MOODY'S ANALYTICS

MODELING METHODOLOGY

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Leverage Ratio Framework and Disclosure Requirements

Summary

In January 2014, the Basel Committee on Banking Supervision (BCBS) published the final standard [1] on the leverage ratio requirements. The leverage ratio framework will complement the risk-based capital framework to limit both the on- and off-balance sheet leverage of banks. The Basel Committee has defined the leverage ratio as the "capital measure" (Tier 1 capital) divided by the "exposure measure," expressed in percentage, with a minimum value of 3%. The exposure measure will be calculated as the sum of the exposures from the on-balance sheet items, derivative transactions, securities financing transactions (SFTs) and off-balance sheet (OBS) items.

The final standard takes into account the results from the analysis of bank data, and the industry comments received on the consultative version [2] of the leverage ratio framework and disclosure requirements published by the committee in June 2013. The primary modifications to the consultative version include:

» Limited netting for SFTs with the same counterparty will be allowed to reduce the leverage ratio's exposure measure, where specific conditions are met.

» Credit conversion factors (CCFs) for converting off-balance sheet exposures to on-balance sheet equivalents will be the same as prescribed in the Basel Standardized Approach for credit risk under the risk-based requirements, subject to a floor of 10%.

» Cash variation margin associated with derivative exposures may be used to reduce the leverage ratio's exposure measure, provided specific conditions are met.

» To avoid double-counting of exposures, a clearing member's trade exposures to qualifying central counterparties (QCCPs) associated with client-cleared derivatives transactions will be allowed to be excluded when the clearing member does not guarantee the performance of the QCCP to its clients.

» Effective notional amounts of written credit derivatives will be capped at the level of the maximum potential loss, along with some broadening of eligible offsetting hedges

The Basel Committee will continue to monitor banks' leverage ratio data on a semiannual basis. It wants to assess whether the design and calibration of a minimum Tier 1 leverage ratio of 3% is appropriate over a full credit cycle and for different types of business models. It will also continue to collect data to track the impact of using either Common Equity Tier 1 (CET1) or total regulatory capital as the capital measure.

[1] BCBS final standard on 'Basel III Leverage Ratio Framework and Disclosure Requirements' (link)
[2] BCBS consultative document on 'Basel III Leverage Ratio Framework and Disclosure Requirements' (link)

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1. Need for a Leverage Ratio

Build-up of excessive on- and off-balance sheet leverage in the banking system that did not affect the risk-based capital ratios was identified as one of the prime causes leading to the financial crises. To address the same, under Basel III, the committee proposed a simple non-risk-based leverage ratio measure to complement the risk-based capital requirements. The leverage ratio is intended to:

» Restrict the build-up of leverage in the banking sector to avoid destabilizing deleveraging processes that can damage the broader financial system and the economy

» Reinforce the risk-based requirements with a simple, non-risk-based "backstop" measure

2. Definition, Scope & Timeline

» The Basel III leverage ratio is the ratio of a bank's capital to its exposure measure expressed as a percentage. Presently, the committee has proposed a minimum requirement of 3% for the leverage ratio.

» The leverage ratio framework will follow the same scope of regulatory consolidation that is used for the risk-based capital framework. For banking, financial, insurance and commercial entities that are outside the regulatory scope of consolidation, only the investment (carrying value) in the capital is to be included in the leverage ratio exposure measure, provided such investments are not deducted from Tier 1 capital.

» Banks must comply with the leverage ratio requirement during the parallel-run period (January 1, 2013 to January 1, 2017), with bank-level leverage ratio and component reporting to national supervisors. The final calibration, and any further adjustments to the definition, will be completed by 2017, with a view to migrating to a Pillar 1 treatment on January 1, 2018.

» Public disclosure of the Basel III leverage ratio on a consolidated basis will be required from the date of publication of the first set of financial statements relating to a balance sheet on or after January 1, 2015. The frequency of leverage ratio disclosures will be the same and concurrent with the publication of the financial statements (i.e., typically quarterly or half-yearly). Large banks constitute an exception to this rule, and are subject to minimum disclosure requirements on a quarterly basis, regardless of the frequency of publication of their financial statements. Refer to appendix A for leverage ratio disclosure templates.

3. Capital Measure

The capital measure for the leverage ratio is the Tier 1 capital of the risk-based capital framework, as defined in the Basel III framework.

4. Exposure Measure

The exposure measure for the leverage ratio will be the sum of (a) on-balance sheet exposures; (b) derivative exposures; (c) SFTs exposures; and (d) OBS items.

4.1 On-Balance Sheet Exposures

All balance sheet assets (except on-balance sheet derivative and SFT assets that are covered separately), including on-balance sheet derivatives collateral and collateral for SFTs, should be included in the leverage ratio exposure measure. The on-balance sheet exposure value will follow the accounting value, subject to the following:

[3] For details, refer to paragraph 66 to 89 of the Basel III framework (link)

On-balance sheet, non-derivative exposures should be included net of specific provisions or accounting valuation adjustments.

» Loans and deposits should not be netted.

» Balance sheet assets deducted from Tier 1 capital may be deducted from the exposure measure [3].

» Liability items—for example, gains/losses on fair valued liabilities or accounting value adjustments on derivative liabilities due to changes in the bank's own credit risk—must not be deducted from the measure of exposure

4.2 Derivative Transactions

The leverage ratio framework will take into account both the underlying exposure and the counterparty credit risk exposure arising from a derivative contract. A bank's exposure from a derivative contract following from the Current Exposure Method (CEM) [4] will be calculated as:

» Without eligible bilateral netting contract [5]:

$$\boxed{\text{Exposure Measure} = \text{replacement cost (RC)} + \text{add-on}}$$

» With eligible bilateral netting contract:

$$\begin{aligned}\text{Exposure Measure} &= \text{net replacement cost } (RC_{net}) + A_{net} \\ &= RC_{net} + (0.4 \times A_{Gross} + 0.6 \times NGR \times A_{Gross})\end{aligned}$$

where,

- RC = the replacement cost of the contract (obtained by marking to market), where the contract has a positive value
- add-on = an amount for PFE over the remaining life of the contract calculated by applying an add-on factor to the notional principal amount of the derivative. The add-on factors are included in Appendix B.
- A_{Gross} = sum of individual add-ons of all transactions subject to legally enforceable netting agreements with one counterparty
- NGR = ratio of net current replacement cost to gross current replacement cost
- A bilateral netting contract would be considered to be eligible only when it meets the conditions set by the committee

The exposure from derivative transactions may be adjusted further for the following:

» Collateral received/provided: the exposure amount should not be reduced by any collateral received from the counterparty as this collateral does not necessarily reduce the leverage inherent in a bank's derivatives position. However, in case of collateral being provided by the bank, the same should increase the exposure measure if the provision of that collateral has reduced the value of the balance sheet assets under the bank's operative accounting framework.

» Cash variation margin: the cash portion of variation margin exchanged may be used to adjust the leverage ratio exposure measure if it meets the specific conditions [6] set by the committee.

[4] Current Exposure Method (CEM) is used under the Basel II framework to calculate CCR exposure amounts associated with derivative exposures. The Committee has now replaced the CEM with Standardized Approach for Counterparty Credit Risk (SA-CCR) and it will consider whether the SA-CCR is appropriate in the context of capturing both underlying exposure and counterparty exposure emanating from derivative transactions. Basel's final SA-CCR standard can be found here.

[5] For what constitutes an eligible bilateral netting contract, refer to paragraphs 8 and 9 in the annex of the final Basel standard on the leverage ratio (link)

[6] For conditions, refer to paragraph 25 of the final Basel standard on the leverage ratio (link)

- When a bank receives the cash variation margin, it may reduce the replacement cost (but not the add-on portion), if the positive mark-to-market value of the derivative contract(s) has not already been reduced by the same amount of cash variation margin under the bank's operative accounting standard.
- When a bank receives the cash variation margin, it may deduct the resulting receivable from its leverage ratio exposure measure, where the cash variation margin has been recognized as an asset under the bank's operative accounting standard.

» Clearing services: When a bank acting as clearing member (CM) offers clearing services to clients and it:

- is obligated to reimburse the client in the event the central counterparty (CCP) defaults, the clearing member's trade exposures to the CCP will have to be recognized in leverage ratio exposure measure.
- guarantees the performance of its clients' direct derivative transactions with the CCP, the bank should consider the exposure resulting from the guarantee as a derivative exposure and recognize the same in the leverage ratio exposure measure.

» Written credit derivatives: in addition to the CCR exposure arising from the fair value of the contracts, written credit derivatives create a notional credit exposure arising from the creditworthiness of the reference entity. The effective notional amount is the notional amount adjusted to reflect the true exposure of contracts that are leveraged or otherwise enhanced by the structure of the transaction. The effective notional amount may be reduced by:

- any negative change in fair value amount that has been incorporated into the calculation of Tier 1 capital with respect to the written credit derivative, provided the effective notional amount of the offsetting purchased credit protection is also reduced by any resulting positive change in fair value reflected in Tier 1 capital.
- effective notional amount of a purchased credit derivative on the same reference name [7] provided:
  - » the credit protection purchased is on a reference obligation of equal rank with or is junior to the underlying reference obligation of the written credit derivative in the case of single name credit derivatives. For tranched products, the purchased protection must be on a reference obligation with the same level of seniority.
  - » the remaining maturity of the credit protection purchased is equal to or greater than the remaining maturity of the written credit derivative.

To prevent double-counting, banks may choose to deduct the individual PFE add-on amount relating to a written credit derivative (whose effective notional amount is included in the exposure measure) from the gross add-on amount. If effective bilateral netting contracts are in place, then deduction may be done from a gross amount but no adjustments must be made to NGR.

4.3 Securities Financing Transactions

4.3.1 Bank Acting as Principal

The contribution of SFTs to the leverage ratio exposure measure where the bank acts as one of the principal parties in the transaction would be the sum of the following:

» Gross SFT assets (without netting) recognized for accounting purposes, adjusted as follows:

- excluding from the exposure measure the value of any securities received under an SFT, where the bank has recognized the securities as an asset on its balance sheet; and

[7] Same reference names should adhere to the conditions mentioned under footnote 14 of the final Basel standard on the leverage ratio (link)

- cash payables and cash receivables in SFTs with the same counterparty may be measured net when meeting specific conditions [8]

» Current exposure without an add-on for potential future exposure (PFE) accounting for CCR:

- Where a qualifying master netting agreement (MNA) [9] is in place:
- Current Exposure (E^*) = max {0, [$\Sigma Ei - \Sigma Ci$]}, where ΣEi is the total fair value of securities and cash lent to a counterparty for all transactions included in the qualifying MNA and ΣCi is the total fair value of cash and securities received from the counterparty for those transactions.
- Where no qualifying MNA is in place:
  - » Current Exposure (Ei^*) = max {0, [$Ei - Ci$]} calculated for each counterparty on a transaction-by-transaction basis, i.e., each transaction i is treated as its own netting set

In the case of sale accounting transactions where sale accounting is achieved for an SFT under the bank's operative accounting framework, the bank must reverse all sales-related accounting entries and then calculate its exposure (as if the SFT had been treated as a financing transaction under the operative accounting framework).

4.3.2 Bank acting as agent

When a bank only provides an indemnity or guarantee to one of the two parties involved in an SFT and the indemnity or guarantee is only for the difference between the value of the security or cash its customer has lent and the value of collateral the borrower has provided, the bank is exposed to the counterparty of its customer for the difference in values rather than the full exposure to the underlying security or cash of the transaction. In this scenario, the bank will only be required to calculate the CCR exposure for the difference in values.

In situations where the bank is further economically exposed (i.e., beyond the guarantee for the difference) to the underlying security or cash in the transaction, a further exposure equal to the full amount of the security or cash must be included in the exposure measure.

4.4 Off-balance Sheet Exposures

OBS items include commitments (including liquidity facilities), whether they are unconditionally cancelable or not, direct credit substitutes, acceptances, standby letters of credit, and trade letters of credit. For determining the exposure from OBS items for the leverage ratio exposure measure, CCFs provided by the Basel Committee should be applied to the notional amount of the OBS item. However, the Committee has set a floor of 10% on the CCFs for the leverage ratio framework and this will negatively affect the commitments that receive a 0% CCF under the standardized approach for credit risk under the Basel II framework; for example, the commitments that are unconditionally cancelable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness. Refer appendix C for the applicable CCFs for OBS exposures.

[8] For details on specific conditions, refer to paragraph 33(i) of the final Basel standard on the leverage ratio (link)

[9] For what constitutes a qualifying master netting agreement, refer to paragraphs 12 and 13 in the annex of the final Basel standard on the leverage ratio (link)

Appendix A: Leverage Ratio Disclosure Templates

Summary Comparison of Accounting Assets vs Leverage Ratio Exposure Measure

#	ITEM	IN RELEVANT CURRENCY
1	Total consolidated assets as per published financial statements	
2	Adjustment for investments in banking, financial, insurance or commercial entities that are consolidated for accounting purposes but outside the scope of regulatory consolidation	
3	Adjustment for fiduciary assets recognized on the balance sheet pursuant to the operative accounting framework but excluded from the leverage ratio exposure measure	
4	Adjustments for derivative financial instruments	
5	Adjustment for securities financing transactions (i.e. repos and similar secured lending)	
6	Adjustment for off-balance sheet items (i.e. conversion to credit equivalent amounts of off-balance sheet exposures)	
7	Other adjustments	
8	**Leverage ratio exposure (sum of lines 1 to 7)**	

Leverage Ratio Common Disclosure Template

#	ITEM	LEVERAGE RATIO FRAMEWORK
	On-balance sheet exposures	
1	On-balance sheet items (excluding derivatives and SFTs, but including collateral)	
2	(Asset amounts deducted in determining Basel III Tier 1 capital)	
3	**Total on-balance sheet exposures (excluding derivatives and SFTs) (sum of lines 1 and 2)**	
	Derivative exposures	
4	Replacement cost associated with all derivatives transactions (i.e. net of eligible cash variation margin)	
5	Add-on amounts for PFE associated with all derivatives transactions	
6	Gross-up for derivatives collateral provided where deducted from the balance sheet assets pursuant to the operative accounting framework	
7	(Deductions of receivables assets for cash variation margin provided in derivatives transactions)	
8	(Exempted CCP leg of client-cleared trade exposures)	
9	Adjusted effective notional amount of written credit derivatives	
10	(Adjusted effective notional offsets and add-on deductions for written credit derivatives)	
11	**Total derivative exposures (sum of lines 4 to 10)**	
	Securities financing transaction exposures	
12	Gross SFT assets (with no recognition of netting), after adjusting for sale accounting transactions	
13	(Netted amounts of cash payables and cash receivables of gross SFT assets)	
14	CCR exposure for SFT assets	
15	Agent transaction exposures	
16	**Total securities financing transaction exposures (sum of lines 12 to 15)**	
	Other off-balance sheet exposures	
17	Off-balance sheet exposure at gross notional amount	
18	(Adjustments for conversion to credit equivalent amounts)	
19	**Off-balance sheet items (sum of lines 17 and 18)**	
	Capital and total exposures	
20	**Tier 1 capital**	
21	**Total exposures (sum of lines 3, 11, 16 and 19)**	
	Leverage ratio	
22	**Basel III leverage ratio**	

Appendix B: Add-on Factors for Calculating CCR Exposure

Add-on Factors Applicable to Financial Derivatives

MATURITY	INTEREST RATES	FX AND GOLD	EQUITIES	PRECIOUS METALS EXCEPT GOLD	OTHER COMMODITIES
One year or less	0.0%	1.0%	6.0%	7.0%	10.0%
Over one year to five years	0.5%	5.0%	8.0%	7.0%	12.0%
Over five years	1.5%	7.5%	10.0%	8.0%	15.0%

Notes:

» For contracts with multiple exchanges of principal, the factors are to be multiplied by the number of remaining payments in the contract.

» For contracts that are structured to settle outstanding exposures following specified payment dates and where the terms are reset such that the market value of the contract is zero on these specified dates, the residual maturity would be set equal to the time until the next reset date. In the case of interest rate contracts with remaining maturities of more than one year that meet the above criteria, the add-on is subject to a floor of 0.5%.

» Forwards, swaps, purchased options, and similar derivative contracts not covered by any of the columns in this matrix are to be treated as "other commodities."

» No potential future credit exposure would be calculated for single currency floating/floating interest rate swaps; the credit exposure on these contracts would be evaluated solely on the basis of their mark-to-market value.

Add-on Factors Applicable to Single-Name Credit Derivatives

SWAP	REFERENCE OBLIGATION	INTEREST RATES	FX AND GOLD
TOTAL RETURN SWAPS	Qualifying reference obligation	5%	5%
	Non-qualifying reference obligation	10%	10%
CREDIT DEFAULT SWAPS	Qualifying reference obligation	5%	5%**
	Non-qualifying reference obligation	10%	10%**

**The protection seller of a credit default swap shall only be subject to the add-on factor where it is subject to closeout upon the insolvency of the protection buyer while the underlying is still solvent. The add-on should then be capped to the amount of unpaid premiums.

Where the credit derivative is a first-to-default transaction, the add-on will be determined by the lowest credit quality underlying the basket.

Appendix C: CCFs for Off-Balance Sheet Items

OBS ITEM	CCF
Commitments other than securitization liquidity facilities with an original maturity up to one year	20%
Commitments other than securitization liquidity facilities with an original maturity over one year	50%
Commitments that are unconditionally cancelable at any time by the bank without prior notice, or that effectively provide for automatic cancellation due to deterioration in a borrower's creditworthiness	10%
Direct credit substitutes; e.g., general guarantees of indebtedness (including standby letters of credit serving as financial guarantees for loans and securities) and acceptances (including endorsements with the character of acceptances)	100%
Forward asset purchases, forward deposits, and partly paid shares and securities, which represent commitments with certain drawdown	100%
Certain transaction-related contingent items (e.g., performance bonds, bid bonds, warranties, and standby letters of credit related to particular transactions)	50%
Note issuance facilities (NIFs) and revolving underwriting facilities (RUFs)	50%
Short-term self-liquidating trade letters of credit arising from the movement of goods (e.g., documentary credits collateralized by the underlying shipment)	20%
All eligible liquidity facilities	50%
At national discretion, undrawn servicer cash advances or facilities that are unconditionally cancelable without prior notice	10%
All off-balance sheet securitization exposures, except an eligible liquidity facility or an eligible servicer cash advance facility	100%
Lower of the two applicable CCFs where a bank gives an undertaking to provide a commitment on an OBS item	-

References

1. Basel Committee on Banking Supervision, January 2014, "Basel III Leverage Ratio Framework and Disclosure Requirements"– Final framework (link).
2. BohBasel Committee on Banking Supervision, June 2013, "Revised Basel III Leverage Ratio Framework and Disclosure Requirements"– Consultative version (link)

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