Banking

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Course: Banking [2206]

Regulation

Disclaimer: The views expressed are my own and do not necessarily represent the views of Banco de Portugal.

To be covered today

- Regulation

Economic rationale for regulation and supervision

Components of the economic rationale for regulation and supervision in banking and financial service

1. **Potential systemic problems** associated with **externalities** (a particular form of market failure).
2. The correction of other market imperfections and failures.
3. The need for consumer confidence which also has a positive externality.
4. The potential for Grid Lock, with associated adverse selection and moral hazard problems.
5. **Moral hazard** associated with the revealed preference of governments to create safety net arrangements: lender of last resort, deposit insurance, and compensation schemes.
6. Consumer demand for regulation in order to gain a **degree of assurance and lower transactions costs**

Economic rationale for regulation and supervision - banks are fragile?

- Banks are fragile when they finance illiquid loans with deposits

- This is not mandatory!
  - If banks were financed only with equity and long term bonds, fragility would be tamed. The demand for short term deposits could be supplied by money market funds.
  - Or deposits could be non-demandable, only sold in the market.
  - Or if deposit is a service (banking would be just a vault, charging for that). Investment needed to be financed in the market.
  - (The impact on return is absence from this arguments…)

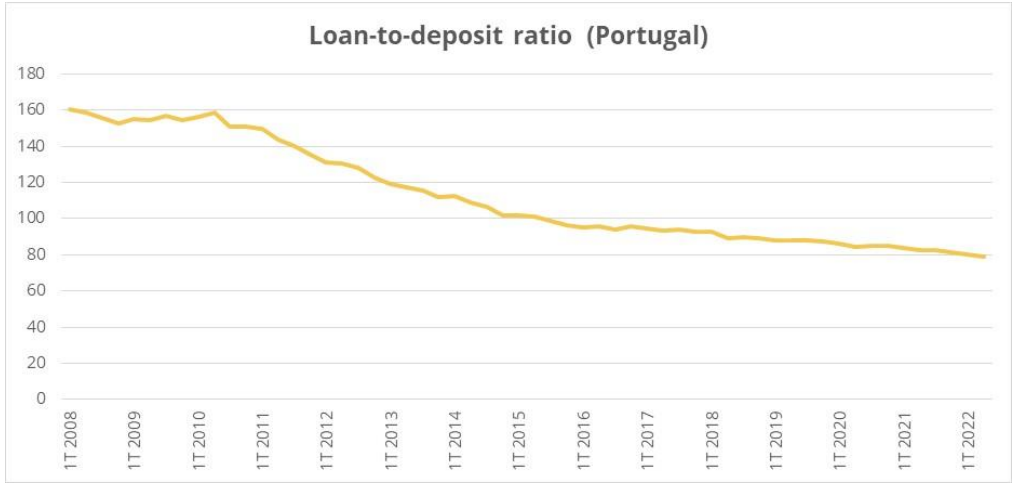
- Fragility happens because banks perform two functions at the same time: provide liquidity insurance to households and long term illiquid support to borrowers.

- But, could it be different?

Economic rationale for regulation and supervision - banks are fragile?

- The loan-to-deposit ratio (LDR) is an *old* measure of liquidity
- The LDR is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period.
- The LDR is expressed as a percentage.

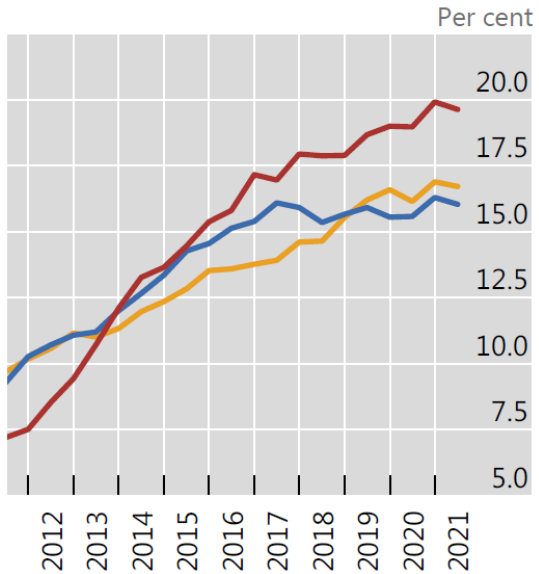
- If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, the bank may not be earning as much as it could be.
- Limitation: LDR does not consider other items of the balance sheet



Evidence

The strengthening of regulatory activity has led to a clear increase in banks' own funds.

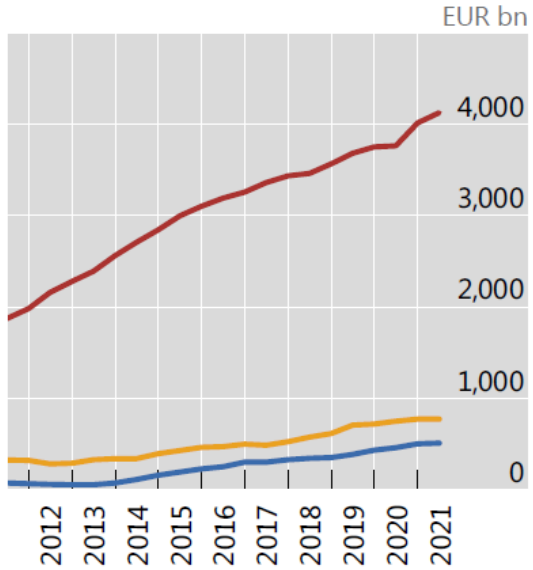
Total capital ratios according to Basel III, by region



Subtitle:
- Europe
- Americas
- Rest of the world

Source: https://www.bis.org/bcbs/publ/d531.pdf
(Basel III Monitoring Report – chart 15, page 32)

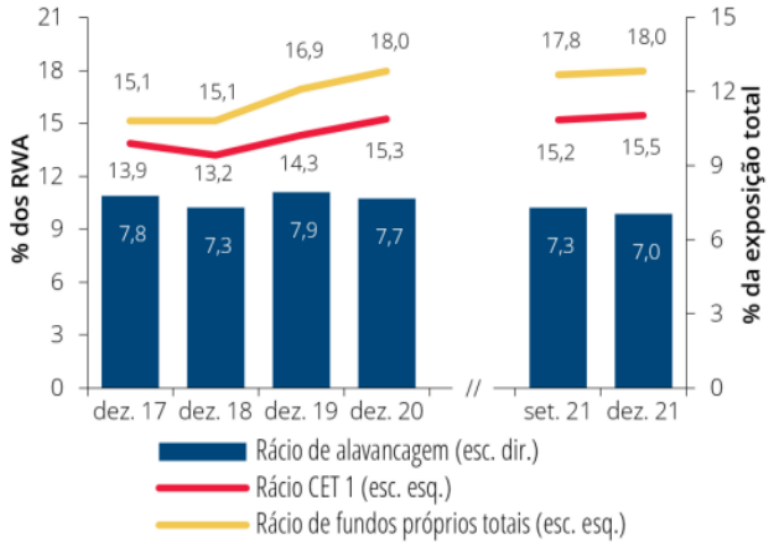
Level of own founds



Subtitle :
- CET1
- Additional Tier 1
- Tier 2

Source: https://www.bis.org/bcbs/publ/d531.pdf
(Basel III Monitoring Report – chart 1, p. 5, page 15)

Own founds ratios & leverage ratio in Portugal



Source: https://www.bportugal.pt/sites/default/files/anexos/pdf-boletim/overviewportuguesebankingsystem_2021q4.pdf
Portuguese Banking System: recent developments 4th Quarter 2021 (chart 6, page 4)

International bodies have been key…

- In response to the 2007-08 financial crisis, the **G20** forged the **Financial Stability Board (FSB)**, a new international body dedicated to promoting regulatory standards that best ensure the stability and soundness of the financial system.

- The FSB is an umbrella organization: its membership includes representatives from international standard-setters like the Basel Committee and the International Accounting Standards Board, alongside domestic regulators, such as central banks and representatives from national finance ministries and treasury departments.

- The **Basel Committee on Banking Supervision (BCBS)** is the primary global standard setter for the prudential regulation of banks and provides a forum for regular cooperation on banking supervisory matters. Its 45 members comprise central banks and bank supervisors from 28 jurisdictions.

The BCBS

- The BCBS comprises 45 members from 28 jurisdictions, :

Jurisdictions (28)	África do Sul, Alemanha, Arábia Saudita, Argentina, Austrália, Bélgica, Brasil, Canadá, China, Coreia do Sul, Espanha, EUA, França, Hong Kong, Índia, Indonésia, Itália, Japão, Luxemburgo, México, Países Baixos, Reino Unido, Rússia, Singapura, Suécia, Suíça, Turquia, **União Europeia**.

- The **European Union** and **8 of its member-states are 13 of the 45** members of the BCSB:

Jurisdications (9)	**União Europeia (BCE e BCE-SSM)**, Alemanha, Bélgica, Espanha, França, Itália, Luxemburgo, Países Baixos, Suécia.

- The European Union also has two observers in the BCSB:

Observes (2)	Comissão Europeia, Autoridade Bancária Europeia (EBA).

The BCBS

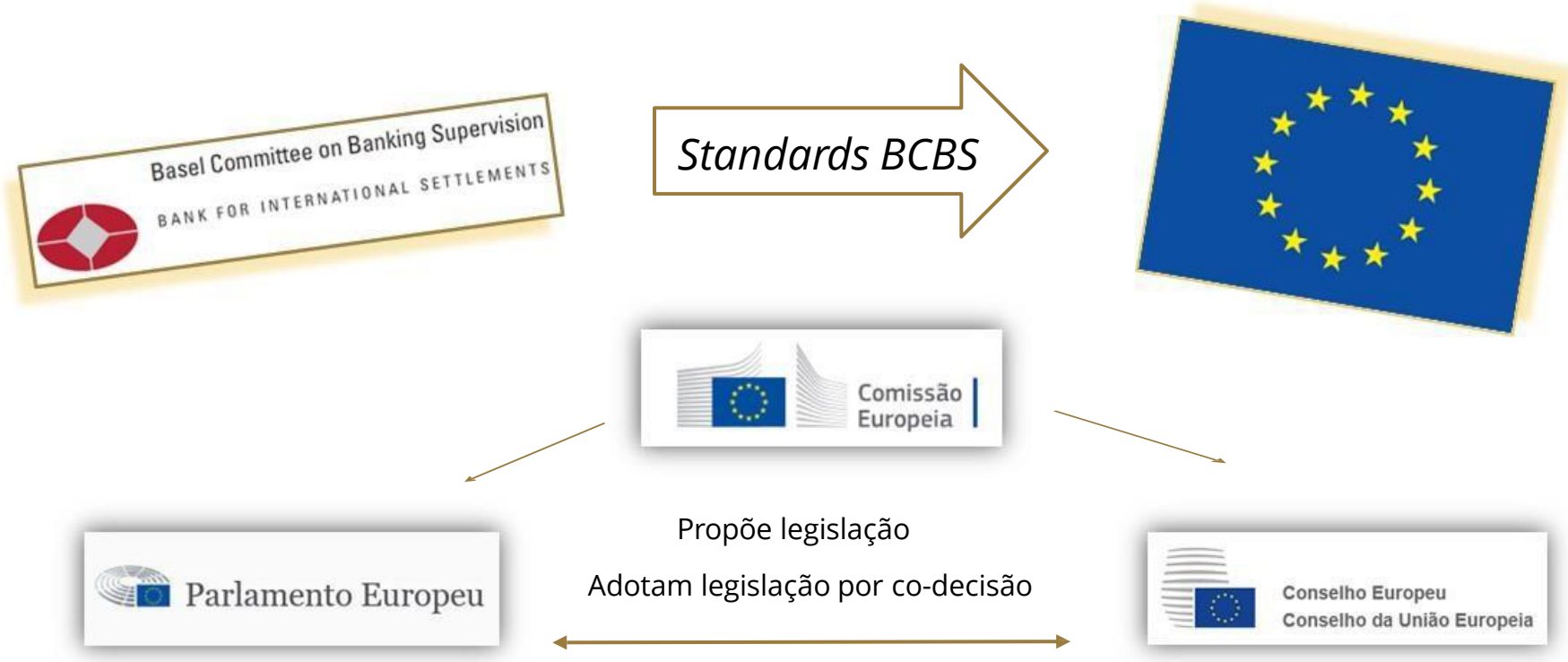
Basel Committee on Banking Supervision | BIS

Basel Committee Charter:

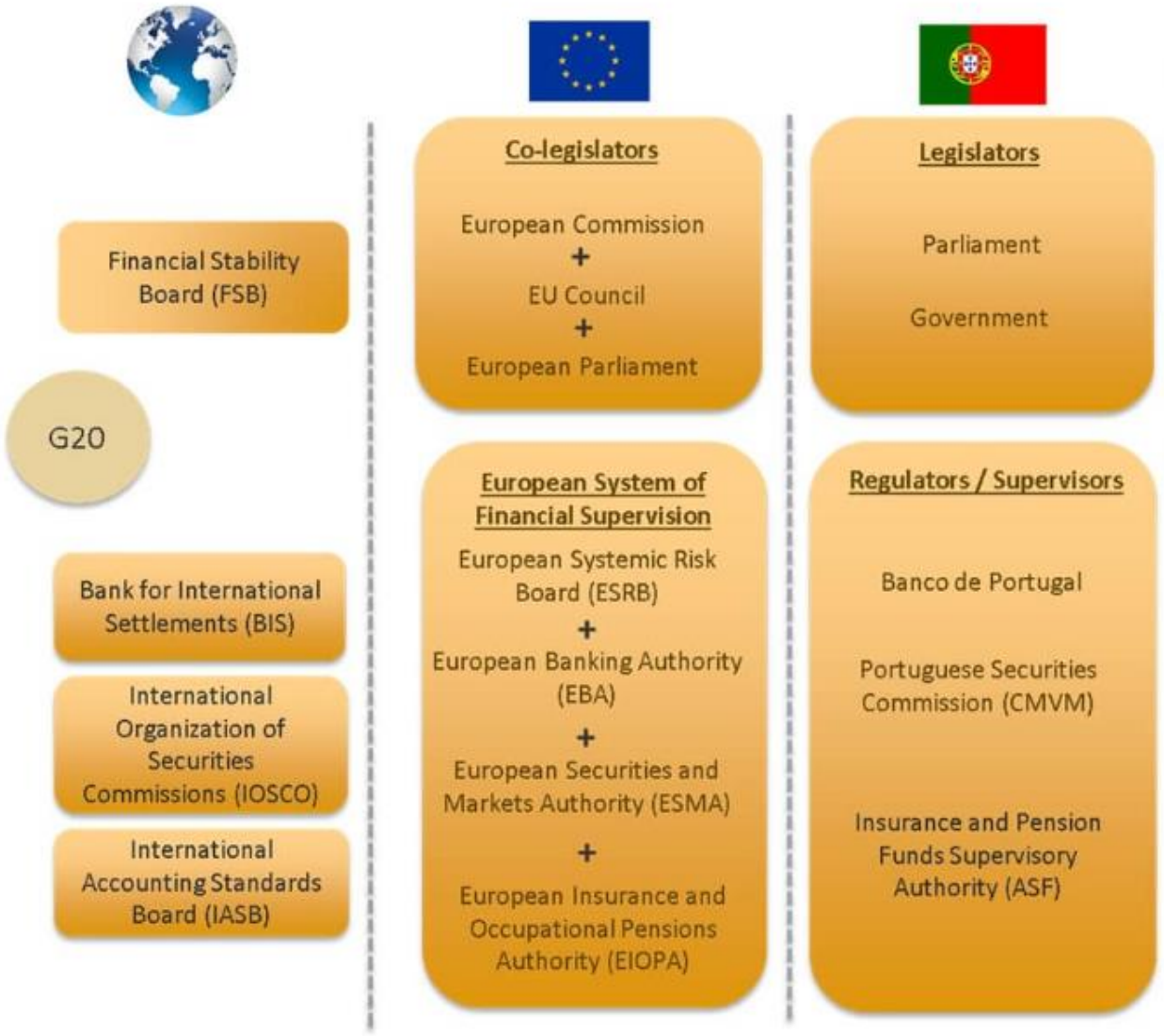
1. Mandate	*The BCBS is the primary global standard setter for the prudential regulation of banks and provides a forum for cooperation on banking supervisory matters.* *Its mandate is to strengthen the regulation, supervision and practices of banks worldwide with the purpose of enhancing financial stability.*
5. BCBS members' responsibilities	*BCBS members are committed to: (...)* *c. continuously enhance their quality of banking regulation and supervision; (...)* *e. implement and apply BCBS standards in their domestic jurisdictions within the pre-defined timeframe established by the Committee; (...)*
12. Standards	*(...) The BCBS expects full implementation of its standards by BCBS members and their internationally active banks. (...)* *The Committee expects standards to be incorporated into local legal frameworks through each jurisdiction's rule-making process within the pre-defined timeframe established by the Committee (...)*

BCBS and the European Union

- In line with the underlying objectives of the BCBS mandate to promote financial stability through strengthening the quality of bank supervision and the robustness of the prudential rules applicable to the banking system, **the European Union strives to implement the BCBS standards within its regulatory framework**.



Regulatory authorithies



Source: https://www.apb.pt/banking_sector/legislative_framework/regulatory_and_supervisory_authorities/

An overview on the Basel accords - Basel I: the Basel Capital Accord

- The first Accord, signed in 1988, has been signed in a context of strong recognition within the Committee of the overriding need for a multinational accord **to strengthen the stability of the international banking system** and to **remove a source of competitive inequality** arising from differences in national capital requirements.
    - In the early 1980s, the onset of the Latin American debt crisis heightened the Committee's concerns that the capital ratios of the main international banks were deteriorating at a time of growing international risks
    - Japanese banks were run with lower capital levels than competition, which was considered unfair
- The Basel Committee focus is on the creation of a safe and sound international banking system.
- The 1988 Accord called for a minimum ratio of capital to risk-weighted assets of 8% to be implemented by the end of 1992
- The accord was to be complied by banks with international operations, with a recommendation to adoption even by countries not represented by BIS.
- The European Union, in 1989, was the first to impose Basel rules to all its banks, with or without international operations.

Basel I: the Basel Capital Accord

Capital ratio

$$CR = \frac{Capital}{\sum_i w_i \, Assets_i} \geq 8\%$$

Capital		
Tier I	**Tier II**	**Deductions**
subscribed capital retained earnings equity premium preferred shares	other reserves revaluation reserves generic provisions junior bonds	goodwill stakes in non consolidated banks and other financial institutions

Basel I: the Basel Capital Accord

Capital ratio

$$CR = \frac{Capital}{\sum_i w_i \, Assets_i} \geq 8\%$$

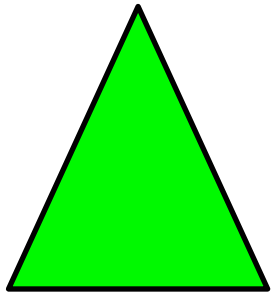
RWA

	Weights			
	0% (low risk)	**20% (moderate risk)**	**50% (medium risk)**	**100% (full risk)**
On Balance	cash & equivalent central bank deposits Claims on OECD Governments Bonds issued by OECD Governments	Claims on supranational institutions Claims on OECD banks Claims on OECD public entities	residential mortgage loans	Claims on the private sector Equity investments Fixed assets Claims on non-OECD entities
Off Balance	Commitments that can be unconditionally cancelled at any time	Commitments with original maturity of up to 1 year Documentary Credits	Commitments with original maturity of more than 1 year Documentary Credits granted and confirmed Warranties	Direct credit substitutes (acceptances, irrevocable standby letters of credit) Asset sales with recourse (repos)

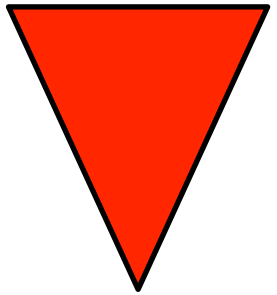
Basel I: the Basel Capital Accord

- Later, the Committee also refined the framework to address risks other than credit risk, which was the focus of the 1988 Accord.
- In January 1996, issued the Amendment to the Capital Accord to incorporate market risks (or **Market Risk Amendment**), to take effect at the end of 1997.
- This was designed to incorporate within the Accord **a capital requirement for the market risks arising from banks' exposures to foreign exchange, traded debt securities, equities, commodities and options**.
- An important aspect of the Market Risk Amendment was that **banks were, for the first time, allowed to use internal models (value-at-risk models)** as a basis for measuring their market risk capital requirements, subject to strict quantitative and qualitative standards.

Basel I assessment



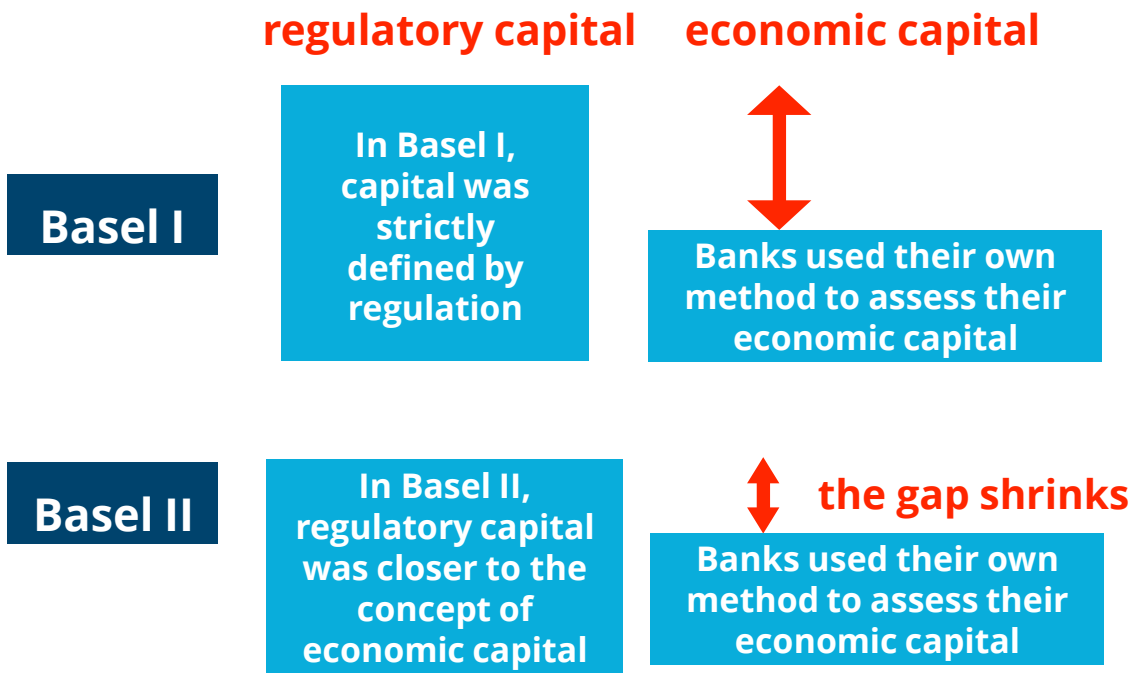
- Reached an agreement that was adopted by more than 100 countries that did not signed the Accord.
- Set a standard for capital adequacy.
- Banks were resilient during Basel I application (would they be so resilient without the Accord?).



- Primarly credit risk. It was too much “banking of the past”.
- Regulatory arbitrage. Pro-cyclical.
- This is about solvency. And LIQUIDITY ?
- Set the way to the 2007-2008 financial crisis?

Basel II - capital convergence

- In June 2044 it was released a revised capital framework to replace the 1988 Accord, known as Basel II.



The three pillars of Basel II

The revised framework comprised three pillars:

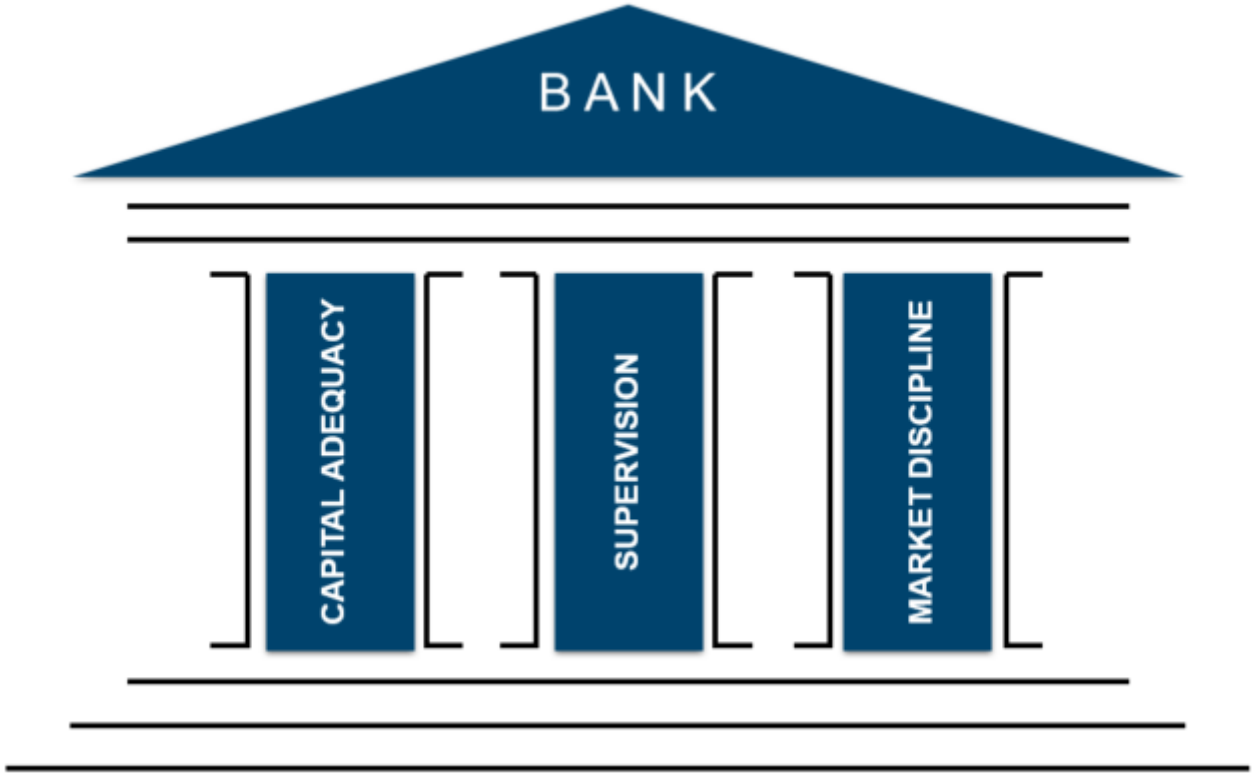
1. minimum capital requirements, which sought to develop and expand the standardised rules set out in the 1988 Accord

2. supervisory review of an institution's capital adequacy and internal assessment process

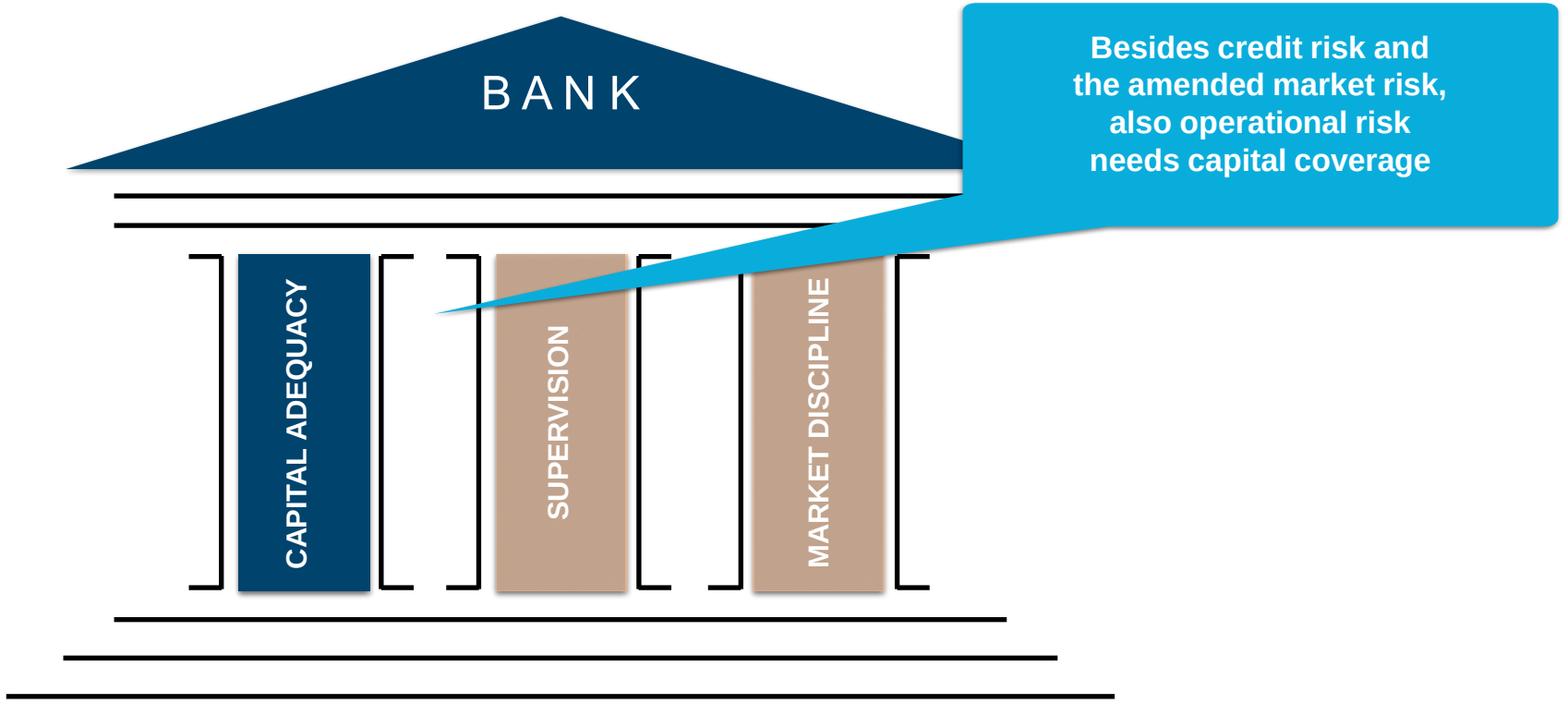
3. effective use of disclosure as a lever to strengthen market discipline and encourage sound banking practices

The new framework was designed to improve the way regulatory capital requirements reflect underlying risks and to better address the financial innovation that had occurred in recent years.
The changes aimed at rewarding and encouraging continued improvements in risk measurement and control.

The three pillars of Basel II



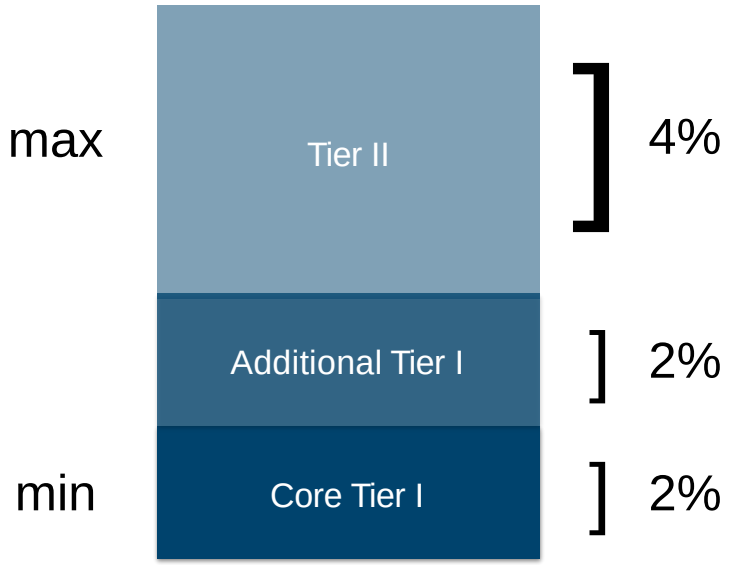
Basel II - Pillar 1 - Capital adequacy



Basel II

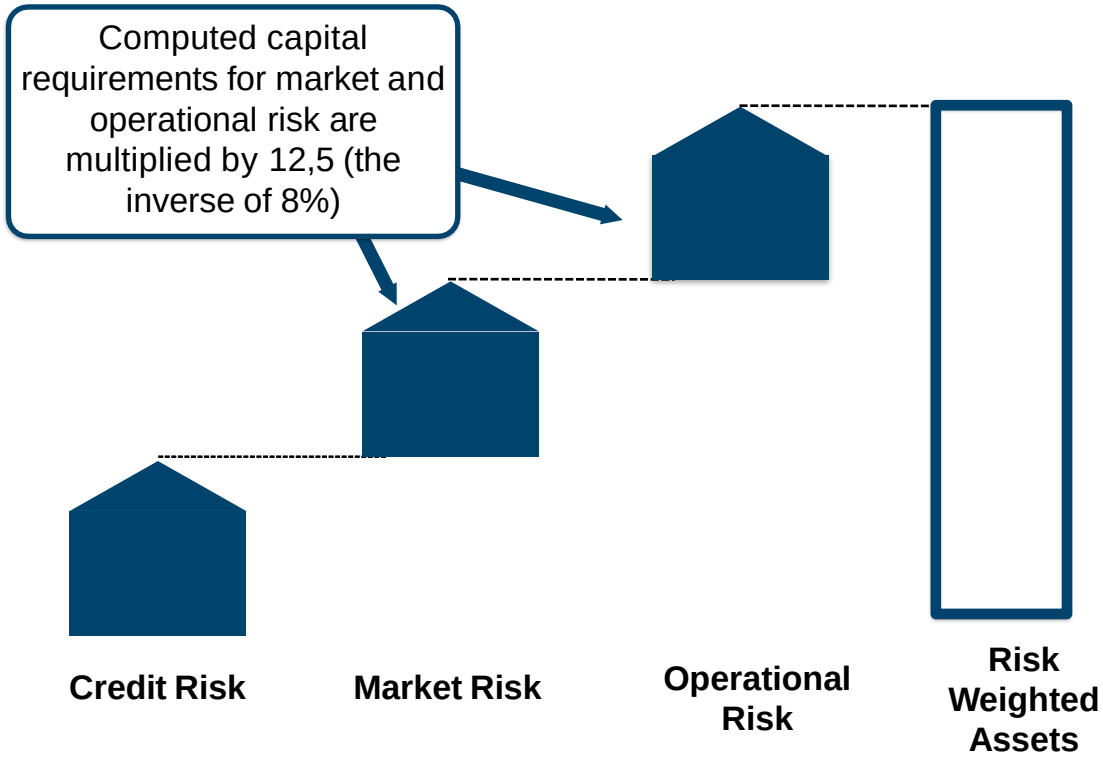
Capital requirements

Basel II = **min 8%**

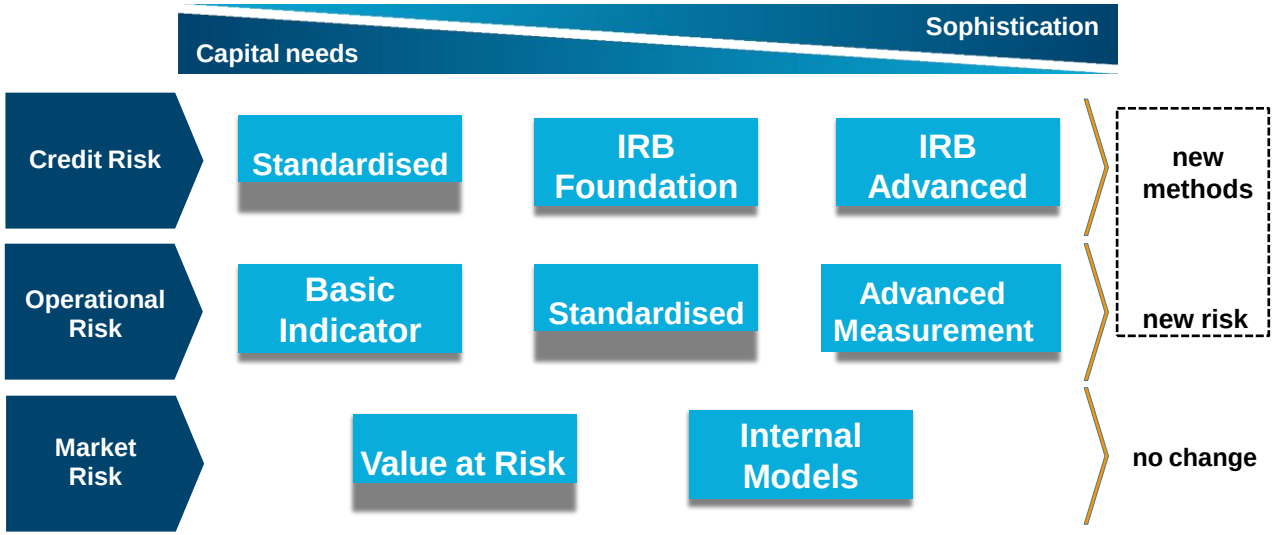


Basel II

Risk-weighted assets



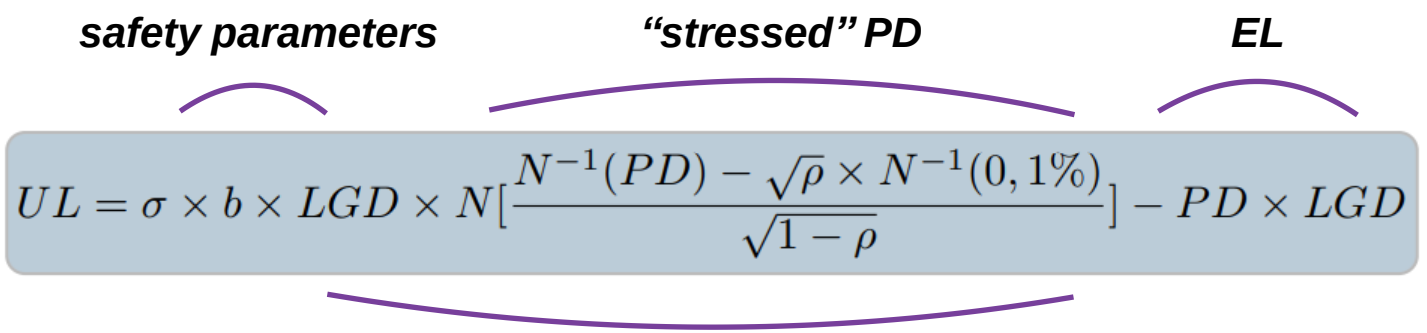
Pillar I approaches



IRB risk factors

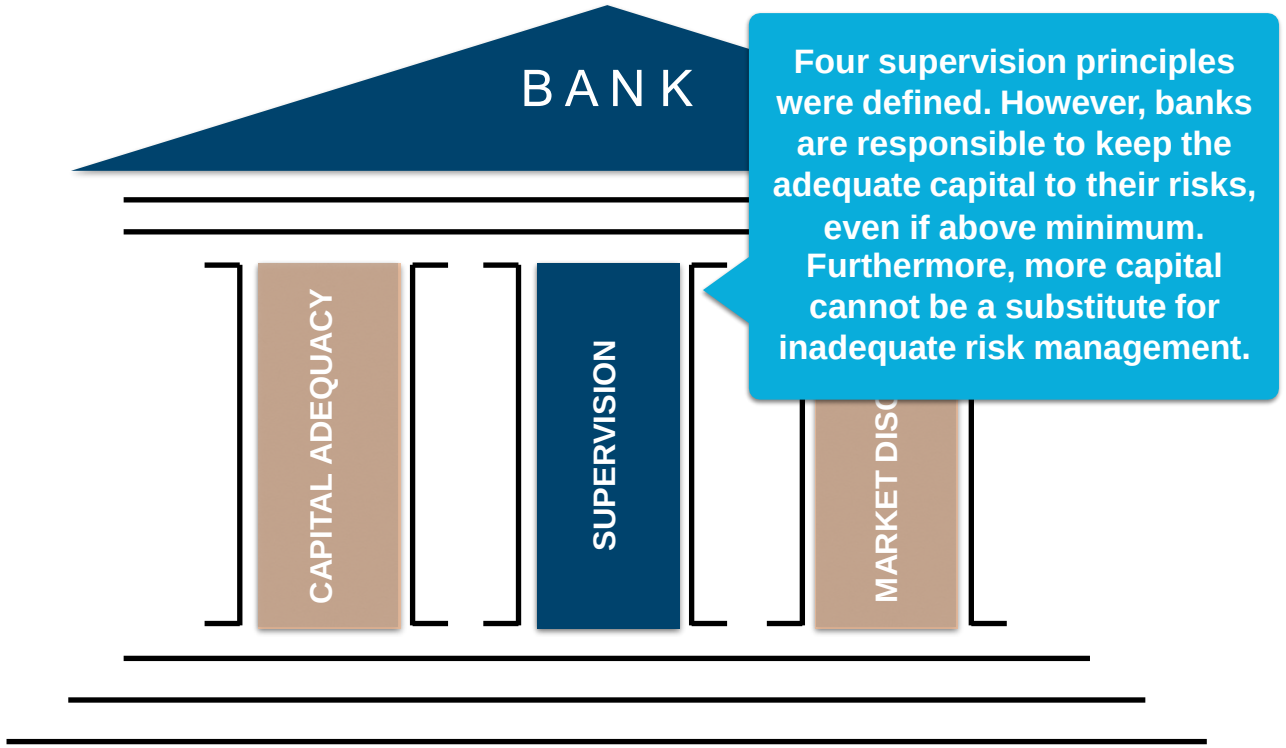
Factor	Concept	IRB Foundation	IRB Advanced
PD	Probability of default in one year	Defined by Bank	Defined by Bank
LGD	Loss given default	Defined by Supervisor	
EAD	Exposure at default		
Maturity	In fact it is the claim duration		
Granularity	Dispersion level (many small loans or few large loans)	Defined by Supervisor	
Correlation	Tendency for different debtors to default simultaneously.		

Capital in IRB



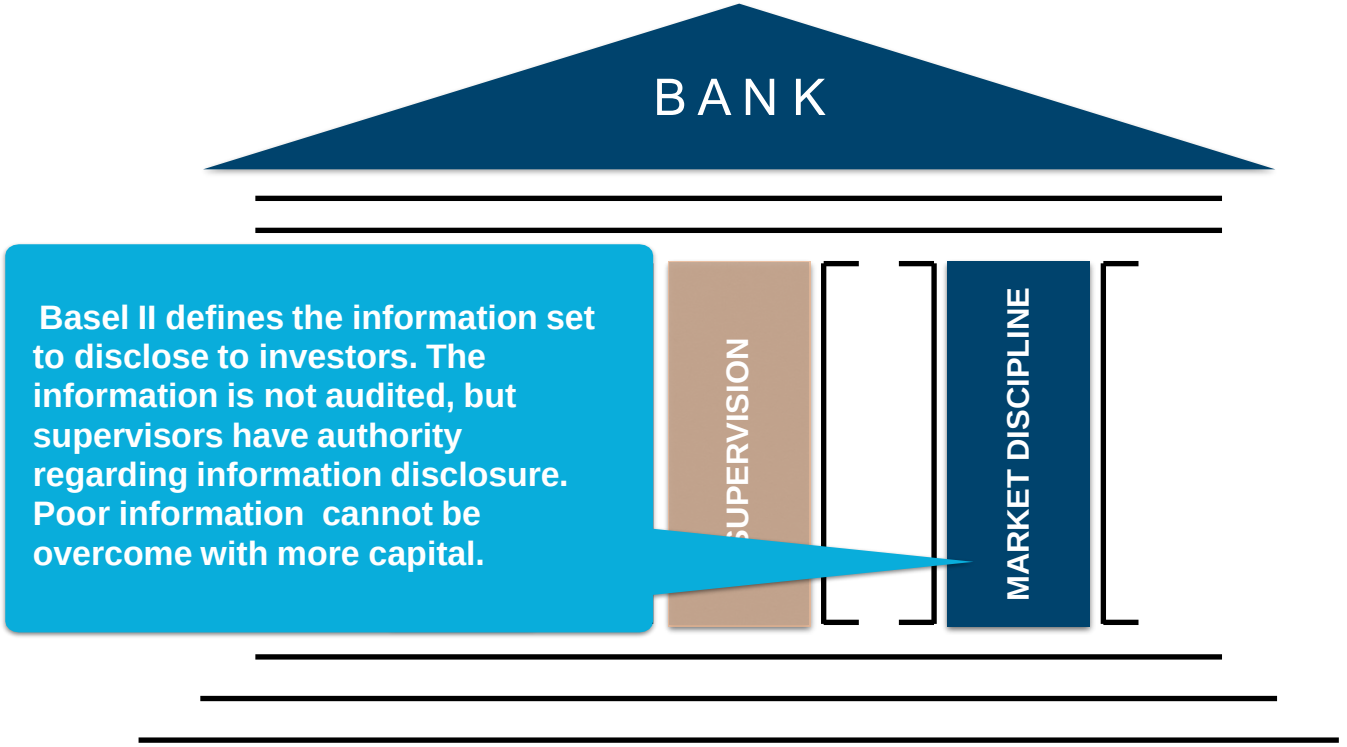
	ρ		ρ
Loans to individuals below 100 thousand euros	4%	Loans to corporates, sovereigns and banks	12% to 24% depending on PD
Retail loans with residential mortgage	15%	Loans to medium size firms (below 50 M€ of turnover)	12% to 24% depending on PD
Other retail loans	3% to 16% depending on PD	Loans to commercial real estate	12% to 30% depending on PD

Basel II - pillar 2- supervision

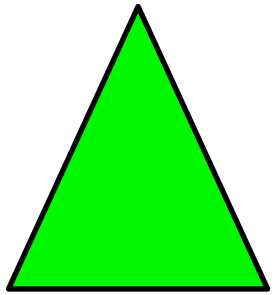


Four supervision principles were defined. However, banks are responsible to keep the adequate capital to their risks, even if above minimum. Furthermore, more capital cannot be a substitute for inadequate risk management.

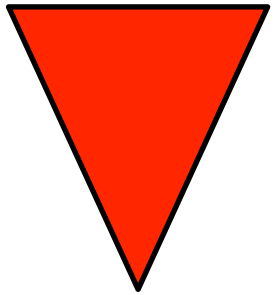
Basel II - pillar 3- market discipline



Basel II assessment



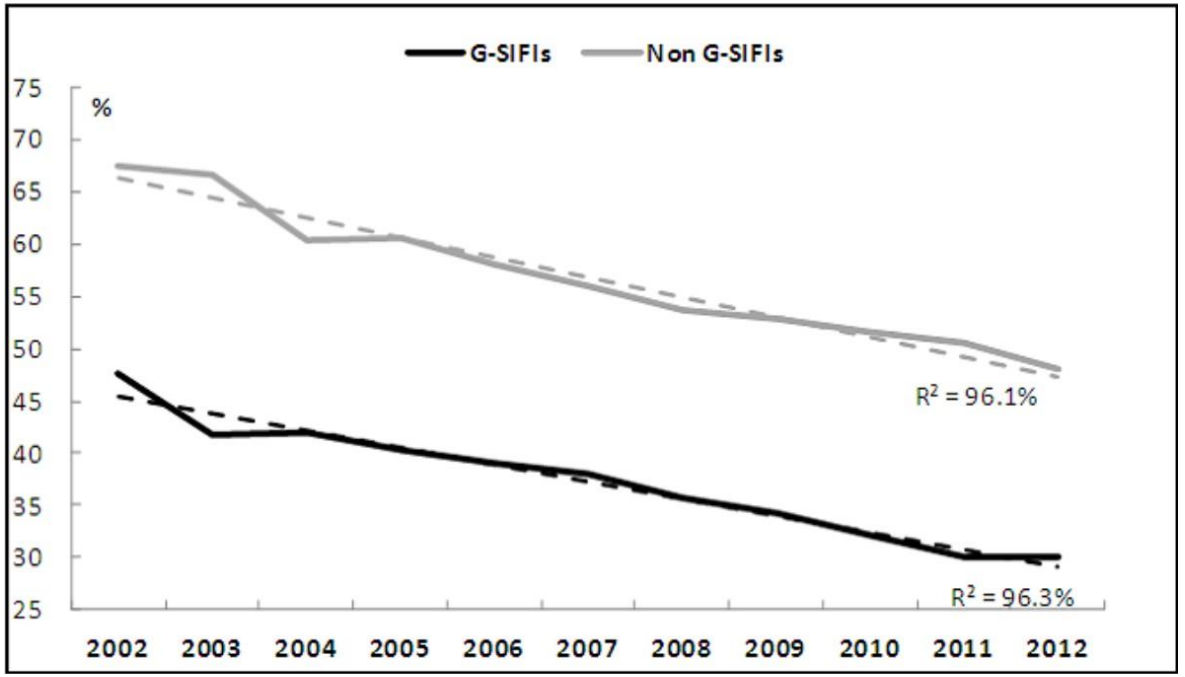
- Capital is a function of risk
- Diversification
- Operational Risk (the idea…)
- Pillars 2 and 3
- The strong push for (smaller) banks to know better how to manage their risks



- Some more risks to consider
- Correlation and concentration - good ideas, poor execution
- Pillars 2 and 3 were poorly written, with no detail
- Securitisation forgotten
- Still pro-cyclical
- This is about solvency. And LIQUIDITY ?

What happened to capital?

Chart 10: RWA to total assets: G-SIFI banks versus Non G-SIFI banks



Source: Bloomberg, OECD, Blundell-Wignall et al. (2013)

Basel III: responding to the 2007-09 financial crisis

- Even before Lehman Brothers collapsed in September 2008, the need for a fundamental strengthening of the Basel II framework had become apparent.

- The banking sector entered the financial crisis with **too much leverage** and **inadequate liquidity buffers.**

- These weaknesses were accompanied by **poor governance and risk management**, as well as inappropriate incentive structures.

- The dangerous combination of these factors was demonstrated by the **mispricing of credit and liquidity risks, and excess credit growth**

Source: https://www.bis.org/bcbs/history.htm

Basel III battle fronts

Capital Reform	Liquidity	Systemic Risk
More capital	Short term liquidity (LCR ratio)	Clearinghouses for derivatives
Better capital	Long term liquidity (NSFR ratio)	More capital for systemic derivatives
More risks covered		More capital for interbank exposures
Control leverage		Contingent capital
“Buffers”		SIFI

Basel III (some details)

The enhanced Basel framework revises and strengthens the three pillars established by Basel II, and extends it in several areas.

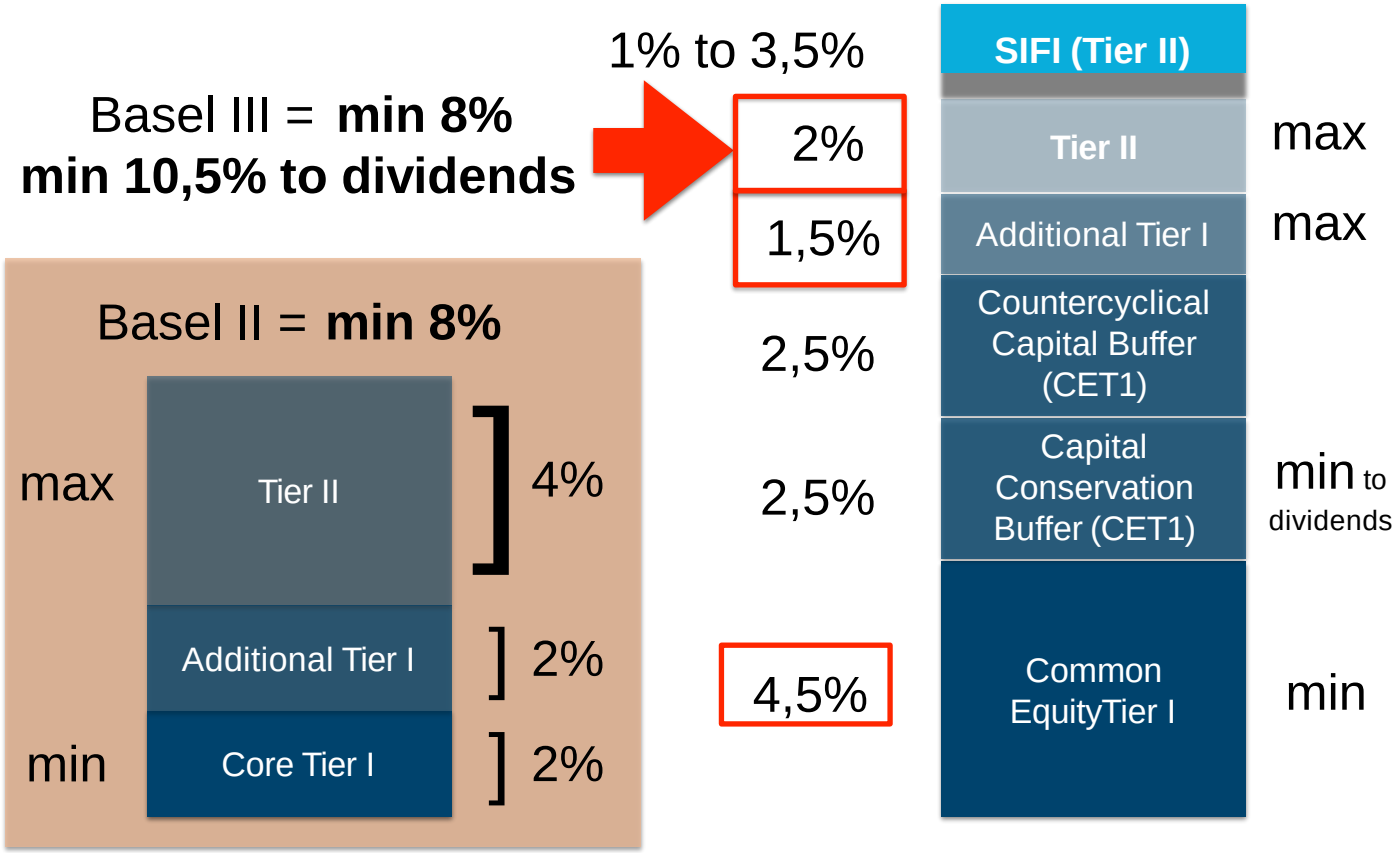
- **stricter requirements for the quality and quantity of regulatory capital**, in particular reinforcing the central role of common equity
- an additional layer of common equity - the **capital conservation buffer** - that, when breached, restricts payouts to help meet the minimum common equity requirement
- a **countercyclical capital buffer**, which places restrictions on participation by banks in system-wide credit booms with the aim of reducing their losses in credit busts
- a **leverage ratio** - a minimum amount of loss-absorbing capital relative to all of a bank's assets and off-balance sheet exposures regardless of risk weighting
- liquidity requirements - a minimum liquidity ratio, the **Liquidity Coverage Ratio (LCR)**, intended to provide enough cash to cover funding needs over a 30-day period of stress; and a longer-term ratio, the **Net Stable Funding Ratio (NSFR)**, intended to address maturity mismatches over the entire balance sheet
- **additional requirements for systemically important banks**, including additional loss absorbency and strengthened arrangements for cross-border supervision and resolution

Basel III (some details)

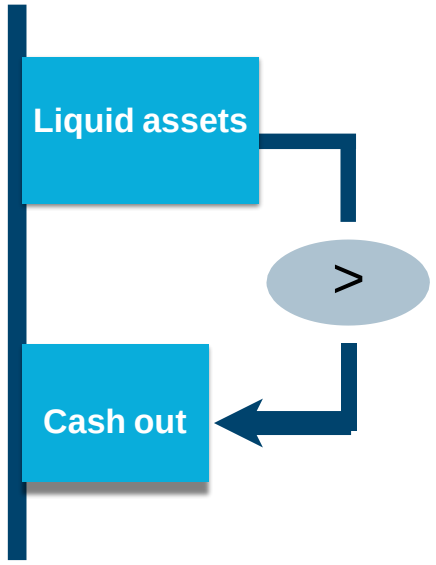
From 2011, the Committee turned its attention to improvements in the calculation of capital requirements. The risk-based capital requirements set out in the Basel II framework were expanded to cover:

- in 2012, capital requirements for banks' **exposures to central counterparties** (initially an interim approach, subsequently revised in 2014) ;
- in 2013, **margin requirements for non-centrally cleared derivatives** and capital requirements for **banks' equity in funds**;
- in 2014, a standardised approach for measuring **counterparty credit risk exposures**, improving the previous methodologies for assessing the counterparty credit risk associated with derivatives transactions;
- in 2014, a more robust framework for calculating capital requirements for **securitisations**, as well as the introduction of **large exposure limits to constrain the maximum loss a bank could face in the event of a sudden failure of a counterparty** ;
- in 2016, a revised market risk framework that followed a **fundamental review of trading book capital requirements**;
- a consolidated and enhanced framework for **disclosure requirements** to reflect the development of the Basel standards

Basel III – new capital requirements



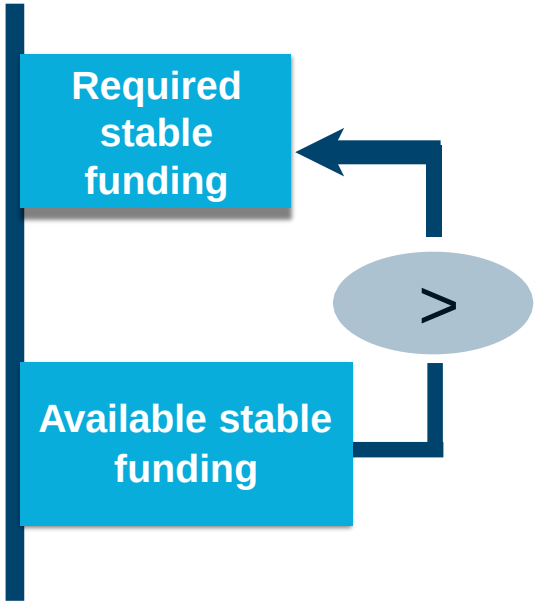
Basel III - LCR - Liquidity Coverage Ratio



HQLA - high quality liquid assets	Haircut
Cash and deposits in Central Banks	(level 1 assets) 0%
Treasury bonds	
Loans to qualified agencies	(level 2 assets) 15%
Bonds with rating above AA-	

Cash Out		Run-Off
Retail and SME deposits		5% to 10%
Wholesale deposits	Financial Institutions	100%
	Non-Financial Institutions	75%
	Custody and Clearing	25%
Funding collateralized with illiquid assets		25%
Unused commitments	Retail and SME	5% to 10%
	Financial Institutions	100%

Basel III - NSFR - Net Stable Funding Ratio



Required stable funding by asset	Factor
Cash, securities, loans (<1year) to financial institutions	0%
Non pledged securities of level 1	10%
Non pledged securities of level 2	50%
Retail loans	65%
Commodities including Gold	85%
Other assets	100%

Qualified stable funding	Factor
Capital, preferred shares with more than 1 year maturity	100%
Deposits and issued bond with more than 1 year maturity	100%
Stable deposits & unsecured wholesale funding < 1 year	95%
Less stable deposits & unsecured wholesale funding < 1	90%
Unsecured wholesale funding < 1 year by non-financials	50%
Remaining funding	0%

Basel III (some details)

- The **Committee completed its Basel III post-crisis reforms in 2017**, with the publication of **new standards for the calculation of capital requirements for credit risk, credit valuation adjustment risk and operational risk**.

- The final reforms also include a **revised leverage ratio, a leverage ratio buffer for global systemically important banks and an output floor**, based on the revised standardised approaches, which limits the extent to which banks can use internal models to reduce risk-based capital requirements.

- These final reforms address shortcomings of the pre-crisis regulatory framework and provide a regulatory foundation for a resilient banking system that supports the real economy.

- A key objective of the revisions was to reduce excessive variability of risk-weighted assets (RWA). At the peak of the global financial crisis, a wide range of stakeholders lost faith in banks' reported risk-weighted capital ratios.

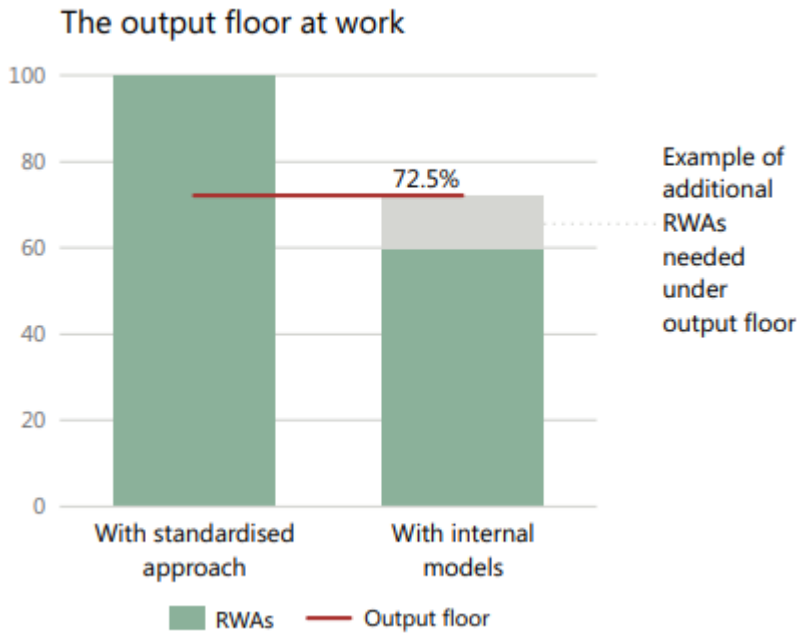
- The Committee's own empirical analyses also highlighted a worrying degree of variability in banks' calculation of RWA.

Basel III – 2017 reforms

Output floor

- 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%.



Source: Basel

Basel III – 2017 reforms

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)

- Principais *standards* de **Basileia II** ainda em vigor:

Risco de Crédito

- Método Padrão (*Standardised Approach*/SA)
- Método das Notações Internas (*Internal Ratings-Based Approach*: IRB *Foundation*/F-IRB e IRB *Advanced*/A-IRB)
- Técnicas de Mitigação de Risco (*Credit Risk Mitigants*/CRM)
- Risco de Crédito de Contraparte (*Counterparty Credit Risk*/CCR)

Risco de Mercado

- Método Padrão (*Standardised Measurement Method*)
- Método dos Modelos Internos (*Internal Models Approach*/IMA)
- [*Nota: novos standards de Basileia III de 2016 (Fundamental Review Trading Book/FRTB) já constam do quadro regulatório da UE para aplicação enquanto requisito de reporte, na sequência da publicação do CRR2(*); introdução final e data de aplicação enquanto requisito de cumprimento obrigatório, incluindo revisão de 2019 (standards FRTB revistos), ocorrerão com a adoção do CRR3(**)*

Risco Operacional

- Método do Indicador Básico (*Basic Indicator Approach*/BIA)
- Método *Standard* (*Standardised Approach*/STA)
- Métodos de Medição Avançada (*Advanced Measurement Approaches*/AMA)

[*CRR2(*) – Regulamento (UE) 2019/876 do Parlamento Europeu e do Conselho, de 20 de maio de 2019, que altera o Regulamento (UE) n.º 575/2013 (CRR)*]

[*CRR3(**) – Regulamento alterador do CRR com adoção prevista ainda em 2023 (ver slide 20)*]

- Principais *standards* de **Basileia III** em vigor:

Definição de Capital Regulamentar/Fundos Próprios

- Fundos Próprios Principais de Nível 1 (*Common Equity Tier 1*/CET1)
- Fundos Próprios Adicionais de Nível 1 (*Additional Tier 1*/AT1) e Fundos Próprios de Nível 1 (*Tier 1*)
- Fundos Próprios de Nível 2 (*Tier 2*) e Fundos Próprios Totais
- Critérios de elegibilidade de instrumentos de capital regulamentar (instrumentos de CET1, AT1 e T2)
- Deduções e Filtros Prudenciais
- Interesses Minoritários

Risco de Crédito

- Risco de Crédito de Contraparte (*Counterparty Credit Risk*/CCR)
- Titularização (ver slide seguinte)

Risco de Liquidez

- Rácio de Cobertura de Liquidez (*Liquidity Coverage Ratio*/LCR)
- Rácio de Financiamento Líquido Estável (*Net Stable Funding Ratio*/NSFR)

Alavancagem

- Rácio de Alavancagem (*Leverage Ratio*/LR)
- *Leverage Ratio buffer* para G-SIBs

- Principais *standards* originados de **Basileia III** em vigor:

Buffers de Capital

- Reserva de Conservação de Capital (*Capital Conservation Buffer*/CCB)
- Reserva Contracíclica de Fundos Próprios (*Countercyclical Capital Buffer*/CCyB)
- Reserva de Fundos Próprios para instituições de importância sistémica (*G-SIBs Buffer* e *D-SIBs Buffer*)
- Princípio de "Requisito Combinado de Reservas" (*Combined Buffer Requirement*/CBR)
- Princípio do "Montante Máximo Disponível" (*Maximum Distributable Amount*/MDA)

Operações de Titularização

- Transferência significativa de risco/*Significant risk transfer*
- Requisitos de diligência devida/*Due dilligence requirements*
- Métodos de cálculo de requisitos de fundos próprios
- Requisitos de fundos próprios para titularizações simples, transparentes e normalizadas/*Simple, transparent and standardised securitisations* (STS)

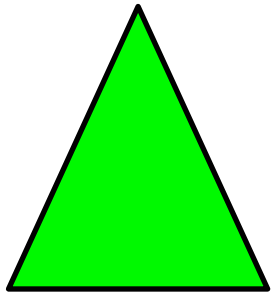
Grandes Riscos

- Definição de grande risco
- Definição de grupo de clientes ligados entre si/*Group of connected clients*
- Limite global de exposição a grupo de clientes ligados entre si
- Definição de fundos próprios para efeito de limites aos grandes riscos

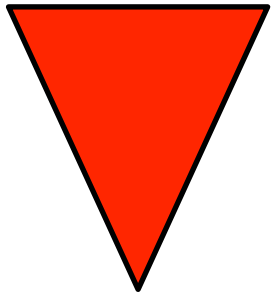
Divulgação de informação (Disciplina de Mercado) – Pilar 3

- Regras na UE baseiam-se nos *standards* de Basileia II e Basileia III associados aos respetivos aos *standards* materiais de requisitos

Basel III assessment



- Better definition of capital goals, with disqualification of everything that does not contribute to the objective.
- Finally some control on liquidity.
- Finally anti-cyclical rules.
- Imposes discipline on derivatives.



- A good solution to prevent last crisis! Shadow banking is stil poorly addressed.
- Too many ideas?...
- Putting every bank calling for equity funds in the market at the same time can be seen as not a brilliant idea.
- The Accord is a moving target. There is still a lot to be defined. Can this uncertainty hamper the attractiveness of capital?

Basel III implementation

Number code: 1 = draft regulation not published; 2 = draft regulation published; 3 = final rule published (not yet implemented by banks); 4 = final rule in force (published and implemented by banks); and * = implementation status mixed (please refer to the progress monitoring report).

Standards for which the agreed implementation deadline has passed receive a colour code to reflect the status of implementation: green = adoption completed; yellow = adoption in process (draft regulation published); red = adoption not started (draft regulation not published); and "na" = not applicable.

	Basel standard	Deadline	AR	AU	BR	CA	CN	HK	IN	ID	JP	KR	MX	RU	SA	SG	ZA	CH	TR	US	EU
Capital	Countercyclical capital buffer	Jan 2016	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	Margin requirements for non-centrally cleared derivatives	Sep 2016	1	4	4	4	1	4	2	2	4	4	2	1	4	4	2	4	1	4	4
	Capital requirements for CCPs	Jan 2017	4	4	4	4	1	3	3	2	4	4	1	2	4	4	2	4	2	3	3
	Capital requirements for equity investments in funds	Jan 2017	4	2	4	4	1	2	na	na	4	4	*	4	4	4	2	4	4	1	3
	SA-CCR	Jan 2017	4	4	4	4	4	3	3	4	4	4	1	2	4	4	2	4	2	3	3
	Securitisation framework	Jan 2018	4	4	4	4	1	4	1	4	4	4	1	4	4	4	2	4	1	1	4
	TLAC holdings	Jan 2019	4	2	4	4	2	4	1	2	4	1	1	4	4	4	2	4	1	3	4
	Revised standardised approach for credit risk	Jan 2023	1	2	1	1	1	1	1	2	1	3	1	2	1	1	1	1	1	1	1
	Revised IRB approach for credit risk	Jan 2023	na	1	1	1	1	1	1	na	1	3	1	4	1	1	1	1	1	1	1
	Revised CVA framework	Jan 2023	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1
	Revised minimum requirements for market risk	Jan 2023	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	*
	Revised operational risk framework	Jan 2023	1	3	1	1	1	1	1	2	1	3	1	2	1	1	1	1	1	1	1

	Basel standard	Deadline	AR	AU	BR	CA	CN	HK	IN	ID	JP	KR	MX	RU	SA	SG	ZA	CH	TR	US	EU
	Output floor	Jan 2023	na	1	1	1	1	1	1	na	1	3	1	4	1	1	1	1	1	1	1
Leverage ratio	Existing (2014) exposure definition	Jan 2018	4	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	*
	Revised (2017) exposure definition	Jan 2023	4	2	1	1	1	1	1	4	1	1	1	1	1	1	1	*	2	3	3
SIB	G-SIB requirements	Jan 2016	na	4	4	4	4	4	na	na	4	na	na	na	na	4	na	4	na	4	4
	D-SIB requirements	Jan 2016	4	4	4	4	*	4	4	4	4	4	4	4	4	4	4	4	4	na	4
	Leverage ratio buffer	Jan 2023	na	na	na	1	1	1	na	na	1	na	na	1	na	na	na	4	na	4	3
IRRBB	Interest rate risk in the banking book (IRRBB)	2018	4	2	4	4	4	4	2	4	4	4	*	2	4	4	1	4	1	4	*
Liquidity	Monitoring tools for intraday liquidity management	Jan 2015	4	4	4	3	1	4	4	4	1	1	na	4	4	4	4	4	4	4	4
	Net Stable Funding Ratio (NSFR)	Jan 2018	4	4	4	4	4	4	3	4	2	4	2	4	4	4	4	2	2	3	3
Large exposures	Supervisory framework for measuring and controlling large exposures	Jan 2019	4	4	4	4	4	4	4	4	4	2	1	2	4	3	2	4	2	4	3
Disclosure	Revised Pillar 3 requirements (published 2015)	Dec 2016	4	1	4	4	1	4	1	*	4	4	*	4	4	4	4	4	4	1	*
	CCyB, liquidity, remuneration, leverage ratio (revised)	Dec 2017	4	1	4	*	*	4	1	4	4	4	*	4	4	4	4	4	*	4	*
	Key metrics, IRRBB, NSFR	Jan 2018	4	*	4	*	*	4	*	*	*	4	1	*	4	*	*	4	*	*	3
	Composition of capital, RWA overview, prudential valuation adjustments, G-SIB indicators	Dec 2018	4	1	4	*	1	4	*	*	*	4	1	4	4	4	*	4	1	4	*
	TLAC	Jan 2019	na	na	1	4	2	4	na	na	4	3	1	na	4	na	na	4	na	3	4
	Market risk	Jan 2023	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1

Basel III implementation

	BASEL III^						COMPENSATION	OVER-THE-COUNTER (OTC) DERIVATIVES				RESOLUTION				NON-BANK FINANCIAL INTERMEDIATION	
	sk-based capital	Liquidity Coverage Ratio (LCR)	Requirements for SIBs	Large exposures framework	Leverage ratio	Net Stable Funding Ratio (NSFR)		Trade reporting	Central clearing	Platform trading	Margin	Minimum external TLAC requirement for G-SIBs	Transfer / bail-in / temporary stay powers for banks	Recovery and resolution planning for systemic banks	Transfer / bridge / run-off powers for insurers	Money market funds (MMFs)	Securiti-sation
Agreed phase-in (completed) date	*2013 (2019)*	*2015 (2019)*	*2016 (2019)*	*2019*	*2018*	*2018*		*end-2012*	*end-2012*	*end-2012*	*2016 (2022)*	*2019/2025 (2022/2028)*					
Argentina	C	C		C		C	△										**
Australia	C	C		C	&	C										*	
Brazil	C	C		C		C	△										**
Canada	C	C		C		C										**	
China	C, △	C	C, &	C		C	△	R, F									
France	MNC	LC	C														
Germany	MNC	LC	C														
Hong Kong	C	C		C		C											
India	C	LC		C		C											
Indonesia	LC	C		C		C										**	
Italy	MNC	LC	C														
Japan	C	C	C														
Korea	LC	C															
Mexico	C	C						R								**	*
Netherlands	MNC	LC	C														
Russia	C	C					△									**	
Saudi Arabia	C	LC		C		C		R									
Singapore	C	C		C		C											
South Africa	C	C					△										
Spain	MNC	LC	C														
Switzerland	C	C	C														
Turkey	C	C														**	
United Kingdom	MNC	LC	C														
United States	LC	C	C, &				△										

Implementation of reforms in priority areas by FSB jurisdictions (as of October 2020)

Unintended conseuqences of regulation

Bank response to stringent regulation may include:

- reduced supply of bank loans
- adverse incentives on bank risk monitoring
- incentive to securitise assets and move financial intermediation to shadow banking
- administrative changes in the competitive landscape

Is regulation really the solution?

- Capital regulation may be an inefficient substitute for central bank monitoring?
- Three possible explanations for the use of capital regulation:
  - monitoring is impossible and so regulator uses capital adequacy (as a second best option?);
  - monitoring is feasible but costly, thus regulator does not operate under full effort (less resources than needed) and uses capital regulation as a way to decrease bank risk;
  - monitoring is feasible but monitor faces limited liability. Since penalty on a shirking monitor is limited, the optimal setup includes more capital and less monitoring effort.
- What is your opinion?

An integrated setup

- The optimal system needs to include:
  - regulation - a good set of rules, targeting relevant risks and avoiding arbitrage
  - supervision - an adequate check on rule compliance
  - governance - a culture of risk inside the bank
- Be aware of possible adverse incentives:
  - managers are rewarded in terms of profits but not penalised by risk
  - Wrong market perception; the importance of commuication
  - strict rules may hamper granted credit and economic growth, and Governments will try to smooth them

Banking

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Course: Banking [2206]

Regulation