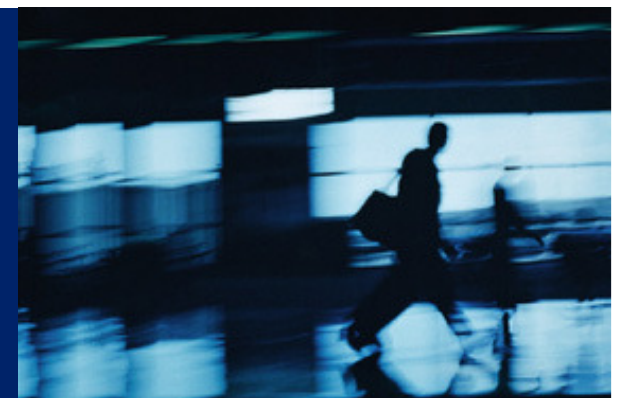
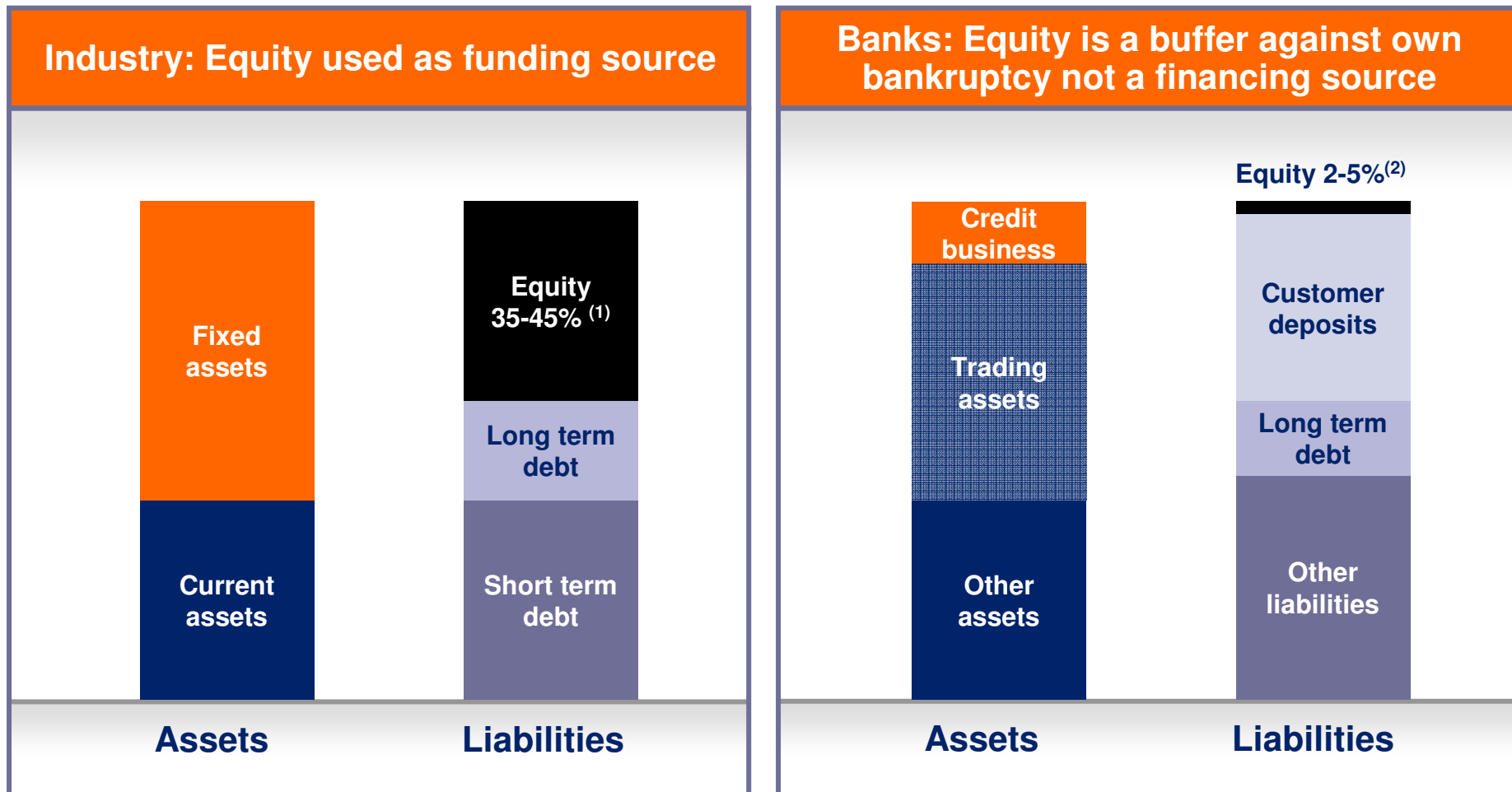


# Risk & Capital Management

d-fine Frankfurt, June 19th, 2007



## Comparison of balance sheet structures: Banks vs. Industry



Illustrative example

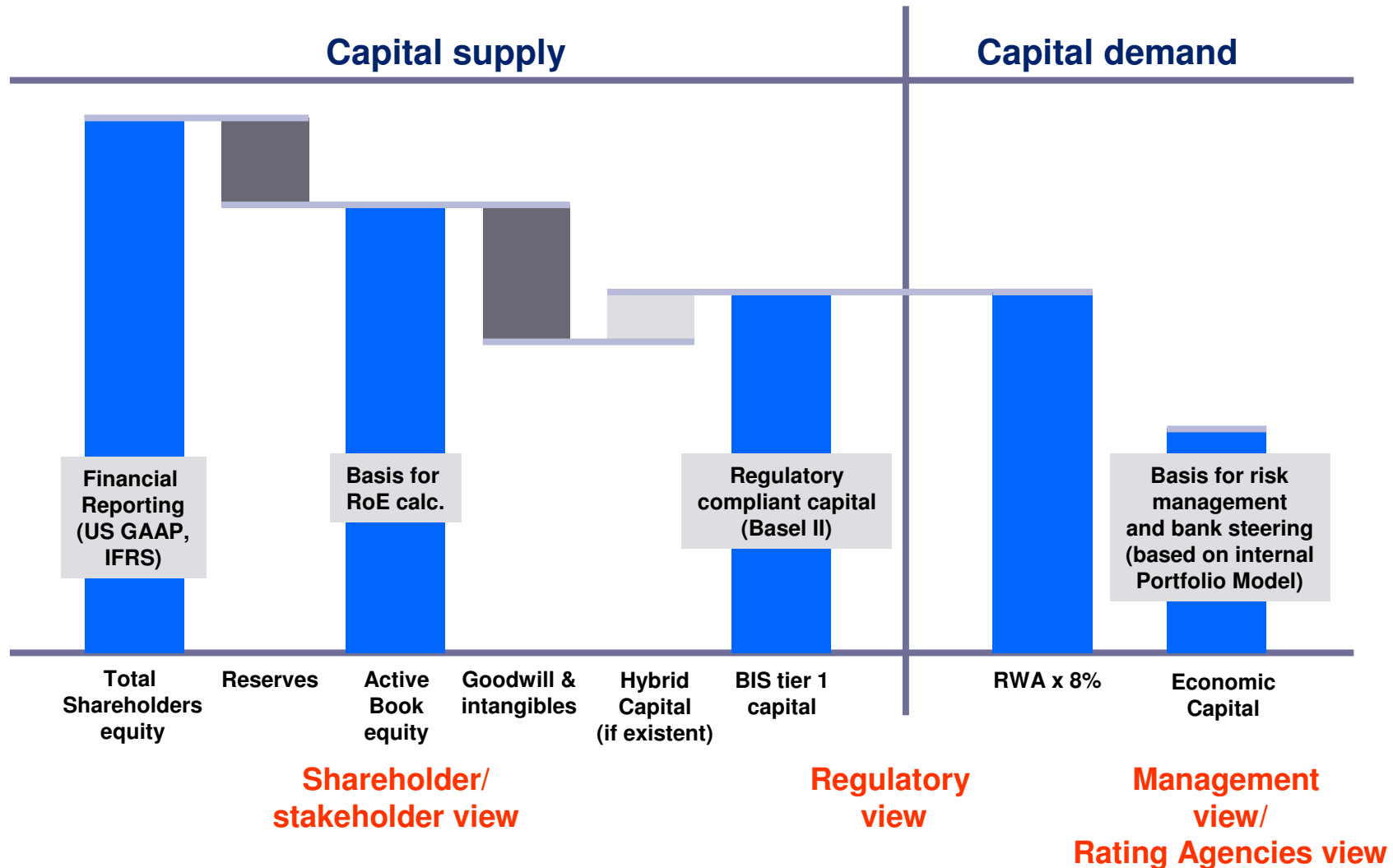
(1) Source: d-fine study

(2) Average value from different annual reports

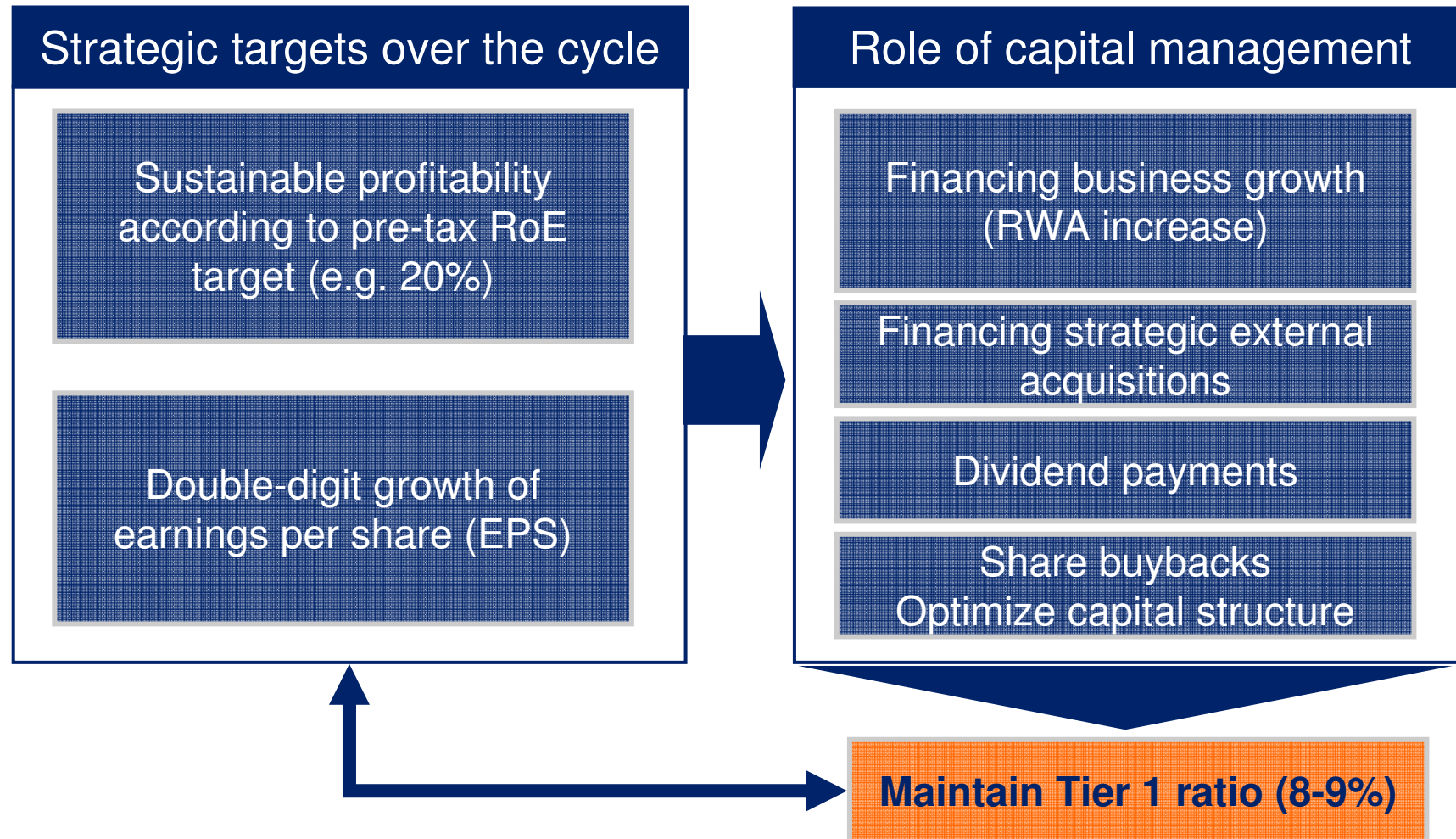
## Managing multiple capital views at different levels of protection

|                              | <b>Regulatory view</b>                               | <b>Balance sheet view</b>                                       | <b>Economic view</b>  |
|------------------------------|--|---|---|
| <b>Capital Definition</b>    | BIS Tier 1 Core Capital                              | Shareholders' Equity & Active Book Equity                       | Economic Capital  |
| <b>Basis and calculation</b> | Regulatory adjusted book equity                      | Accounting according to IFRS / US GAAP                          | Correlated high and unexpected losses   |
| <b>Management purpose</b>    | Reporting according to capital adequacy requirements | Financial reporting & Bank steering according to value creation | Bank steering according to risk/reward relationship and protection against own bankruptcy |

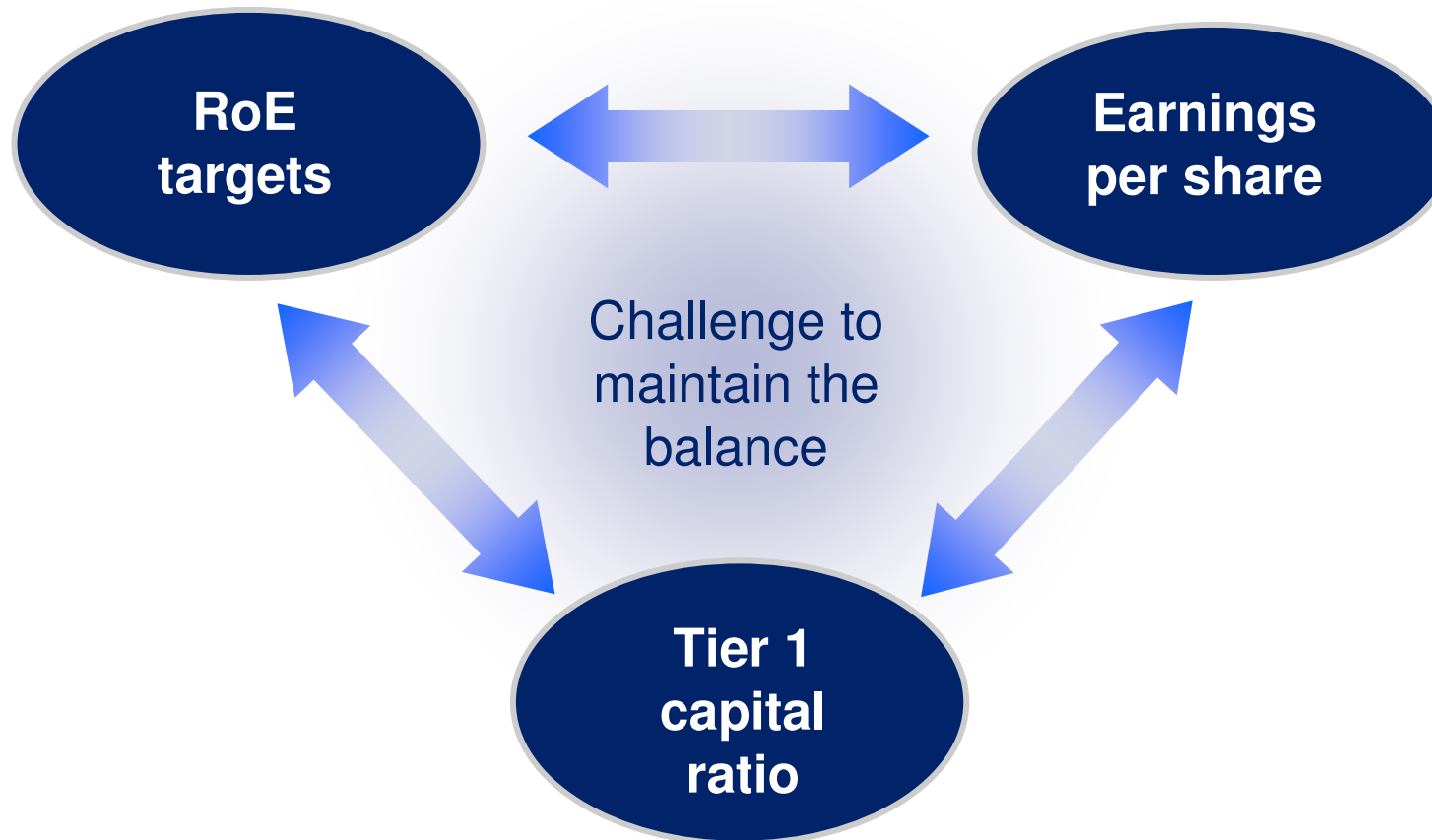
# Capital: Different views at different levels of protection



## The role of capital management



## Interdependency of strategic targets and challenge to Risk & Capital Management



## Capital Planning: Purpose

Forward-looking Estimation of Capital Demand to Manage Capital Adequacy

### Traditional Focus

- Risk Weighted Assets / Basel I Capital
- RWA scale with business volume, weights depending on counterparty type (not on riskiness of counterparty)
- Market underlying, e.g. fx-rate to convert local currency RWA into group currency

### Target of Future Planning Process

Identify and support capital demand from

- internal growth (RWA)
- external growth (goodwill/ intangibles from acquisitions)
- Manage Tier 1 ratio in 8-9% target range to support external rating
- Manage 'free capital' (e.g. by share buybacks) to support Return on Equity target
- Incorporate Economic Capital estimation for value creation

## Through economic cycles Basel II capital will fluctuate

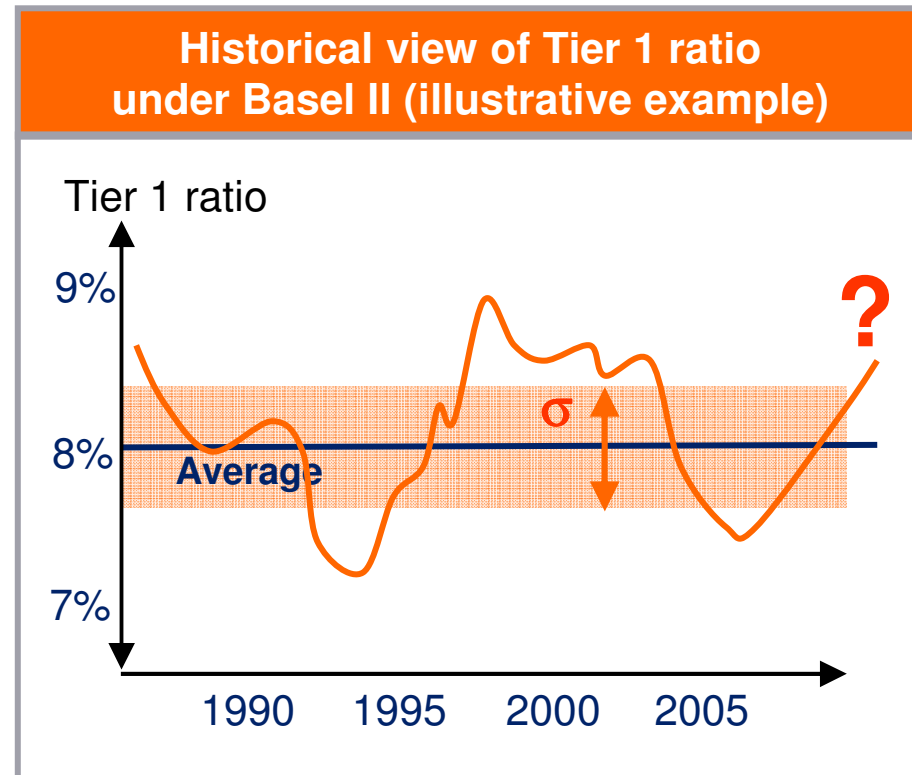
Cyclical Capital planning is a new issue of Basel II and institutions targeting Basel II standards

Integration of risk and capital management imperative

Capital a function of ...

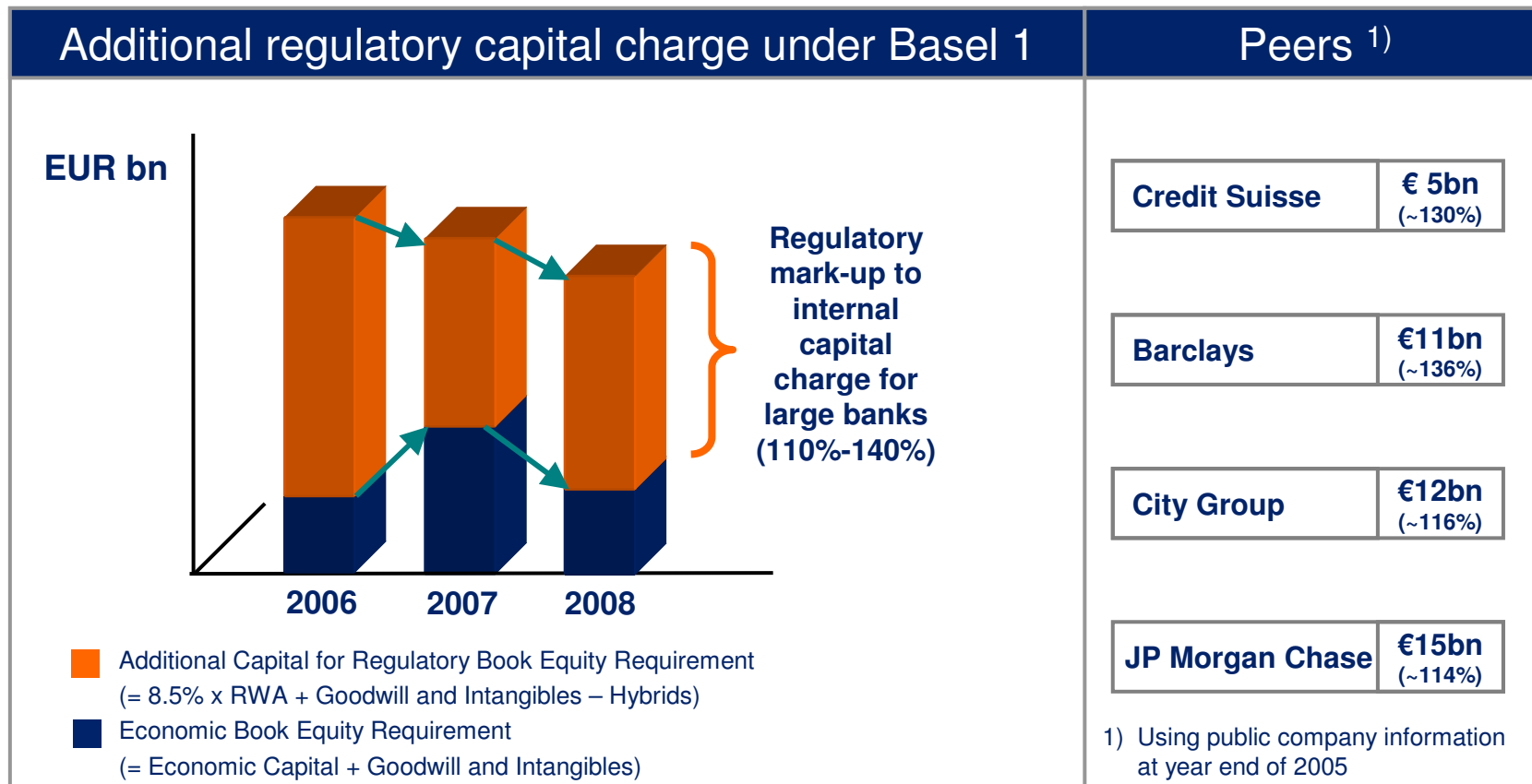
- Basel I: business volume
- Basel II: business volume & risk profile
- Dynamic capital management:
- Increased hybrid issuance
- Development of contingent capital\*

\* Financial instruments for capital creation under adverse credit conditions



# Divergence between economic and regulatory capital

## The Challenge for Business Growth



# Capital Planning: Forward Looking Risk Management

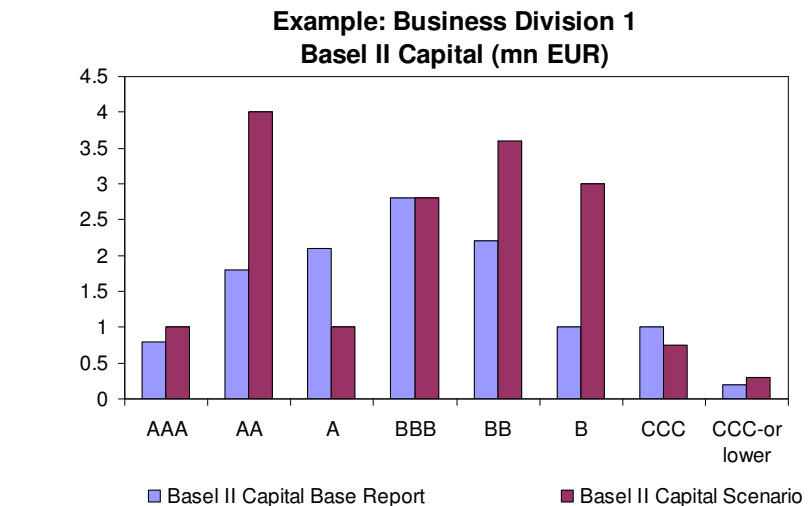
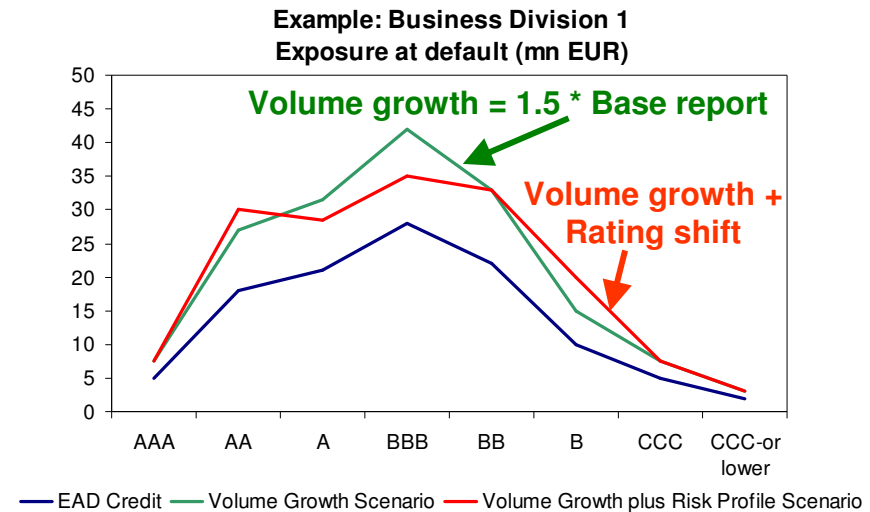
Capital requirement calculation for various risk scenarios

## Risk Scenarios at each level of portfolio aggregation:

- Volume growth scenario per sub portfolio (change EAD).
- Risk-profile scenario per rating class: Change in risk drivers (EAD, LGD, maturity)
- Recessions can be modeled as worst case scenarios

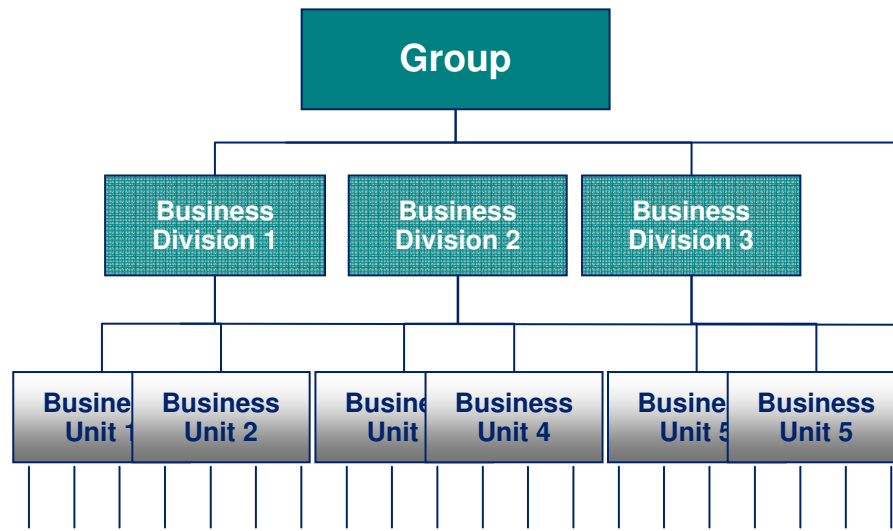
## Results and Reports:

- Expected changes in risk profile of the bank are translated into their capital impact
- Scenarios analysis can become part of ICAAP (severe but plausible event, e.g. 1 in 10 year scenario)

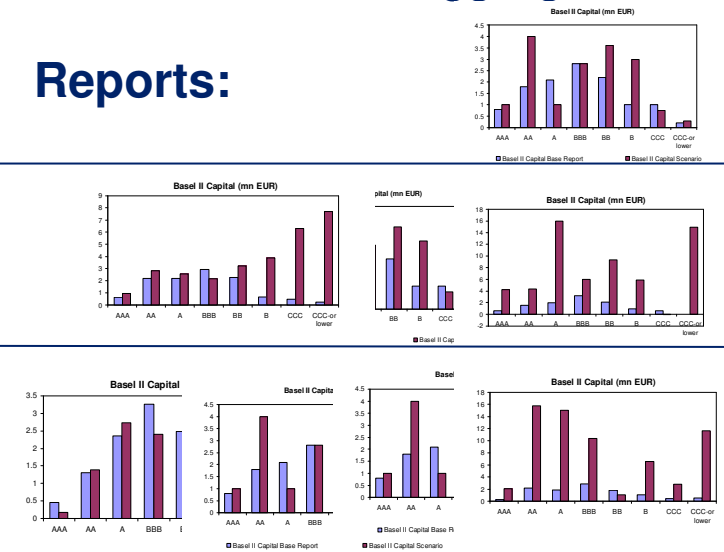


# Group capital planning by business unit specific scenarios

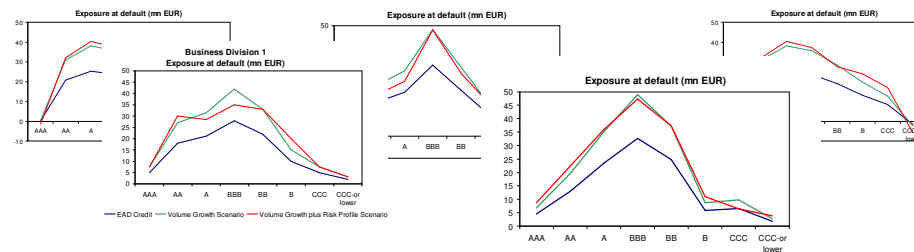
Scenario definition, Basel II capital and internal EC at each level of aggregation



## Reports:



## different scenarios at arbitrary aggregation levels



## Calculation-Rules for Reports:

- Basel II capital according to RWA formula
- $\text{Internal EC(scenario)} = \text{EL(scenario)} * \text{EC/EL ratio(internal model)}$

# Capital Planning: Process

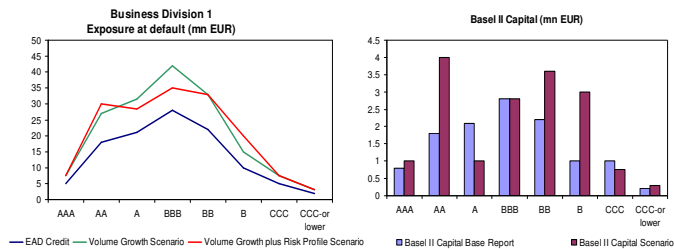


**Basel II RWA are risk sensitive**

**Economic Environment**

**Business Initiatives**

| Risk Drivers for specific scenario |      |
|------------------------------------|------|
| Average PD                         | 1.2% |
| Average LGD                        | 65%  |
| Average Maturity [years]           | 4.5  |



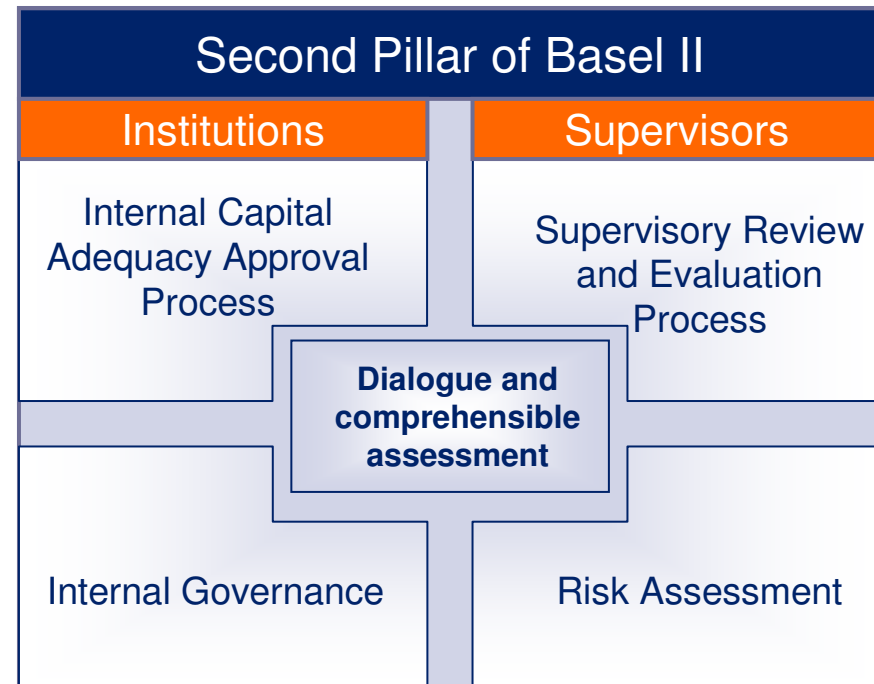
| RWA Actual vs. Plan                        |                     |                   |
|--|---------------------|-------------------|
| EUR bn <sup>(1)</sup><br>Business Division | 31.Dec.06<br>Actual | 31.Dec.07<br>Plan |
| Corporate Investments                      | 24                  | 27                |
| Financial Institutions                     | 11                  | 15                |
| Retail                                     | 9                   | 6                 |
| others                                     | 2                   | 4                 |
| <b>Group</b>                               | <b>46</b>           | <b>52</b>         |

(1) illustrative figures

## Capital planning: Implications of Pillar II

Article 123 of the European Capital Requirements Directive:

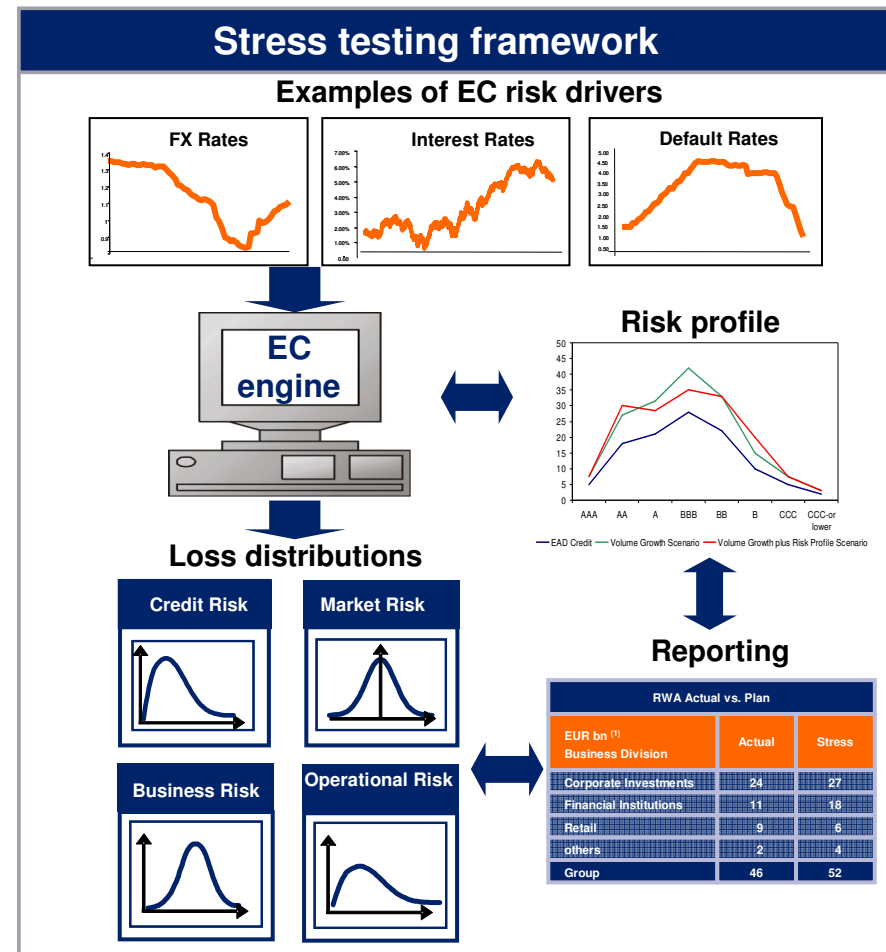
“Credit institutions shall have in place sound, effective and complete strategies and processes to assess and maintain on an ongoing basis the amounts, types and distribution of internal capital that they consider adequate to cover the nature and level of the risks to which they are or might be exposed. These strategies and processes shall be subject to regular internal review to ensure that they remain comprehensive and proportionate to the nature, scale and complexity of the activities of the credit institution concerned.”



# Capital Planning: Stress testing framework

Rare but reasonable scenarios (e.g. 1 in 10 year stress event)

- All EC relevant risk types must enter into the regular stress testing framework
- Macroeconomic, business related and quantitative aspects to be considered with respect to risk profile implications
- Change of risk profile and its impact on capital requirements (incl. regulatory capital) should be analyzed
- Regular reporting to senior management and the business to act accordingly is the focus
- Stress testing report for group and sub-portfolios of special risk distinction are required on a daily, weekly and monthly basis



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