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Source: <https://digneconsult.com/sg/4-reasons-why-self-reflection-is-important/>





I. Bank capital

4 pillars of effective regulatory architecture

- 1) Encourages innovation and efficiency
- 2) Provides transparency
- 3) Ensure safety and soundness
- 4) Promote competitiveness in global markets

I. Bank capital

Three main reasons for bank regulation

1) information asymmetry

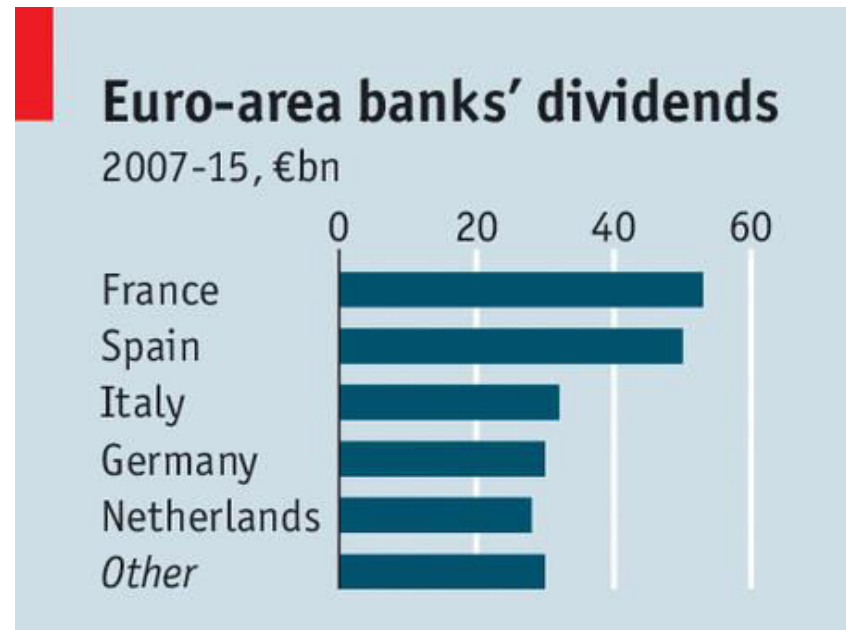
2) high leverage of a bank

3) systemic risk

- Banks maximize ROAE and therefore prefer a low capital ratio (unlike regulators and clients)
- Capital can be paid back to shareholders via dividends...

I. Bank capital

Euro-area banks paid EUR 223bn dividends in 2007-15



Economist.com

- Euro-area' retained earnings would have been 64% higher at the end of 2015 if they had not paid out dividends.
- Now this capital is missing for covering losses...

I. Bank capital

Four types of bank's capital

1) equity (accounting capital)

- equity = assets - liabilities

Accounting Capital

Assets	Total Liabilities
Assets	Liabilities
	Equity

2) economic capital

- a buffer against future unexpected losses

3) regulatory capital

- used for the computation of capital adequacy (see below)

$$CAD = \frac{\text{Basel_III_CAP}}{RWA} \geq 10.5\%$$

4) market value of capital

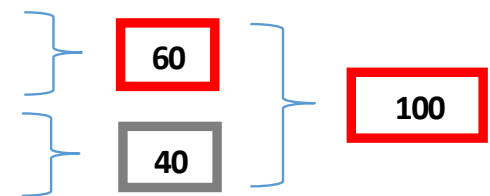
- market capitalization of a bank reflects bank's value on a stock exchange and is calculated as the number of share multiplied by the bank's share price (and therefore highly volatile!)

I. Bank capital

I) Accounting capital as cushion for covering losses

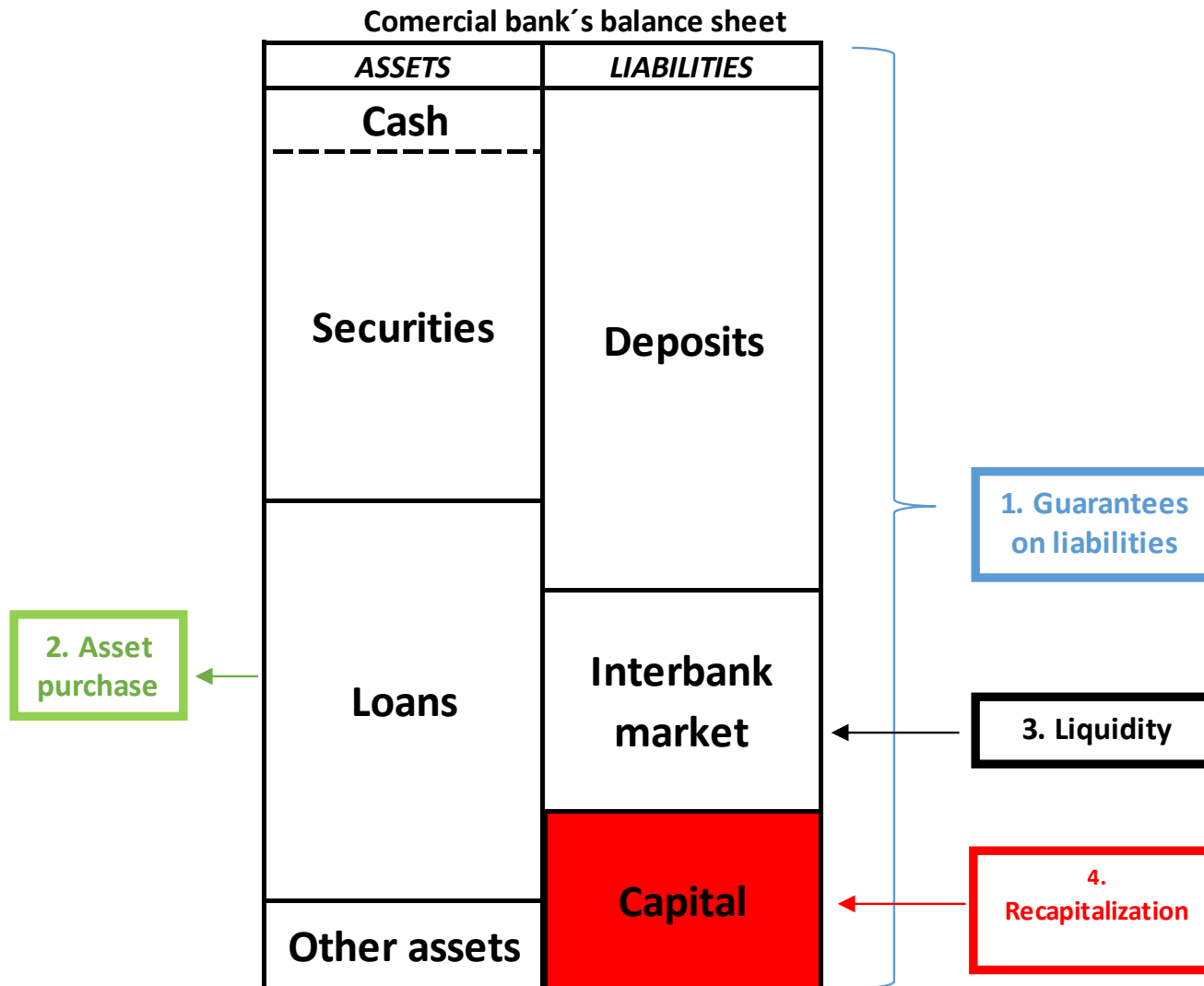
Bank's balance sheet

ASSETS	LIABILITIES
Cash	Deposits
Securities	
Other assets	
Loans (credits)	Interbank market
	Capital
Credit loss 40	Loss absorbing capital



I. Bank capital

I) Accounting capital (recapitalization) as I out of 4 bank's possible rescues



Source: Author

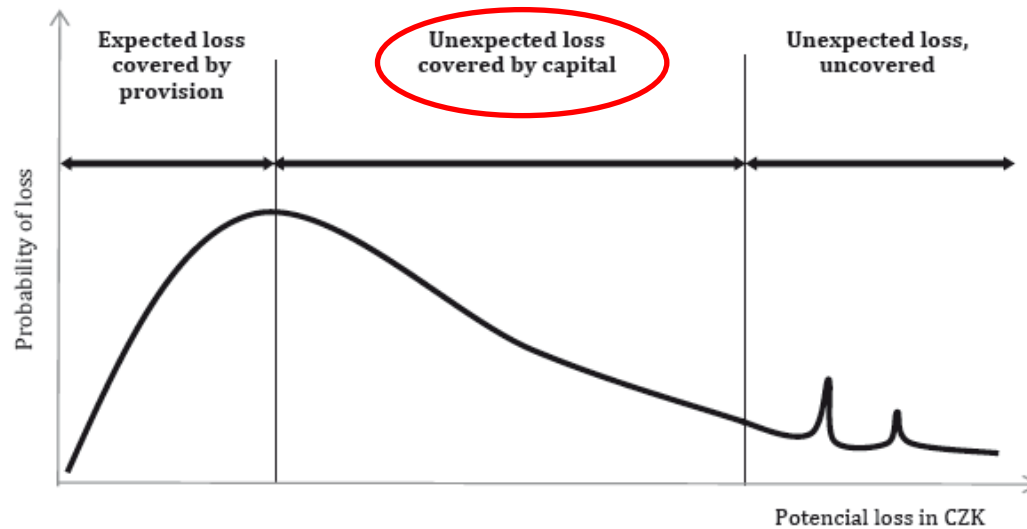
1. Bank capital

2) Economic capital

- Economic (risk) capital is a buffer against future unexpected losses brought about by credit, market, and operational risks inherent in the business of lending money.

Change in credit loss reporting: IFRS 9

Figure VI-2: Economic Capital



Expected loss
- typical losses
- could be predicted
- covered by margin
- no real risk

Unexpected loss
- extraordinary fluctuation
- hard to predict
- covered by capital
- volatility of expected loss

1. Bank capital

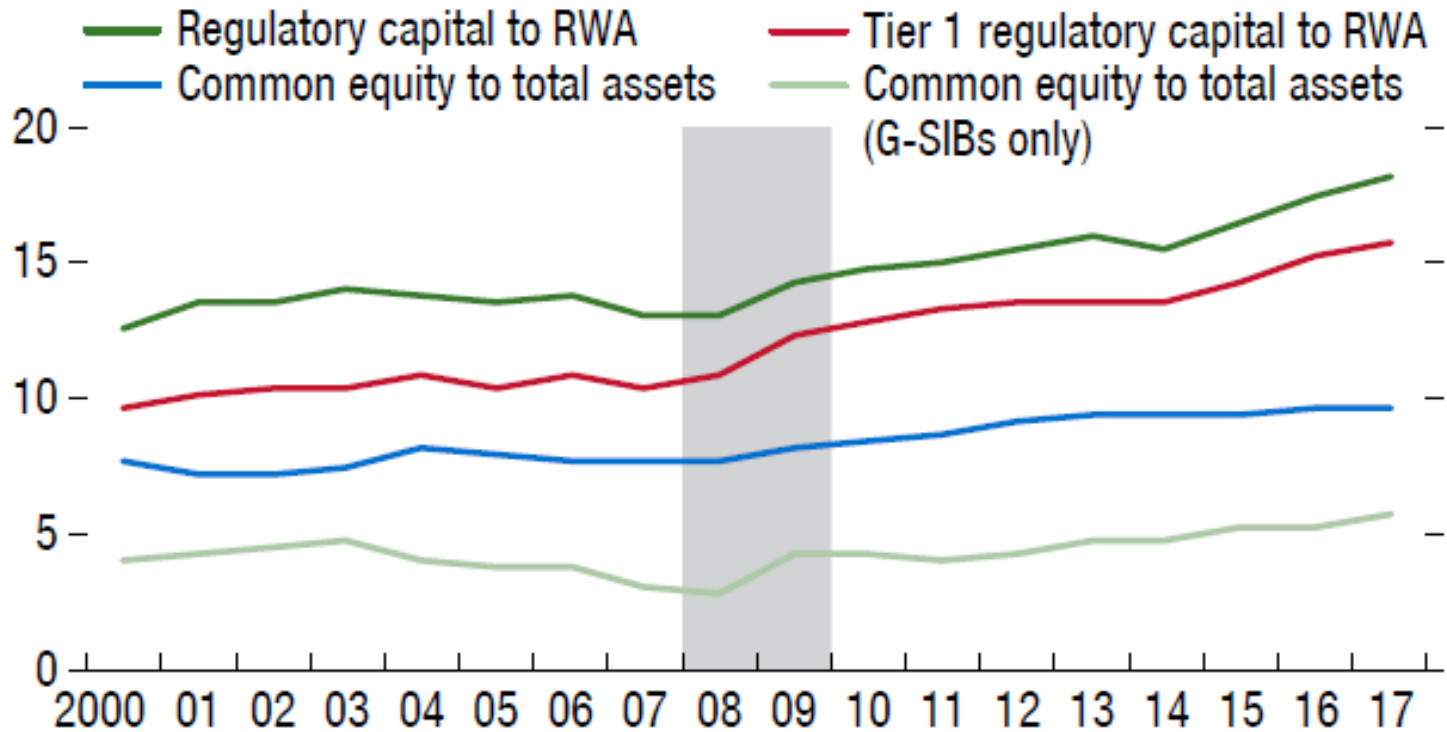
3) Regulatory capital: Tier 1 (high-quality, “going concern”) vs Tier 2 (supplementary, “gone concern”)

- 1) **Common Equity Tier 1 (CET1)** – common shares, retained earnings and other reserves.
- 2) **Additional Tier 1 (AT1)** – capital instruments with no fixed maturity.
- 3) **Tier 2** – subordinated debt and general loan-loss reserves

I. Bank capital

Higher regulatory capital ratios (e.g. capital/RWA*), but still low accounting ratios (e.g. equity/assets)

3. Capital Buffers (Percent)



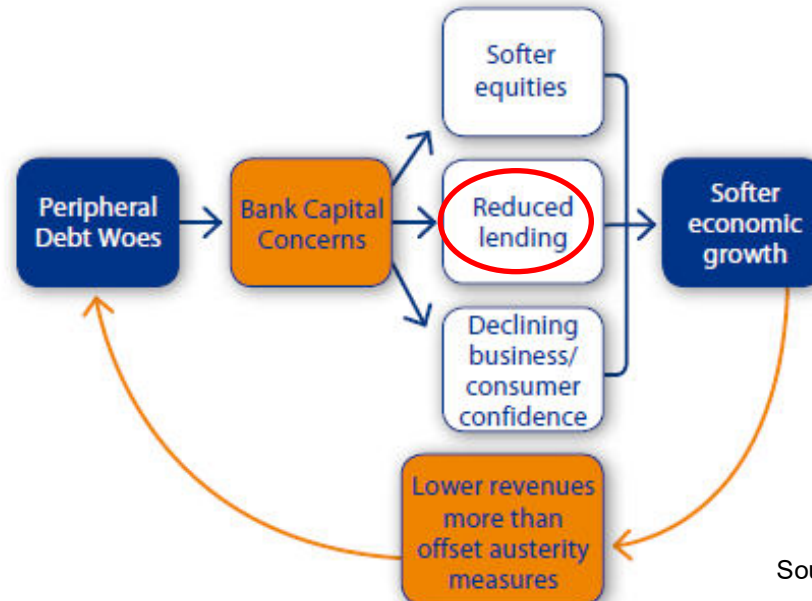
Source: IMF (2018). Global Financial Stability Report, International Monetary Fund October 2018

*RWA = Risk-Weighted Assets

I. Bank capital

Bad vs. good deleveraging of banks resulted from higher capital requirements


- **Good deleveraging** of banks – through an increase of liabilities (ie. capital/equity increase)
- **Bad deleveraging** of banks – through a decrease of assets (followed by *credit crunch/reduced lending*)
- Example on the recent Eurozone's negative feedback loop:



Source: Author

I. Bank capital

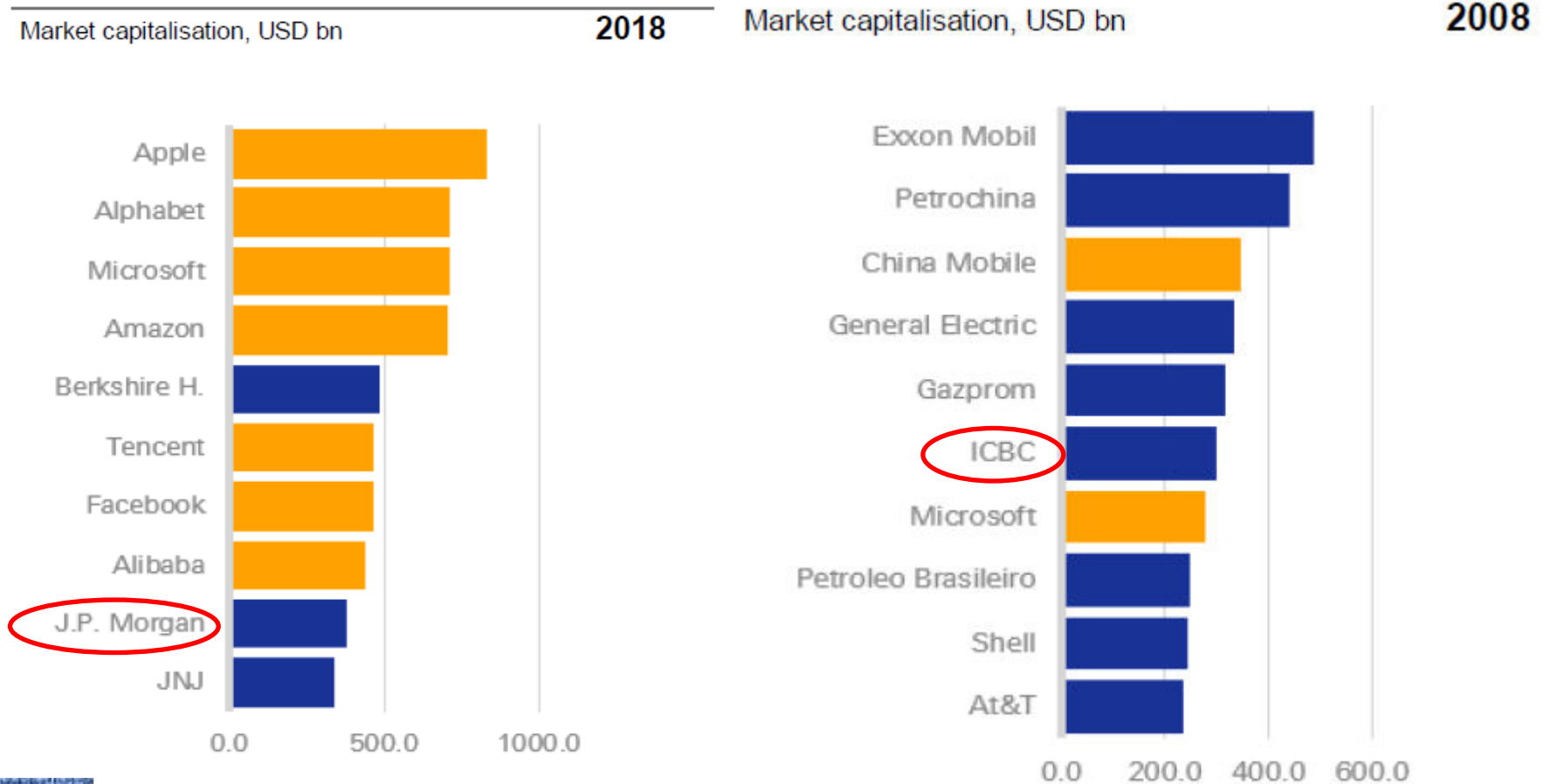
4) Market capitalization of TOP world banks



Rank 01/2017	Rank 2018	Bank	Country	Market cap, US\$b (January 12, 2018)
1	1	JP Morgan Chase & Co	US	390.934
3	2	Industrial & Commercial Bank of China (ICBC)	China	345.214
4	3	Bank of America	US	325.331
2	4	Wells Fargo & Co	US	308.013
5	5	China Construction Bank	China	257.399
6	6	HSBC Holdings	UK	219.270
8	7	Agricultural Bank of China	China	203.244
7	8	Citigroup Inc	US	203.165
9	9	Bank of China	China	181.469
22	10	China Merchants Bank	China	122.616

I. Bank capital

Market capitalization of TOP world companies in 2008 and 2018 – technology companies on the march



Source: Deutsche Bank Research (2018). Digital economics.

Notes: data as of April 2018 and April 2008. **Technology companies** (ICT solutions or digital/platform solutions are at the core of their business model), **Other companies**

I. Bank capital

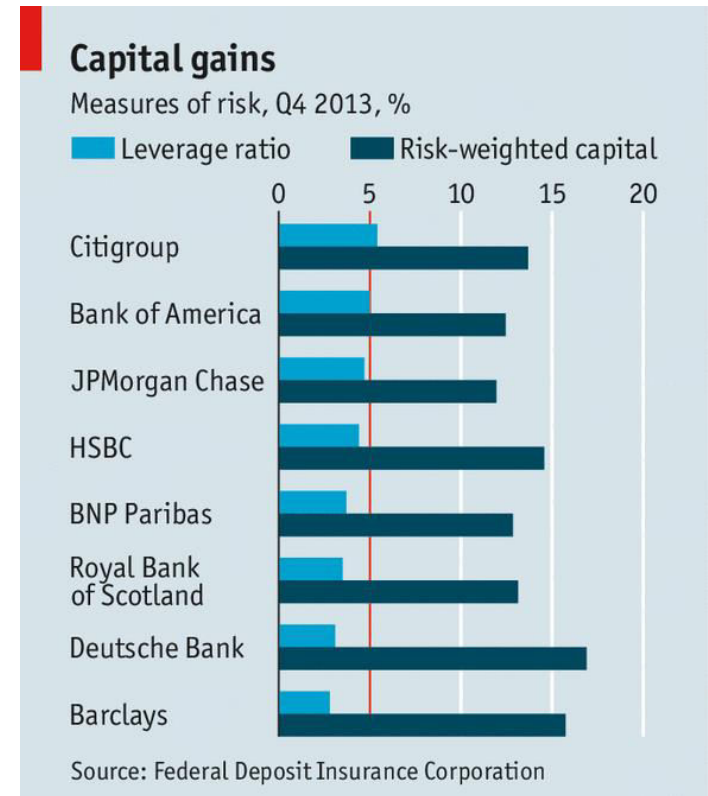
Risk-weighted capital ratio vs. leverage ratio

$$\frac{\text{Regulatory Capital}}{RWA} \rightarrow \text{Risk-weighted capital ratio}$$

RWA - risk-weighted assets, $RWA = \sum w_i * A_i$
 w_i - i-th risk weight
 A_i - i-th asset

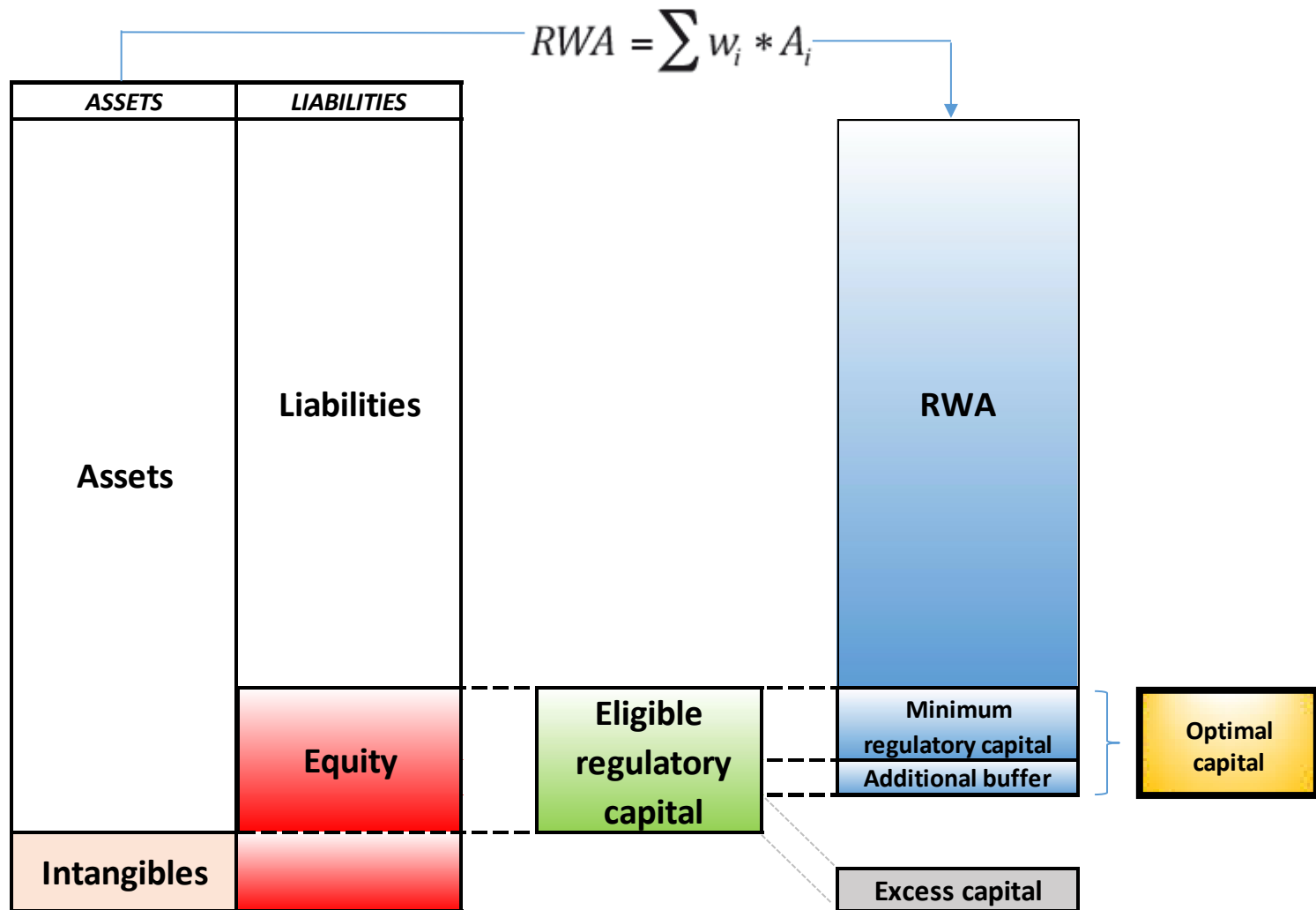
- A risk-weighted **capital ratio** (risk-sensitive) as a way to better reflect bank's risk profile but also to minimize regulatory capital
- Calculation of RWA = alchemy
- **Basel III** has introduced a **leverage ratio** (simpler ratio, not risk weighted) to avoid this alchemy

$$\frac{\text{Capital measure (capital)}}{\text{Exposure measure (balance sheet + off - balance sheet)}} \rightarrow \text{Leverage ratio}$$

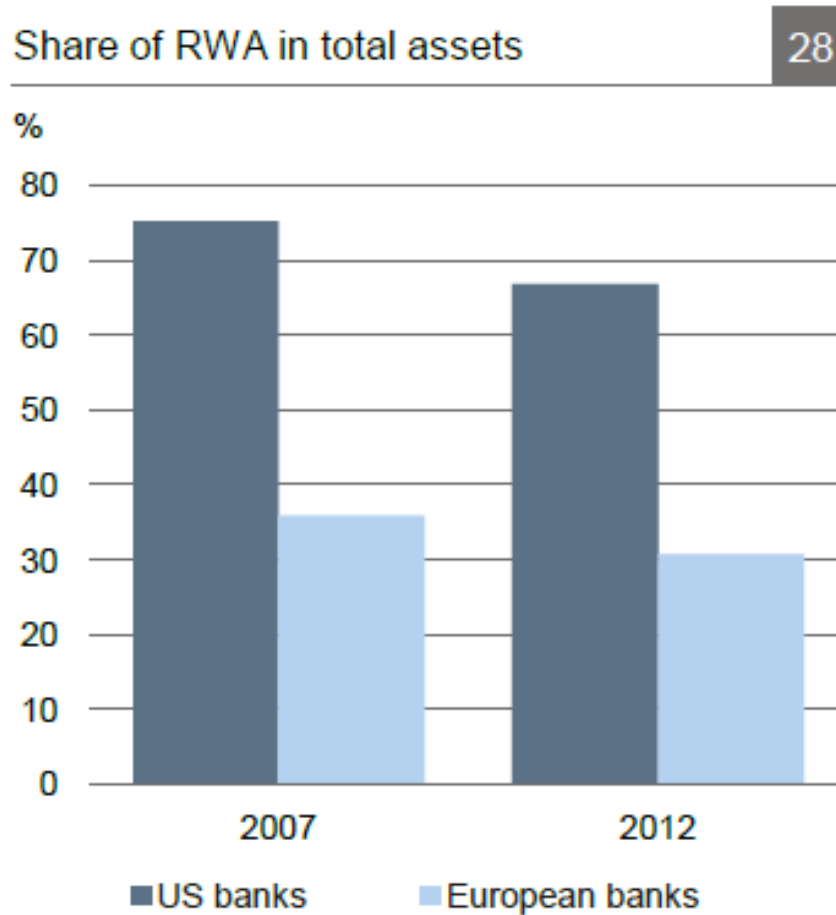


I. Bank capital

Risk-weighted capital ratio and optimal capital



I. Bank capital RWA density (RWA/Assets) in the Eurozone was much lower than in the US...Why?



Sources: FDIC, company reports, DB Research

Source: Deutsche Bank (2013). Bank performance in the US and Europe

I. Bank capital

The levers to manage a bank's capitalization

Actions affecting the regulatory capital

- i. Dividends (+/-)
- ii. Buyback (-)
- iii. Equity issuance (+)
- iv. Preference shares and hybrid securities issuance (+)



$$\frac{\text{Regulatory Capital}}{RWA} \rightarrow \text{Optimal Capitalization}$$



Actions affecting the RWA

- i. Risky assets/commitments (+/-)
- ii. Risk hedging (-)
- iii. Securitization of risky assets (-)
- iv. Internal models (-)

I. Bank capital

Huge differences in risk weights attributed to categories of credit risk (due to internal bank models*)

	Mortgages	Corporates	Institutions	Other retail
Autonomous	5% - 20% - 53%	32% - 59% - 76%	n/a	n/a
Barclays	7% - 15% - 49%	33% - 55% - 89%	n/a	n/a
BBVA	8% - 15% - 23%	37% - 52% - 78%	4% - 16% - 27%	14% - 33% - 48%
BNP	6% - 13% - 25%	27% - 54% - 75%	n/a	10% - 38% - 156%
KBW	6% - 18% - 53%	26% - 55% - 158%	6% - 19% - 34%	7% - 36% - 64%
<i>Average</i>	<i>6.4% - 16.2% - 40.6%</i>	<i>31% - 55% - 95.2%</i>	<i>5% - 17.5% - 30.5%</i>	<i>10.3% - 35.7% - 89.3%</i>

Source: analyst reports, based on Pillar 3 disclosure, company data and analysts' estimates Autonomous – 22 European banks, 2 Canadian and 2 Australian banks – corporate loans and mortgages only Barclays – 21 European banks – corporate loans and mortgages only – full set of data for 2009 (used), as 2010 is partial. BNP Exane – 22 European banks covered – 2010 data – Median – KBW – 27 European banks – BBVA – 12 European banks.

- Mortgages: 6.4% - 40.6%
- Corporates: 31.0% - 95.2%
- Institutions: 5.0% - 30.5%
- Other retail: 10.3% - 89.3%



Source: IMF (2012). Revisiting Risk-Weighted Assets “Why Do RWAs Differ Across Countries and What Can Be Done About It?”, WP/12/90

*Internal Rating Based models (IRB) – see also below section Basel III (2017)

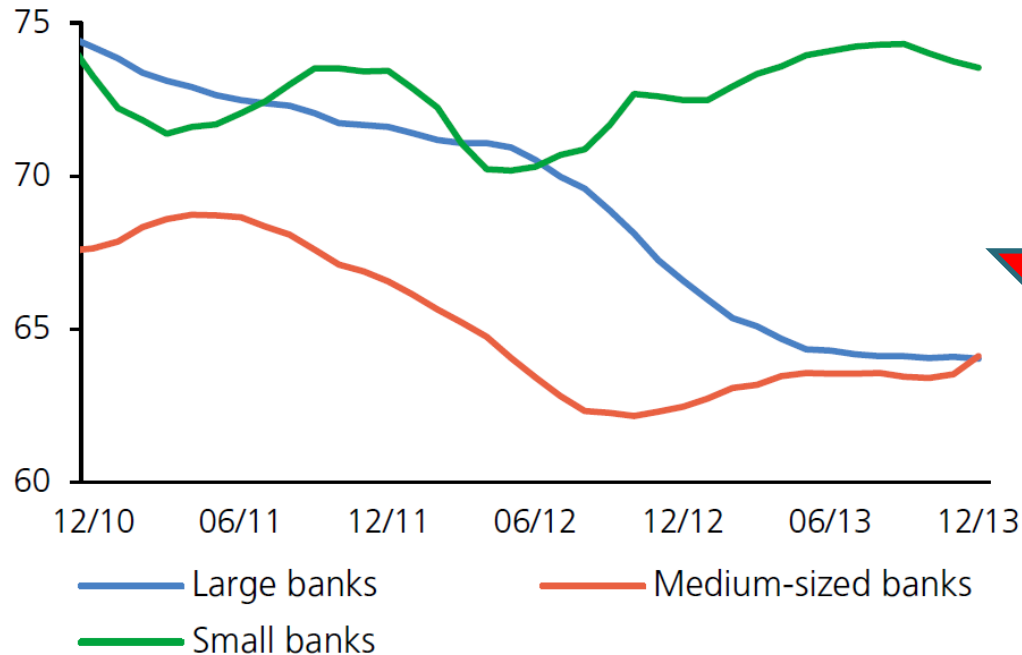
I. Bank capital

Case study: aggregate risk weights decreased in the Czech banking sector..



Source:
<https://images.app.goo.gl/oSLx1qttUzhHnFmm8>

Risk weights by bank size
(%)

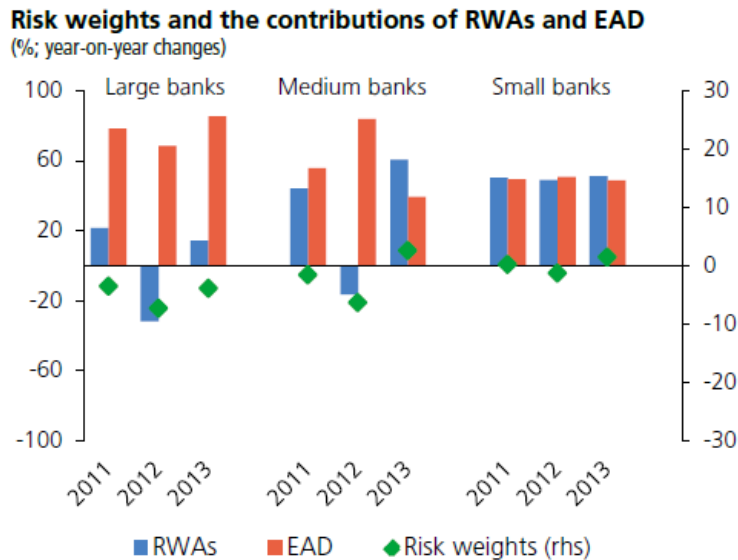


Source: CNB

Note: The calculation of risk weights covers assets in the investment portfolio excluding sovereign exposures. The values are six-month moving averages.

I. Bank capital

...but the reduction in the riskiness of bank portfolios may be illusory since risk weights decreased unlike exposures



Source: CNB

Note: Risk weights are defined as the ratio of risk-weighted assets (RWAs) to exposures at default (EAD) approximated by exposures in the investment portfolio less sovereign exposures. The sum of the contributions of RWAs and EAD equals 100%.

- Internal bank models are widely used by large banks in the CR and possibly decrease RWAs.
- Basel III revision from December 2017 reacts on this alchemy

Source: CNB (2014). Report on Financial Stability 2013/2014

I. Bank capital

Case study: Deutsche Bank (DB) 's regulatory vs. accounting vs. market capital

	Regulatory ratios	
	30 June 2018	Buffer
CET1 ratio	13.7%	€11bn above SREP requirement ⁽¹⁾

$$CET1\ ratio = \frac{\text{Common Equity Tier 1 capital}}{\text{Risk weighted assets (RWA)}}$$

- The Supervisory Review and Evaluation Process (SREP) shows where a bank stands in terms of capital requirements and the way it deals with risks.
- DB reports a regulatory capital surplus in 2018 (13.7% > 4.5% CET1 ratio), but what about its market capitalization (share price)?

Source: https://www.db.com/ir/en/download/Credit_Overview.pdf
<https://www.bankingsupervision.europa.eu/about/ssmexplained/html/srep.en.html>

I. Bank capital Deutsche Bank's share price -> EUR 11 (2018) vs EUR 160 (2007)



I. Bank capital

Deutsche Bank's weak market capital position: **P/BV = 0.30** -> de facto bankruptcy

$$\frac{P}{BV} = \frac{\text{Price per share}}{\text{Book value per share}} = \frac{\text{Market value of capital}}{\text{Accounting capital}}$$

$$\frac{P}{BV} (DB) = \frac{\text{Market value of capital}}{\text{Accounting capital}} = \frac{23}{77} = \mathbf{0.30}$$

- Price-to-book value ratio (P/BV) = 0.30 -> i.e. **only 30 % of DB's assets exist**, while the remaining 70 % of the assets *de facto* do not exist or are mispriced
- P/BV < 1 -> it is worthwhile to sell (liquidate) the bank *per partes* rather than to continue its operations
- In March 2017 DB made an IPO and sold shares with 35% discount (markets were skeptical about DB's future performance)

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Source: <https://digneconsult.com/sg/4-reasons-why-self-reflection-is-important/>



2. Basel I

Basel global banking standards

- The basic framework of regulations is set by the Basel Committee on Banking Supervision (**BCBS**), which is part of the Bank for International Settlements (**BIS**).
- The BIS's mission is to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks.
- The 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 BIS is in Basel (Switzerland), therefore global banking standards are called as “**Basel**”

2. Basel I

Basel implementation in the EU

- The basic framework of regulations is set by the Basel Committee on Banking Supervision (BCBS). The rules prepared by this Committee are only recommendations, but today they are widely accepted by more than 100 countries.
- The EU transforms the rules through directives that are being adopted by member countries, including the Czech Republic.
- In the EU “Basel III“ is implemented through two directives:
 - Capital Requirements Regulation*
 - Capital Requirements Directive**, commonly known as **Capital Requirements Directive IV (CRD IV)**

*Regulation (EU) No 575/2013 of the European Parliament and of the Council (2013)

** Directive 2013/16/EU of the European Parliament and of the European Council (2013)

2. Basel I

Risks “covered” under Basel I & II & III

1988
Basel I

1996
Market
risk

2007
Basel II

2009
Basel
II.5

2010
Basel III

Credit risk

Credit &
market risk

Credit &
market &
operational risk

Credit &
market &
operational risk

Credit &
market &
operational &
liquidity risk

Source: Author

2. Basel I

Two key objectives of Basel I

- 1) To assure the stability (“safety and soundness”) of the international banking system
- 2) To eliminate distortions to competitors arising from the fact that some countries (such as Japan) granted and implicit guaranteed of unlimited support to their banks in the event of failure



BANK FOR INTERNATIONAL SETTLEMENTS

Source: <https://miningsky.com/2018/06/19/cryptocurrency-on-the-rise/>



Source: <https://www.thinking.com/scene/5260717881871564809>

2. Basel I

Result of Basel I: regulatory arbitrage

- 1) Banks moved towards **the riskier, higher-yielding assets** within a given risk bucket (RWA), for example from American to Korean government bonds
- 2) Banks shifted assets off the balance sheet
-> securitization

Basel I  Lower capital!!!



BANK FOR INTERNATIONAL SETTLEMENTS

Source: <https://miningsky.com/2018/06/19/cryptocurrency-on-the-rise/>



Source: <http://lemerg.com/684194.html>

2. Basel I

Case study I: a mortgage under **Basel I**

Basel I

$$CAD = \frac{CAP}{RWA} \geq 8\%$$

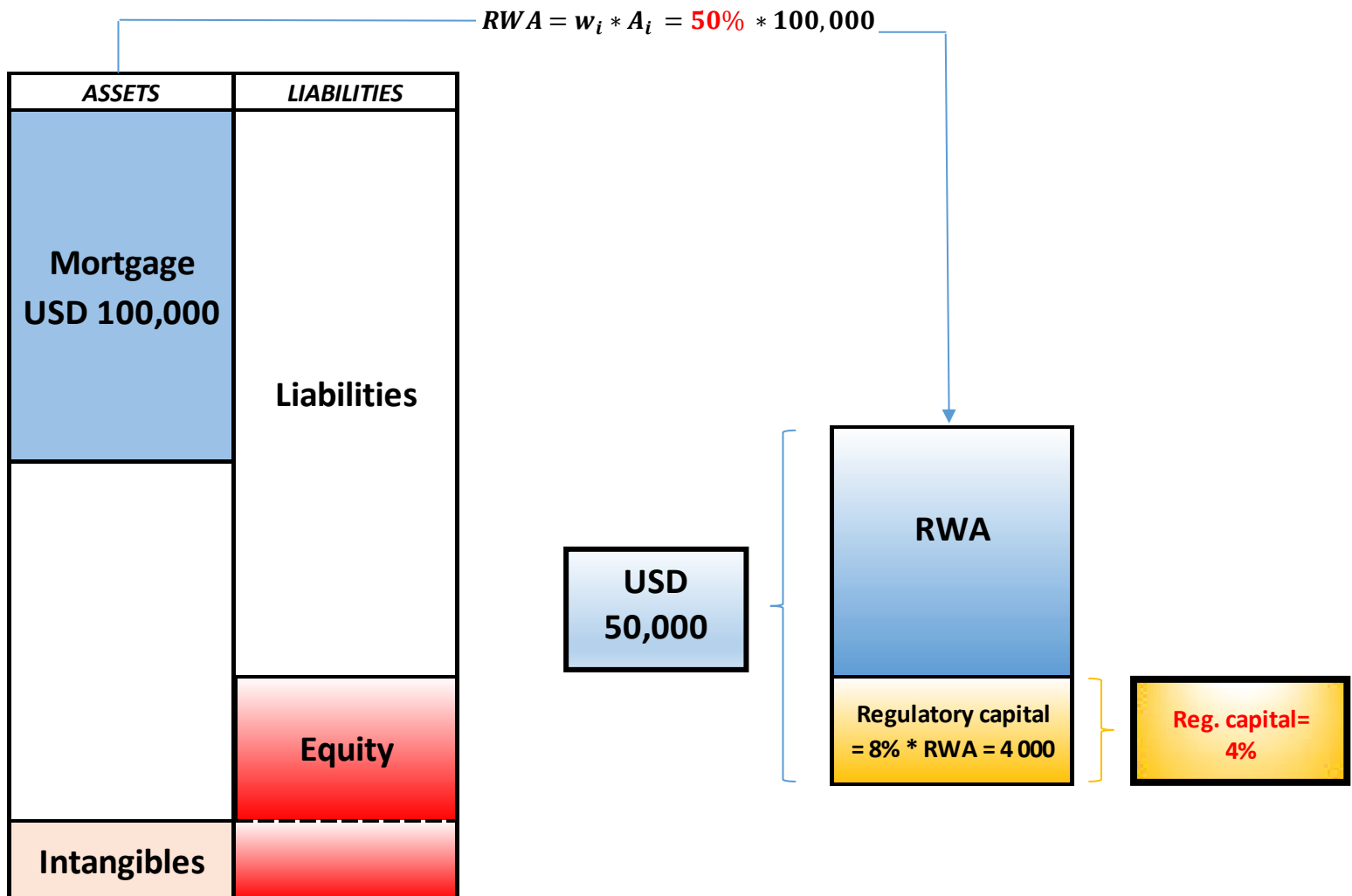
↓
Credit risk
+ Market risk

CAD – capital adequacy
CAP – capital
RWA – risk-weighted assets, $RWA = \sum w_i * A_i$
 w_i – i-th risk weight
 A_i – i-th asset

- Capital adequacy (CAD) = 8%
- Risk weight (RW) = **50%**
- Loan exposure (A) = USD 100,000
- Capital requirement = 8% x RW x A =
8% x **50%** x 100 000 = **USD 4,000 (4%)**

2. Basel I

Case study I on a picture (4.0% capital)



2. Basel I

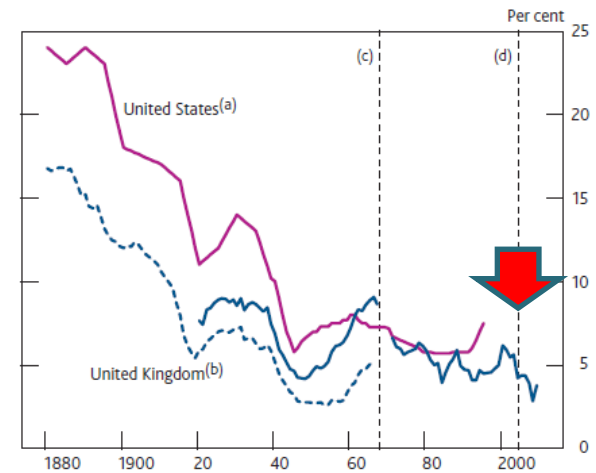
Both key objectives of Basel I failed!



Source:

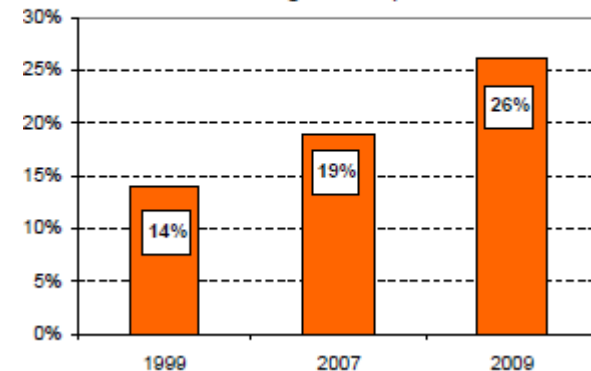
<https://addcrusher.com/how-to-find-the-right-adhd-coach/>

- 1) Higher instability of the international banking system – **lower capital!**
- 2) The regulation favoured big international banks, i.e. it **lowered overall competition**



Source: Author

THE SHARE OF THE 10 LARGEST GLOBAL BANKS (in the assets of the largest 1000)



Source: Author

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Source: <https://digneconsult.com/sg/4-reasons-why-self-reflection-is-important/>



3. Basel II

Three key objectives of Basel II

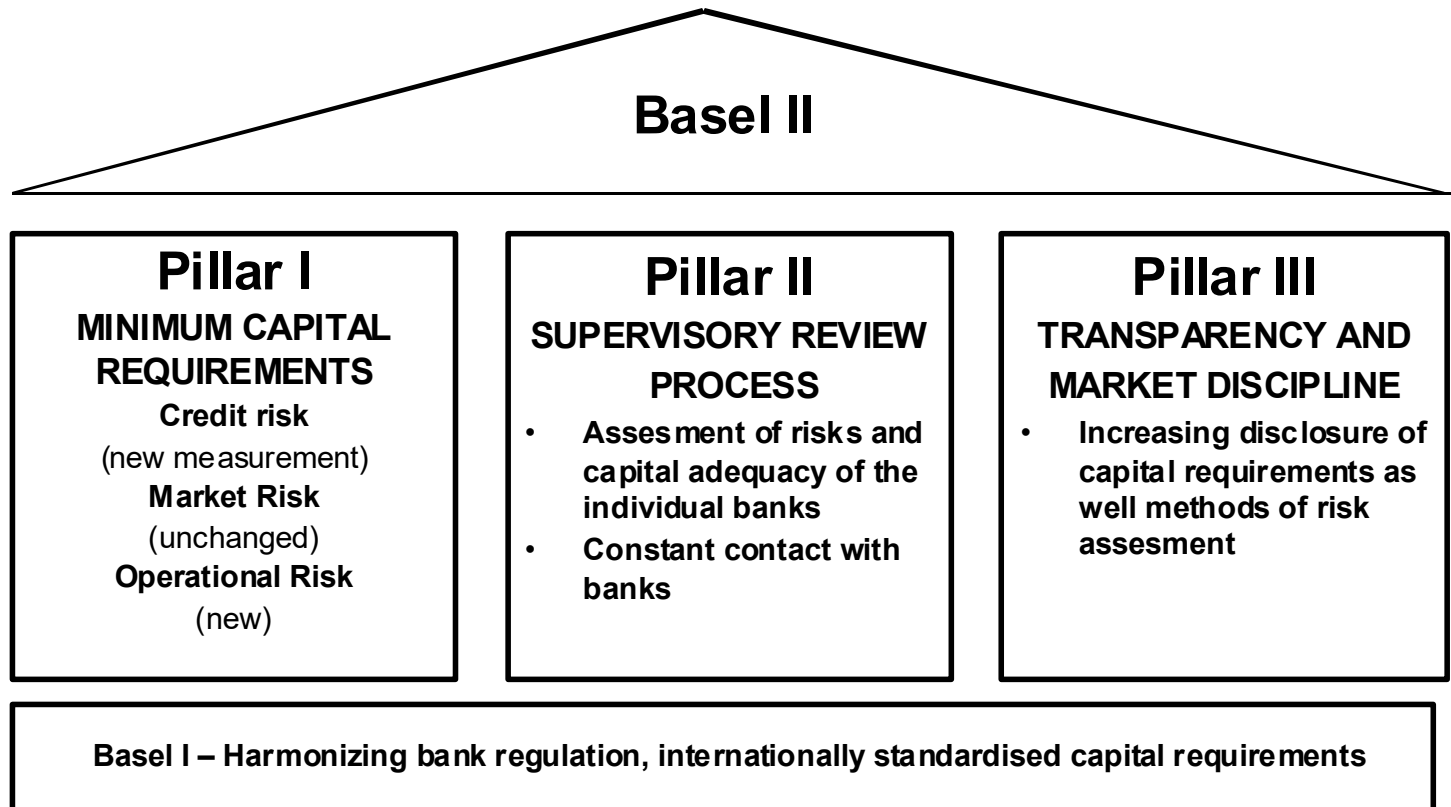


Source: <https://www.bis.org>

- 1) The Accord should continue to promote safety and soundness in the financial system and, as such, the new framework should at least maintain the current overall level of capital in the system;
- 2) The Accord should continue to enhance competitive equality;
- 3) The Accord should constitute a more comprehensive approach to addressing risks.

3. Basel II

Three pillars of Basel II

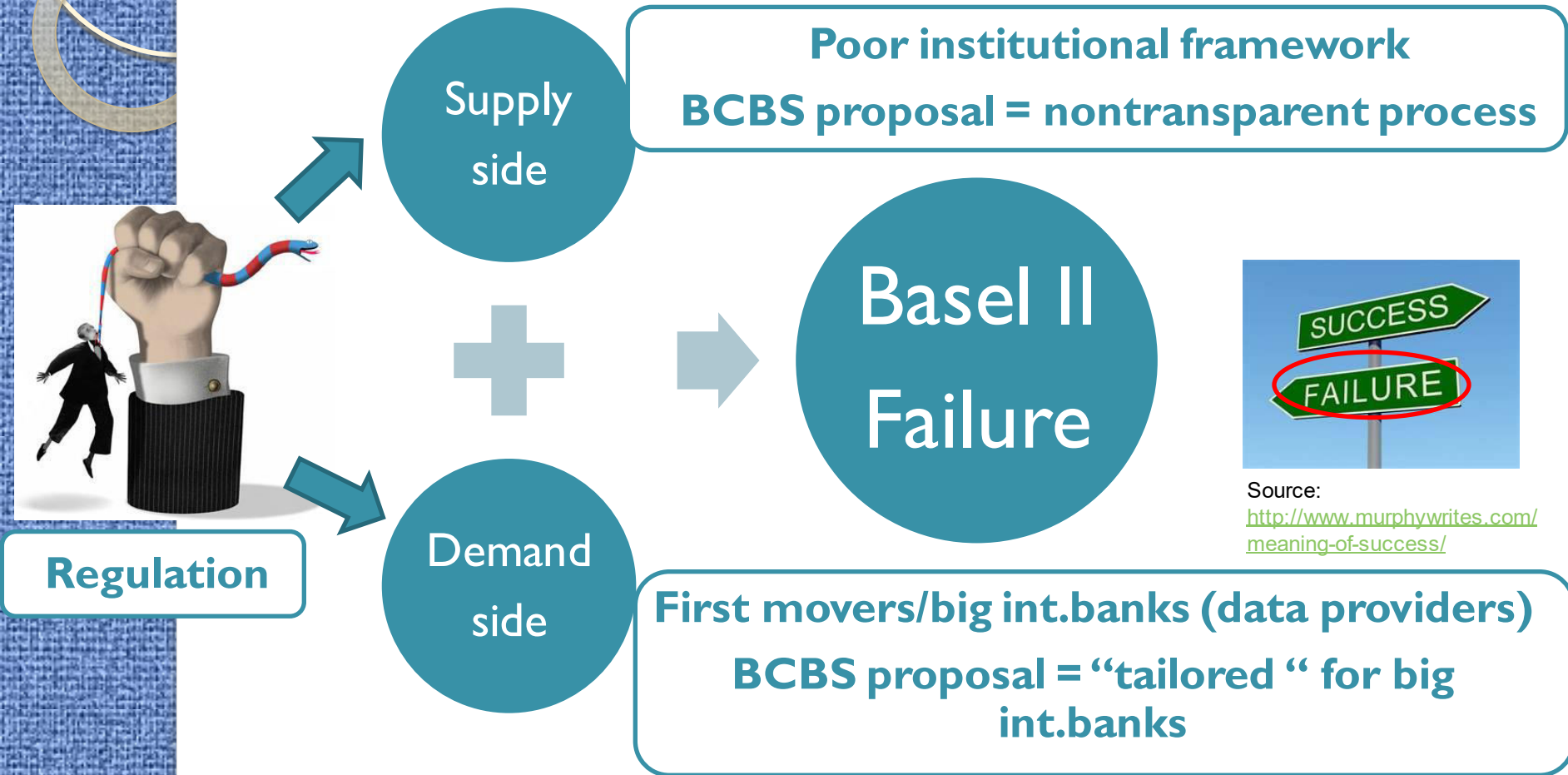


*Except for interest rate risk in the banking book.

Source: Teplý, P. et al. (2007). Implications of the New Basel Capital Accord for European Banks, Economics and Management, 1/2007

3. Basel II

Basel II – fundamentally flawed process of creating global standards (Lall, 2012)



Source: Lall, R. (2012). From Failure to Failure: The Politics of International Bank Regulation, *Review of International Political Economy*, 19(4): 609–38.

3. Basel II

Basel II – lower risk weight for (subprime) mortgages -> banks were motivated to provide them and make higher profits!

Table 1: Risk weights for Sovereigns and Banks

Claim	AAA to AA-	A+ to A-	BBB+ to BBB-	BB+ to B-	Below B-	Unrated	
Sovereign	0%	20%	50%	100%	150%	100%	
Bank	Option 1 ¹⁷	20%	50%	100%	100%	150%	100%
	Option 2 ¹⁸	20%	50%	50%	100%	150%	50%
	Option 2 short term ¹⁹	20%	20%	20%	50%	150%	20%

Table 2: Risk weights for Corporates and real estate exposures

Claim	AAA to AA-	A+ to A-	BBB+ to BB-	Below BB-	Unrated
Corporate	20%	50%	100%	150%	100%
Regulatory Retail Portfolios	75%				
Residential Mortgages	35% ²⁰				
Commercial Real Estate	100%				
	A 50% risk weighting may be applied at national discretion subject to a number of conditions on loan-to-value ratios and historical loss rates.				

Source: Author

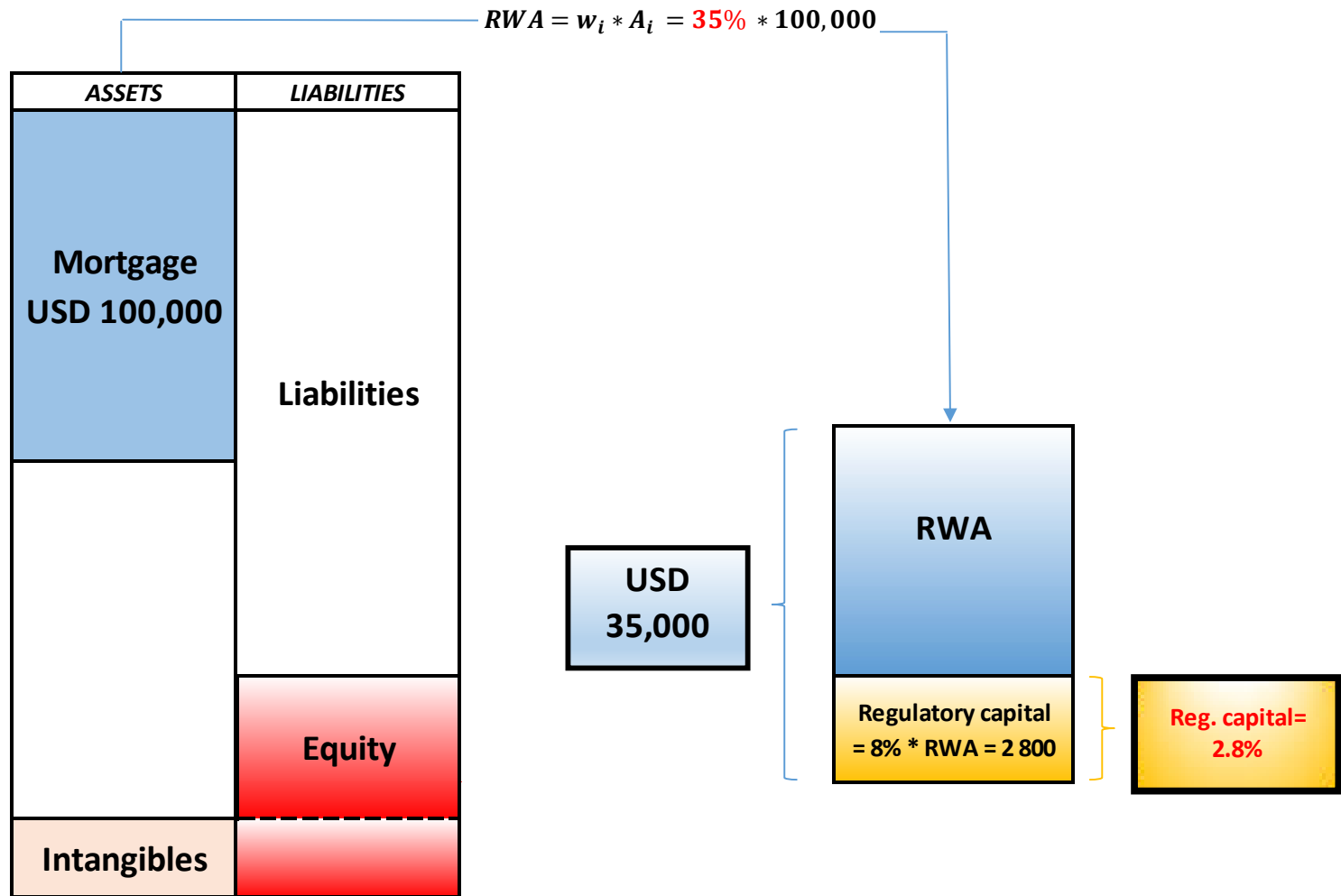
3. Basel II

Case study 2: a mortgage under **Basel II**

- Capital adequacy (CAD) = 8%
- Risk-weight (RW) = **35%**
- Loan exposure (E) = USD 100,000
- Capital requirement = $8\% \times RW \times A = 8\% \times \mathbf{35\%} \times 100\,000 = \mathbf{USD\ 2,800\ (2.8\%)}$
- Memo: Basel I: USD 4,000, i.e. Basel II required 30% less capital on a mortgage granted by a bank!
- It means that a bank has buffer against 2.8% fall in mortgage repayments (memo: real estate prices in the US fell down by 15% in 2008!)

3. Basel II

Case study 2 on a picture (2.8% capital)



3. Basel II

Case study 3: Domestic government bond under Basel II (no capital requirement/cushion)

- Risk weight (RW) = 0%
- Capital adequacy (CAD) = 8%
- Loan exposure (E) = EUR 1,000,000,000
- Capital requirement = $RW \times 8\% \times E = 0\% \times 8\% \times 100\,000 = \text{EUR } 0$

	Basel I	Basel II Standardized Approach
Claims on <u>Sovereigns</u> (and Central banks)	<ul style="list-style-type: none">▪ OECD: 0%▪ Non-OECD: 100% <p>National discretion: exposures to own sovereign in domestic currency: 0%</p>	<ul style="list-style-type: none">▪ AAA to AA-: 0%▪ A+ to A-: 20%▪ BBB+ to BBB-: 50%▪ BB+ to B-: 100%▪ Below B-: 150%▪ Unrated: 100% <p>National discretion for exposures to own sovereign in domestic currency: 0%</p> <p>IMF, BIS, ECB and EC: 0%</p>

3. Basel II

Banks/regulation fueled the current Eurozone sovereign crisis -> banks are still motivated to invest into sovereign bonds!



3. Basel II

Critique of Basel II (1/2)

- 1) Inability to measure the individual risk of a bank failure
- 2) Inability to anticipate systemic risk
- 3) Inability to manage financial innovation



3. Basel II

Critique of Basel II (2/2)

- 1) tendency towards **procyclicality**;
- 2) lack of the explicit implementation of **other risks** (e.g. systemic);
- 3) an excessive use of **external ratings**;
- 4) an excessive **prescription** of the document (Pillar I vs. Pillar II vs. Pillar III);
- 5) difficult quantification of **operational risk** (NINJA loans, predatory lending etc.)

Source: Teplý, P. et al. (2007). Implications of the New Basel Capital Accord for European Banks, Economics and Management, 1/2007

3. Basel II

All three key objectives of Basel II failed



Source:
<http://www.murphywrites.com/meaning-of-success/>

- 1) Higher instability and lower capital resulted later in the 2008-2009 GFC and the 2010-2013 Eurozone crisis)
- 2) The regulation favored big international banks, i.e. it lowered overall competition
- 3) Internal banks models with poor assumptions (e.g. Value-at-Risk “VAR“) and advanced internal ratings based approach (A-IRB) underestimated “real“ capital requirements *(see also below section Basel III (2017))*

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Source: <https://digneconsult.com/sg/4-reasons-why-self-reflection-is-important/>



4. Basel III (2010)

Complex web of regulations

1. Regulators

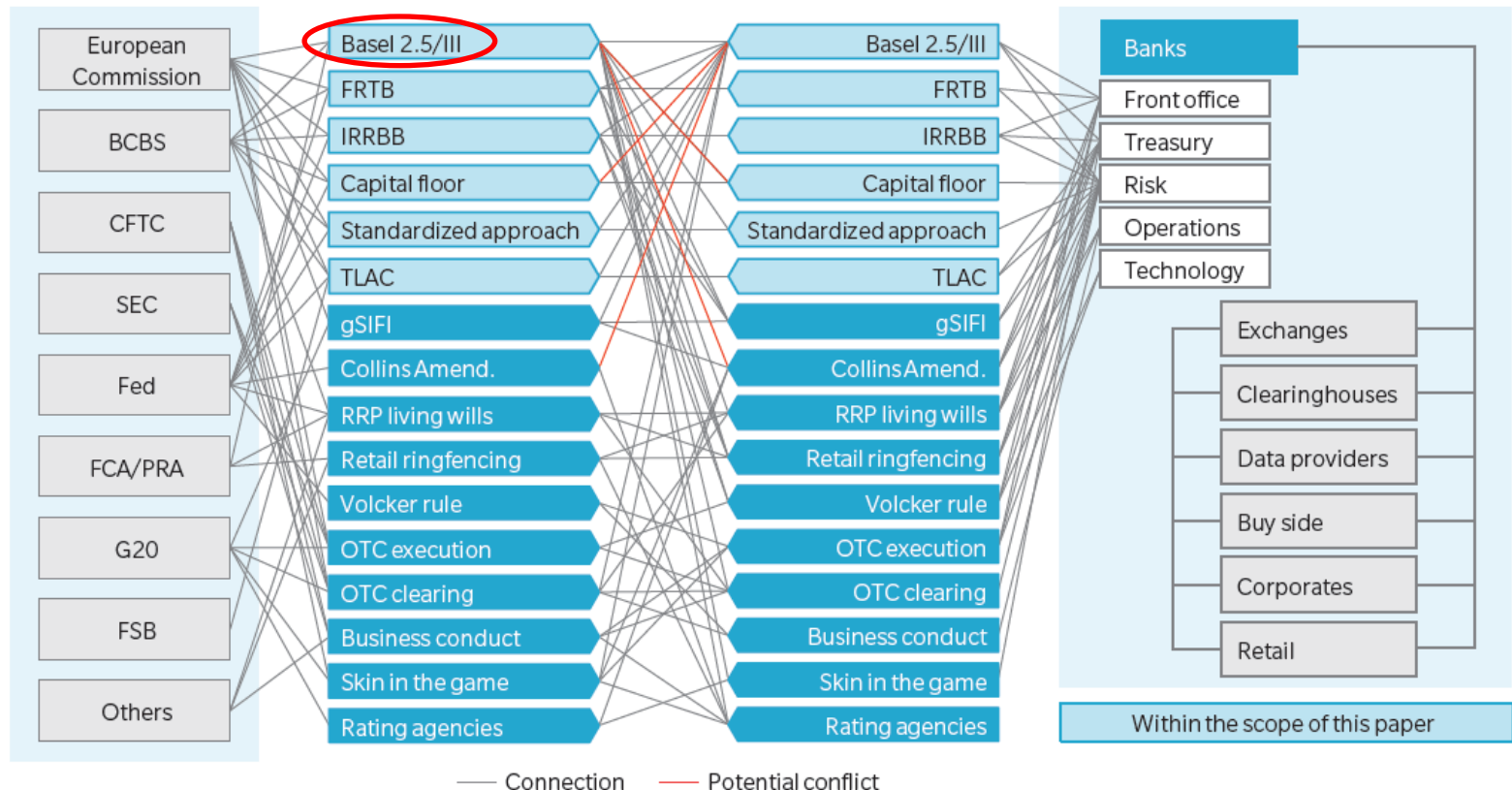
Multiple conflicting objectives, different political processes

2. Post-crisis regulation

Vast, thousands of pages, high impact, overlapping, conflicting, different across regions

3. Banks and the financial system

Revolutionizes wholesale business, new operating models, front/mid/back office redesign, disentangle and understand regulation to adapt



Source: Oliver Wyman (2016). INTERACTION, COHERENCE, AND OVERALL CALIBRATION OF POST CRISIS BASEL REFORMS

4. Basel III (2010)

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.
- The first draft was in 2010, the second draft in 2017

4. Basel III (2010)

Three key objectives and targets of Basel III

Objectives

- 1) Improve the **banking sector's ability to absorb shocks** arising from financial and economic stress, whatever the source
- 2) Improve **risk management and governance**
- 3) Strengthen banks' **transparency** and disclosures.

Targets

- 1) bank-level, or **microprudential**, regulation, which will help raise the resilience of individual banking institutions to periods of stress.
- 2) **macroprudential**, system wide risks that can build up across the banking sector as well as the procyclical amplification of these risks over time.

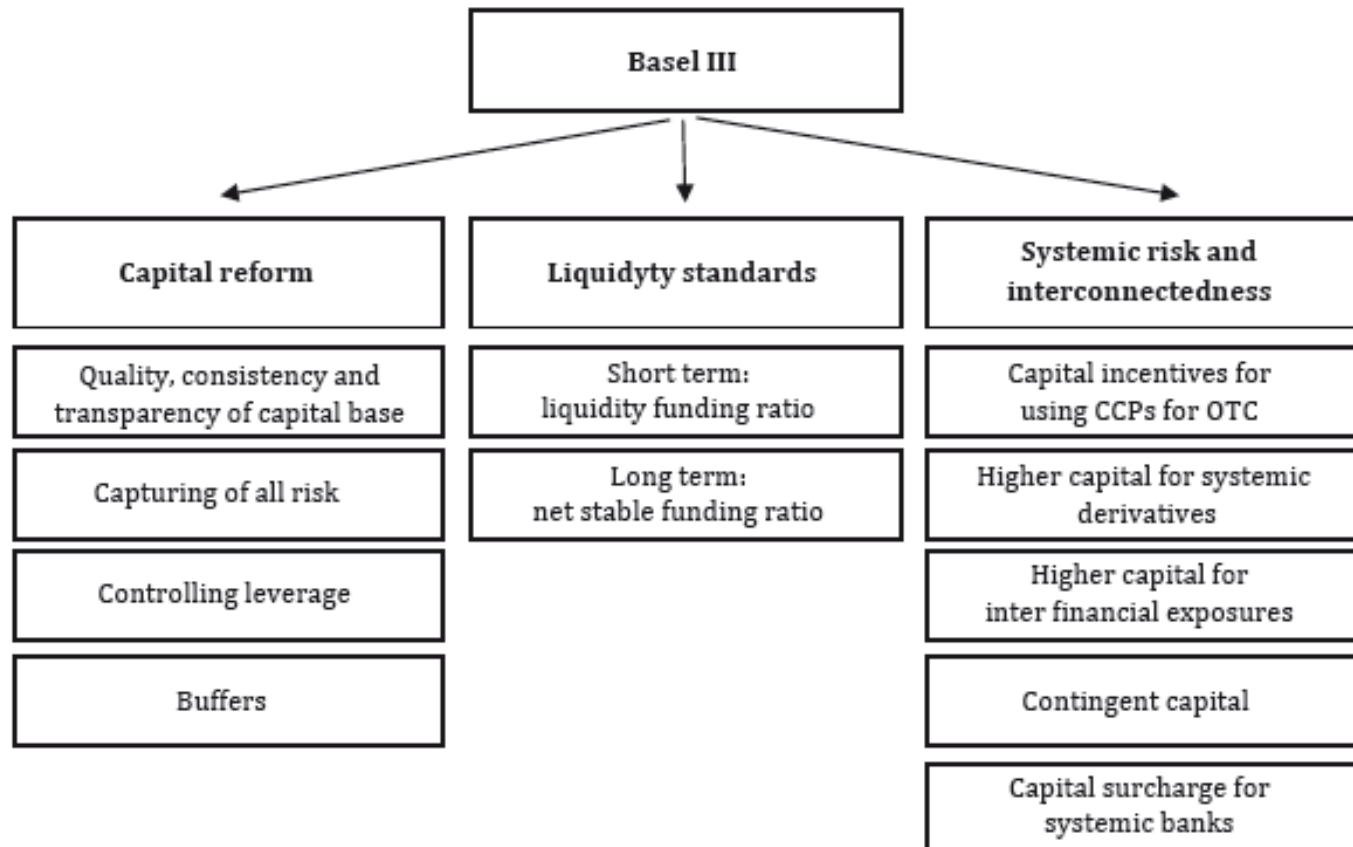
4. Basel III (2010)

Basel III proposal (2010)

- 1) requirements for **higher quality, constituency and transparency of banks' capital and risk management** (calibration and delayed implementation period)
- 2) introduction of **new liquidity standards** for internationally active banks
- 3) focus on **systemic risk** and interconnectedness (including **procyclicality** and regulation of **OTC markets**)

4. Basel III (2010)

Key components of Basel III



Note: CCP = central counterparty, OTC = over-the-counter market

Source: Author

4. Basel III (2010)

Calculation of CAD under Basel I, Basel II and Basel II

Basel I	Basel II
$CAD = \frac{CAP}{RWA} \geq 8\%$	$CAD = \frac{CAP}{CR} \times 0.08 \geq 8\%$
<p style="text-align: center;">↓</p> <p style="text-align: center;">Credit risk + Market risk</p>	<p style="text-align: center;">↓</p> <p style="text-align: center;">Credit risk + Market risk + Operational risk</p>

Note: CAD – capital adequacy, RWA – risk-weighted assets, CAP – capital, CR – capital requirement

4. Basel III (2010)

Calculation of CAD under Basel I, Basel II and Basel II

$$CAD = \frac{\text{Basel_III_CAP}}{RWA} \geq 10.5\%$$

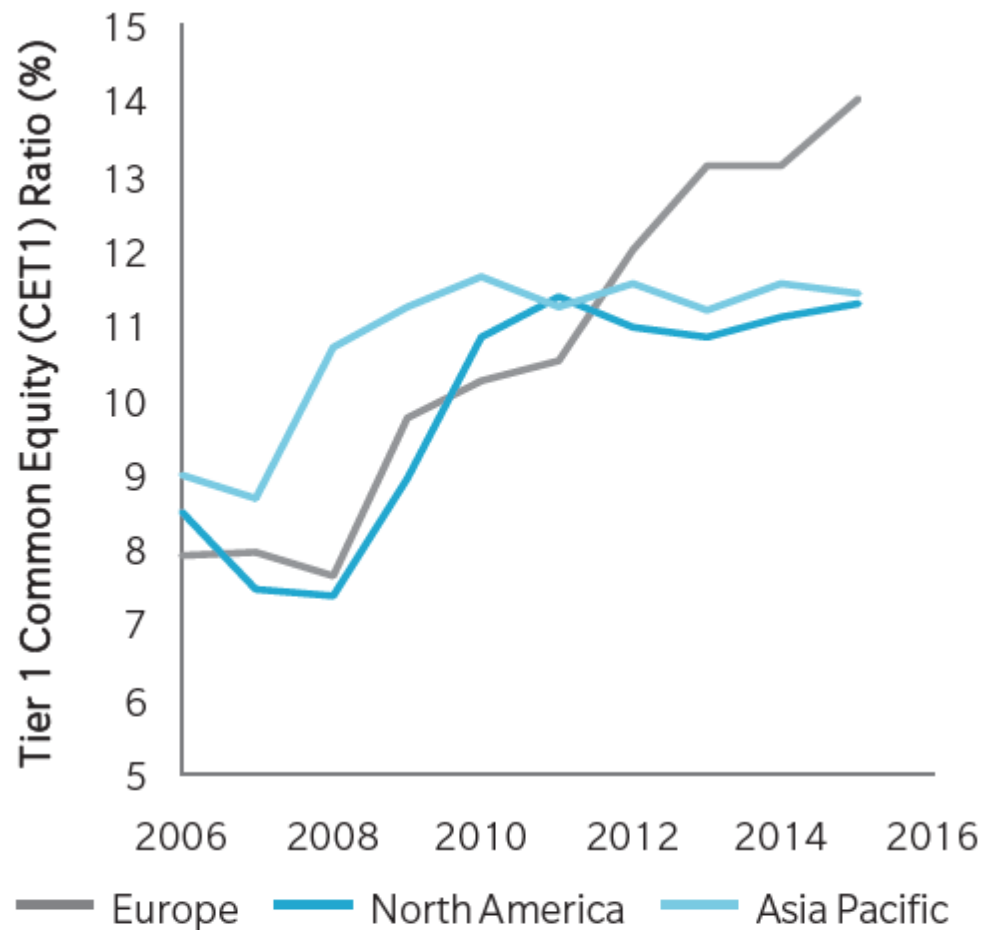
The diagram shows the components of Risk-Weighted Assets (RWA) branching from the denominator of the CAD formula. Arrows point from 'RWA' to three categories: 'Credit risk', 'Market risk', and 'Operational risk'. Under 'Credit risk' are 'Basel I' and 'Basel II'. Under 'Market risk' are 'Basel II.5' and 'Basel III'. Under 'Operational risk' is 'Basel II'.

Note: CAD – capital adequacy, RWA – risk-weighted assets, Basel III CAP = Common Equity Tier 1 capital + Additional Tier 1 capital + Tier 2 capital + capital conservation buffer

Source: Authors

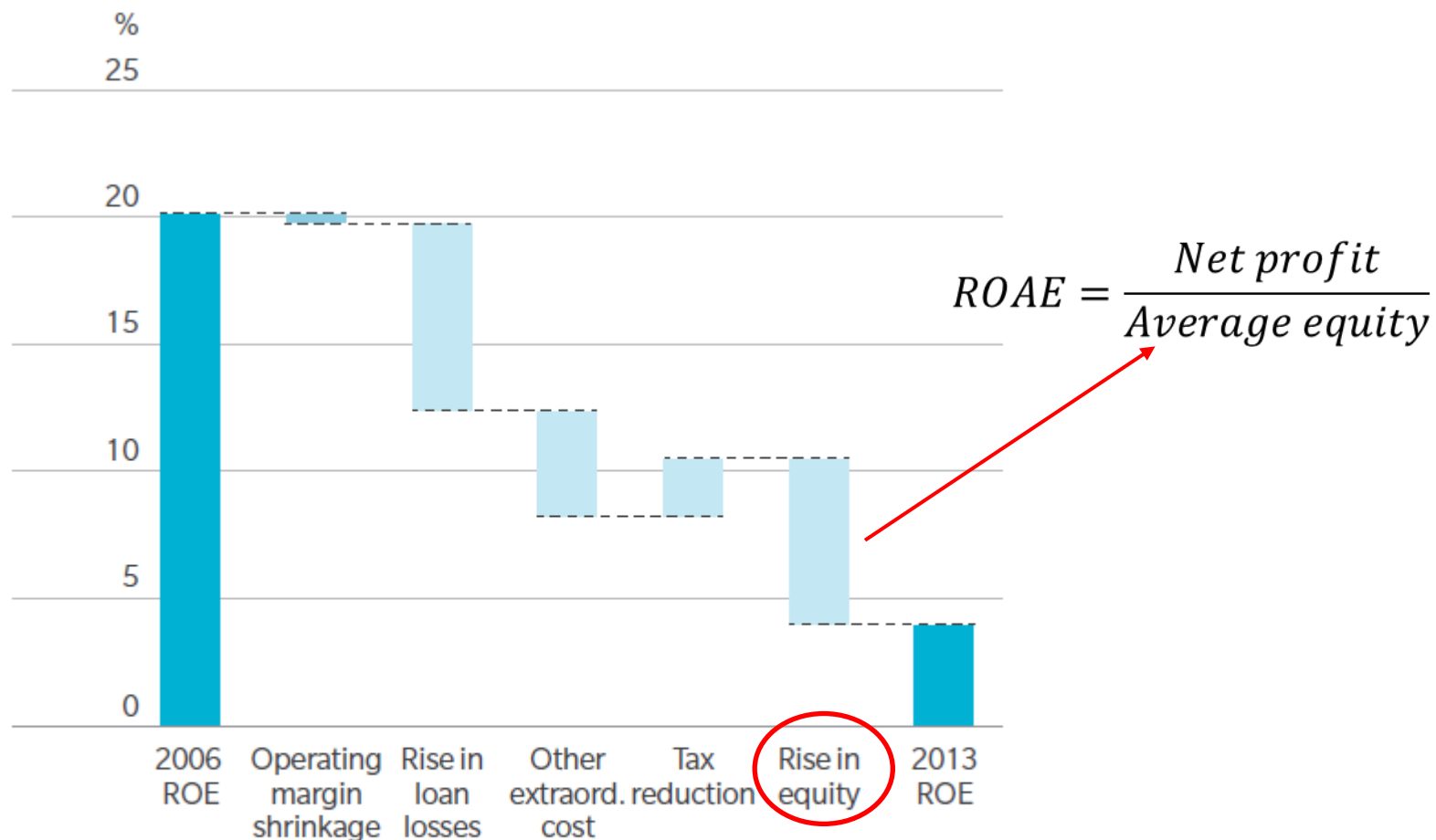
4. Basel III (2010)

Increasing CET1 capital ratios...



Source: Oliver Wyman (2016). INTERACTION, COHERENCE, AND OVERALL CALIBRATION OF POST CRISIS BASEL REFORMS

4. Basel III (2010) ...resulted in lower ROAE of EU banks



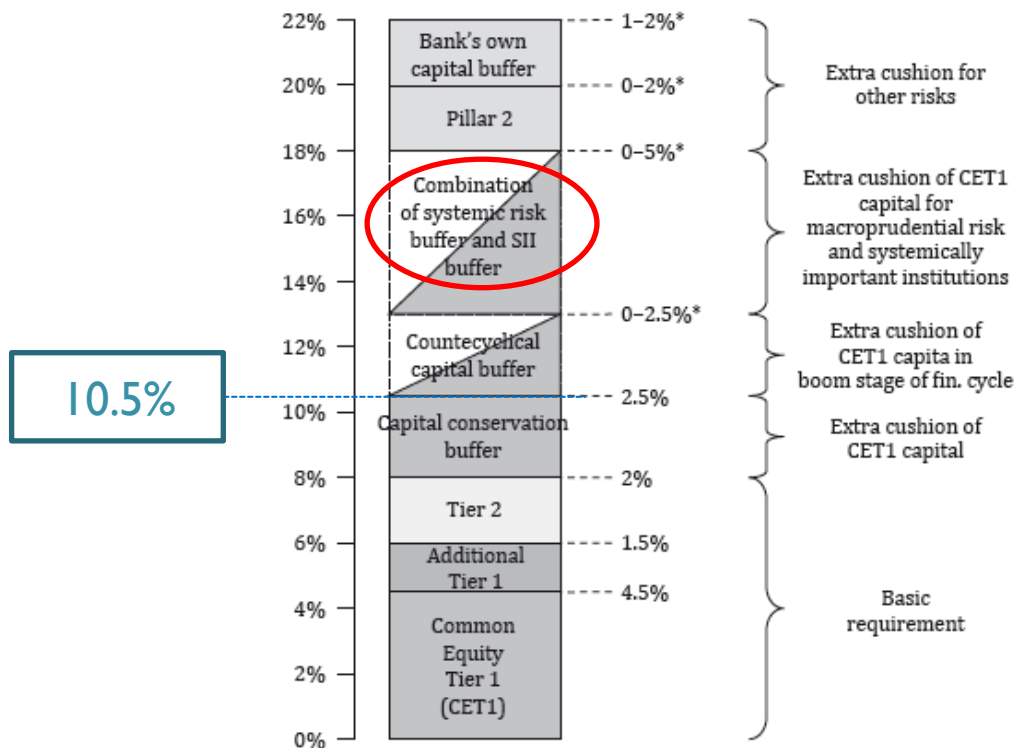
Source: Bankscope data for 89 European banks, representing 85% of total European banking assets. Oliver Wyman analysis

Note: Other extraordinary items are principally restructuring charges and goodwill impairments. They include some, but not all, fines and litigation fees

4. Basel III (2010)

Regulatory capital requirements in the EU (CRD IV*) – more than 22% of RWAs...

Figure VI-17: Capital requirements stipulated by CRD IV (in % of risk weighted assets)



Note: * Expected upper limits, although actual values can be higher

*Capital Requirements Directive IV = Capital Requirements Regulation (CRR) and Capital Requirements Directive (CRD) from June 2013

4. Basel III (2010)

The list of Globally Systemically Important Financial Institutions (G-SIFIs)

- These G-SIFIs should increase their capital until the end of 2018 by 1.0-2.5%
- Total Loss Absorbing Capacity (**TLAC**) for G-SIFIs (vs. minimum requirement for own funds and eligible liabilities (**MREL**) for EU banks under BRRD)

1)	Bank of America	11)	Dexia	21)	Nordea
2)	Bank of China	12)	Goldman Sachs	22)	Royal Bank of
3)	Bank of New York Mellon	13)	Group Crédit Agricole		Scotland
		14)	HSBC	23)	Santander
4)	Banque Populaire CdE	15)	ING Bank	24)	Société Générale
		16)	JP Morgan Chase	25)	State Street
5)	Barclays	17)	Lloyds Banking Group	26)	Sumitomo Mitsui FG
6)	BNP Paribas			27)	UBS
7)	Citigroup	18)	Mitsubishi UFJ FG	28)	Unicredit Group
8)	Commerzbank	19)	Mizuho FG	29)	Wells Fargo
9)	Credit Suisse	20)	Morgan Stanley		
10)	Deutsche Bank				

4. Basel III (2010)

Local SIFIs in the Czech Republic – systemic risk capital surcharges (November 2014/from 1 January 2017)



Source:
<https://images.app.goo.gl/oSLx1qttUzhHnFmm8>

○ ČSOB	3.0% / 3.0%
○ Česká spořitelna	3.0% / 3.0%
○ Komerční banka	2.5% / 3.0%
○ UniCredit Bank	1.0% / 2.0%
○ Raiffeisenbank a.s.	0.0% / 1.0%

Source: CNB (2018). The systemic risk buffer
(https://www.cnb.cz/en/financial_stability/macroprudential_policy/systemic_risk_buffer/index.html)

Contents

1.	Bank capital
2.	Basel I
3.	Basel II
4.	Basel III (2010)
5.	Basel III (2017)

Source: <https://digneconsult.com/sg/4-reasons-why-self-reflection-is-important/>



5. Basel III (2017)

The 2017 Basel III reforms

- 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.






5. Basel III (2017)

Why are the 2017 reforms necessary?

- The 2017 reforms address weaknesses that were revealed by the global financial crisis.
 - I. **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.
 - II. **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.

5. Basel III (2017)

Basel III main features

	 Increase the level and quality of capital	 Enhance risk capture	 Constrain bank leverage	 Improve bank liquidity	 Limit procyclicality
2010	<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>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>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>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>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>		

Source: Basel Committee on Banking Supervision (2017). Finalising Basel III In brief

5. Basel III (2017)

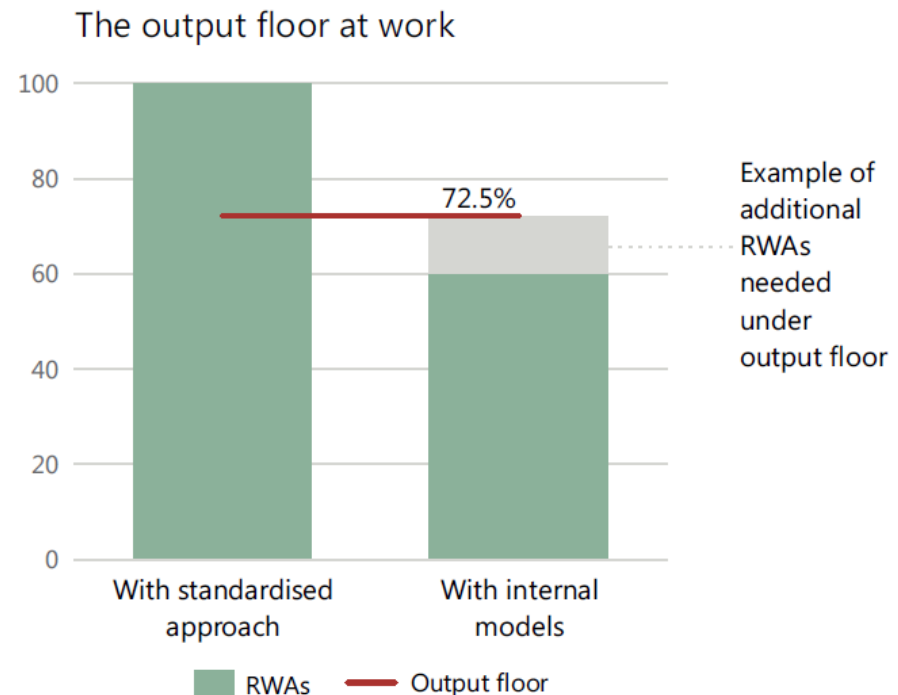
Key issues in Basel III (2017) for banks

- 1) Focus on risk-weighted assets
- 2) Improve the treatment of credit risk
- 3) Streamline the treatment of operational risk
- 4) Add a leverage ratio surcharge for the largest banks
- 5) **Create a more robust, risk-sensitive output floor**

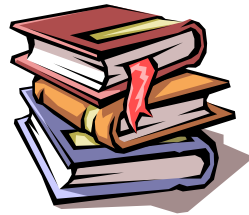
5. Basel III (2017)

Risk-sensitive output floor

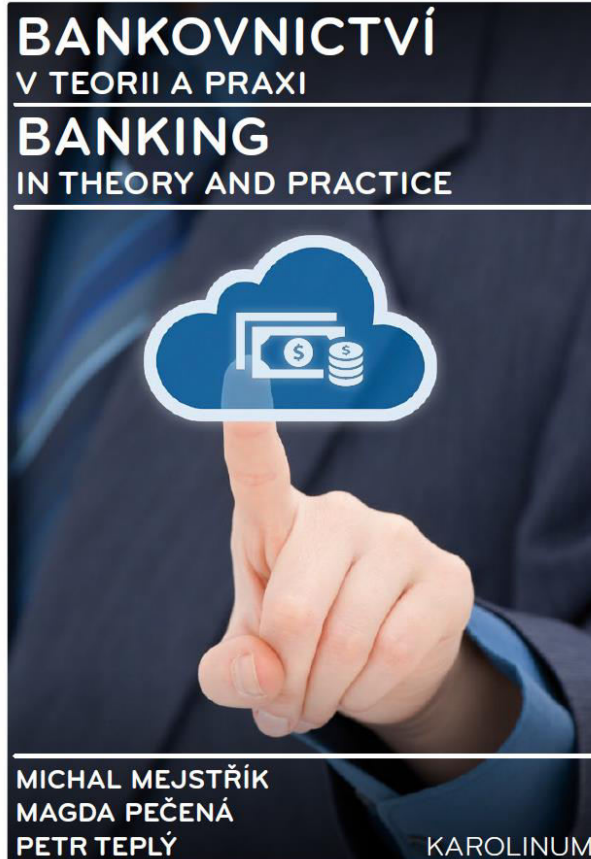
- The revised output floor limits the amount of capital benefit a bank can obtain from its use of internal models, relative to using the standardised approaches.
- Banks' calculations of RWAs generated by internal models cannot, in aggregate, fall below **72.5%** of the risk-weighted assets computed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



Reading for the this lecture



Source: <http://clipart-library.com/clipart/887869.htm>



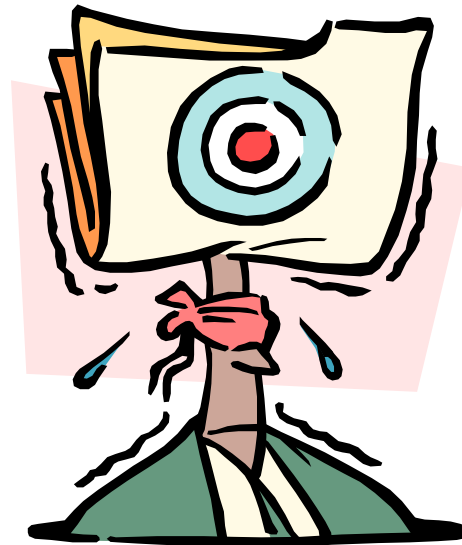
- ✓ **Chapter VI/Bank Capital**
- ✓ **Chapter V/Bank regulation**

Source:

<https://www.megaknihy.cz/odborna-naucna/195343-bankovnictvi-v-teorii-a-praxi-banking-in-theory-and-practice.html>

Discussion

Thanks for your attention.
Let's discuss it now!



Source: <https://vsoc.org.uk/rallies/rally-help/>