

Introduction to key concepts: capital, liquidity and loss-absorbency requirements

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- A prudential cushion to absorb losses: Capital acts as a financial cushion to absorb *unexpected* losses (*expected* losses are absorbed by adequate provisions) and is the difference between all of a firm's assets and its liabilities. Both the quantity and the quality (ability to absorb losses) are key elements in determining the capital requirements.
- Capital instruments: Different instruments can be used to absorb unexpected losses and to count as capital. Basel allows banks to meet the minimum capital requirements through a Tier 1-Tier 2 system, with Tier 1 comprising mainly equity capital (the highest quality capital) and Tier 2 comprising subordinated debt among other instruments.
- Increased quantity and quality: After the crisis, not only the quantum of capital has strongly increased, but also the quality has been enhanced: minimum requirements and additional buffers are made of equity capital (or Common equity tier 1, in regulatory jargon).

Type of regulatory capital instruments		Typical instruments	Level of loss absorbency
OWN FUNDS	TIER 1	COMMON EQUITY TIER 1 (CET1)	HIGHEST
		ADDITIONAL TIER 1	HIGH/MEDIUM
	TIER 2	SUBORDINATED LOANS, BONDS	LOW (only in gone concern)

The amount of capital that banks need to hold is the result of the following main elements:

- **Minimum Capital (or “Pillar I”) Requirements:** they require a minimum regulatory capital calculated for the key risks a bank faces (e.g. credit risk, operational risk, market risk). This minimum level of capital is to a significant extent determined by the level of risk of the bank’s exposures, i.e. it depends on the risk weights of the assets, as explained below. However, no matter the level of risk attributed to the bank’s various exposures, the level of capital needs to be high enough to satisfy a minimum level of the leverage ratio
- In addition to the minimum (risk and non-risk based) requirements, banks need to hold additional capital as determined by: additional capital buffer and additional “Pillar 2” requirements, as explained below.

(Pillar 1) Minimum capital requirements

Risk based

They risk based capital requirements are expressed in the form of solvency ratios:

$$\text{Solvency ratio} = \frac{\text{amount of capital}}{\text{amount of risk weighted assets}}$$

The **risk weighted assets** (RWAs) measure the riskiness of a bank's exposures: for instance, exposures to governments or mortgage loans receive a low risk weight, therefore requiring a relatively low amount of capital; exposures to corporates are riskier and therefore require to be backed by more capital.

RWAs can be calculated by using a standardised approach (simple, but less risk-sensitive) or an advanced (internal model) approach (more complex, but also more risk sensitive; bank specific and subject to authorisation). RWAs calculations vary depending on the type of risk (credit risk, market risk, counterparty credit risk, operational risk).

Non-risk based

They are defined as a %, the leverage ratio (LR):

$$\text{Leverage ratio} = \frac{\text{Capital}}{\text{Exposure measure}}$$

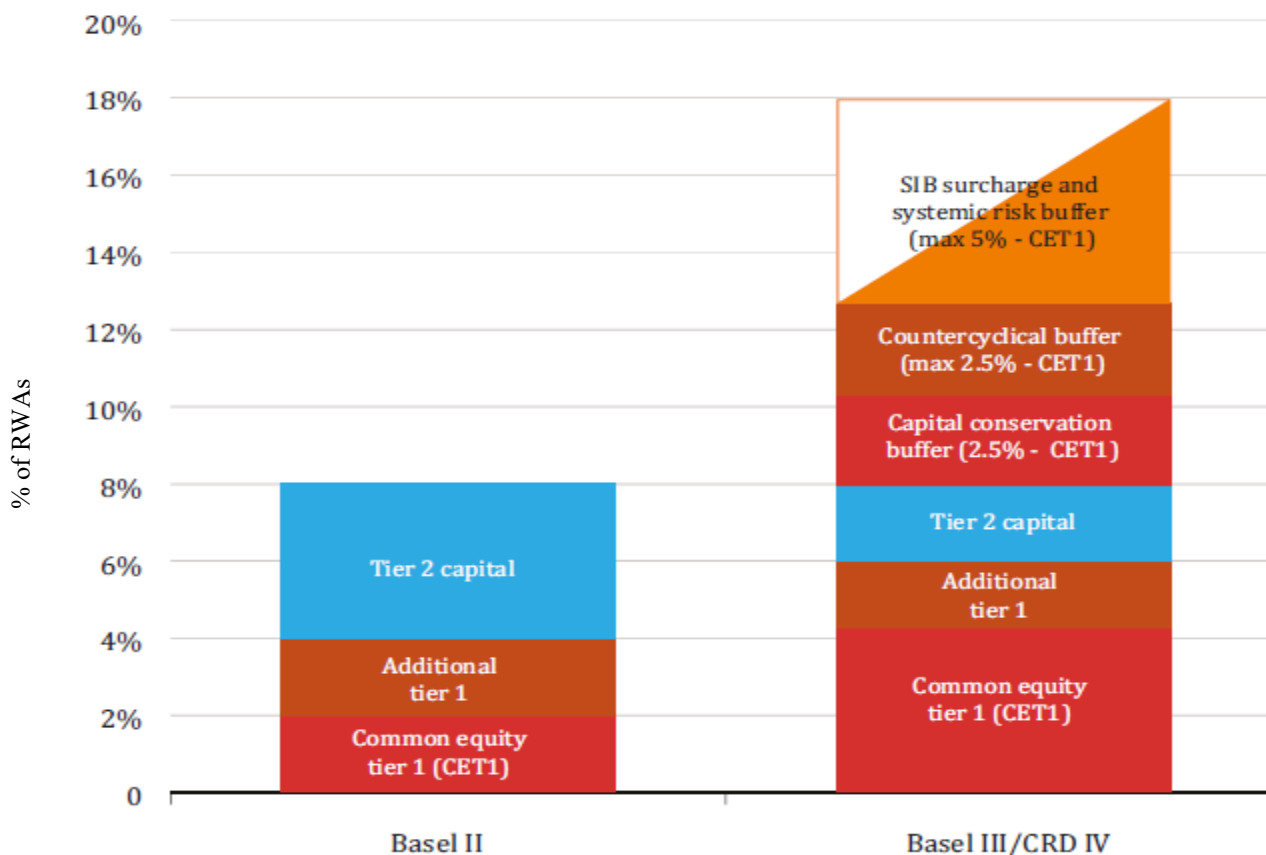
The exposure measure, includes all the banks’ exposures generally at their accounting value, without any consideration about the risk of these various exposures.

The LR acts as a **backstop** to risk-based capital requirements.

Additional capital requirements

Capital buffers	Additional amounts of capital that banks must have to cover certain risks. There are five of them: • capital conservation buffer; • counter-cyclical buffer; • G-SII buffer; • O-SII buffer; • systemic risk buffer. Breach leads to automatic limits on payments of dividends, bonuses and coupons on certain capital instruments kicking in.
Pillar 2 add-on	Additional amount of capital that banks must have on request from supervisors to cover risks not (or insufficiently) captured by Pillar 1 requirements. Determined on a bank-by-bank basis.

- With the reform introduced after the crisis the quantity and quality of capital has increased very significantly
- The level of the minimum leverage ratio (LR) is 3%. It represents the binding capital measure for a large number of banks. For systemically important banks (so called G-SIBs) the level of the minimum LR is set at a higher level and can reach 4.75%.



- Two global liquidity requirements have been introduced by Basel III
- The LCR was implemented in the EU in CRD4, while the NSFR became a binding requirement in the EU through CRD5.

LCR

The Liquidity Coverage Ratio (LCR) requires banks to hold enough high-quality liquid resources to withstand an estimated cash outflows over a 30-day stress period. The aim of this ratio is to promote short term resiliency.

$$\text{LCR} = \frac{\text{High quality liquid assets}}{\text{Net cash outflow over a 30-days stress scenario}} \geq 100\%$$

What is a liquid asset?

High quality liquid assets are assets that can be readily converted into cash at short notice without any significant reduction in their value (e.g. top-rated government securities).

Why banks need liquid assets?

Banks are required to hold liquidity because they cannot always control the timing of their needs for cash, e.g. as a result of:

- unexpected withdrawals by depositors / other funders;
- a failure of borrowers to repay loans on schedule;
- sudden unavailability of interbank loans;
- need to honor off-balance sheet obligations;

NSFR

The Net Stable Funding Ratio (NSFR) limits over-reliance on short-term wholesale funding and excessive maturity mismatches, promotes funding stability over a longer (1 year) period.

$$\text{NSFR} = \frac{\text{Available Stable Funding (ASF)}}{\text{Required Stable Funding (RSF)}} \geq 100\%$$

What is considered stable funding? [*the focus is on liabilities & capital*] - Available stable funding is the % of equity and liability financing expected to provide reliable sources of funds over a one-year time horizon. E.g. 100% of regulatory capital or 90%/95% of deposits with a residual maturity > 1 year are considered stable funding. On the contrary short-term liabilities towards financial institutions are not considered stable (i.e. their ASF is 0%).

How much stable funding is required? [*the focus is on assets*] - The amount of required stable funding (RSF) depends on the composition and residual maturity of assets. Very liquid assets will require no (e.g. assets in the form of banknotes) or very low (e.g. very liquid instruments, e.g. some sovereign bonds) stable funding. On the contrary, assets encumbered for more than 1 year, require to be fully backed by stable funding.

- **Who bear losses in failing banks:**

- Bail-out: government and taxpayers
- Bail-in: the banks' owners and investors

- **Bail-in, together with other resolution tools, aims at ending "too big to fail"**

- Minimising impact on financial stability
- Enabling critical functions to continue
- Minimising losses for taxpayers
- Protecting preferred depositors

- The Financial Stability Board (FSB) issued the minimum Total Loss-Absorbing Capacity (TLAC) Standard in November 2015. The standard is aimed at ensuring that G-SIBs have enough loss-absorbing and recapitalisation capacity to enable an orderly resolution with minimum impact on financial stability. Loss-absorbing instruments are bank liabilities instruments that can be written down or converted into equity (this resolution tool is called 'bail-in'): capital instruments (CET1, AT1 and T2) and long term unsecured debt.
- In Europe the TLAC concept has been introduced in the form of MREL, the "minimum requirement for own funds and eligible liabilities" which is a requirement for banks to hold a minimum amount of loss-absorbing equity or debt (i.e. instruments which can be converted to shares or be written off when the bank gets into difficulties) and facilitate the resolution plan, ensuring that losses are absorbed by shareholders and creditors of the bank and not taxpayers. This is in addition to minimum capital requirements and, where appropriate, ensures that banks have enough debt that can be bailed in to enable them to be recapitalised
- The minimum TLAC requirement is 18% of a firm's RWAs from 1 Jan 2022 (16% from Jan 2019), or 6.75% of the Leverage Ratio exposure (6% from Jan 2022). In the EU G-SIBs need to meet the higher of 3 (rather than 2) metrics: 18% of RWAs, 6.75% of Leverage Ratio exposure, and 8% of Total Liabilities and Own Funds.
- Whereas all TLAC-eligible instruments have to be subordinated to instruments which are not going to be "bailed-in" (such as deposits and other liabilities), the BRRD2 (Bank Recovery and Resolution Directive 2) also imposed mandatory MREL subordination for a new category of "top tier" banks (balance sheet > 100 bn euros) equal to 13.5% RWAs / 5% LRE / 8% TLOF. The BRRD2 also inserted the so-called "fishing option", whereby resolution authorities can impose MREL subordination to a subset of banks which satisfy a set of conditions.

RCA (Recapitalisation amount)	Market Confidence Buffer (MCB)	Default MCB = CCBR – Counter cyclical buffer
	Pillar 2 MREL Requirement	An adjusted Pillar 2 requirement based on the post resolution entity
	Pillar 1 MREL Requirement	The Pillar 1 requirement of the post-resolution entity
LAA (Loss Absorption Amount)	Combined Capital Buffer Requirement (CCBR)	The current combined capital buffer requirement (CCBR) as per Article 128 (6) of the Capital Requirements Directive
	Pillar 2 Capital Requirement	The current Pillar 2 requirement as per Article 104a of the Capital Requirements Directive
	Pillar 1 Capital Requirement	The current Pillar 1 requirement as per Article 92(1)(c) of the CRR

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London

39th Floor
25 Canada Square
London, E14 5LQ
United Kingdom

Brussels

Rue de la Loi 82
1040 Brussels
Belgium

Frankfurt

Skyper Villa
Taunusanlage 1
D-60329 Frankfurt am Main
Germany

www.afme.eu