NOVA SCHOOL OF
BUSINESS & ECONOMICS

Future of Banking & wrap-up

Draft Version

2206 - Banking | 2025S2 | Session 12 | Carla Rebelo

Deutsche Bank

Questions & Group distribution

Deutsche Bank and the Road to Basel III

1. How has the orientation of Deutsche Bank changed over time in terms of business segments and global nature? Why? Do you agree with its tsrategy?

2. What do the historical financials tell us about DB's profitability ratios in terms of ROA/ROE?

3. What is the financial outlook for DB in view of Basel III and the eurozone debt crisis?

4. What is your estimated valuation of DB? (Use the P/E and P/BV ratios to value DB's equity share)

Group 13

DB 2013 / Barclays 2008

What about Credit Suisse?

Exam suggestion:
Explain in your own words what happened with CS and why this is problematic.

Credit Suisse investors sue Swiss regulator over bond wipeout

Complaint accuses Finma of failing to behave 'proportionately' and 'in good faith'

Credit Suisse was rescued by rival UBS in March © Francesca Volpi/Bloomberg

Sam Jones in Zurich APRIL 21 2023

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European Banks - AT1 Loss-Absorption Mechanism

Issuer	AT1 Trigger	Loss absorption	Write-up
Barclays	7%	Equity conversion	n/m
BBVA	5.125%	Equity conversion	n/m
BNP	5.125%	Temporary writedown	Yes
CaixaBank	5.125%	Equity conversion	n/m
Commerzbank	5.125%	Temporary writedown	Yes
CredAg Group	5.125%	Temporary writedown	Yes
Credit Suisse	7%	Permanent writedown	No
Danske Bank	7%	Equity conversion	n/m
Deutsche Bank	5.125%	Temporary writedown	Yes
HSBC	7%	Equity conversion	n/m
ING Group	7%	Equity conversion	n/m
Intesa	5.125%	Temporary writedown	Yes
Lloyds	7%	Equity conversion	n/m
NatWest Group	7%	Equity conversion	n/m
Rabobank	5.125%	Temporary writedown	Yes
Sabadell	5.125%	Equity conversion	n/m
Santander	5.125%	Equity conversion	n/m
SocGen	5.125%	Temporary writedown	Yes
StanChart	7%	Equity conversion	n/m
UBS	7%	Permanent writedown	No
UniCredit	5.125%	Temporary writedown	Yes

Bloomberg

Source: Company Filings, Bloomberg Intelligence

11:40

Source: Bloomberg, 21 March 2023.

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DB 2013 / Barclays 2008

AT1 vs Tier 2

EXPAND CAPITAL

Issuer	Basel III	Next Call date	Maturity	Currency	Coupon	Yield to Call	Yield to Maturity	S&P Rating	Moody Rating	Fitch Rating	Mty Type
Deutsche Bank AG	AT1	01/12/2027	-	EUR	10,000%	7,38%	9,17%	BB	Ba2	-	PERP/CALL
Deutsche Bank AG	AT1	30/10/2025	-	USD	6,000%	10,71%	9,16%	BB	Ba2	-	PERP/CALL
Deutsche Bank AG	AT1	30/11/2026	-	EUR	4,500%	10,97%	7,97%	BB	Ba2	BB+	PERP/CALL
Deutsche Bank AG	Tier 2	19/02/2026	19/05/2031	EUR	5,625%	5,06%	7,57%	BBB-	Baa3	BBB	CALLABLE
Deutsche Bank AG	Tier 2	24/03/2027	24/06/2032	EUR	4,000%	5,29%	5,77%	BBB-	Baa3	BBB	CALLABLE
Deutsche Bank AG	AT1	30/10/2027	-	EUR	4,625%	9,88%	8,06%	BB	Ba2	BB+	PERP/CALL
Deutsche Bank AG	AT1	30/10/2028	-	EUR	6,750%	7,84%	8,33%	BB	Ba2	BB+	PERP/CALL
Deutsche Bank AG	-	20/12/2028	20/12/2029	USD	8,138%	6,23%	6,51%	BBB	Baa1	A-	CALLABLE

Source: Expand Capital, prices from Bloomberg, May 3.

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Banking

In a nutshell

1. Why banks are different
2. Strategy
3. Risks
4. Governance
5. Crisis
6. Regulation

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REMINDER
Session 1

Banking:
Money creation role

'Money creation' role

Banks' funding

Banks' assets

DEPOSITORS

- *Families*
- *Companies*
- *Investors*

Savings

Trust

Financial Intermediation

BANKS

Credit / Funds

Support

COMPANIES & FAMILIES

- *Investment & Consumption funding requirements*

Short term

Leverage

Long term

Risk

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REMINDER
Session 2

A matter of different viewpoints

DEPOSIT

- **AN ASSET** from the viewpoint of the HOLDER
- **A LIABILITY** from the viewpoint of the BANK

LOAN

- **AN ASSET** from the viewpoint of the BANK
- **A LIABILITY** from the viewpoint of the debtor

INSIDE MONEY

By granting a loan, a bank simultaneously increases the asset side (the loan) and the liability side (as the value of the loan is credited on the debtor's deposit account).

CURRENCY

- **AN ASSET** from the viewpoint of the holder
- **A LIABILITY** from the viewpoint of the CENTRAL BANK

GOLD

- **AN ASSET** from the viewpoint of the holder
- **AN ASSET** from the viewpoint of the CENTRAL BANK

OUTSIDE MONEY

Market players cannot increase supply on their own

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REMINDER
Session 2

Banking: another definition?

Part of the Someone is wrong on the internet series

Are banks really magic money trees?

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NOVEMBER 20 2019 By: **Thomas Hale**

Read more articles in **SOMEONE IS WRONG ON THE INTERNET SERIES**

Source: Financial Times, 20 November 2019

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REMINDER
Session 2

How the system works

The global view

DEPOSITARY role ('keeper')

Deposit

Intra-bank cheque

Inter-bank cheque

PAYMENTS function

LENDING function *(Money creation)*

Loan

Clearing the cheque

CLEARING function

Money market

Counterparty role

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REMINDER
Session 2

Why banks are different

ASSET TRANSFORMATION	***Banks remove price risk***
PAYMENT SYSTEMS	***Banks have economies of scale***
DELEGATED MONITORS	***Banks have cost advantages***
RISK MANAGEMENT	***Banks have natural hedges***

…however, savers are always trading investor risk for bank risk…

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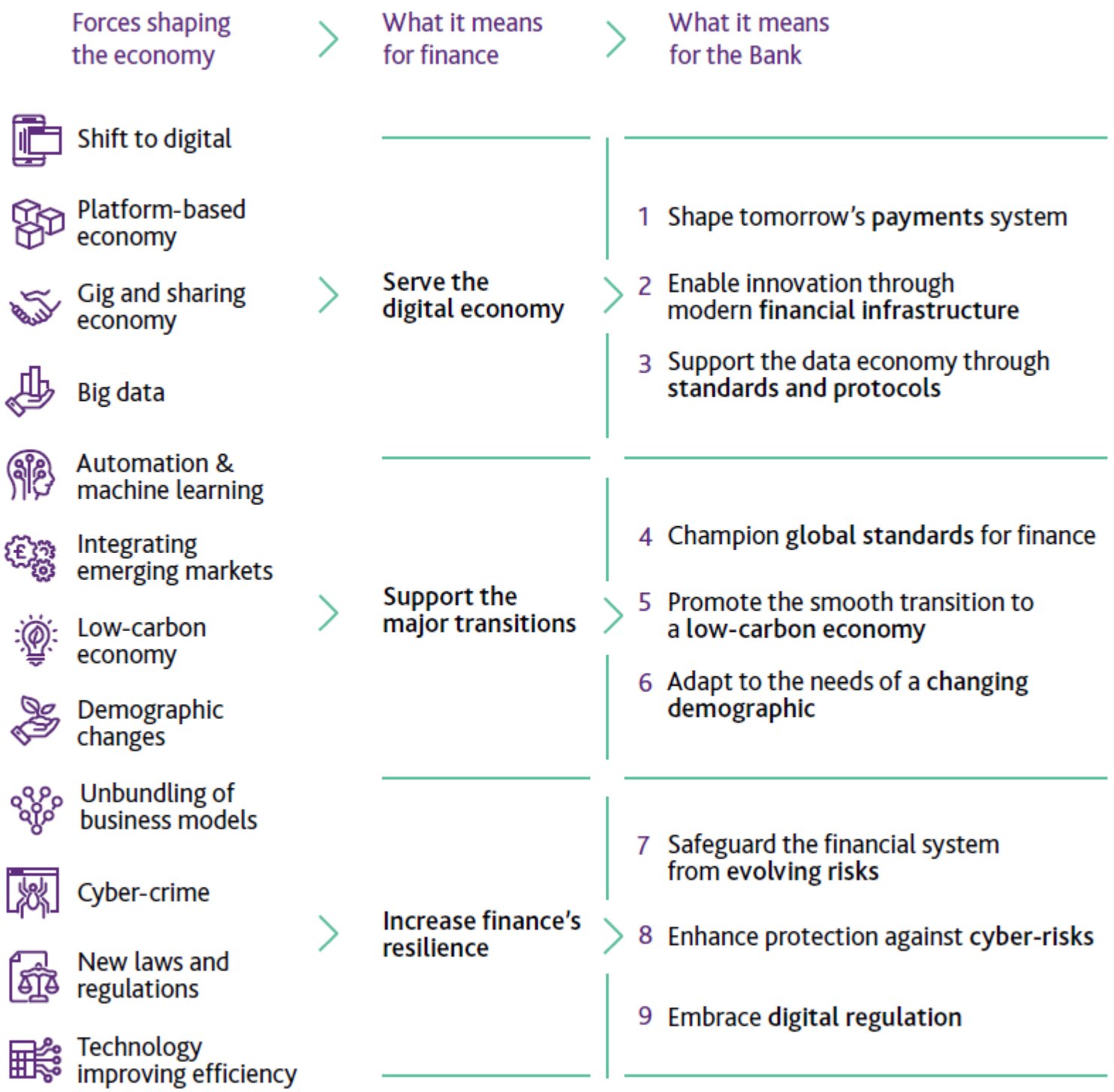
REMINDER Session 1

Banking

What is the purpose?



Source: The Future of Finance, June 2019, commissioned by the Bank of England.

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REMINDER
Session 1

Banking
Caught in an admirable web?

Source: The Future of Financial Services, World Economic Forum, June 2015.

REMINDER
Session 3

Solvency
The denominator

‘Accounting’ Assets

On-Balance Sheet

Loan Book

. Large Corporates
. Small Businesses
. Mortgages
. Retail

Investment portfolio

. Sovereign debt
. Other Corp debt
. Shares

Derivatives

Property

Other

Off-BS

Committed Guarantees

RISK WEIGHTED ASSETS (RWAs)
Regulatory asset base

RWAs are calculated by applying generic risk weights, as defined by the regulator, to each asset category.*

RWA = Net Asset Value * RW%

. Large Corporates	=	~ 80%
. Mortgages	=	~ 20%
. Consumer loans	=	~ 60%
. Sovereign debt	=	0%
. Other Corp debt	=	f [rating], ~ < 100%
. Shares	=	~ 100%
. Property	=	~ 100%

** Standard Method.*

REMINDER
Session 3

Solvency
The capital ratio

Minimum Capital Required

$$\frac{\text{COMMON EQUITY TIER 1}}{\text{RISK WEIGHTED ASSETS}} > 8\%$$

(Credit + Market + Operational Risks)

Regulatory Asset base

Note: 8% should be seen as the minimum regulatory requirement according to Basel III regulation. However, regulation also forces banks to add additional capital to cover for conservation, countercyclical and systemic risks. Additionally, the regulator is allowed to impose specific capital charges depending on each bank's balance sheet. Overall, European banks' capital ratios rarely stand below 10-11%.

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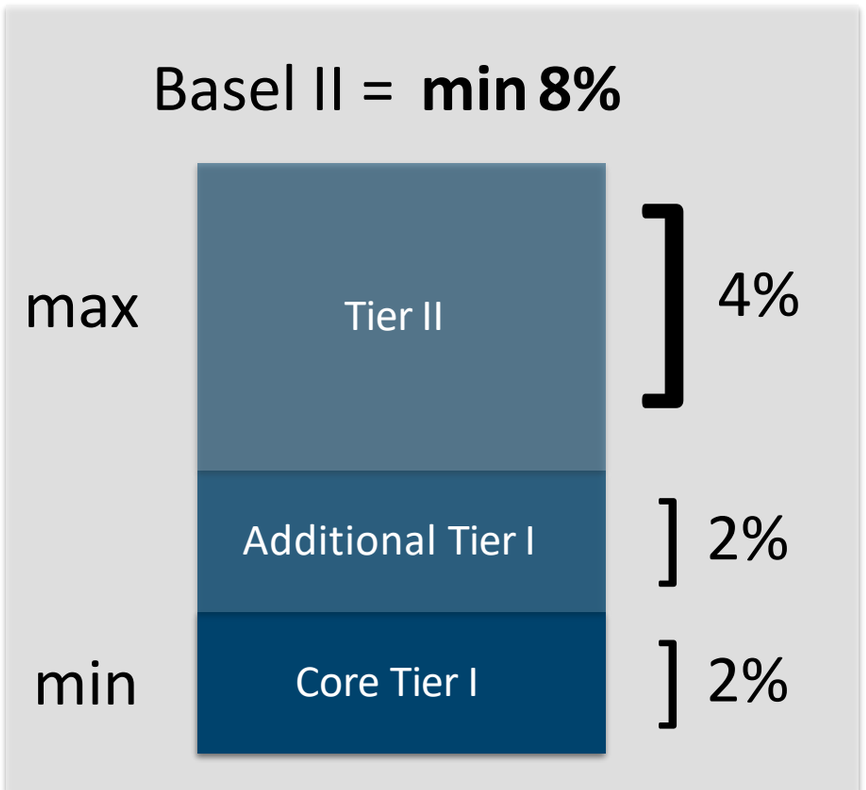
REMINDER
Session 11

Basel III

New capital requirements

Basel III = **min 8%**
min 10,5% to dividends

Basel II = **min 8%**



1% to 3,5%

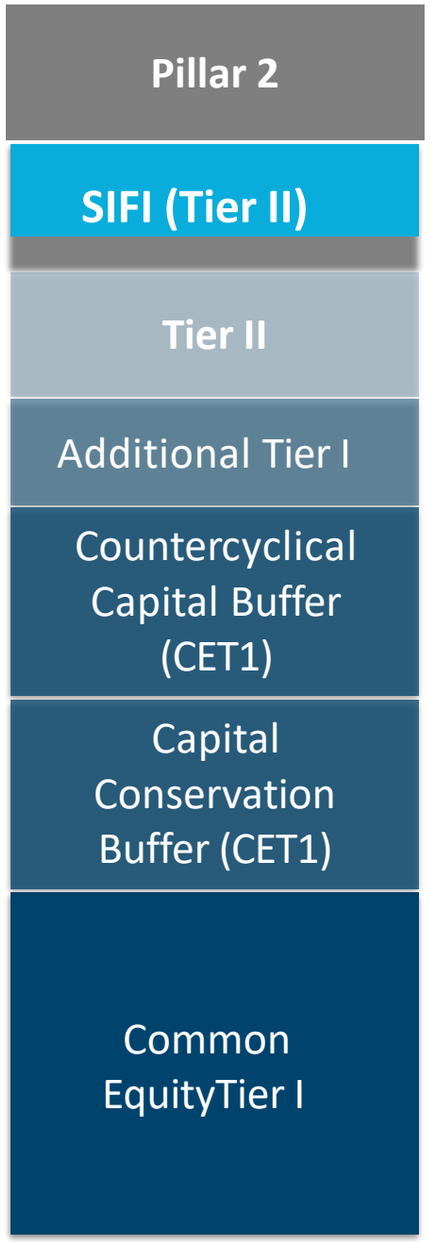
2%

1,5%

Up to 2,5%

Up to 2,5%

4,5%



- P2R (additional CET1 requirement): function of SREP
- P2G (guidance): function of Stress Test results

max

max

- Must have loss-absorption capacity

min to dividends

min

Stress testing

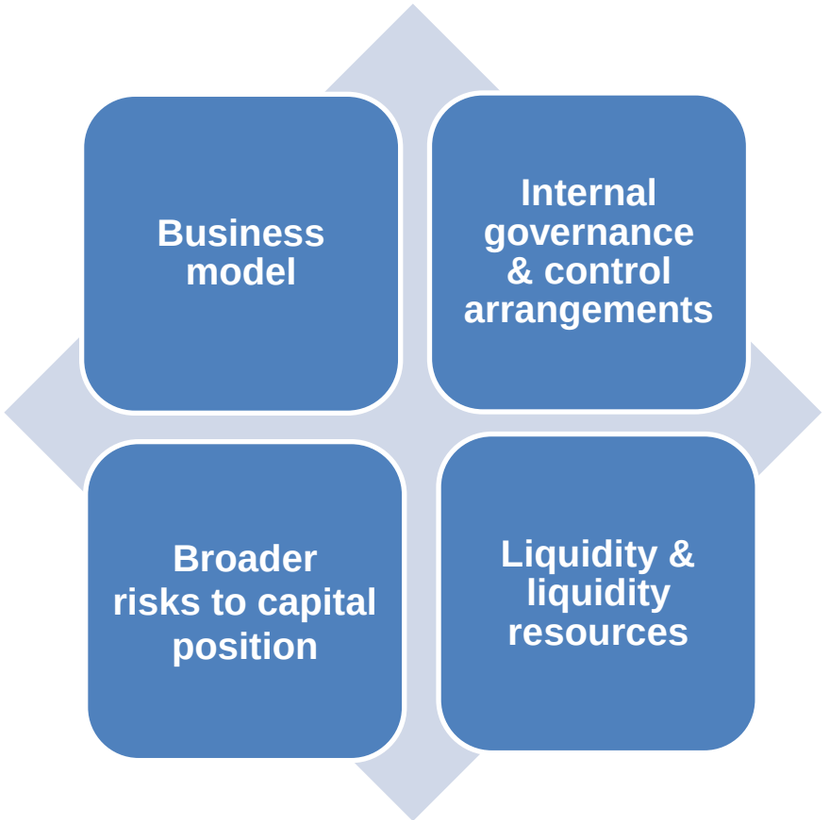
A different kind of capital

Regulatory Capital*

$$\frac{\text{OWN FUNDS}}{\text{Credit risks + Market risks + Operational Risks}} \geq 8\,\%$$

Economic Capital

Depending on the assessment of the risks entailed in the specific business strategy & model of each bank, the regulator may require additional capital above the minimum thresholds.



…Moving from a BAIL-OUT to a BAIL-IN approach…

** Minimum ratio excluding the several buffers plus SREP requirements.*

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REMINDER
Session 3

Capital
Various approaches

The Group considers the following magnitudes related to the capital concept:

Regulatory capital

- **Capital requirements:** the minimum volume of own funds required by the regulator to ensure the solvency of the entity, depending on its credit, market and operational risks.
- **Eligible capital:** the volume of own funds considered eligible by the regulator to meet capital requirements. The main elements are accounting capital and reserves.

Economic capital

- **Self-imposed capital requirement:** the minimum volume of own funds required by the Group to absorb unexpected losses resulting from current exposure to the risks assumed by the entity at a particular level of probability (this may include other risks in addition to those considered in regulatory capital).
- **Available capital:** the volume of own funds considered eligible by the entity under its management criteria to meet its capital needs.

Cost of capital

The minimum return required by investors (shareholders) as remuneration for the opportunity cost and risk assumed by investing in the entity's capital. The cost of capital represents a "cut-off rate" or "minimum return" to be achieved, enabling analysis of the activity of business units and evaluation of their efficiency.

Leverage ratio

This is a regulatory metric that monitors the soundness and robustness of a financial institution by comparing the size of the entity to its capital. This ratio is calculated dividing Tier 1 capital by the leverage exposure, taking into account the size of the balance sheet with adjustments for derivatives, funding of securities operations and off-balance sheet items.

Return on risk adjusted capital (RoRAC)

This is the return (net of tax) on economic capital required internally. Therefore, an increase in economic capital decreases the RoRAC. For this reason, the Group requires transactions or business involving higher capital consumption to deliver higher returns.

This considers the risk of the investment, and is therefore a risk adjusted measurement of returns.

Using the RoRAC enables the Group to manage its business more effectively, assess the real returns on its business - adjusted for the risk assumed - and to be more efficient in its business decisions.

Return on risk-weighted assets (RoRWA)

This is the return (net of tax) on risk-weighted assets for a particular business.

The Group uses RoRWA to establish regulatory capital allocation strategies, seeking that the maximum return.

Value creation

The profit generated in excess of the cost of economic capital. The Group creates value when risk adjusted returns (measured by RoRAC) exceed its cost of capital, and destroys value when the reverse occurs. This measures risk adjusted returns in absolute terms (monetary units), complementing the RoRAC approach.

Expected loss

This is the loss due to insolvency that the entity will suffer on average over an economic cycle. Expected loss considers insolvencies to be a cost that can be reduced by appropriate selection of loans.

1. Data calculated using the IFRS9 transitional arrangements, unless otherwise indicated. Had the IFRS9 transitional arrangement not been applied, the total impact on the fully loaded CET1 at year end would have been -27 bps.

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Banking

In a nutshell

1. Why banks are different
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The traditional bank
One-stop shop

Multi-product

- Intermediation products (deposits, loans)
- Desintermediation products (funds, brokerage)
- Payment products (checks, cards, e-payment)
- Insurance products
- Advisory services (private, investment)
- Custody

Multi-customer

- all segments

Multi-channel

- Branch
- Call centre
- ATM
- Internet
- mobile, flash shop

Plus

- **Economies of Scope**
- **Conglomeration**

=> Market power

Minus

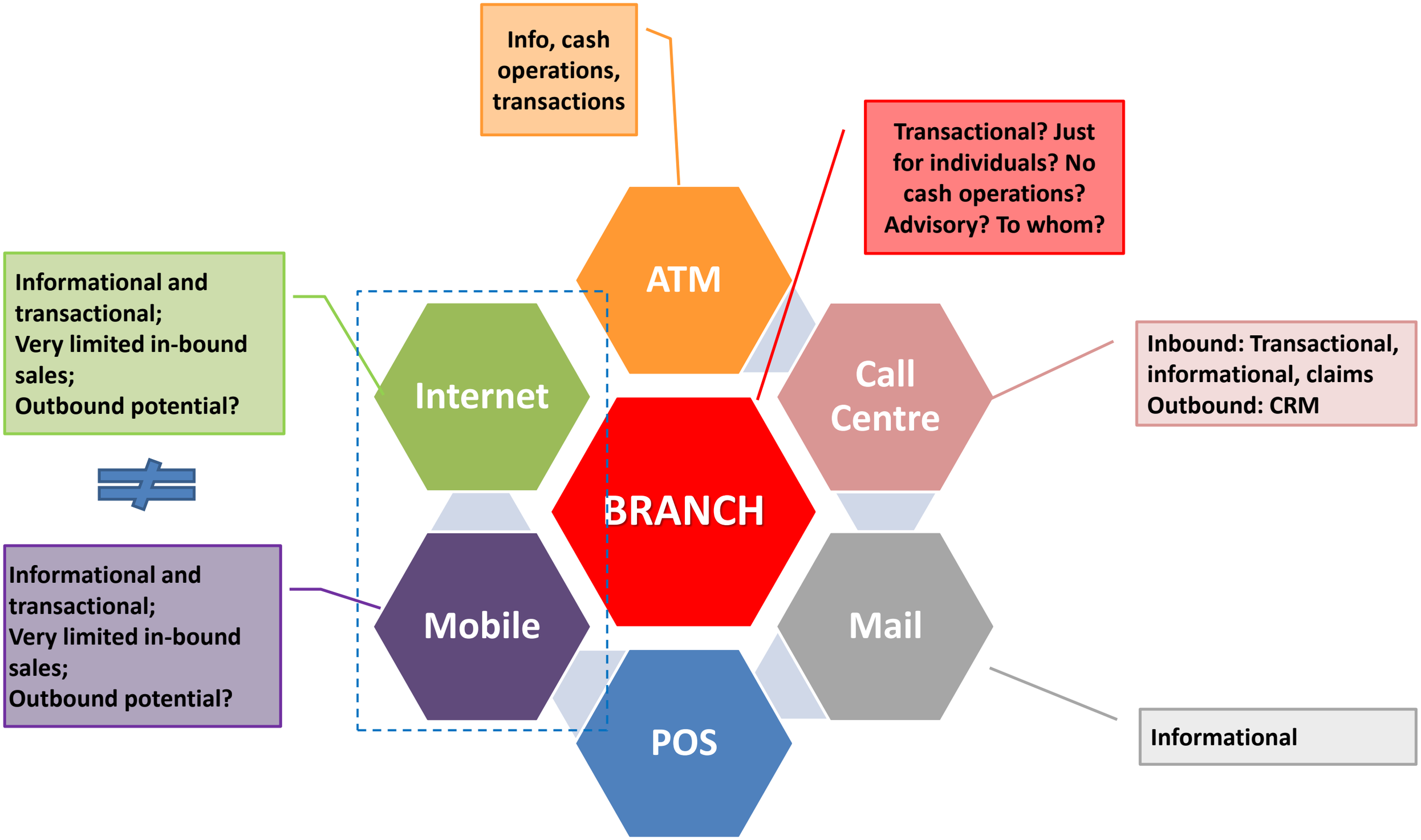
- **Contamination**
- **Conflicts of Interest**
- **Complexification**

=> Too big to manage

REMINDER
Session 4

Channels

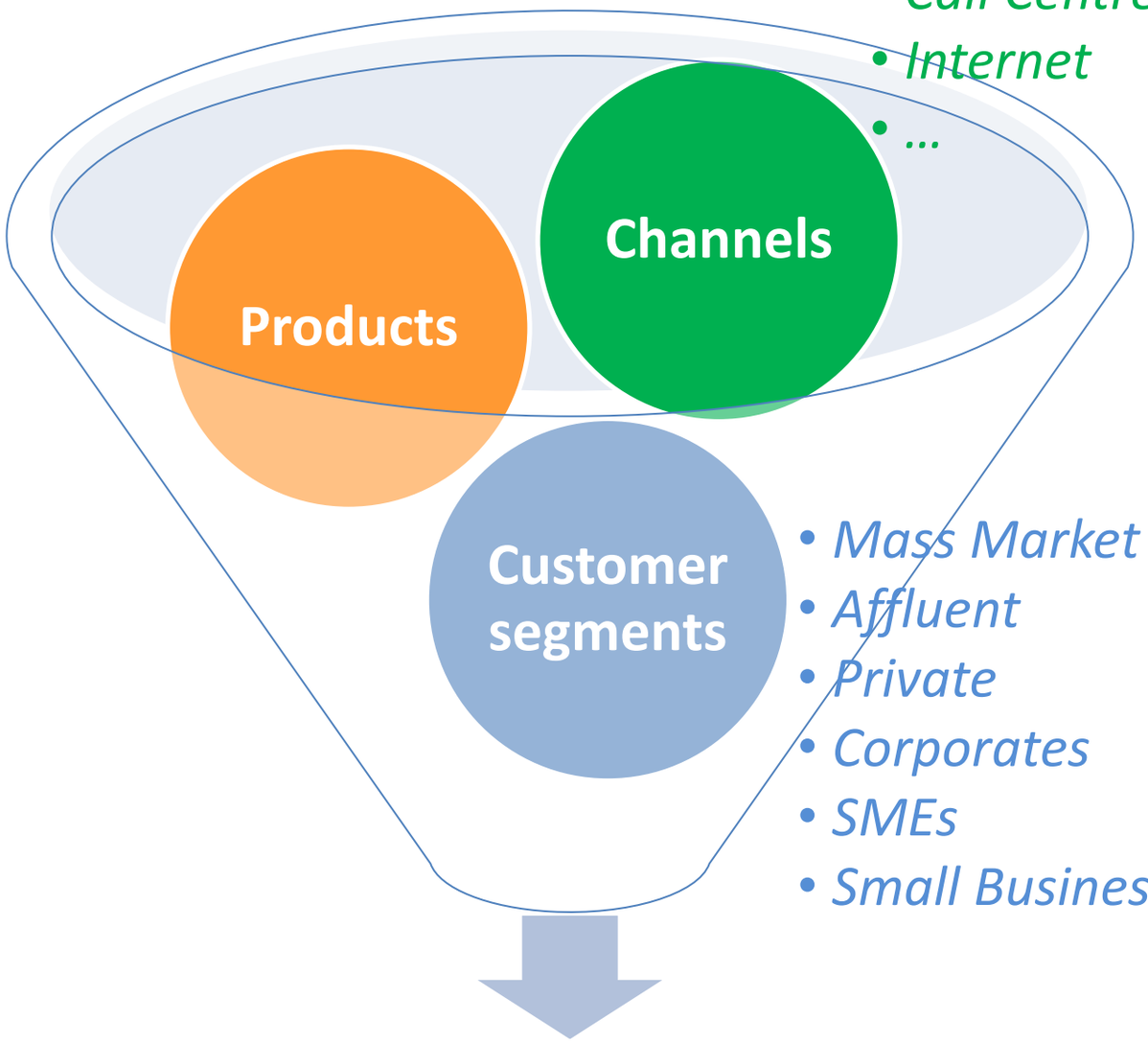
The birth of the omnichannel



REMINDER
Session 4

Strateging Marketing
Customer Relationship Management

- *Mortgages*
- *Consumer finance*
- *Corporate loans*
- *Deposits*
- *Insurance*
- *Asset Management*
- *…*



- *Branch*
- *Call Centre*
- *Internet*
- *…*

- *Mass Market*
- *Affluent*
- *Private*
- *Corporates*
- *SMEs*
- *Small Business*

How to define the best value proposition?

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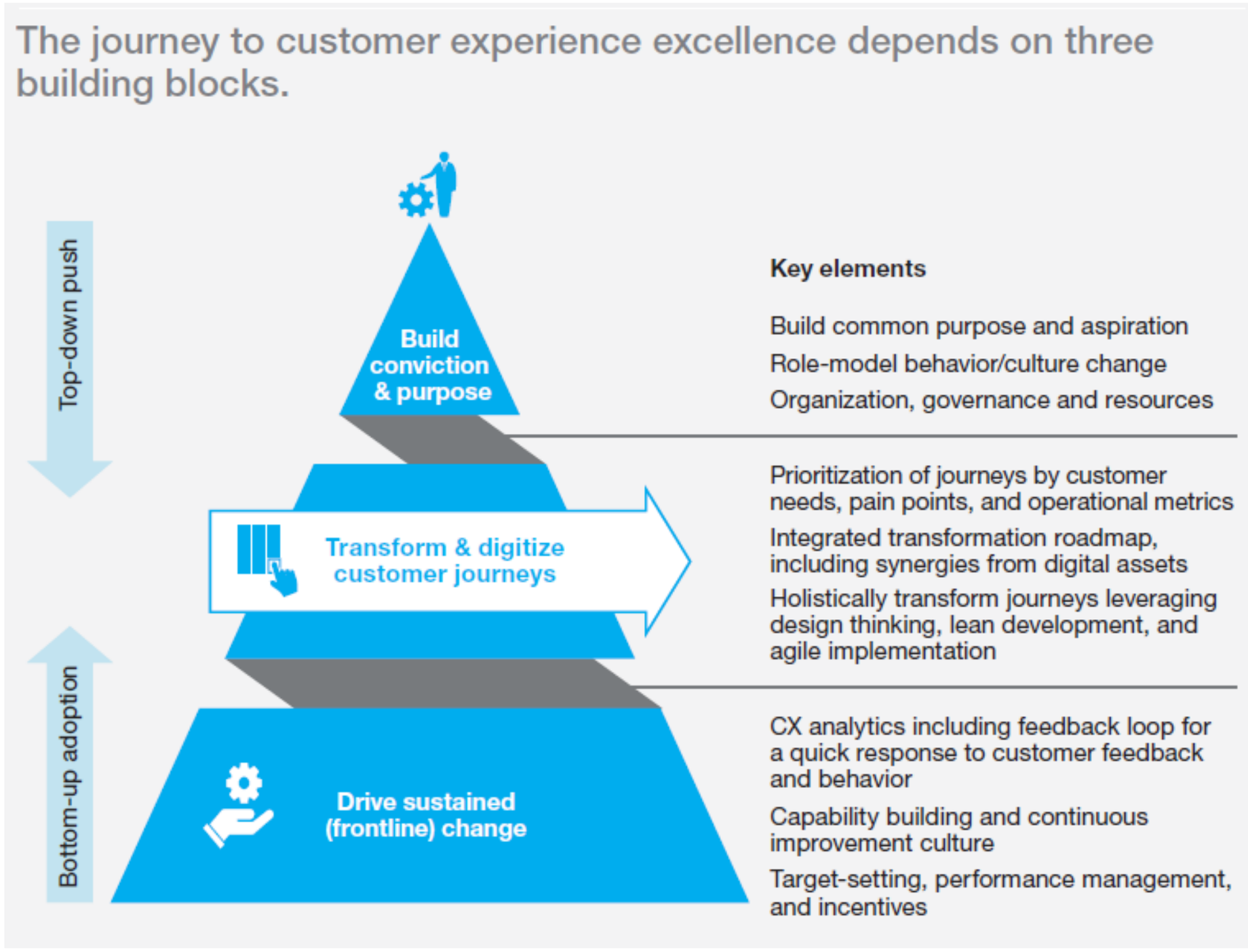
REMINDER
Session 4

Customer RM

The birth of the 'customer experience'



Source: McKinsey & Company, 'Customer-experience as a value driver in German retail banking', January 2019.

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REMINDER
Session 1

Profitability drivers
Dupont adapted

$$ROE = \frac{\text{Net Income}}{\text{Equity}}$$

$$ROE = \frac{\text{Net Income}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Assets}} \times \frac{\text{Assets}}{\text{Equity}}$$

Efficiency

. Net Interest Margin
. Fee Income
. Trading income
. Cost efficiency
. Losses on loan defaults

Rotation

. Loan maturity
. Trading strategy

Leverage

. Loan to Deposits ratio
. Funding strategy excl. Dep.
. Common Equity
. Asset leverage

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REMINDER
Session 4

How to value a client

RAROC (I)

RAROC *Risk Ajdusted Return on Capital*

- Interest received, calculated based on contracted spread → **A. Net interest received**
- Funding interest expenses → **B. Cost of funding**
- Allocated capital remuneration → **C. Capital benefit**
- Client commission income, net of paid commissions → **D. Net fees and commissions**
- Direct costs allocation → **E. Operational costs**
- Exposure at default X probability of default X loss given default → **F. Expected loss**
- Quantifiable potential to increase sales of adjacent services to a customer → **G. Cross-sell**

A. Net interest received ⊖ B. Cost of funding ⊕ C. Capital benefit ⊕ D. Net fees and commissions ⊖ E. Operational costs ⊖ F. Expected loss ⊕ G. Cross-sell

---

Capital allocated to the transaction → **I. Allocated capital**

Source: McKinsey & Company.

Strategic mergers

When does merging make sense?

Local Market

- Excess capacity
- Opportunity
- Avoid takeover

New Markets

- Opportunity
- Diversification

Plus

- Scale economies (IT, marketing, risk management, branches, etc.)
- Scope economies
- More clients to sell our products
- Market power / reduced competition
- Better management

Plus

- Do you have the skills?
- Culture (market, bank)
- Integration (IT, people)
- Distraction, de-motivation
- Downsizing (branches, people)
- Customer overlap (1 + 1 = 1,5)
- Lower cost savings

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Banking

In a nutshell

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REMINDER
Session 5

Risk & Uncertainty

The concept

RISK

Probability of an event being different from “expected” (in the sense of “most probable”):

- the outcome is not certain, it can change;
- the variance of the outcome is measurable.

UNCERTAINTY

Unmeasurable possibility of an unexpected event taking place:

- the outcome is unexpected;
- the probability cannot be measurable.

To say that something is ‘unthinkable’…

Is it about the event?	This is pure uncertainty and there is nothing we can do
Is it about the probability?	We cannot forecast the timing of occurrence or the cause but we may be prepared to deal with the effects.

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REMINDER
Session 6

Risks in Banking

- Credit
- Interest Rate
- Market
- Liquidity
- Foreign Exchange
- Off-Balance
- Operational
- Sovereign
- Insolvency

- **A bank makes money by incurring risks.**
- **Success requires superior risk management.**

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REMINDER
Session 5

Risk Appetite Framework

General overview

Risk Appetite Framework

- Banks should identify types of risk the they want to take on and those they wish to avoid.
- Function of: i) appetite to take either a high or a low level of risk on board
  ii) capacity of the organisation to take the risk.
- Risk appetite/tolerance levels, thresholds and limits set for the identified material risks must be defined and monitored

Governance framework

- Banks shall provide information regarding overall governance framework and integration with risk appetite
- The governance structure must ensure integrity of overall businessand risk management process.

Policies, processes, controls and systems through which risk appetite is defined, communicated, and monitored.

Material and reputational risks

Alignment with strategy

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REMINDER
Session 5

Risk Appetite Framework

Components

Aggregate level and types of risk that a bank is willing to accept, or to avoid, in order to achieve its business objectives.

- Qualitative statements and quantitative measures expressed relative to earnings, capital, risk measures, liquidity and other relevant measures as appropriate.
- Should address more difficult to quantify risks (reputation; conduct risks; money laundering; unethical practices).

RISK APPETITE STATEMENT

RISK LIMITS

Quantitative measures relative to business lines, legal entities as relevant, specific risk categories, concentrations, and as appropriate, other levels.

RISK CAPACITY

Maximum level of risk the financial institution can assume given its current level of resources before breaching constraints determined by regulatory capital and liquidity needs.

RISK PROFILE

Risk profile: Point in time assessment of the bank's gross and net risk exposure.

RISK APPETITE

The aggregate level and types of risk a financial institution is willing to assume within its risk capacity to achieve its strategic objectives and business plan.

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REMINDER
Session 7

Credit
Underwriting process

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REMINDER
Session 7

Credit Underwriting

Analysis Rating vs Scoring

the 5 "C"		notes
Character	of the debtor	account movement
Capacity	to pay the loan	business cash flows
Capital	risk of the debtor	it absorbs first losses and reveals commitment
Conditions	covenants, payment schedule	adapted to cash flows
Collateral	what can the bank claim in case of default	collateral value must be appraised for the case of default
Cycle	economy	unemployment risk, lost of clients

REMINDER
Session 7

Credit Risk
Key concepts

EXPECTED LOSS

$$EL = PD \times LGD_{LR} \times EAD$$

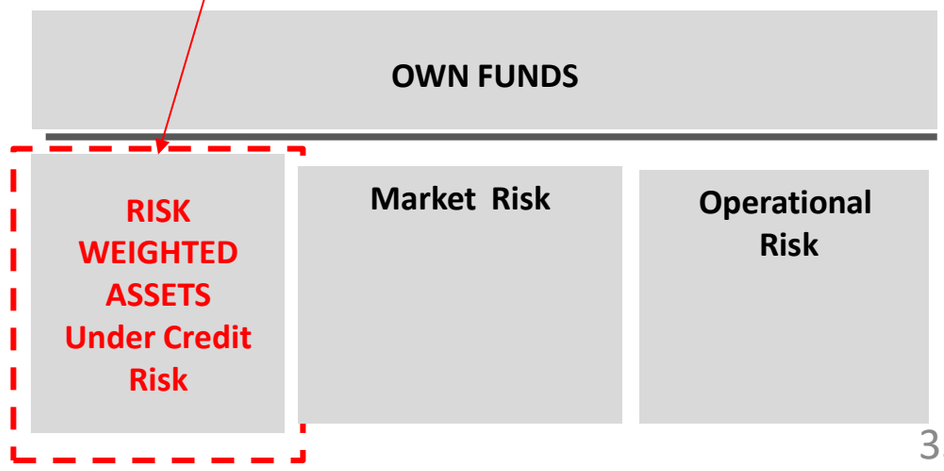
The expected loss is intended to be covered by provisions (impacts P&L immediately).

UNEXPECTED LOSS

$$UL = EAD \times f(PD, LGD, M)$$

The unexpected loss is intended to be covered by own funds requirements (forming RWAs = Credit Risk requirements).

- measures a loss-disaster to be suffered by the loan portfolio in excess of the expected loss…
- in the event of a worst case scenario corresponding to an extremely high level of confidence (99.9% for Basel II).
- Parameters will vary depending on the type of portfolios.



REMINDER
Session 8

Interest rate risk
Impact channels

Unexpected changes in interest rates

- Net Interest Income => Earnings @ risk
- Net worth => Economic value of the bank

Interest Rate risk in the Banking book

The current or prospective risk to both earnings and capital, in respect of the banking book only, arising from adverse movements in interest rates.

Main source: EBA guidelines on Interest Rate Risk in the Banking Book (IRRBB), May 2015 (EBA/GL/2015/08).

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REMINDER
Session 8

Repricing Gap
Drivers

Net Reinvestment

Net Refinancing

	Positive Gap	Negative Gap
Increase in interest rates	NII increases	NII decreases
Decrease in Interest Rates	NII decreases	NII increases

POSITIVE gap => assets being repriced in the given period exceed liabilities => Impact on Interest income will be higher than impact on interest cost

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REMINDER
Session 8

Repricing Gap
Why swaps?

Lower capital requirements

Swaps call for less capital than a similar position on fixed or floating rate instruments to shape the exposure

Better financial ratios

Since income from swaps go to P&L without any underlying position on BS, ratios like ROA, ROE and NIM become higher

Lower liquidity requirements

Banks need less money invested using swaps to shape the risk

Resources management

Swaps can be used only at the treasury desk. However, should the bank use long term deposits, for instance, this would require involving commercial/marketing/accounting/operations/IT teams, slowing the whole process.

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REMINDER
Session 6

Market Risk
Concept

Definition

Risk of losses due to unexpected movements in market prices

Drivers

General Risk

Risk of a price change caused by a change in the level of interest rates in the case of debt securities or derivatives, or by a general movement of the stock market.

Specific risk

Includes the risk that an individual debt or equity security moves by more or less than the general market in day-to-day trading and event risk (eg. shock event, risk of default).

Calculation approaches

Standard

Internal Models

For the purpose of calculating capital requirements

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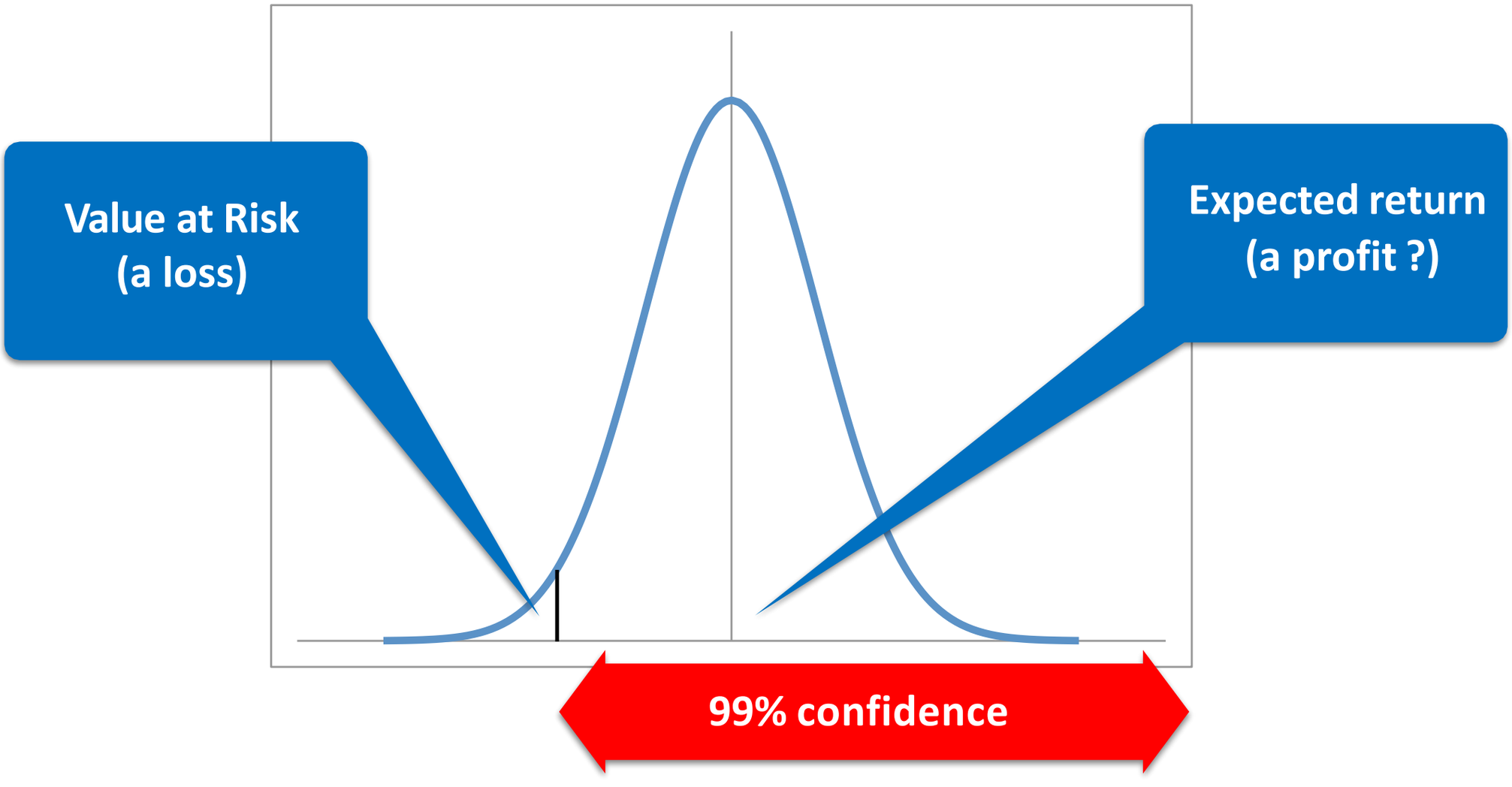
Session 6

Value at Risk
The inception

What is the maximum loss which could be suffered over a certain time period so that there is a very low probability that the actual loss will exceed that amount?



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REMINDER
Session 6

Value at Risk

VaR

- The maximum loss you can have on your portfolio in given period.
- The average loss you can have on your portfolio in a given period.
- With 1% probability you will lose more than the VaR in a given period.
- The expected loss you can have on your portfolio, in the 1% worse cases in a given period.

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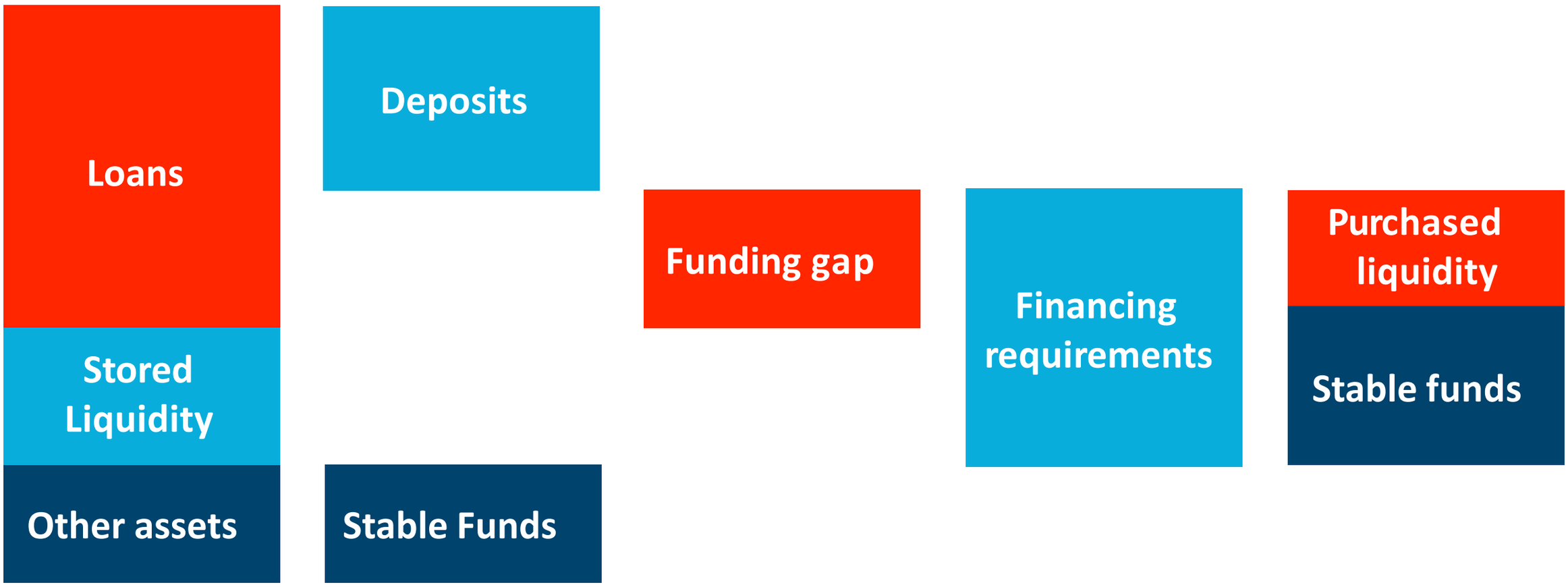
REMINDER
Session 3

Funding Structure

How to close the gap?



…This is the target financing structure of the bank. It is a strategic decision. The funding gap may not even exist..

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REMINDER
Session 3

Basel III

Liquidity: LCR & NSFR

$$\text{LIQUIDITY COVERAGE RATIO} = \frac{\text{HQLA}}{\text{30 days net cash outlflows}} > 100\%$$

$$\text{NET STABLE FUNDING RATIO} = \frac{\text{Available Stable funding}}{\text{Required Stable funding}} > 100\%$$

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%

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%

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REMINDER
Session 7

Operational Risk

- Credit
- Interest Rate
- Market
- Liquidity
- Foreign Exchange
- Off-Balance
- **Operational**
- Sovereign
- Insolvency

- **Operational risk deals with potential losses arising from failures due to systems, people (incompetence, negligence or fraud), suppliers, procedures, reputation.**
- **Every single day you can expect operational failures in a bank.**
- **Management of this type of risk depends on frequency and severity.**

Risks arise also because of the WAY things are done and not only because of the assets & liabilities held by the bank at each moment.

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REMINDER
Session 7

Operational Risk

Murphy's Law?

People	Systems	Processes	External Events
Fraud, collusion and other criminal activities	IT problems (hardware, software, hacking, viruses)	Execution, registration, settlement and documentation errors	Criminal activities (theft, vandalism, terrorism)
Violation of internal or external rules (secrecy, ethical rules, the law)	Software bugs	Errors in models, methodologies and mark to market	Political and military events (war, coup d'etat, internacional sanctions)
Incompetence or negligence	Unauthorized access to information	Compliance errors (accounting, taxation, reporting)	Changes in the political, legal, regulatory and tax environment
Loss of important employees (illness, problems retaining staff)	Unavailable and questionable integrity of data	Inadequate procedures, bad business practices	Natural events (fire, flood, earthquakes)
Violations of system securities	Utility outages (power, telecoms)	Inadequate definition and attribution of responsibilities	Operational failure at suppliers and outsourcers

This table is taken, with adaptation, from Resti and Sironi.

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Banking

In a nutshell

1. Why banks are different
2. Strategy
3. Risks
4. **Governance**
5. Crisis
6. Regulation

REMINDER
Session 5

Internal Control
Components

OBJECTIVES

PERFORMANCE	DATA	COMPLIANCE
Banks need to ensure medium/long-term profitability and sustainability.	Banks need data that is complete, pertinent, reliable and timely.	Banks need to make sure they are in full compliance with all legal and regulatory requirements.

PILLARS

- ***Adequate control environment (culture)***
- Solid risk management systems
- Efficient information & communication channels
- Effective monitoring processes

- *Ethical standards*
- *Qualification and sufficiency of staff*
- *Transparency and simplicity of organizational structure*
- *Clear hierarchical structure & accountability lines*
- *Quality of strategic planning*
- *Board's active involvement*

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REMINDER
Session 5

Risk Management
The 3-line of defence approach

1ST LINE: FRONT-OFFICE

- Business units (front office, customer-facing activity) are the first responsible for identifying, assessing and controlling the risks of business.
- Internal policies and procedures should be clearly specified in writing and communicated to all personnel.

2ND LINE

Risk officer

- Facilitates implementation of risk management framework;
- Responsible for further identifying, monitoring, analysing, measuring, managing and reporting on risks (holistic view on all risks);
- Challenges and assists in implementation of risk management measures by the business lines

  => ensure process and controls at the first line of defence are properly designed and effective.

Compliance officer

- Monitors compliance with legal and regulatory requirements and internal policies
- Provides advice on compliance to the management body and other relevant staff,
- Establishes policies and processes to manage compliance risks and to ensure compliance.

3RD LINE: INTERNAL AUDIT

- Conducts risk-based and general audits;
- Reviews internal governance arrangements, processes and mechanisms to ascertain that they are sound and effective, implemented and consistently applied.
- Carries independent review of the first two lines of defence.

All internal control functions need to be independent of the business they control, have the appropriate financial and human resources to perform their tasks, and report directly to the management body.

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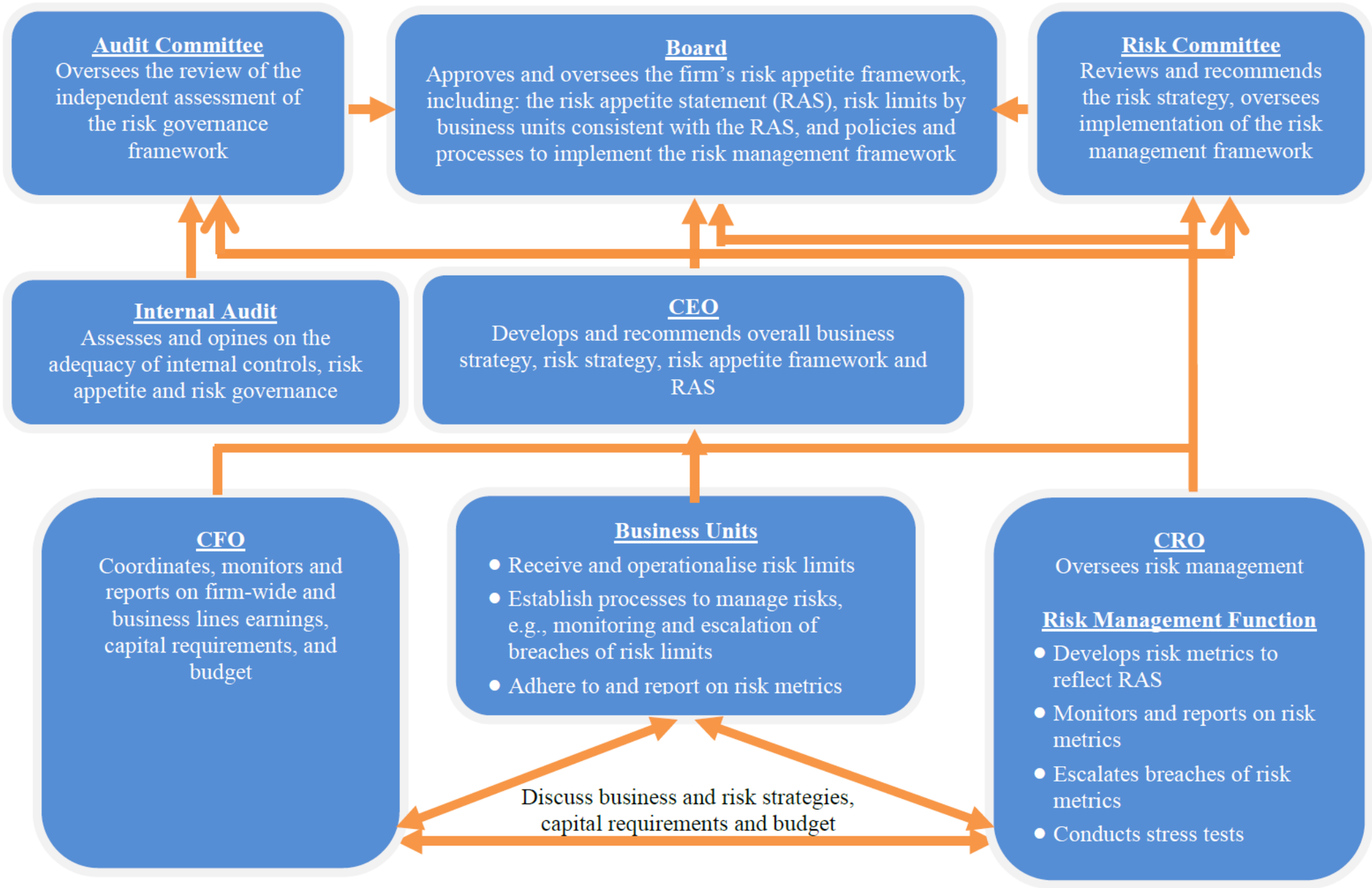
REMINDER
Session 5

Risk Management

Governance

Chart 2: An example of a risk governance framework[9]



Source: FSB: Thematic Review on Risk Governance - Peer Review Report

Credit Underwriting

Governance models

Automatic decisions currently implemented

Activity	Portuguese Retail bank	Spanish Retail bank	Italian Retail bank	UK Retail bank	Netherlands bank	Greek bank[1]
Strategy	**Business** Retail Department	**Business** Head of Retail	**Business**	**Business** Head of Mortgage (report to Head of Retail)	**Business** Business (under Marketing) Business (individuals vs. SBs within corporates)	**Business** Segments team[3]
Product design		Head of Marketing				Product team[3]
Underwriting – simple	**Credit**	**Credit**	Underwriting team (functional report to Credit)	**Credit** Underwriting teams (reporting to Chief Credit Officer, who reports to CRO)	**Credit** Credit risk team (reporting to CRO)[7]	**Credit** Credit team via Credit Committees (reporting to CRO)
Underwriting – complex		Credit team – reporting to Chief Credit Officer (ExCo member). Direct IT support where needed	**Credit** (Chief Credit Officer teams)	Credit strategy teams (reporting to CCO)	Policy proposal with Business (Risk sign-off)	
Credit policy	Policy criteria together with Risk			Models team (reporting to CCO)		**Risk** Risk team (reporting to CRO)
Application models	**Risk** Risk models team	Credit models team (CCO)[5]	**Risk** Model teams (inputs by Credit)	**Risk** Risk models team	**Risk** Business (with inputs from Risk)[6]	
IRB models development		**Risk** Capital team[5]			Risk analytics team (reporting to CRO)	
Risk appetite	Integrated risk team (CRO)			CRO, with inputs from Credit teams	Integrated risk team (CRO)	CRO, with field work by Risk team
Monitoring	Monitoring & policies team		**Credit**[4]		Risk (portfolio and decisions)	Risk team[6] Business[6]
Credit reporting to:	***ExCo member***	***Chief Credit Officer (ExCo)***	***Chief Credit Officer (ExCo)***	***Chief Credit Officer (reports to CRO)***	***CRO***	***CRO***

1. Semi-automatic decisions for consumer finance only; 2. Complex cases can escalate to higher levels of authority; 3. Reporting to the Head of Retail Banking, separate to Marketing; 4. Credit team is involved in monitoring, with inputs from Risk; 5. Credit models team under CCO provide risk parameters; capital engine is built and monitored by the Capital team (under Risk) for RWA calculations; 6. Portfolio monitoring by risk, monitoring decisions by Business; 7. Note NL market is highly regulated in terms of credit granting criteria; Credit policies are made jointly between Business and Risk. Source: OW analysis, industry benchmarks, NVB data

Source: Oliver Wyman.

REMINDER
Session 5

Governance
What's it about?

INTERNAL GOVERNANCE

…tackles…

- Standards and principles concerned with setting an institution's objectives, strategies and risk management framework;
- how business is organised;
- how responsibilities and authority are defined and clearly allocated;
- how reporting lines are set up and what information they convey;
- how the internal control framework is organised and implemented, including accounting procedures and remuneration policies
- how sound information technology systems are
- the nature of outsourcing arrangements
- business continuity management.

…subject to **Principle of proportionality**

Requirements are to be applied in a manner that is appropriate, taking into account in particular the institution's size, internal organisation and nature, and the complexity of its activities.

Main sources: EBA: Guidelines on Internal Governance; Joint ESMA/EBA Guidelines on the assessment of suitability of members of the management body and key function holders; EBA guidelines on sound remuneration policies

NOVA SCHOOL OF BUSINESS & ECONOMICS

Banking

In a nutshell

1. Why banks are different
2. Strategy
3. Risks
4. Governance
5. **Crisis**
6. Regulation

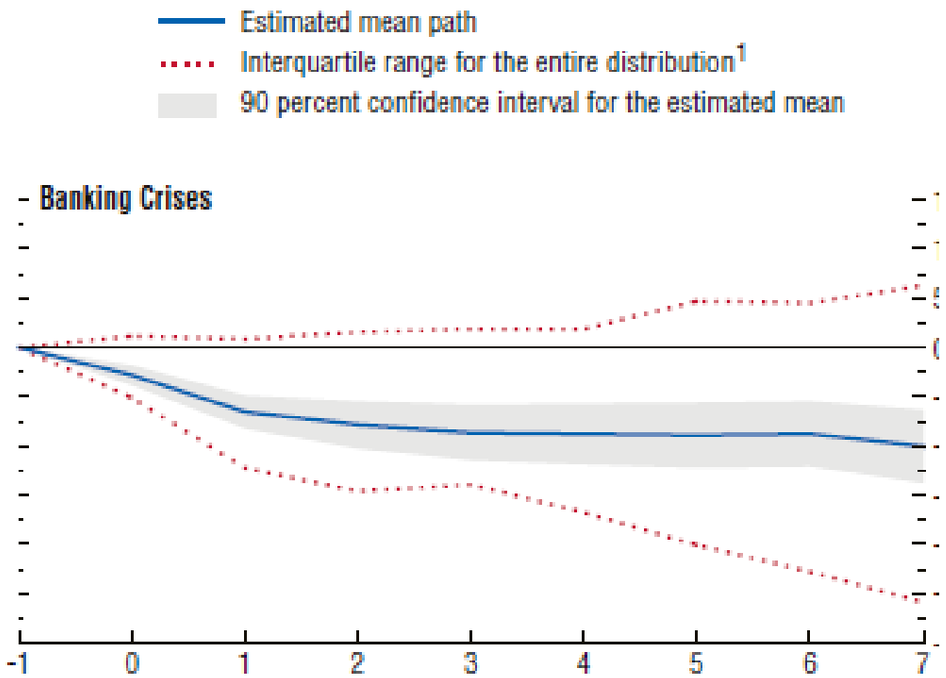
Why banking crises are so relevant

The case of the Great Recession

REMINDER
Session 10

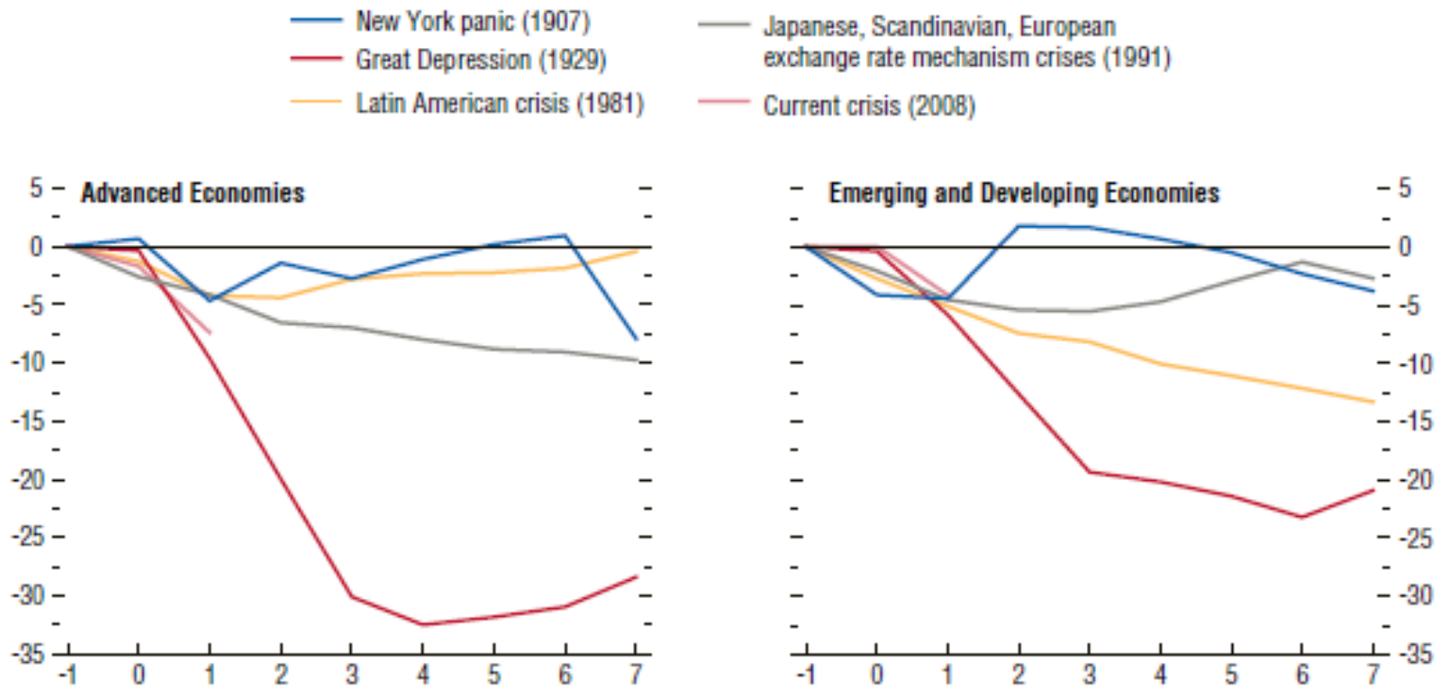
Financial crises affect long-term growth economic prospects in a structural way.

Figure 4.4. Output Evolution after Banking and Currency Crises
(Percent of precrisis trend; mean difference from year t = – 1; first year of crisis at t = 0; years on x-axis)



Source: IMF WEO October 2009, p.126

Output Evolution after Financial Crises
(Percent of precrisis trend; mean difference from year t = – 1; first year of crisis at t = 0; years on x-axis)



Sources: Angus Maddison, Historical Statistics Database; Bordo (2006); Conference Board, Total Economy Database; Reinhart and Rogoff (2008a and 2008b); and IMF staff calculations.

Source: IMF WEO October 2009, p.130.

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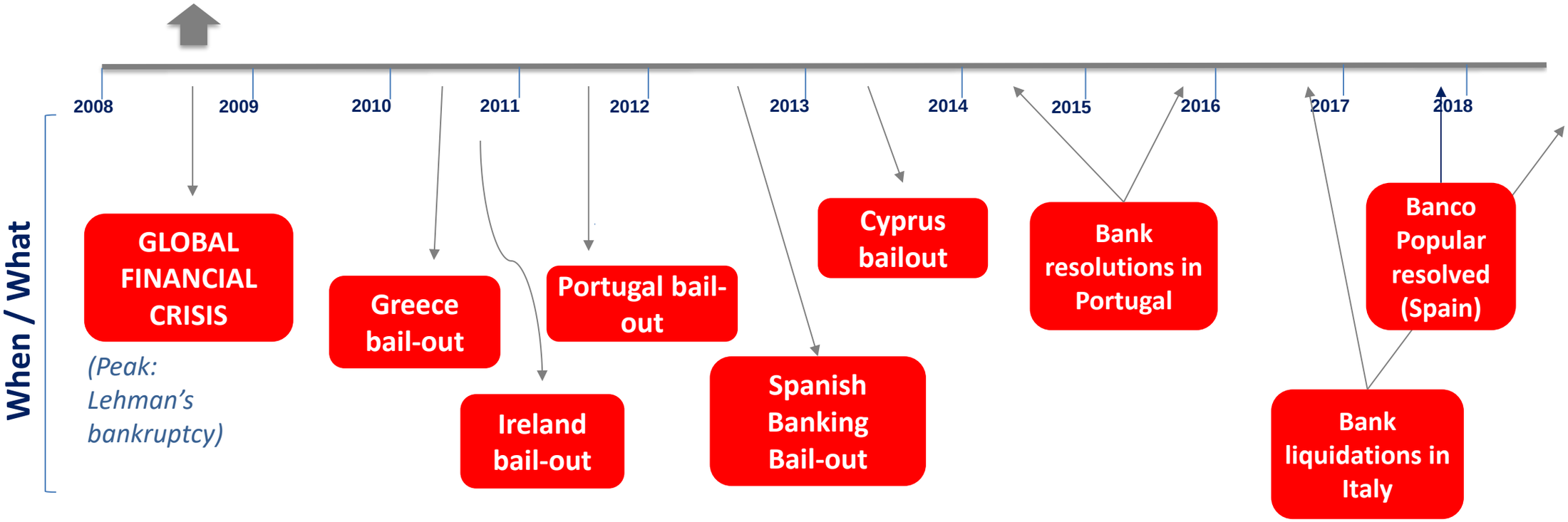
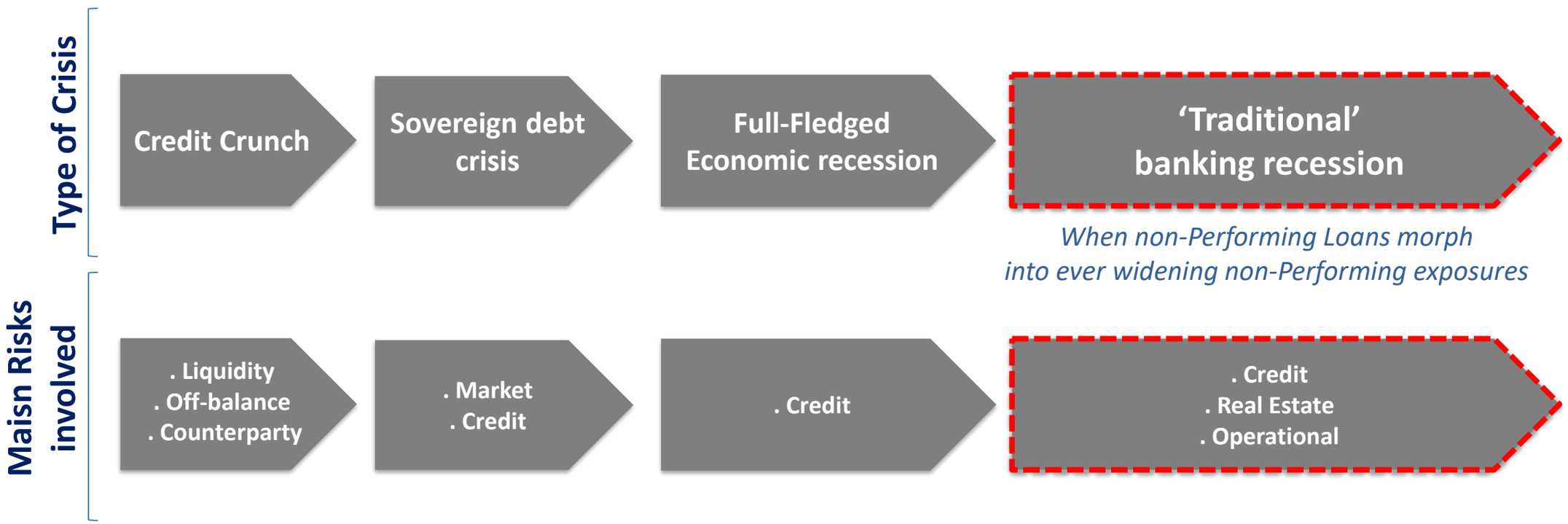
Session 10

The Great Recession

The shockwaves across Europe

Economic policy response
Increased fiscal spending;
Heavy liquidity injections





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Session 10

A single bank colapse:
Liquidity or Solvency?

- A liquidity problem is triggered by a bank run, by depositors, money market, or investors that refuse to roll-over repos and commercial paper or ask for more collateral.

- The run can happen when depositors (or investors) find something about the bank (fundamental run) or about the run (speculative run).

- Banks can manage liquidity so as to prevent fundamental runs. For speculative runs, we need other tools, like deposit insurance, lender of last resort or withdrawal suspension.

- In any case, the run has a negative externality on the bank: the fire sale of assets can put the bank into insolvency.

- If the problem is insolvency, authorities should proceed to an orderly liquidation of the bank, usually with insured deposit protection.

- Even under insolvency, authorities might rescue the bank fearing to trigger a domino effect.

Lex **European banks**
EU lenders/Banca Carige: sad sock **Premium**

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REMINDER
Session 10

Recovery plan
Prevention/early intervention

Bank operations

- Enhance capital
- Restrict concentration or expansion
- Downsize operations
- Sale of assets
- Limit some lines of business, products or customers
- Immediate provisioning

Cash availability

- Call for cash injection
- New borrowing
- Increase maturity of liabilities (roll-over, etc.)

Governance

- Change legal structure
- Remove directors or managers
- Limit compensation
- Enhance internal controls and risk management

Shareholders' rights

- Limit dividends
- Force merger
- Appoint administrator
- Suspend shareholders rights (voting, preemptive rights, etc.)

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Session 10

Corrective actions

BRRD: A change in paradygm

Moving from a BAIL-OUT to a BAIL-IN approach

1988
- Disclosure of Basel I accord
- Definition of minimum capital requirements

1996
Basel I accord

2003
- Disclosure of New Basel Accord (Basel II)

2005
- Disclosure by the EU of the proposal for Capital requirements directive (CRD)

2007
- Implementation of the new Basel accord: Basel II

2009
- Developments over Basel II accord
- First proposals for Basel III

2013
Basel III

CRD IV / CRR – European Capital Requirements Directive and Regulation

2014

2016
- **CRD V / CRR II proposals**

2017
- **"Final" agreement on Basel III**

- **BRRD (Bank recovery and resolution directive)**
- "Guidelines on common procedures and methodologies for SREP" published by EBA

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REMINDER
Session 10

Resolution
Main purposes

Minimize negative repercussions by preserving systemically important functions of the institution concerned

Keep uninterrupted access to deposits and payment transactions

Avoid destabilising financial markets

Minimise the cost for taxpayers

Continuity of critical functions

Preservation of financial stability

Restoration of viability

REMINDER
Session 10

Resolution

Bail-out vs bail-in

Bail-out

- The supervisor manages the resolution and the taxpayer puts the money.
- Supervisors always seem to be quite ineffective before the collapse; however, bank managers also have little incentive to reveal the true bank status.

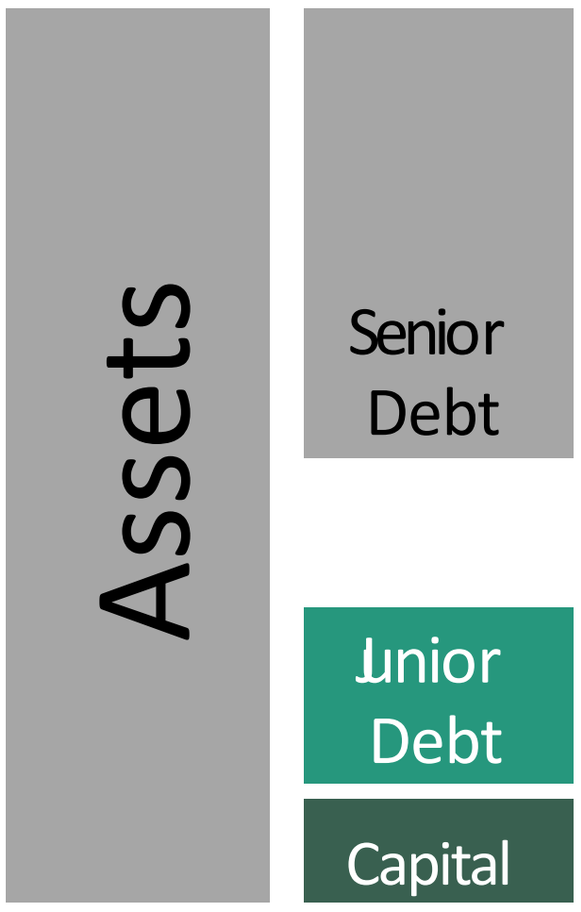
Bail-in

- In a bail-in, the market manages the resolution and puts the money;
- To keep markets informed, supervisors should insist on better quality of information (Basel II third pillar).
- Part of the rationale behind a bail-in has to do with the probability of freezing markets (interbank, bonds). Is that reason or lobbying?

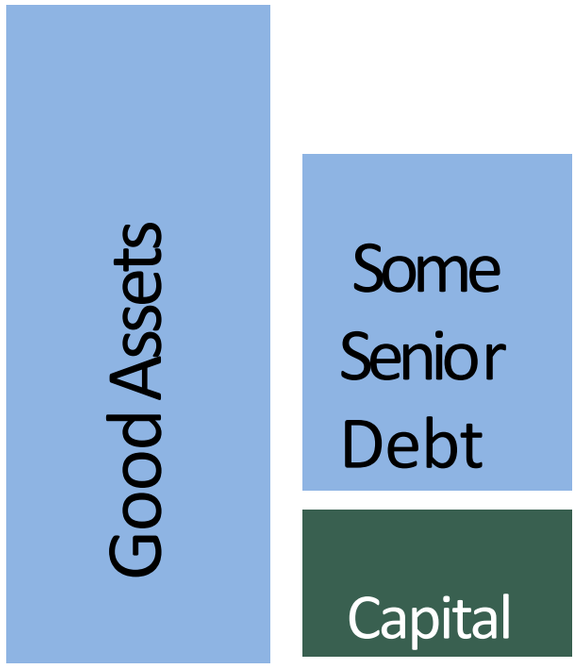
REMINDER
Session 10

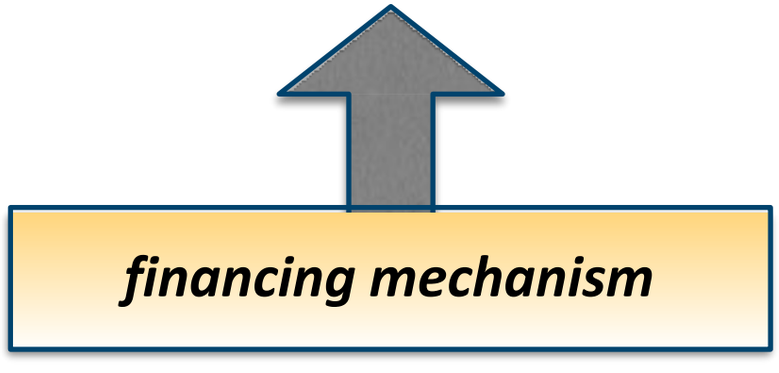
Bridge bank
How it works

On a certain Friday…



Bridge Bank





On the following Monday

Bad Bank
(no longer a bank!)

If the sale of capital covers all financing mechanism costs, the bad bank might get the surplus

NOVA SCHOOL OF BUSINESS & ECONOMICS

Banking

In a nutshell

1. Why banks are different
2. Strategy
3. Risks
4. Governance
5. Crisis
6. **Regulation**

Why regulate?

Because incentives are not always aligned (I)

'REAL ECONOMY'

- Depositors
- Companies & families

'OWNERS/MANAGERS OF CAPITAL'

Shareholders	**Willingness to increase capital?**
Management	**Accountable for capital allocation efficiency** *Trade off between organic capital generation & asset growth*

REGULATION

Because…

- **Banking lives on a level of leverage which would be unacceptable in any other industry;**
- **Banking tends to rely on varied types of leverage as a key tool to improve returns**

REMINDER
Session 5

Why regulate?

Because there are market failures

Herd behaviour

When investors prefer to simply follow wider market trends instead of carrying an adequate risk assessment

- An investor buying stock just because everybody else is buying.

Adverse selection

When there is asymmetric information between buyers and sellers (most of the times) allowing one of the parties to be better off at the expense of the other.

- A person with a risky profession getting a life insurance without fully disclosing his/her situation.

Moral hazard

Aggressive risk taking driven by the knowledge that others rather than oneself will bear the potential cost of one's actions.

- An entrepreneur with a significant leveraged business tends to invest in riskier projects.

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REMINDER
Session 11

The 2008/9 financial crisis

'First' lessons

Interconnectedness

This financial crisis has exposed how important the interconnections are among the banking system, capital markets, and payment and settlement systems. First, supervision must not just be vertical—firm by firm, or region by region, but also horizontal—looking broadly across banks, securities firms, markets and geographies. Second, this means that supervisory practices need to be revamped. They need to be coordinated and multi-disciplinary.

System dynamics

By system dynamics, I mean how the different parts of the system interact. **Do they interact in a way that dampens a shock or in a way that intensifies it?** To the extent that the system has important reinforcing rather than dampening mechanisms, then it may need to be modified.

Incentives

Incentives may be very important in determining whether we have a system that is dampening rather than amplifying. I think bad outcomes are not just about bad luck, they are also about bad incentives. The problem with incentives may be due to **faulty compensation schemes, poor risk management or the fact that participants do not bear the full costs of their actions.**

Transparency

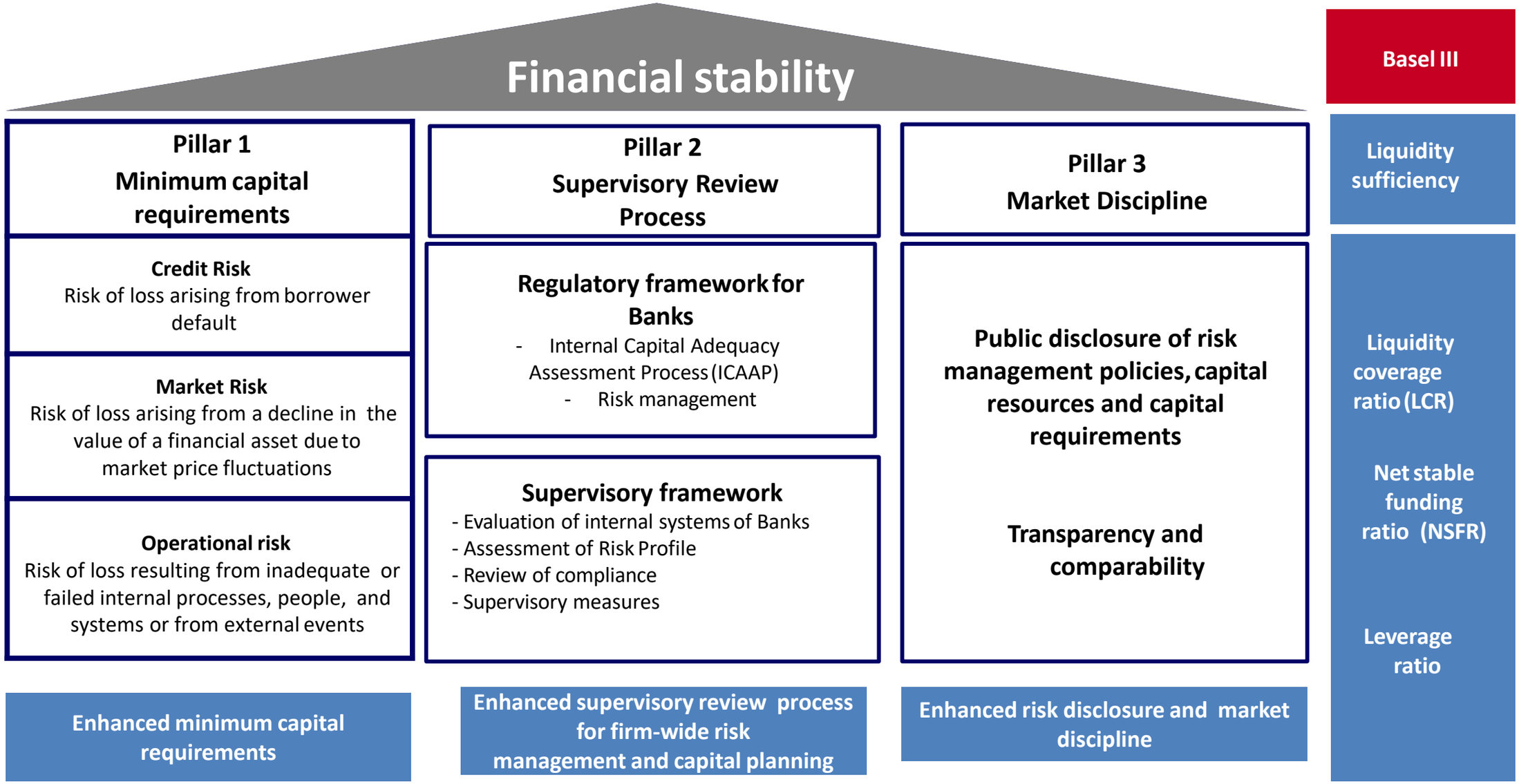
There were many areas where a lack of transparency contributed to a loss of confidence, which intensified the crisis. One particular area was the case of over-the-counter securities such as ABS, CMBS, RMBS and CDOs and their associated derivatives. **There was a lack of transparency in a number of different dimensions (valuation; pricing; concentration of risk**).

Source: William C. Dudley, CEO Federal Reserve of N, 2009 (https://www.newyorkfed.org/newsevents/speeches/2009/dud090702.html)

REMINDER
Session 11

Basel Accords

Basel II & III framework combined



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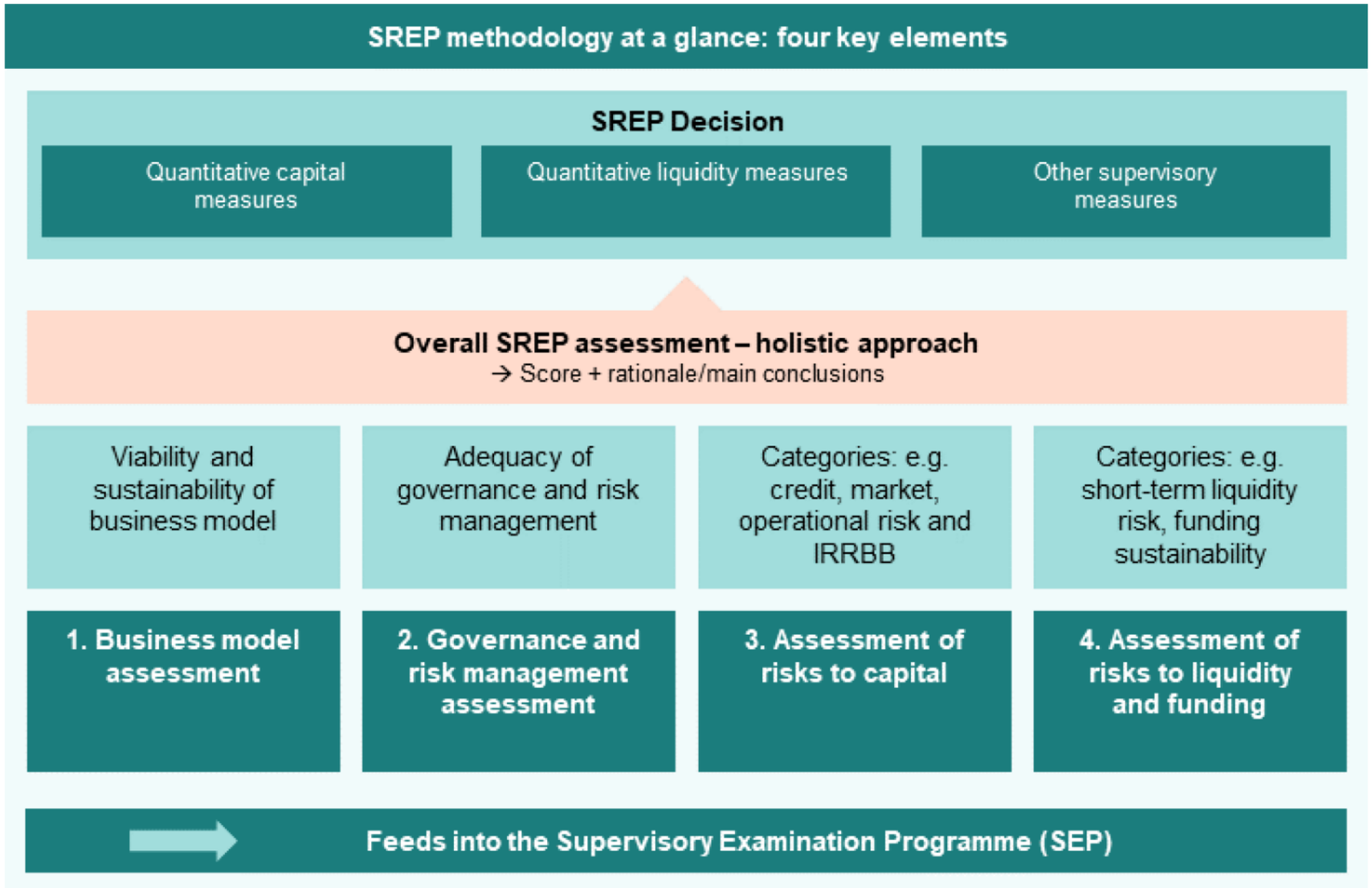
REMINDER
Session 6

Basel III: SREP & ICAAP

Sleeping with the regulator?

Figure 1

The SREP methodology



Source: EBA – SREP methodology.

SREP goals

- Guide harmonization of banking supervision at an European level
- Increasing the consistency and quality of supervision across the Banking Union.

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Session 11

Supervision in Europe

Main entities

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Future of Banking
& wrap-up

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