, $\text{RC} = \max\{V-C, 0\}$ 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 $\{V(\text{trade}) / V(\text{all trades with positive values in netting set})\} * (V-C)$. Trades with a negative value get an RC of 0.
2. If $V - C \leq 0$, then all trades receive an RC of 0.

Margined Trades

For margined trades, $\text{RC} = \max\{V-C; TH + MTA - NICA; 0\}$, 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 4 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 set¹⁴.
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.

¹⁴For 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 be 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.

(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 40 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 4.1.4 to 4.1.5. Cross-product netting permissible within this method is discussed in section 4.1.3.

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 40 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 D of Schedule 38. The cells relating to repo-style transactions in section B(ii) of Schedule 40 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 4.1.2.

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 (see section 4.1.8.1 of the guideline).

Schedule 41 Securitization Exposures

Generally, all securitization-related exposures are reported on schedule 41, broken down by the type of credit risk approach used. Exposures impacted by implicit securitization support (section 7.8) and exposures that do not meet the assessment of significant risk transfer (in section 7.3) 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 30 to 34 in the case of IRB Retail). All securitization-related gains on sale are included on schedule 41 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 7.2.1.12 of the guideline, and generally refers to the most senior exposure in a structure. As well, STC-compliant securitizations (see section 7.10) 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 credit conversion factors. The instruments eligible for each of these factors are described in section 7.5.1.1, with servicer cash advances or facilities defined in section 7.2.1.13.

Schedule 42 – Market Risk

Only those institutions that meet the qualifying criteria for computing market risk capital requirements are to complete schedule 42. 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 tranching 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 42. 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)¹⁵ 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 purposes¹⁶, 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:

$$GMR_c = \sqrt{GMR_m^2 - Total\ Equity\ VaR^2}$$

GMR_m = modelled general market risk VaR

GMR_c = general market risk VaR for capital adequacy purposes

Consolidated Value at Risk (without correlation benefit)

To calculate total VaR without correlation benefit (item F), full correlation (i.e., $\rho=1$) between general market and specific risk is assumed. This permits the summation of total GMR_c (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.

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

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.

$$Total\ VaR = \sqrt{GMR_c^2 + Specific\ Risk\ VaR^2}$$

¹⁵ 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.

¹⁶ This reflects the removal of risk factors containing specific risk.

Using item references,

$$\text{Item M} = \sqrt{A^2 + [(B \text{ or } C) + (D \text{ or } E)]^2}$$

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 datapoint 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 datapoint 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 datapoint 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 approval, institutions must report data in this section for any capital add-ons related to Risks not in VaR. Risks not in VaR represent material risk factors for which institutions cannot meet the internal model approval requirements for inclusion in sections A(i) or A(ii).

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 (datapoint 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 (datapoint 7740). Institutions without IRB approval must apply the standardized securitization approach (datapoint 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 (datapoint 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 (datapoint 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 datapoint 7743; 100% capital charge reported in datapoint 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 datapoint 7743; 100% capital charge reported in datapoint 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 datapoint 7746; 100% capital charge reported in datapoint 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 tranching 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-tranching 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-tranching 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 tranching products

For institutions not approved to use a MCRM, the total standardized specific risk charge for interest rate position risk on tranching products (datapoints 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, datapoints 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 2 Summary of Risk-weighted Assets, 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 datapoint 3_004) on schedule 3 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, is calculated as:

$$\frac{\sum_{i=1}^n \text{One day VaR}_i}{n \text{ (number of business days for the quarter for which a VAR was calculated)}}$$

If an institution reports any exceptions for the quarter, it must also report the average divergence for the period.

$$\text{Average divergence} = \frac{\sum_{i=1}^k (\text{Exception Loss}_i - \text{VaR}_i)}{k \text{ (number of exceptions)}}$$
, where

Exception Loss_i and *VaR_i* are, respectively, the hypothetical/actual loss and the VaR associated with an exception that occurred during the quarter.

Schedule 43 – Operational risk

General Methodology

Capital requirements for operational risk are described in Chapter 8 of the guideline. Beginning in Q1 2020, institutions may use either the Basic Indicator Approach (BIA) or the Standardized Approach (TSA) to calculate the capital charge for operational risk.

The BIA and TSA calculations are based on gross income, with income under the TSA broken down into eight prescribed business lines. Both the BIA and TSA apply a standard factor or factors to gross income to arrive at the operational risk capital requirement. Gross income excludes income of the insurance subsidiaries that are not consolidated for capital adequacy calculations pursuant to section 1.1 of the guideline.

Institutions must formally apply to OSFI in order to use TSA.

Sections A and B - Basic Indicator and Standardized Approaches

Both the BIA and TSA are based on three years of gross income. These three years should consist of 12 rolling quarters with Year 1 representing the four most historical quarters and Year 3 running up to and including the current quarter (i.e. the quarter for which the capital adequacy ratios are being calculated).

For purposes of calculating the charge for operational risk, gross income is defined as comprising the following line items from the Consolidated Statement of Income (P3) regulatory return:

Line 14	Net interest income
Line 17	Trading income
Line 20	Total of Other income
Less:	
Line 19s	Share of income (loss) of associates and joint ventures

The total of these items should be adjusted to exclude any net interest and other income related to insurance subsidiaries that are not consolidated for capital adequacy reporting purposes. Gross income reported in section A and B of schedule 43 should be net of these adjustments, with the amounts so excluded reported as a memo item in section E.

Gross income derived from the above-noted line items must also be adjusted when an institution makes a material acquisition during the three-year period. Gross income may also be adjusted in cases of divestiture. Details are provided in sections 8.2.1 and 8.2.2 of the guideline. Gross income reported in sections A and B should reflect these adjustments, with the amount of the adjustments reported as a memo item in section D.

Section B - Standardized Approach

Under the standardized approach, institutions must attribute gross income to eight prescribed lines of business. These are described in Appendix 8-1 of the guideline. As stated in Appendix 8-1, if an institution is unable to map an activity into one of the eight business lines, the institution should assign the highest beta to that activity. Given the comprehensiveness of the business line mapping, OSFI does not expect these amounts to be material. For simplicity purposes, OSFI recommends that institutions assign these amounts to the Payment and Settlement business line, which attracts the 18% beta, as this business line has shown to be infrequently used by institutions. This would allow OSFI and institutions to easily identify these amounts.

Schedule 44 - Gross Exposures by Original Obligor and by Ultimate Guarantor

This schedule provides an overview of gross exposures included in the standardized and IRB schedules, by exposure class. The exposures reported for each class should include all the applicable exposure types (e.g., drawn, undrawn, OTC derivatives, etc.) Exposures are reported in a matrix showing original obligor and ultimate guarantor.

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.

Guaranteed Exposure, by Ultimate Guarantor: Those portions of exposures that derive a risk weight benefit from guarantees or credit derivatives should be allocated to the exposure class of the guarantor. The assignment should be based on the actual class of the guarantor, regardless of whether an exposure “shifted” to that exposure class for purposes of reporting the capital calculations in schedules 5 to 34. 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, double default, or LGD adjustment.

- Examples:
- (1) a corporate exposure guaranteed by another corporate would be reported in column (a) as a corporate exposure, with an amount in the guarantee column for “Corporate excl. SMEs”;
 - (2) a corporate exposure guaranteed by a bank would be reported in column (a) as a corporate exposure, with an amount in the guarantee column for “Bank” even though in the credit risk schedules the exposure remains in the corporate class; and
 - (3) an NHA-insured mortgage would be reported in column (a) as a retail residential mortgage, with an amount in the guarantee column for “Sovereign”.

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, double default, 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 “Retail residential mortgages” 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 “Retail residential mortgages” row.

Schedule 45 - Balance Sheet Coverage by Risk Type and Reconciliation to Consolidated Balance Sheet

General Methodology

Schedule 45 summarizes the balance sheet assets covered in the capital adequacy return, 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 45 produces a reconciliation of the balance sheet for capital purposes to the institution’s consolidated balance sheet for accounting purposes. 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 earlier schedules. Assets related to securitization, including the gain on sale, should equal the on-balance sheet securitization exposures reported on schedule 41. To the extent that a gain on sale included on schedule 41 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 45 in the “Other” subcomponent (datapoint 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 Balance Sheet Exposures, for portfolios treated under the standardized approach, are gross of all allowances. Exposures treated under the FIRB, AIRB, and IRB approaches are gross of allowances and partial write-offs. For the portfolios treated under the latter three approaches, the column **Stage 3 Allowance** should contain Stage 3 allowances together with partial write-offs (i.e. specific allowances).

Market Risk section: Report the balance sheet assets that attract a specific risk charge under the market risk framework. These should be the spot balances as at the reporting date, 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 adjustment is made to eliminate double counting of certain assets. It is limited to the trading book repo-style assets on the balance sheet that attract both credit and specific market risk.

Deducted portion of non-significant investments in financials (if double-counted 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 deducted portion of the investment will be counted twice on schedule 45 (once in assets carried from the credit risk exposure class schedules or entered in the market risk balance sheet lines listed on schedule 45; and once from inclusion in Other Assets carried from schedule 38). Any duplicate amount of the investment should be backed out, using this line.

Securitization-related adjustments: The securitization-related exposures reported in the Credit Risk section on the upper portion of Schedule 45 are the on-balance sheet exposures determined for capital ratio purposes according to Chapter 7 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” (datapoint 8928). The amount recognized as a balance sheet asset for accounting purposes must be reported in the line “Non-derecognized securitized assets” (datapoint 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” (datapoint 8876).

Liquidity facilities provided by the reporting bank to consolidated securitization entities remain off-balance sheet and are not reported on schedule 45.

Adjustment to reflect differences in balance sheet exposure amounts resulting from measurement bases used for accounting purposes (fair values): The position of this line item on schedule 45 accommodates the possibility that the measurement basis used for calculating risk weighted assets may not be on the same basis – fair value or amortized cost – as for accounting purposes. Until advised otherwise, the adjustment (in respect of own-use property) should be included in the penultimate line item, entitled “Other” (datapoint 8947), of the reconciliation on schedule 45.

Schedule 46 – Countercyclical Buffer

General Methodology

The countercyclical buffer is outlined in section 1.6.2 of the CAR guideline. Institutions with operations outside Canada will look at the geographic location of their private sector credit exposures in accordance with section 1.6.2 of the guideline and calculate their institution-specific countercyclical capital buffer requirement as a weighted average of the requirements that are being applied in jurisdictions to which they have credit exposures. This buffer is also reported in the datapoint 1190 of schedule 1.

RWA for Private Sector Credit Exposures (M44): Private sector exposures are based on 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 Annex of the BCBS document *Frequently asked questions on the Basel III Countercyclical Capital Buffer* available at: <http://www.bis.org/bcbs/publ/d339.pdf>. Private sector credit exposures include all private sector credit exposures that attract a credit risk capital charge (RWAs), excluding Bank asset class, Trading Book asset class in credit risk and Other credit risk-weighted assets except for Significant investments in commercial entities & Investment property. Credit risk RWA includes 1.06 scaling effect.

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). Total weighted buffer add-on for all countries/jurisdictions should be reported in the datapoint 1190 of schedule 1. The Weighted buffer add-on should be reported to four decimal places.

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