



Basel Committee on Banking Supervision

BANK FOR INTERNATIONAL SETTLEMENTS

Finalising Basel III

In brief

2010

2017
reforms

December 2017

Basel III

What is Basel III?

The Basel III framework is a central element of the Basel Committee's response to the global financial crisis. It addresses a number of shortcomings in the pre-crisis regulatory framework and provides a foundation for a resilient banking system that will help avoid the build-up of systemic vulnerabilities. The framework will allow the banking system to support the real economy through the economic cycle.

What do the 2017 reforms do?






The Committee's Basel III reforms complement the initial phase of the Basel III reforms announced in 2010. The 2017 reforms seek to restore credibility in the calculation of risk-weighted assets (RWAs) and improve the comparability of banks' capital ratios. RWAs are an estimate of risk that determines the minimum level of regulatory capital a bank must maintain to deal with unexpected losses. A prudent and credible calculation of RWAs is an integral element of the risk-based capital framework.

Why are the 2017 reforms necessary?

The 2017 reforms address weaknesses that were revealed by the global financial crisis.

- **Credibility of the framework:** A range of studies found an unacceptably wide variation in RWAs across banks that cannot be explained solely by differences in the riskiness of banks' portfolios. The unwarranted variation makes it difficult to compare capital ratios across banks and undermines confidence in capital ratios. The reforms will address this to help restore the credibility of the risk-based capital framework.
- **Internal models:** Internal models should allow for more accurate risk measurement than the standardised approaches developed by supervisors. However, incentives exist to minimise risk weights when internal models are used to set minimum capital requirements. In addition, certain types of asset, such as low-default exposures, cannot be modelled reliably or robustly. The reforms introduce constraints on the estimates banks make when they use their internal models for regulatory capital purposes, and, in some cases, remove the use of internal models.

Basel III: main features

2010	 <p>Increase the level and quality of capital</p> <p>Banks required to maintain more capital of higher quality to cover unexpected losses. Minimum Tier 1 capital rises from 4% to 6%, of which at least three quarters must be the highest quality (common shares and retained earnings). Global systemically important banks (G-SIBs) are subject to additional capital requirements.</p>	 <p>Enhance risk capture</p> <p>Capital requirements for market risk rise significantly. Requirements are calculated based on 12 months of market stress. Credit Valuation Adjustment risk is now included in the framework.</p>	 <p>Constrain bank leverage</p> <p>A leverage ratio constrains the build-up of debt to fund banks' investment and activities (bank leverage), reducing the risk of a deleveraging spiral during downturns.</p>	 <p>Improve bank liquidity</p> <p>The Liquidity Coverage Ratio requires banks to hold sufficient liquid assets to sustain them for 30 days during times of stress. The Net Stable Funding Ratio encourages banks to better match the duration of their assets and liabilities.</p>	 <p>Limit procyclicality</p> <p>Banks retain earnings to build up capital buffers during periods of high economic growth so that they can draw them down during periods of economic stress.</p>
2017		<p>Revisions to the standardised approaches for calculating credit risk, market risk, Credit Valuation Adjustment and operational risk mean greater risk sensitivity and comparability. Constraints on using internal models aim to reduce unwarranted variability in banks' calculations of RWAs.</p> <p>An output floor limits the benefits banks can derive from using internal models to calculate minimum capital requirements.</p>	<p>Global systemically important banks (G-SIBs) are subject to higher leverage ratio requirements.</p>		

Focus on risk-weighted assets

While the first phase of Basel III focused largely on the capital side of the capital ratio calculation (the numerator), the 2017 reforms concentrate on the calculation of RWAs (the denominator).

What is regulatory capital?

Banks fund their investments with capital and debt, such as customer deposits. Capital can absorb losses in a way that reduces the likelihood of a bank failing and the impact if it does. Regulatory capital consists of:

- Common Equity Tier 1 – common shares, retained earnings and other reserves.
- Additional Tier 1 – capital instruments with no fixed maturity.
- Tier 2 – subordinated debt and general loan-loss reserves.

Banks with more regulatory capital are better able to fund lending growth.

The capital ratio is the amount of regulatory capital divided by the amount of risk-weighted assets. The greater the amount of risk-weighted assets, the more capital is needed, and vice versa.

$$\text{Risk-based capital ratio} = \frac{\text{Regulatory capital}}{\text{Risk-weighted assets}}$$



What are risk-weighted assets?

- A bank's assets typically include cash, securities and loans made to individuals, businesses, other banks, and governments. Each type of asset has different risk characteristics. A risk weight is assigned to each type of asset, as an indication of how risky it is for the bank to hold the asset.
- To work out how much capital banks should maintain to guard against unexpected losses, the value of the asset (ie the exposure) is multiplied by the relevant risk weight. Banks need less capital to cover exposures to safer assets and more capital to cover riskier exposures.

Improve the treatment of credit risk

Credit risk, *the risk of loss due to a borrower being unable to repay a debt in full or in part*, accounts for the bulk of most banks' risk-taking activities and regulatory capital requirements. There are two broad approaches to calculating RWAs for credit risk: the **standardised approach** and the **internal ratings-based approach**.

Most banks around the world use the **standardised approach (SA)** for credit risk. Under this approach, supervisors set the risk weights that banks apply to their exposures to determine RWAs. This means that banks do not use their internal models to calculate risk-weighted assets.

The main changes to the SA for credit risk will:

- Enhance risk sensitivity while keeping the SA for credit risk sufficiently simple.
 - Provide for a more detailed risk weighting approach instead of a flat risk weight, particularly for residential and commercial real estate.
- Reduce reliance on external credit ratings.
 - Require banks to conduct sufficient due diligence when using external ratings.
 - Have a sufficiently detailed non-ratings-based approach for jurisdictions that cannot or do not wish to rely on external credit ratings.

The **internal ratings-based (IRB) approach** for credit risk allows banks, under certain conditions, to use their internal models to estimate credit risk, and therefore RWAs. The 2017 reforms introduced some constraints to banks' estimates of risk parameters. There are two main IRB approaches: Foundation IRB (F-IRB) and Advanced IRB (A-IRB).

The main changes to the IRB approach for credit risk will:

- Remove the option to use the A-IRB approach for exposures to financial institutions and large corporates. No IRB approach can be used for equity exposures.
- Where the IRB approach is retained, minimum levels are applied on the probability of default and for other inputs.

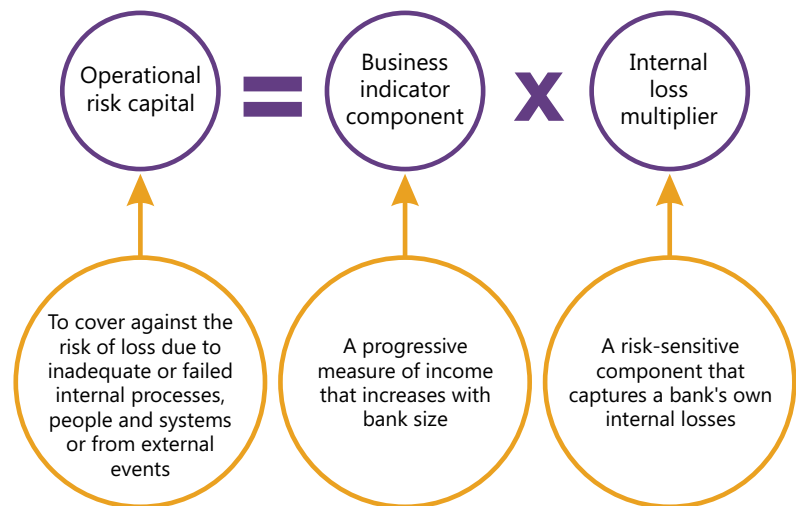
Exposure class	Methods available under the new credit risk standards	Change in available methods relative to current credit risk standard
Banks and other financial institutions	SA or F-IRB	A-IRB removed
Corporates belonging to groups with total consolidated revenues exceeding EUR 500m	SA or F-IRB	A-IRB removed
Other corporates	SA, F-IRB or A-IRB	No change
Specialised lending	SA, supervisory slotting, F-IRB or A-IRB	No change
Retail	SA or A-IRB	No change
Equity	SA	All IRB approaches removed

Streamline the treatment of operational risk

The financial crisis highlighted weaknesses in calculating capital requirements for operational risk, or *the risk of loss due to inadequate or failed internal processes, people and systems or from external events*. The capital requirements were not enough to cover the losses incurred by some banks. And the sources of such losses – including those related to fines for misconduct or poor systems and controls – are also hard to predict using internal models.

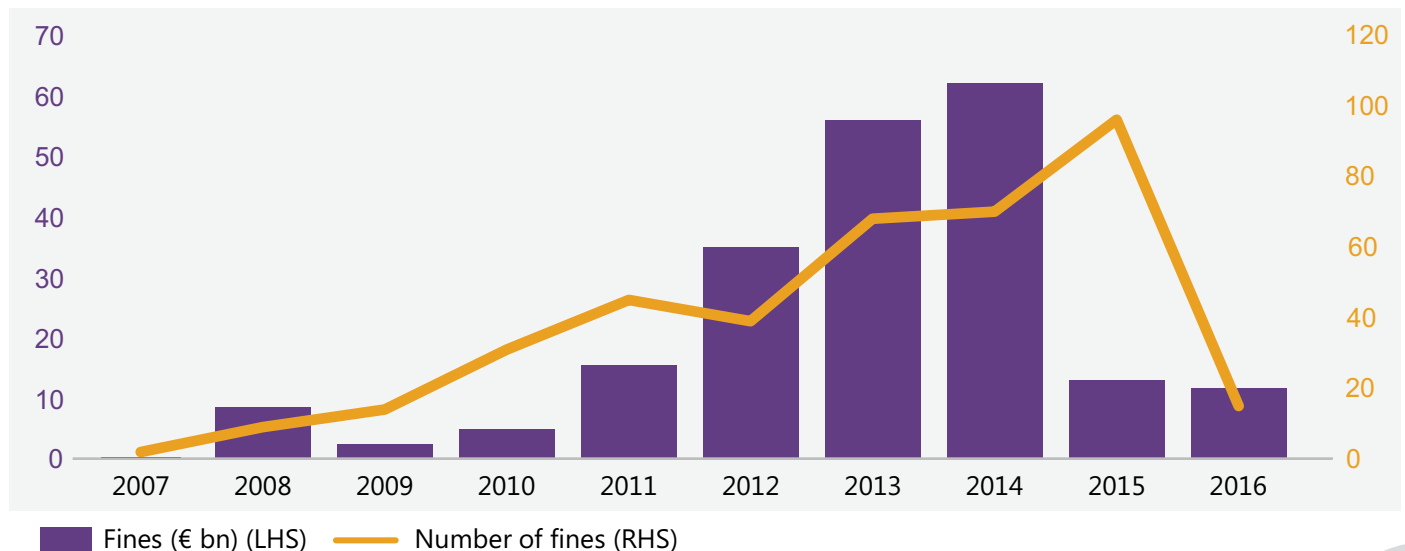
The 2017 reforms:

- Simplify the framework by replacing the four current approaches with a single standardised approach.
- Make the framework more risk-sensitive by combining a refined measure of gross income with a bank's own internal loss history over 10 years.
- Make it easier to compare RWAs from bank to bank by removing the option to use multiple approaches and the option to use internal models.



Significant operational risk losses during crisis

Conduct-related fines



Sources: Le Monde; Basel Committee Secretariat calculations.

Conduct-related fines for a sample of 111 banks. Fines converted to euros based on relevant exchange rate as at 20 May 2016.

Add a leverage ratio surcharge for the largest banks

The leverage ratio introduced by Basel III acts as a non-risk-based backstop to the risk-based capital rules. This limits any excessive build-up in leverage. Under this requirement, the Tier 1 capital of the bank must be at least 3% of the bank's on- and off-balance sheet exposures. The leverage ratio applies to all internationally active banks.

The 2017 reforms introduce a leverage ratio buffer for G-SIBs. Basel III had already prescribed a risk-based capital buffer for G-SIBs. Therefore, the leverage ratio buffer is necessary to make sure that the leverage ratio continues to act as an appropriate backstop to the risk-based requirements for G-SIBs.

$$\text{Leverage ratio} = \frac{\text{Tier 1 capital}}{\text{On- and off-balance sheet exposures (including derivatives, repos and other securities financing transactions)}} \geq 3\%$$

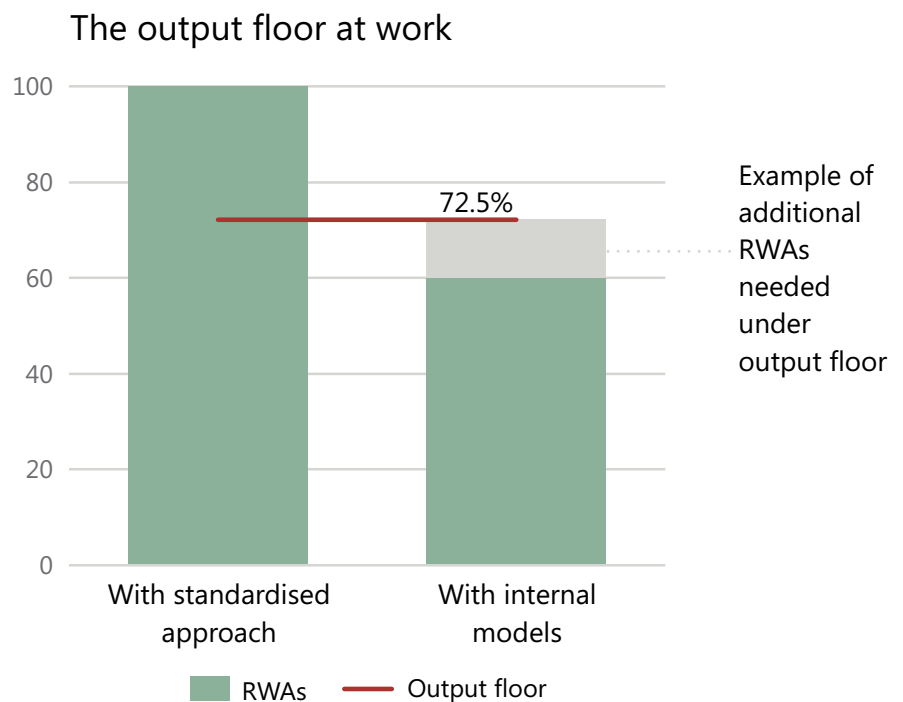


The leverage ratio buffer for each G-SIB will be set at 50% of its risk-based capital buffer. For example, a bank with a 2% risk-based buffer will have a 1% leverage ratio buffer and so will be expected to maintain a leverage ratio of at least 4%.

Create a more robust, risk-sensitive output floor

The 2017 reforms replace the existing capital floor with a more robust, risk-sensitive output floor based on the revised standardised approaches. Jurisdictions have not implemented the existing floor consistently, partly because of differing interpretations of the requirement and also because it is based on Basel I standards, which many banks and jurisdictions no longer apply.

- The revised output floor limits the amount of capital benefit a bank can obtain from its use of internal models, relative to using the standardised approaches.
- Banks' calculations of RWAs generated by internal models cannot, in aggregate, fall below 72.5% of the risk-weighted assets computed by the standardised approaches. This limits the benefit a bank can gain from using internal models to 27.5%.



Banks have plenty of time to prepare

The implementation date and available phase-in arrangements for the output floor will help ensure a reasonable and orderly transition to the new standards.

2017 reforms	Implementation date
Revised standardised approach for credit risk	1 January 2022
Revised internal ratings-based framework for credit risk	1 January 2022
Revised Credit Valuation Adjustment framework	1 January 2022
Revised operational risk framework	1 January 2022
Revised market risk framework	1 January 2022
Leverage ratio	Existing exposure definition: 1 January 2018
	Revised exposure definition: 1 January 2022
	G-SIB buffer: 1 January 2022
Output floor*	1 January 2022: 50%
	1 January 2023: 55%
	1 January 2024: 60%
	1 January 2025: 65%
	1 January 2026: 70%
	1 January 2027: 72.5% (steady state calibration)

* In addition, at national discretion, supervisors may cap the increase in a bank's total RWAs that results from the application of the output floor during its phase-in period. The transitional cap on the increase in RWAs will be set at 25% of a bank's RWAs before the application of the floor. The cap will be removed on 1 January 2027.