

# Capital Adequacy and Supervisory Assessment of Solvency Position



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**Regional Seminar for Supervisors in Africa on Risk-based  
Solvency and Supervision**

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# Agenda

1. Capital adequacy assessment – the big picture
2. Overview of selected solvency regimes
3. Structure of capital requirements
4. Calibrating target capital level
5. Eligible forms of capital resources

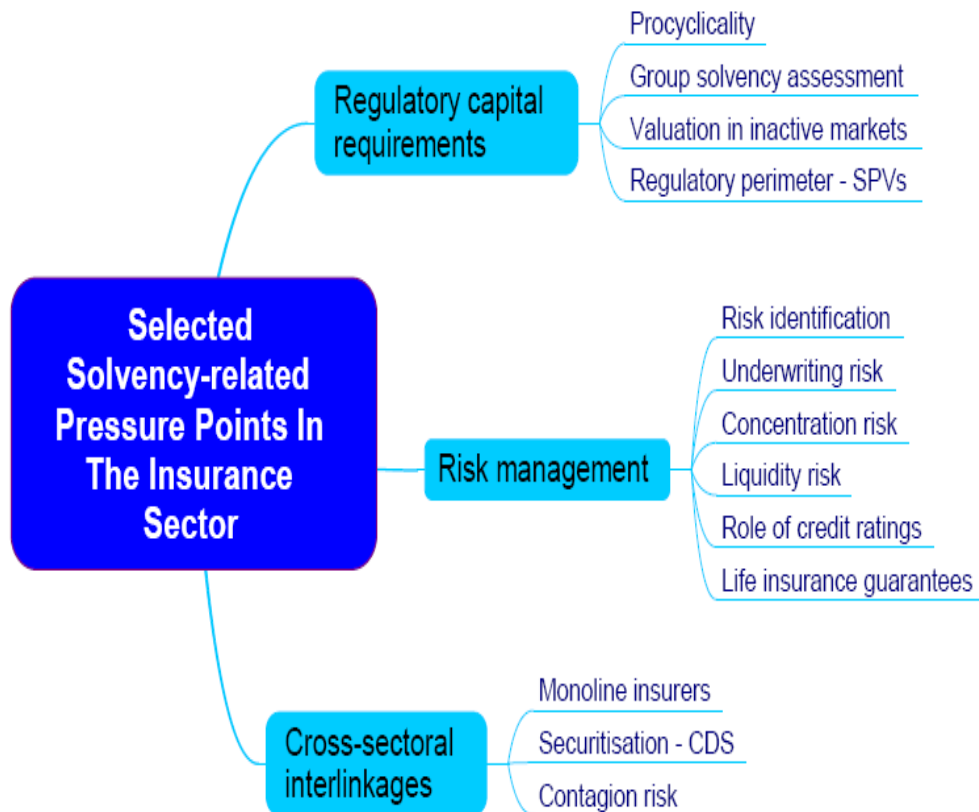
# Lessons from the global financial crisis



- Too-big-to-manage
- Too-complex-to-understand
- Lack of understanding on risk interdependencies
- Over-estimation of risk tolerance – search for yield



# Standard-setting work plan continuously aligned to pressure points in the insurance sector

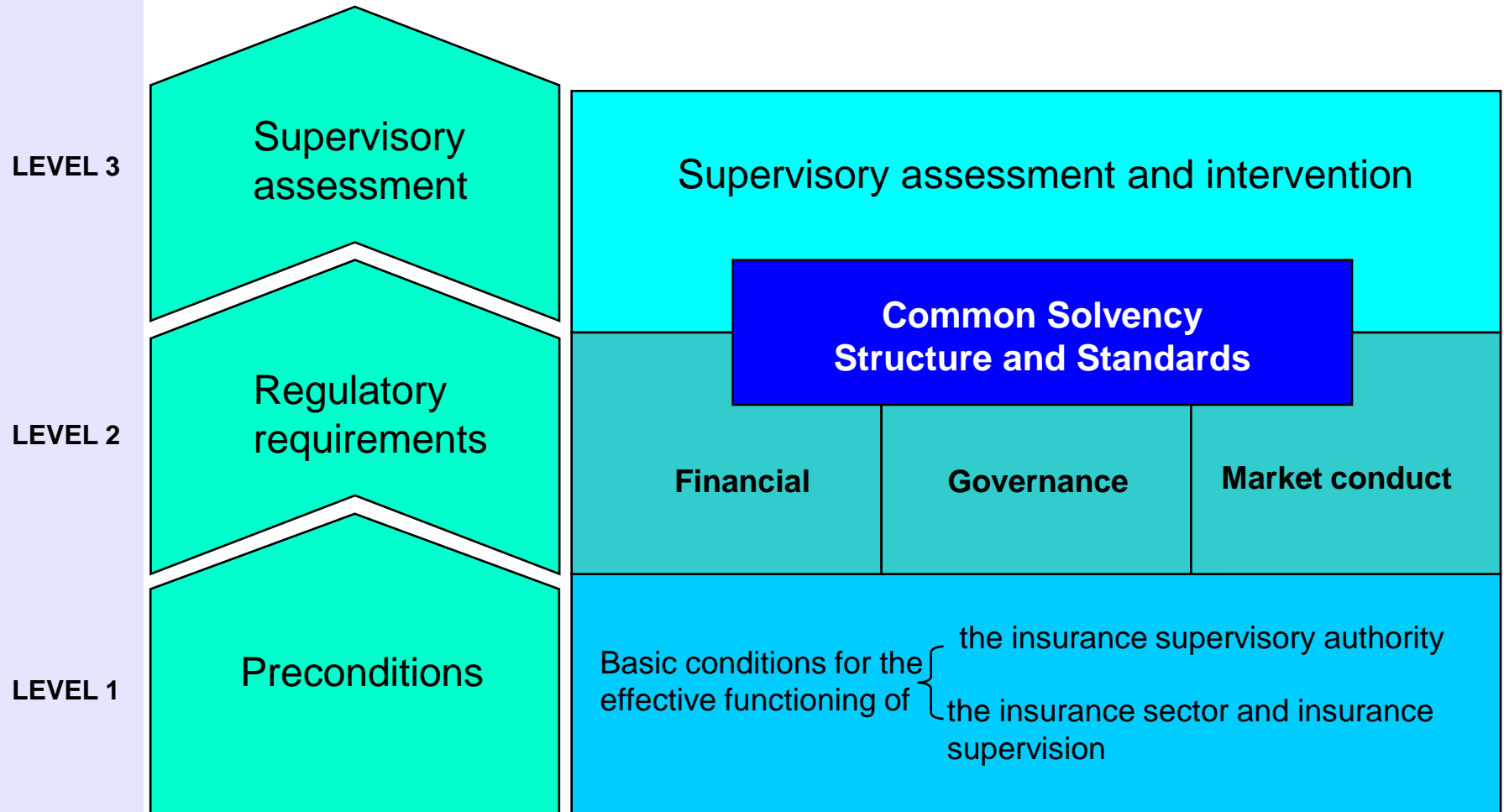


- Standard setting work plan takes into account FSB and G20 recommendations.
- Existing supervisory papers aligned well to identified pressure points.
- Initiatives underway include:
  - Review of existing and new solvency supervisory papers under new ICP structure
  - Extension of solo solvency papers to groups
  - Common Framework for the Supervision of Internationally Active Insurance Groups (ComFrame)

*Note : This list is not exhaustive.*



# Solvency requirements are integral in the Framework for insurance supervision



## ***Framework for Insurance Supervision***

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# Proposed structure of the new ICPs

EXISTING ICPs

**ICP 18**  
Risk Assessment  
and Management

**ICP 19**  
Insurance  
activity

**ICP 20**  
Liabilities

**ICP 21**  
Investments

**ICP 22**  
Derivatives and  
similar commitments

**ICP 23**  
Capital adequacy  
and solvency

NEW ICP STRUCTURE

**ICP 14**  
Valuation

Standard on  
valuation

Guidance on  
valuation

**ICP 15**  
Investment

Standard on  
investments

Guidance on  
investments

**ICP 16**  
Enterprise risk  
management for  
solvency purposes

Standard on ERM  
for solvency  
purposes

Guidance on ERM  
for solvency  
purposes

**ICP 17**  
Capital Adequacy

Standard on  
capital  
requirements

Guidance on  
capital  
requirements

Standard  
on internal  
models

Guidance on  
internal  
models



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# Diversity of legal entity solvency approaches to suit local market structures and conditions

|                                | Australia | Canada  | EU –<br>Solvency I | EU -<br>Solvency II* | Japan | Switzerland | US NAIC |
|--------------------------------|-----------|---------|--------------------|----------------------|-------|-------------|---------|
| <b>Standardised approach</b>   | ✓         | ✓       | ✓                  | ✓                    | ✓     | ✓           | ✓       |
| - Factor based                 | ✓         | ✓       | ✓                  | ✓                    | ✓     | ✓           | ✓       |
| - Revaluation                  | ✓         | ✓       |                    |                      | ✓     |             |         |
| - Scenario test                | ✓         |         |                    | ✓                    |       | ✓           | ✓       |
| - Stochastic model             |           | ✓       |                    | ✓                    | ✓     | ✓           |         |
| <b>Partial internal models</b> | ✓         | ✓       |                    | ✓                    | ✓     | ✓           | ✓       |
|                                | (general) | (life ) |                    |                      |       |             | (life)  |
| <b>Full internal models</b>    | ✓         |         |                    | ✓                    |       | ✓           |         |
|                                | (general) |         |                    |                      |       |             |         |

\* Based on the European Commission's 2008 Amended Proposal for a Directive. This information is purely indicative and does not prejudice the final outcome of the Solvency II reform.





# Target criteria to determine PCR varies

Target criteria used to calibrate Prescribed Capital Requirements (PCR)

|                         | Australia  | Canada                           | EU – Solvency I          | EU - Solvency II*                  | Japan                                    | Switzerland    | US NAIC                                  |
|-------------------------|--|----------------------------------|--------------------------|------------------------------------|--|----------------|--|
| <b>Terminology</b>      | Capital adequacy requirement (life), Multiple of MCR (general) | Regulatory Target Capital Ratio  | Required solvency margin | Solvency Capital Requirement (SCR) | Solvency margin ratio                    | Target capital | Company action level risk-based capital  |
| <b>Target Criteria</b>  |  |                                  |                          |                                    |  |                |  |
| <b>Confidence level</b> | 99.75% (life); >99.5% (general)                                | Varies depending on time horizon | Unspecified              | 99.5%                              | Varies (e.g. life 99%; earthquake 99.5%) | 99%            | Varies (e.g. life 95%; bonds 92% to 96%) |
| <b>Risk measure</b>     | VaR  | TailVaR                          | Unspecified              | VaR                                | VaR                                      | TailVaR        | Unspecified                              |
| <b>Time horizon</b>     | 1 year   | Varies                           | Unspecified              | 1 year                             | Varies (mostly 1 year)                   | 1 year         | Varies                                   |

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# Varying risk factors reflects different target criteria and local market conditions - asset risks

Capital requirements for selected asset classes  
(% of asset value unless otherwise indicated)

|                                    | Australia        | Canada  | EU – Solvency I                        | EU - Solvency II* | Japan | Switzerland    | US NAIC   |
|------------------------------------|------------------|---|--|-------------------|-------|----------------|---|
| <b>A-rated corporate bonds</b>     | 4% (general)     | 2% (general); 1% + technical provision (life) | Hard limit: 5% of technical provision  | Not comparable    | 1%    | Not comparable | Class 1 (A to AAA): 0.3%                              |
| <b>Domestic listed shares</b>      | 16% (general)    | 15%   | Hard limit: 5% of technical provision  | Not comparable    | 10%   | Not comparable | 15% (general); 30% (life)                             |
| <b>Real estate investments</b>     | 20% (general)    | 15% (general); 7% (life)                      | Hard limit: 10% of technical provision | Not comparable    | 5%    | Not comparable | 10% (general); 15% (life) for unforeclosed properties |
| <b>Diversification recognition</b> | ✓<br>(life only) | No  | No                                     | ✓                 | ✓     | ✓              | ✓   |

\* Based on the European Commission's 2008 Amended Proposal for a Directive. This information is purely indicative and does not prejudice the final outcome of the Solvency II reform.



# Varying risk factors reflects different target criteria and local market conditions - liability risks

Capital requirements for outstanding claims liabilities for selected general insurance lines  
(for direct business only)

|                                    | Australia              | Canada                 | EU – Solvency I                          | EU - Solvency II* | Japan               | Switzerland       | US NAIC                 |
|------------------------------------|------------------------|------------------------|--|-------------------|---------------------|-------------------|-------------------------|
| <b>Liability</b>                   | 15%                    | 15%                    | Not comparable /1                        | Not comparable /2 | 34%                 | Not comparable /2 | Not comparable /2       |
| <b>Motor</b>                       | 9%                     | 10%                    | Not comparable /1                        | Not comparable /2 | 14%                 | Not comparable /2 | Not comparable /2       |
| <b>Number of specified lines</b>   | 14 (in 3 groups)       | 7                      | 17                                       | 15 (QIS 4)        | 6                   | Not comparable /2 | 18                      |
| <b>Measure of exposure</b>         | Net outstanding claims | Net outstanding claims | Claims incurred, premiums written/earned | Not comparable /2 | Net incurred claims | Not comparable    | Expense and loss ratios |
| <b>Diversification recognition</b> | ✓                      | No                     | ✓  | ✓                 | ✓                   | No                | ✓                       |

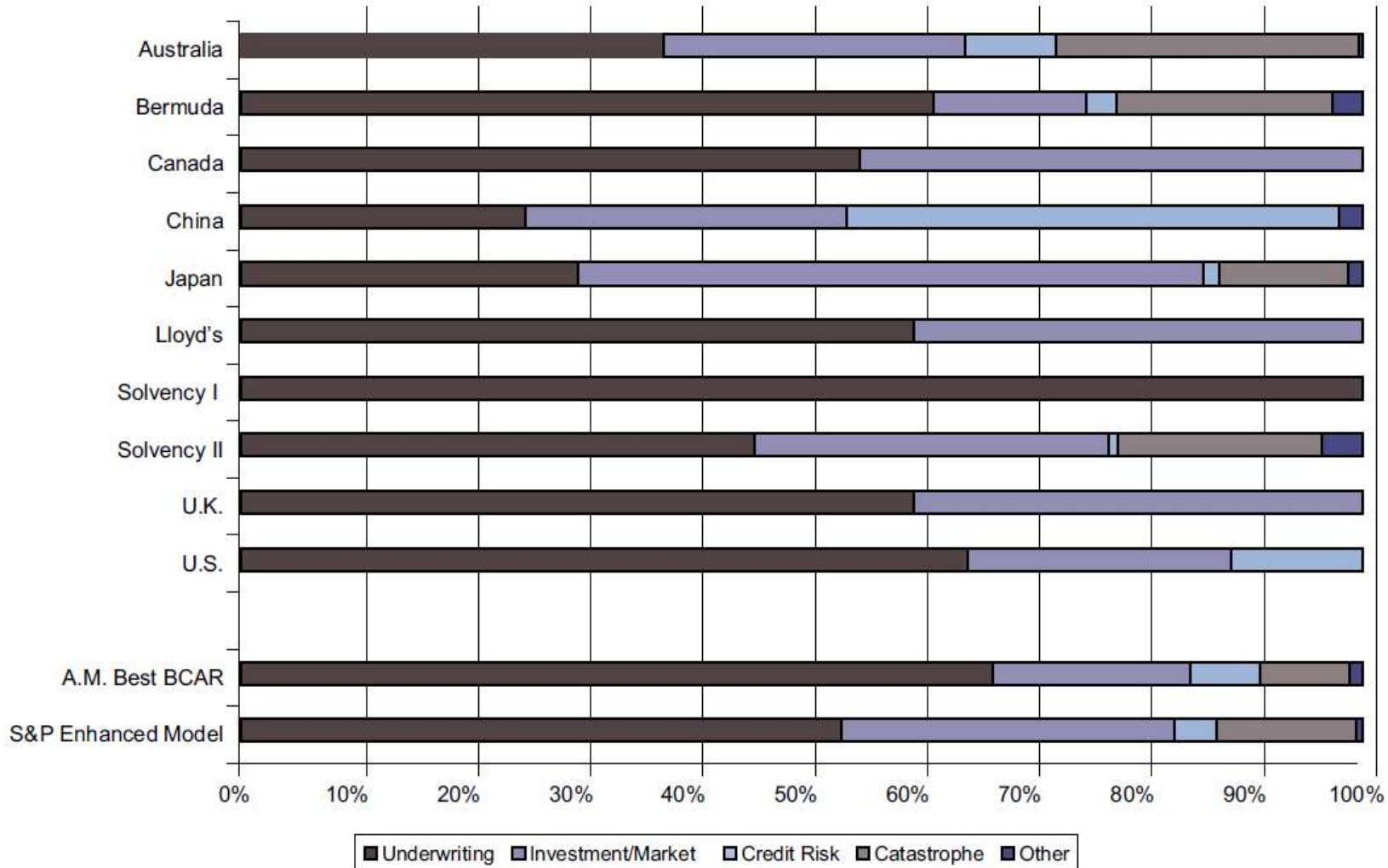
/1 Not comparable due to different measure of exposure

/2 Not comparable due to different methodology

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# Illustration of capital requirements by risk types






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# Structure of regulatory capital requirements (1)

- Total balance sheet approach is used to recognise the interdependence between assets, liabilities, regulatory capital requirements and capital resources and to ensure that risks are appropriately recognised. 
- Regulatory capital requirements are set at a level sufficient to ensure that, in adversity, an insurer's obligations to policyholders will continue to be met as they fall due and require that insurers maintain capital resources to meet the regulatory capital requirements.
- Solvency control levels trigger different degrees of intervention by the supervisor with an appropriate degree of urgency and ensures coherence between the solvency control levels established and the associated corrective action.
- Prescribed Capital Requirement (PCR) - a solvency control level above which the supervisor does not intervene on capital adequacy grounds. The PCR is defined such that assets will exceed technical provisions and other liabilities with a specified level of safety over a defined time horizon.



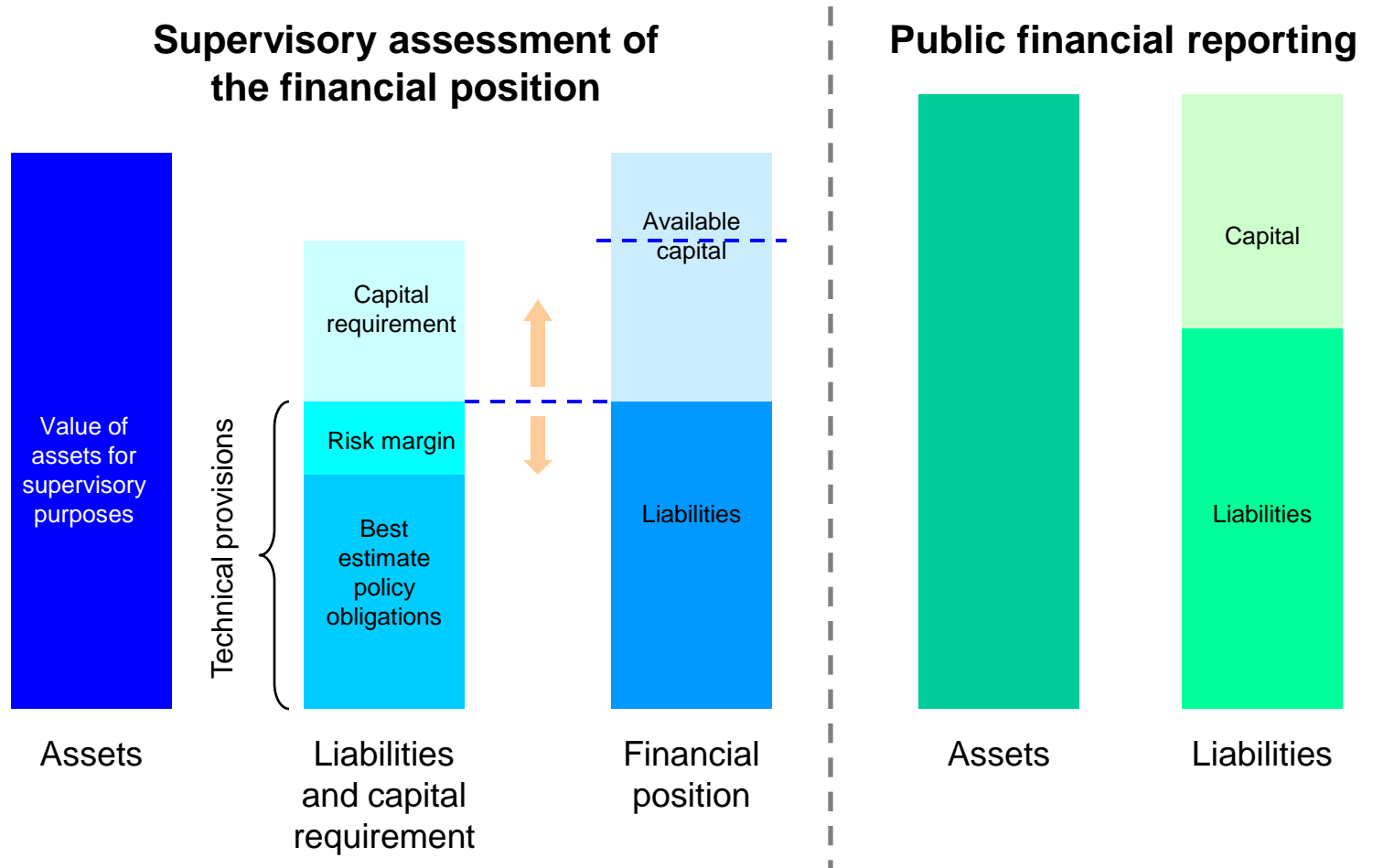
## Structure of regulatory capital requirements (2)

- Minimum Capital Requirement (MCR) - a solvency control level at which, if breached, the supervisor would invoke its strongest actions, in the absence of appropriate corrective action by the insurance legal entity. The MCR is subject to a minimum bound below which no insurer is regarded to be viable to operate effectively. ▶
- The solvency regime is open and transparent and is explicit about the objectives of the regulatory capital requirements and the bases on which they are determined. The solvency regime allows a set of standardised and, if appropriate, other approved more tailored approaches such as the use of (partial or full) internal models. ▶
- The solvency regime addresses all relevant and material categories of risk and is explicit as to where risks are addressed and how they are aggregated. ▶



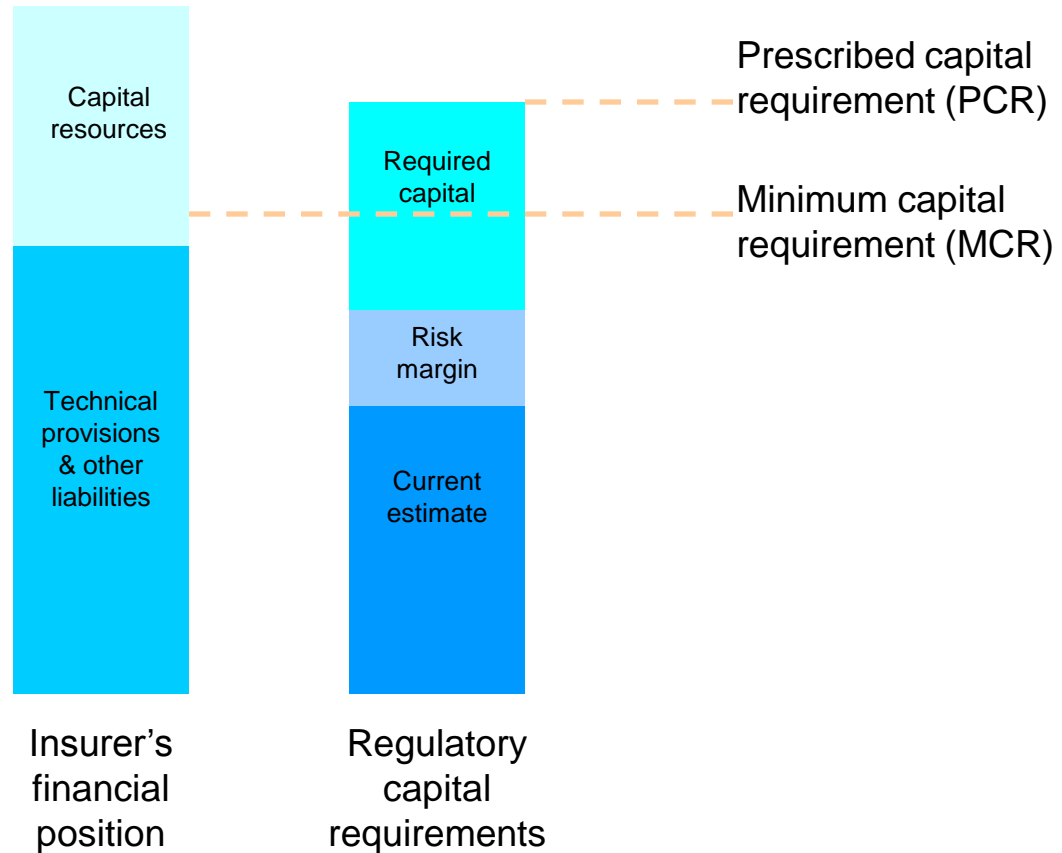


# Total balance sheet approach to recognise interdependencies





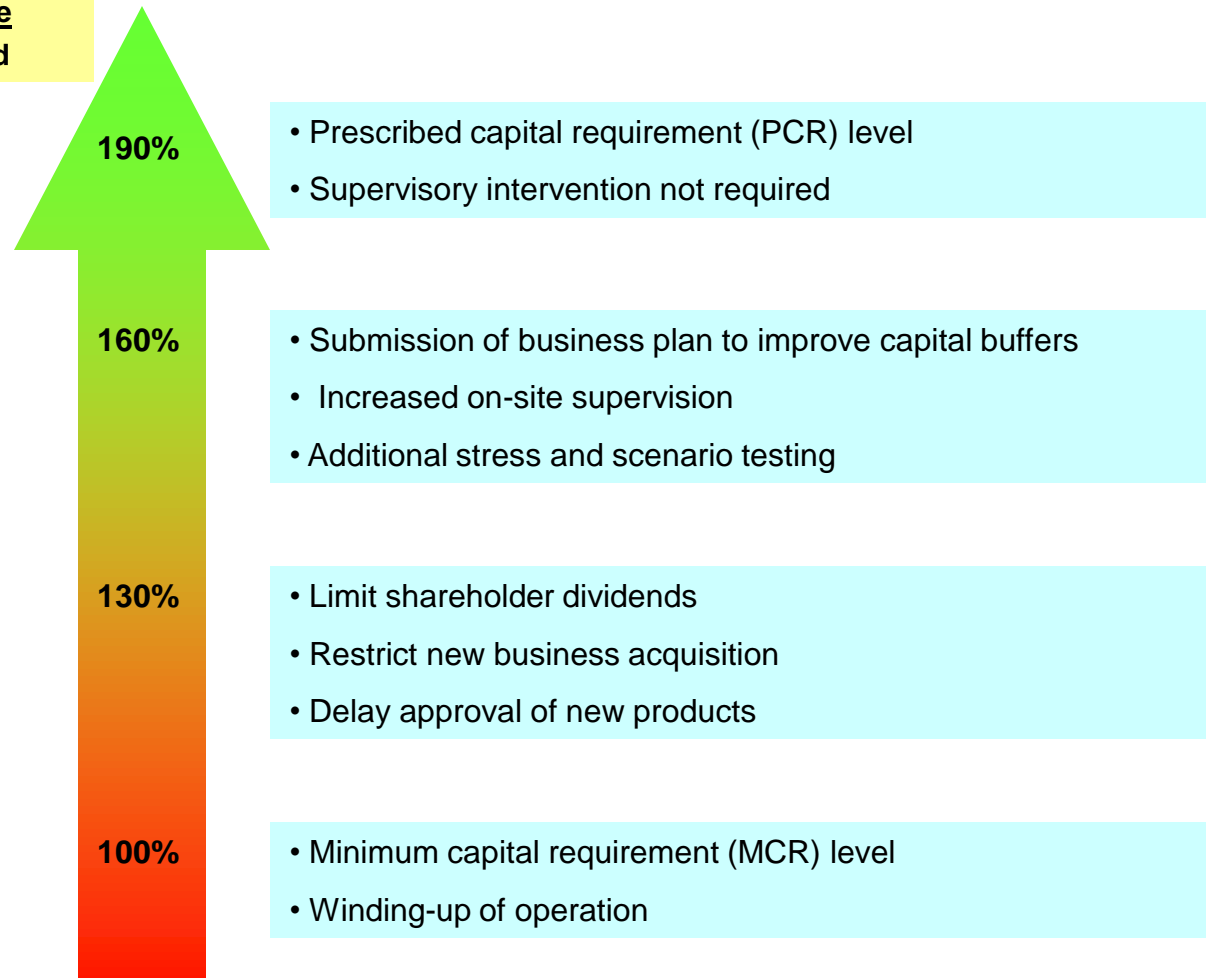
# Solvency control levels to trigger timely supervisory interventions





# Progressive intervention levels to ensure timely corrective measures – an example

**Capital Adequacy Ratio**  
**= Capital Available**  
**Capital Required**



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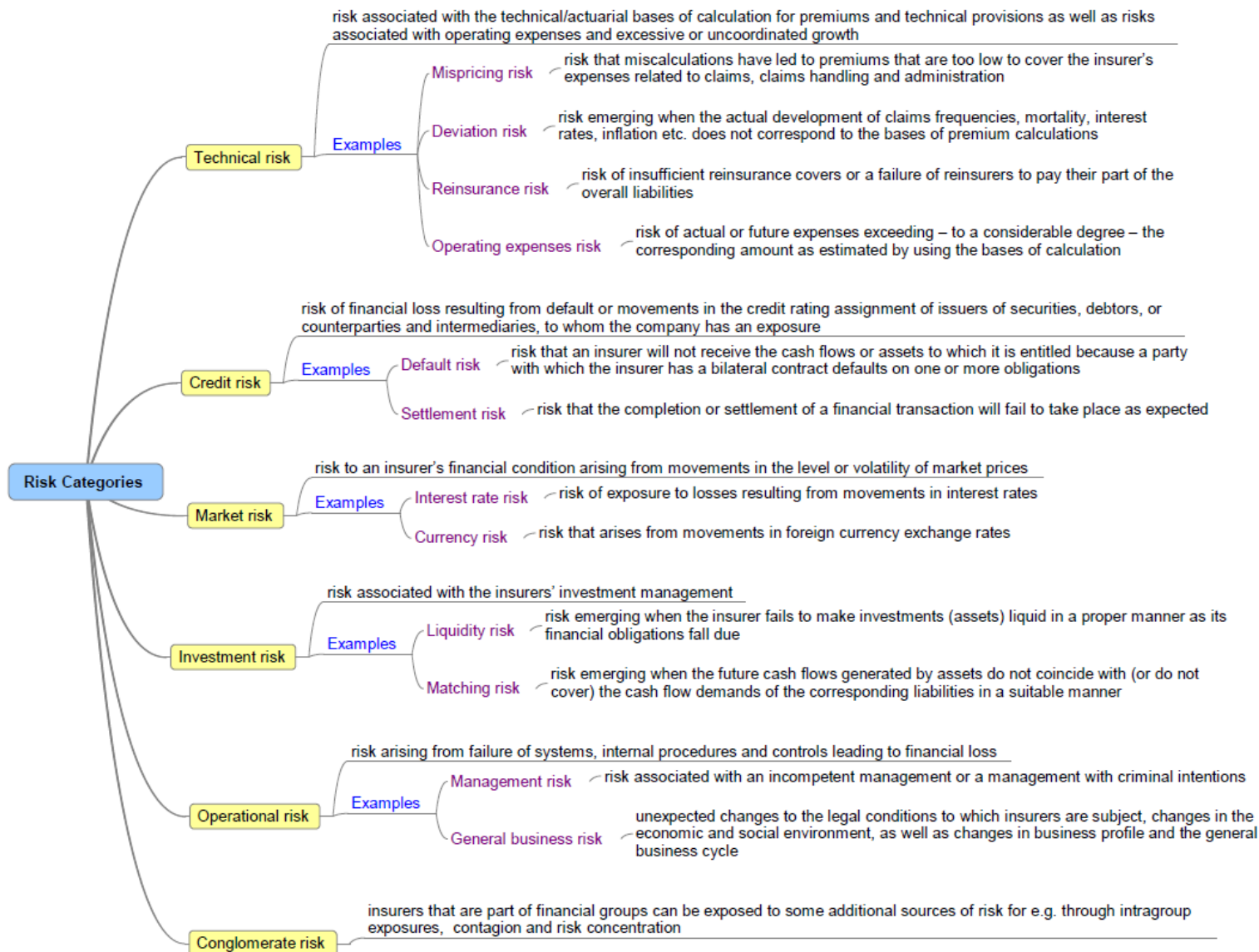
# Internal models: a more tailored approach to determine regulatory capital

- What are internal models?
  - A risk management system developed by an insurer to analyse and quantify its risk position and to determine the commensurate economic capital
- The internal model approach is suitable only if certain preconditions are met
  - Level of sophistication of insurers / markets
  - Corporate governance structures
  - Competent / accountable insurance professionals and management
  - Supervisory resources and expertise





# Major types of risks



**Note: List is not exhaustive.**



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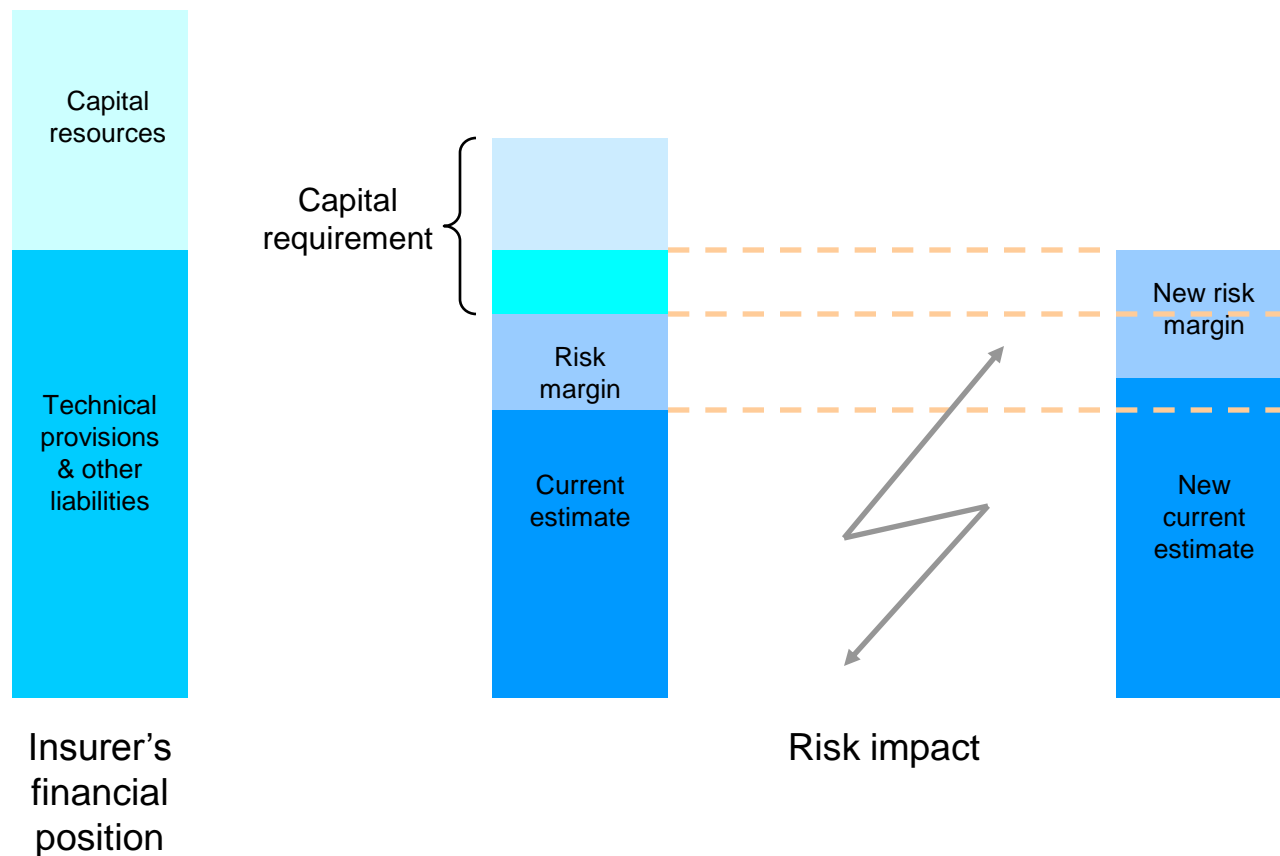
# Calibrating target capital level – tailor to local market conditions

- The solvency regime sets out appropriate target criteria for the calculation of regulatory capital requirements, which underlie the calibration of a standardised approach.
- If more tailored approaches such as internal models are recognised, the target criteria for the standardised approach are also used by those approaches to ensure broad consistency among all insurers within the regime.
- Any variations to the regulatory capital requirement are made within a transparent framework, are proportionate according to the target criteria and are only expected to be required in limited circumstances.



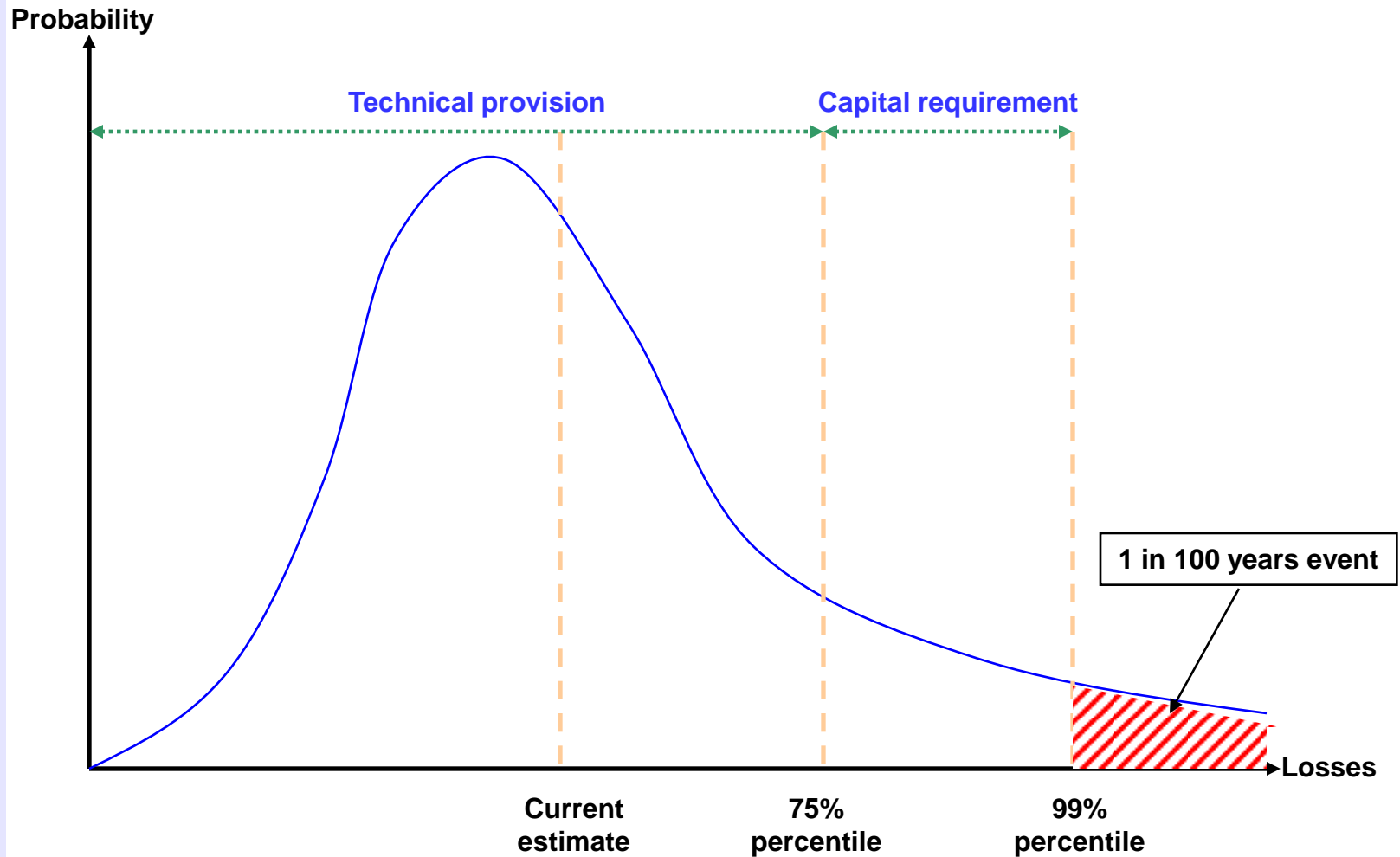


# Regulatory capital requirements calibrated based on target criteria

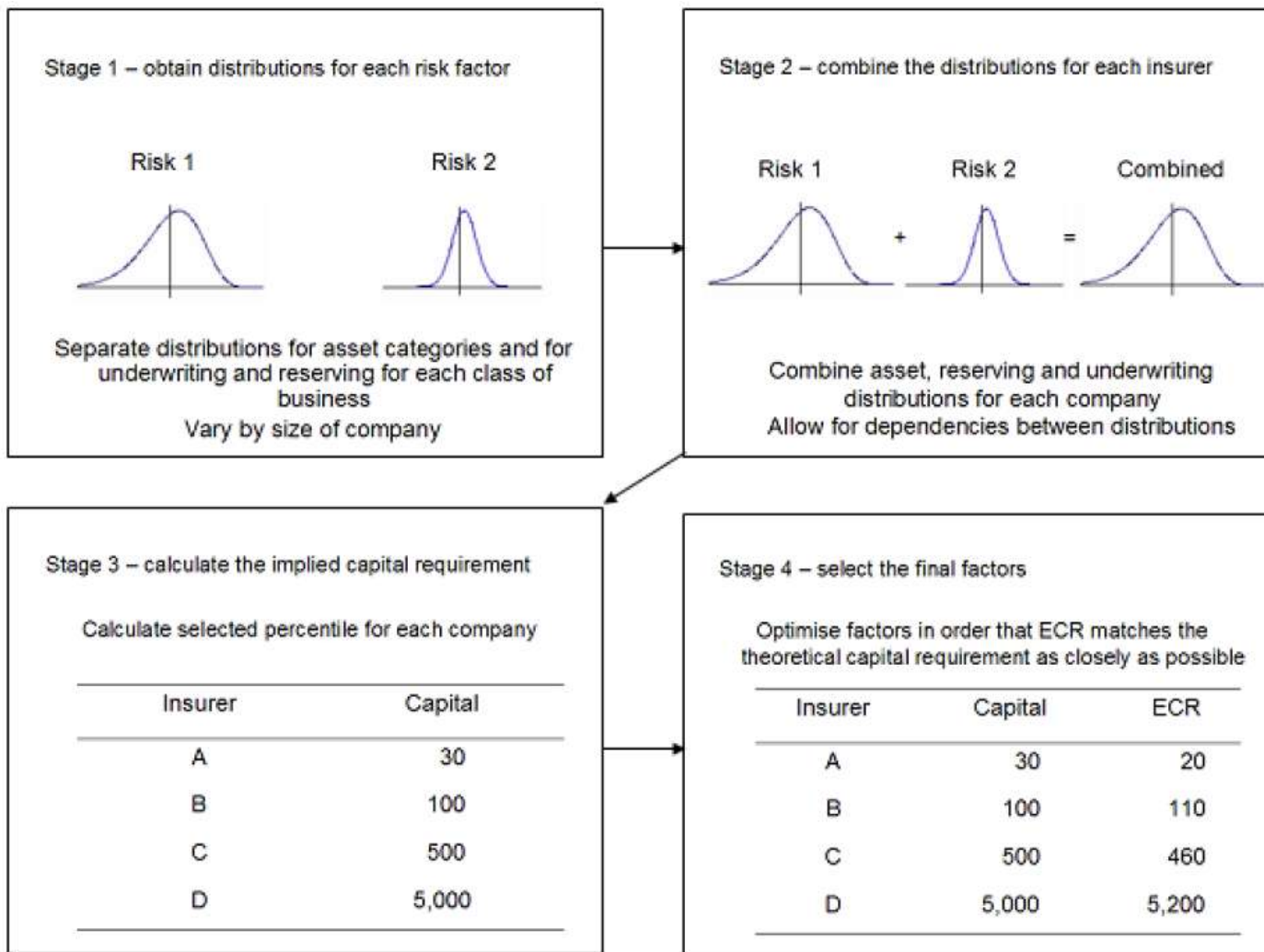




# A sample target criteria – VaR at 99% confidence level, 1 year time horizon



# Calibration - a practical example





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# High quality capital resources to meet regulatory capital requirements

- The solvency regime defines the approach to determining the capital resources eligible to meet regulatory capital requirements and their value, consistent with a total balance sheet approach for solvency assessment and having regard to the quality and suitability of capital elements.
- The solvency regime establishes criteria for assessing the quality and suitability of capital resources, having regard to their ability to absorb losses on both a going-concern and wind-up basis.

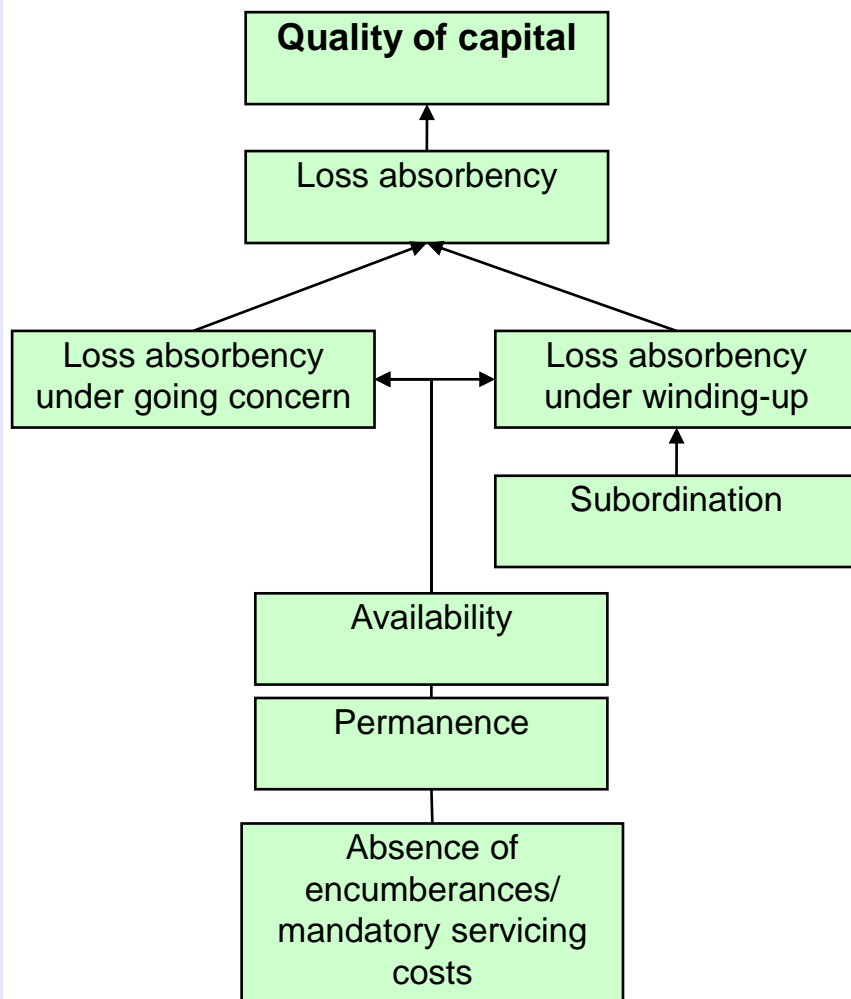


# Issues to consider on available capital resources under total balance sheet approach

- Treatment of liabilities
  - Exclude non-subordinated liabilities
- Contingent assets
  - Could include certain elements not considered as assets under accounting standards if likelihood of payments sufficiently high
- Assets not fully realisable on going-concern/wind-up basis (e.g. own shares, intangible assets)
  - Deduction approach
  - Capital charge approach



# Determining the quality of capital



- **Subordination:** the extent to which and in what circumstances the capital element is subordinated to the rights of policyholders in an insolvency or winding-up

- **Availability:** The extent to which the capital element is fully paid and available to absorb losses

- **Permanence:** the period for which the capital element is available

- **Absence of encumbrances and mandatory servicing costs:** the extent to which the capital element is free from mandatory payments or encumbrances





# Approaches to determining capital resources

- Tiering approaches: categorise capital resources into different quality classes (“tiers”) and apply certain limits/restrictions with respect to these tiers
  - Highest quality capital - permanent capital that is fully available to cover losses of the insurer at all times on a going-concern and a wind-up basis
  - Medium quality capital - capital that lacks some of the characteristics of highest quality capital, but which provides a degree of loss absorbency during ongoing operations and is subordinated to the rights (and reasonable expectations) of policyholders
  - Lowest quality capital - capital that provides loss absorbency in insolvency/ winding-up only
- Continuum approaches: rank capital elements on the basis of the identified quality characteristics
- Approaches which do not attempt to categorise or rank capital elements, but apply individual restrictions or charges where necessary



# Other considerations when determining available capital resources

- Coverage of risks in technical provision and regulatory capital requirements
- Assumptions in valuation bases and regulatory capital requirements
- Policyholder priority and status
- Quality of risk management and governance frameworks
- Level of development of capital markets
- Impact of systemic risk on amount and quality of capital



# Summary of key points

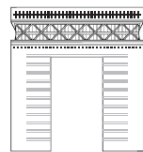
- Regulatory capital requirements should be set at a level high enough that will accord adequate protection to policyholders.
- Solvency control levels should be used to enable a realistic prospect for the situation to be rectified in a timely manner.
- Calibration should be tailored to local market conditions.
- High quality of capital resources is crucial to ensure resilience in times of crisis.



Thank you for your attention.  
Any questions/ comments?



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