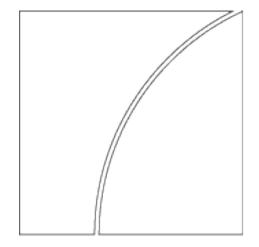Basel Committee on
Banking Supervision

CRE

Calculation of RWA for credit risk

CRE51

Counterparty credit risk overview

Version effective as of 01 Jan 2023

Changes to introduce minimum haircut floors, as set out in the December 2017 Basel III publication and the revised implementation date announced on 27 March 2020.

BANK FOR INTERNATIONAL SETTLEMENTS

Introduction

51.1 Banks are required to identify their transactions that expose them to counterparty credit risk and calculate a counterparty credit risk charge. This chapter starts by explaining the definition of counterparty credit risk. It then sets out the various approaches that banks can use to measure their counterparty credit risk exposures and then calculate the related capital requirement.

Counterparty credit risk definition and explanation

51.2 Counterparty credit risk is defined in [CRE50](). It is the risk that the counterparty to a transaction could default before the final settlement of the transaction in cases where there is a bilateral risk of loss. The bilateral risk of loss is the key concept on which the definition of counterparty credit risk is based and is explained further below.

51.3 When a bank makes a loan to a borrower the credit risk exposure is unilateral. That is, the bank is exposed to the risk of loss arising from the default of the borrower, but the transaction does not expose the borrower to a risk of loss from the default of the bank. By contrast, some transactions give rise to a bilateral risk of loss and therefore give rise to a counterparty credit risk charge. For example:

(1) A bank makes a loan to a borrower and receives collateral from the borrower. [1]

   (a) The bank is exposed to the risk that the borrower defaults and the sale of the collateral is insufficient to cover the loss on the loan.

   (b) The borrower is exposed to the risk that the bank defaults and does not return the collateral. Even in cases where the customer has the legal right to offset the amount it owes on the loan in compensation for the lost collateral, the customer is still exposed to the risk of loss at the outset of the loan because the value of the loan may be less than the value of the collateral the time of default of the bank.

(2) A bank borrows cash from a counterparty and posts collateral to the counterparty (or undertakes a transaction that is economically equivalent, such as the sale and repurchase (repo) of a security).

    (a) The bank is exposed to the risk that its counterparty defaults and does not return the collateral that the bank posted.

    (b) The counterparty is exposed to the risk that the bank defaults and the amount the counterparty raises from the sale of the collateral that the bank posted is insufficient to cover the loss on the counterparty's loan to the bank.

(3) A bank borrows a security from a counterparty and posts cash to the counterparty as collateral (or undertakes a transaction that is economically equivalent, such as a reverse repo).

    (a) The bank is exposed to the risk that its counterparty defaults and does not return the cash that the bank posted as collateral.

    (b) The counterparty is exposed to the risk that the bank defaults and the cash that the bank posted as collateral is insufficient to cover the loss of the security that the bank borrowed.

(4) A bank enters a derivatives transaction with a counterparty (eg it enters a swap transaction or purchases an option). The value of the transaction can vary over time with the movement of underlying market factors.[2]

    (a) The bank is exposed to the risk that the counterparty defaults when the derivative has a positive value for the bank.

    (b) The counterparty is exposed to the risk that the bank defaults when the derivative has a positive value for the counterparty.

Footnotes

[1]   *The bilateral risk of loss in this example arises because the bank receives, ie takes possession of, the collateral as part of the transaction. By contrast, collateralized loans where the collateral is not exchanged prior to default, do not give rise to a bilateral risk of loss; for example a corporate or retail loan secured on a property of the borrower where the bank may only take possession of the property when the borrower defaults does not give rise to counterparty credit risk.*

[2]   *The counterparty credit risk rules capture the risk of loss to the bank from the default of the derivative counterparty. The risk of gains or losses on the changing market value of the derivative is captured by the market risk framework. The market risk framework captures the risk that the bank will suffer a loss as a result of market movements in underlying risk factors referenced by the derivative (eg interest rates for an interest rate swap); however, it also captures the risk of losses that can result from the derivative declining in value due to a deterioration in the creditworthiness of the derivative counterparty. The latter risk is the credit valuation adjustment risk set out in MAR50.*

Scope of counterparty credit risk charge

51.4 Banks must calculate a counterparty credit risk charge for all exposures that give rise to counterparty credit risk, with the exception of those transactions listed in CRE51.16 below. The categories of transaction that give rise to counterparty credit risk are:

(1) Over-the-counter (OTC) derivatives

(2) Exchange-traded derivatives

(3) Long settlement transactions

(4) Securities financing transactions

51.5 The transactions listed in CRE51.4 above generally exhibit the following abstract characteristics:

(1) The transactions generate a current exposure or market value.

(2) The transactions have an associated random future market value based on market variables.

(3) The transactions generate an exchange of payments or an exchange of a financial instrument (including commodities) against payment.

(4) The transactions are undertaken with an identified counterparty against which a unique probability of default can be determined.

51.6 Other common characteristics of the transactions listed in CRE51.4 include the following:

(1) Collateral may be used to mitigate risk exposure and is inherent in the nature of some transactions.

(2) Short-term financing may be a primary objective in that the transactions mostly consist of an exchange of one asset for another (cash or securities) for a relatively short period of time, usually for the business purpose of financing. The two sides of the transactions are not the result of separate decisions but form an indivisible whole to accomplish a defined objective.

(3) Netting may be used to mitigate the risk.

(4) Positions are frequently valued (most commonly on a daily basis), according to market variables.

(5) Remargining may be employed.

Methods to calculate counterparty credit risk exposure

51.7 For the transaction types listed in CRE51.4 above, banks must calculate their counterparty credit risk exposure, or exposure at default (EAD),[3] using one of the methods set out in CRE51.8 to CRE51.9 below. The methods vary according to the type of the transaction, the counterparty to the transaction, and whether the bank has received supervisory approval to use the method (if such approval is required).

Footnotes

[3]   *The terms "exposure" and "EAD" are used interchangeable in the counterparty credit risk chapters of the credit risk standard. This reflects the fact that the amounts calculated under the counterparty credit risk rules must typically be used as either the "exposure" within the standardised approach to credit risk, or the EAD within the internal ratings-based (IRB) approach to credit risk, as described in CRE51.13.*

51.8 For exposures that are not cleared through a central counterparty (CCP) the following methods must be used to calculate the counterparty credit risk exposure:

(1) Standardised approach for measuring counterparty credit risk exposures (SA-CCR), which is set out in CRE52. This method is to be used for exposures arising from OTC derivatives, exchange-traded derivatives and long settlement transactions. This method must be used if the bank does not have approval to use the internal models method (IMM).

(2) The simple approach or comprehensive approach to the recognition of collateral, which are both set out in the credit risk mitigation chapter of the standardised approach to credit risk (see CRE22). These methods are to be used for securities financing transactions (SFTs) and must be used if the bank does not have approval to use the IMM.

(3) The value-at-risk (VaR) models approach, which is set out in CRE32.39 to CRE32.41. For banks applying the IRB approach to credit risk, the VaR models approach may be used to calculate EAD for SFTs, subject to supervisory approval, as an alternative to the method set out in (2) above.

(4) The IMM, which is set out in CRE53. This method may be used, subject to supervisory approval, as an alternative to the methods to calculate counterparty credit risk exposures set out in (1) and (2) above (for all of the exposures referenced in those bullets).

51.9 For exposures that are cleared through a CCP, banks must apply the method set out CRE54. This method covers:

(1) the exposures of a bank to a CCPs when the bank is a clearing member of the CCP;

(2) the exposures of a bank to its clients, when the bank is a clearing members and act as an intermediary between the client and the CCP; and

(3) the exposures of a bank to a clearing member of a CCP, when the bank is a client of the clearing member and the clearing member is acting as an intermediary between the bank and the CCP.

51.10 Exposures to central counterparties arising from the settlement of cash transactions (equities, fixed income, spot foreign exchange and spot commodities), are excluded from the requirements of CRE54. They are instead subject to the requirements of CRE70.

51.11 Under the methods outlined above, the exposure amount or EAD for a given counterparty is equal to the sum of the exposure amounts or EADs calculated for

each netting set with that counterparty, subject to the exception outlined in CRE51.12 below.

51.12 The exposure or EAD for a given OTC derivative counterparty is defined as the greater of zero and the difference between the sum of EADs across all netting sets with the counterparty and the credit valuation adjustment (CVA) for that counterparty which has already been recognised by the bank as an incurred write-down (ie a CVA loss). This CVA loss is calculated without taking into account any offsetting debit valuation adjustments which have been deducted from capital under CAP30.15. This reduction of EAD by incurred CVA losses does not apply to the determination of the CVA risk capital requirement.

Methods to calculate CCR risk-weighted assets

51.13 After banks have calculated their counterparty credit risk exposures, or EAD, according to the methods outlined above, they must apply the standardised approach to credit risk, the IRB approach to credit risk, or, in the case of the exposures to CCPs, the capital requirements set out in CRE54. For counterparties to which the bank applies the standardised approach, the counterparty credit risk exposure amount will be risk weighted according to the relevant risk weight of the counterparty. For counterparties to which the bank applies the IRB approach, the counterparty credit risk exposure amount defines the EAD that is used within the IRB approach to determine risk-weighted assets (RWA) and expected loss amounts.

51.14 For IRB exposures, the risk weights applied to OTC derivative exposures should be calculated with the full maturity adjustment (as defined in CRE31.6) capped at 1 for each netting set for which the bank calculates CVA capital under either the basic approach (BA-CVA) or the standardised approach (SA-CVA), as provided in MAR50.12.

51.15 For banks that have supervisory approval to use IMM, RWA for credit risk must be calculated as the higher of:

(1)   the sum of RWA calculated using IMM with current parameter calibrations; and

(2)   the sum of RWA calculated using IMM with stressed parameter calibrations.

Exemptions

51.16 As an exception to the requirements of CRE51.4 above, banks are not required to calculate a counterparty credit risk charge for the following types of transactions (ie the exposure amount or EAD for counterparty credit risk for the transaction will be zero):

(1) Credit derivative protection purchased by the bank against a banking book exposure, or against a counterparty credit risk exposure. In such cases, the bank will determine its capital requirement for the hedged exposure according to the criteria and general rules for the recognition of credit derivatives within the standardised approach or IRB approach to credit risk (ie substitution approach).

(2) Sold credit default swaps in the banking book where they are treated in the framework as a guarantee provided by the bank and subject to a credit risk charge for the full notional amount.

Minimum haircut floors for securities financing transactions (SFTs)

51.17 Chapter CRE56 specifies the treatment of certain non-centrally cleared SFTs with certain counterparties (in-scope SFTs). The requirements are applicable to banks in jurisdictions that are permitted to conduct in-scope SFTs below the minimum haircut floors specified within CRE56.