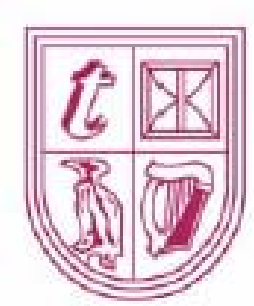


Solvency II
Implications for Life & Non-Life Insurers

1 May 2007

Agenda - Solvency II

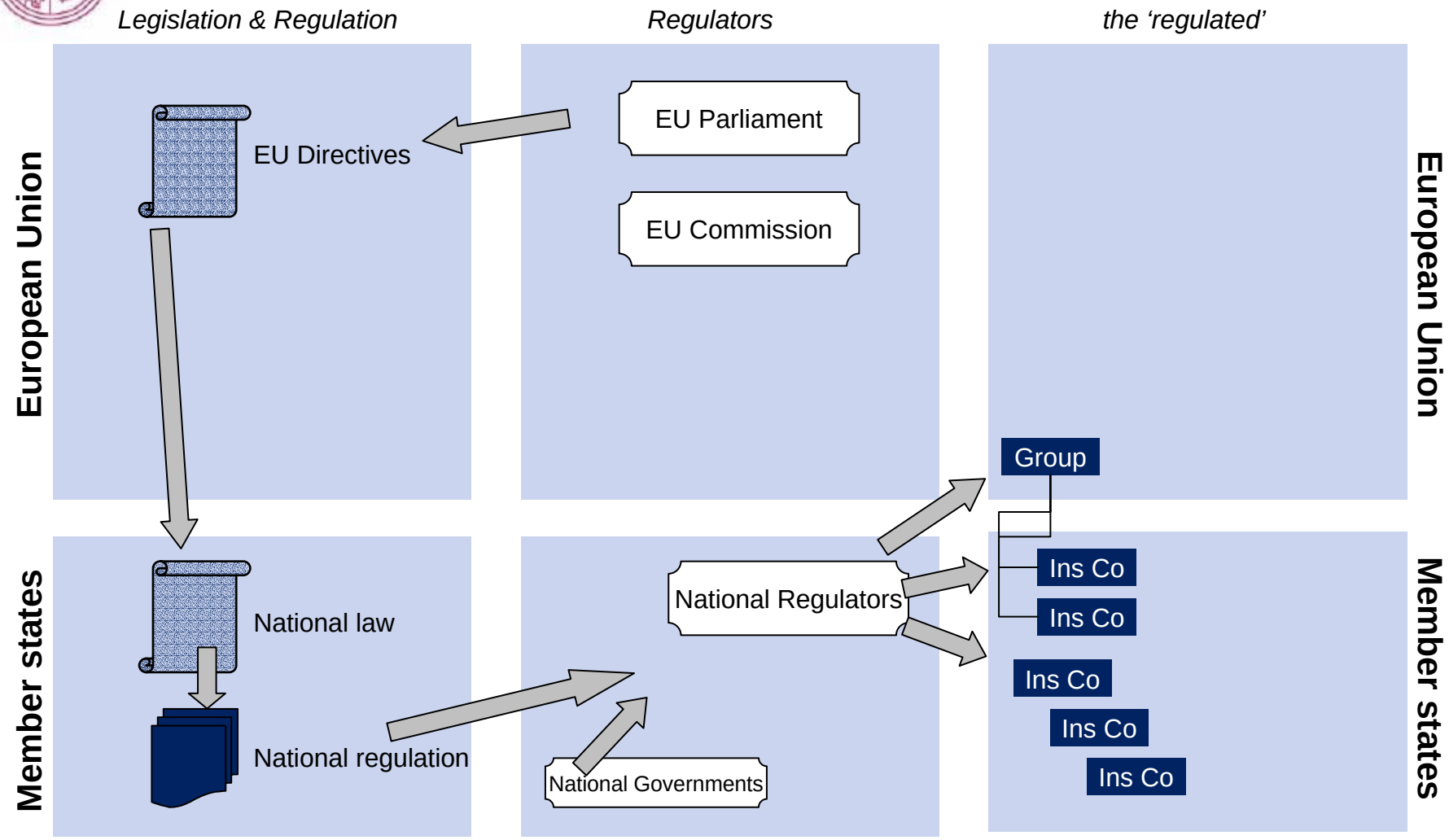
1. General History and Background

2. Pillar 1
   - including modelling and business implications from a primarily life perspective

3. Pillar 2 and 3
   - including the general insurance perspective

1. General History and Background

Insurance Regulation in the EU



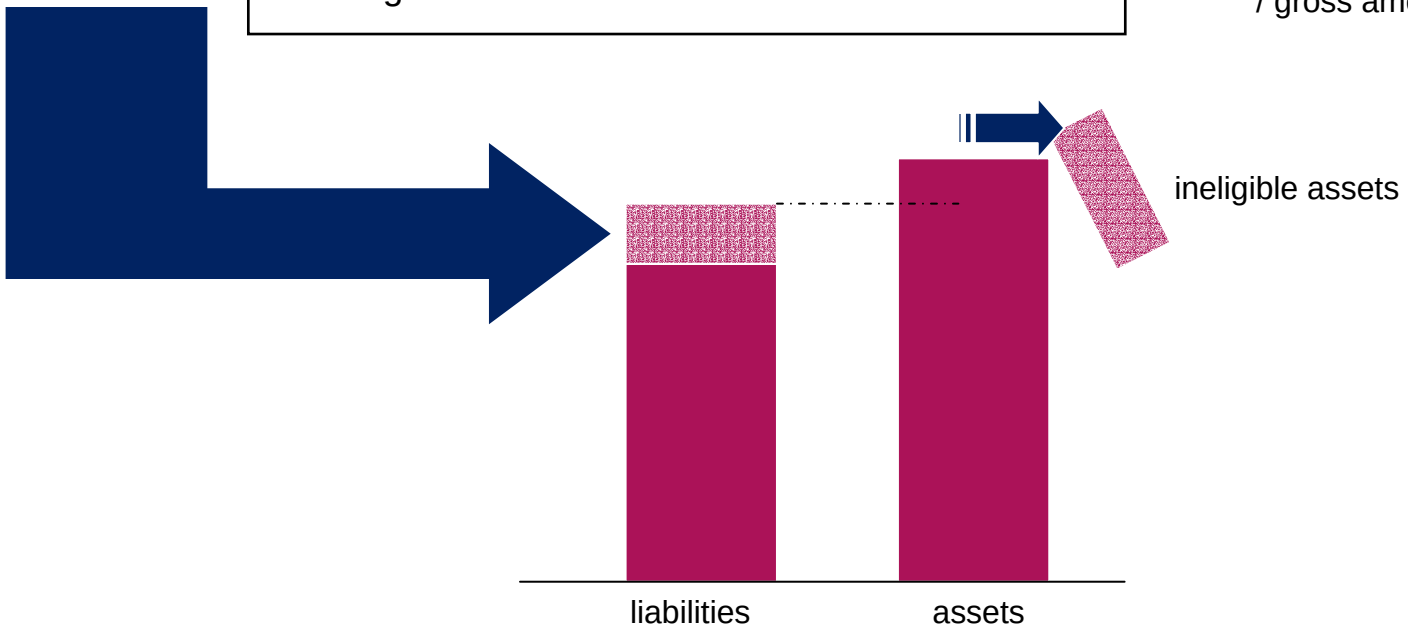
Current European solvency rules (Solvency I)…

max

18% x gross premiums	€ 0 million <> € 50 million	x (Net amount of claims / gross amount of claims)
16% x gross premiums	> € 50 million	

max 50% reduction for reinsurance

26% x gross claims	€ 0 million <> € 35 million	x (Net amount of claims / gross amount of claims)
23% x gross claims	> € 35 million	

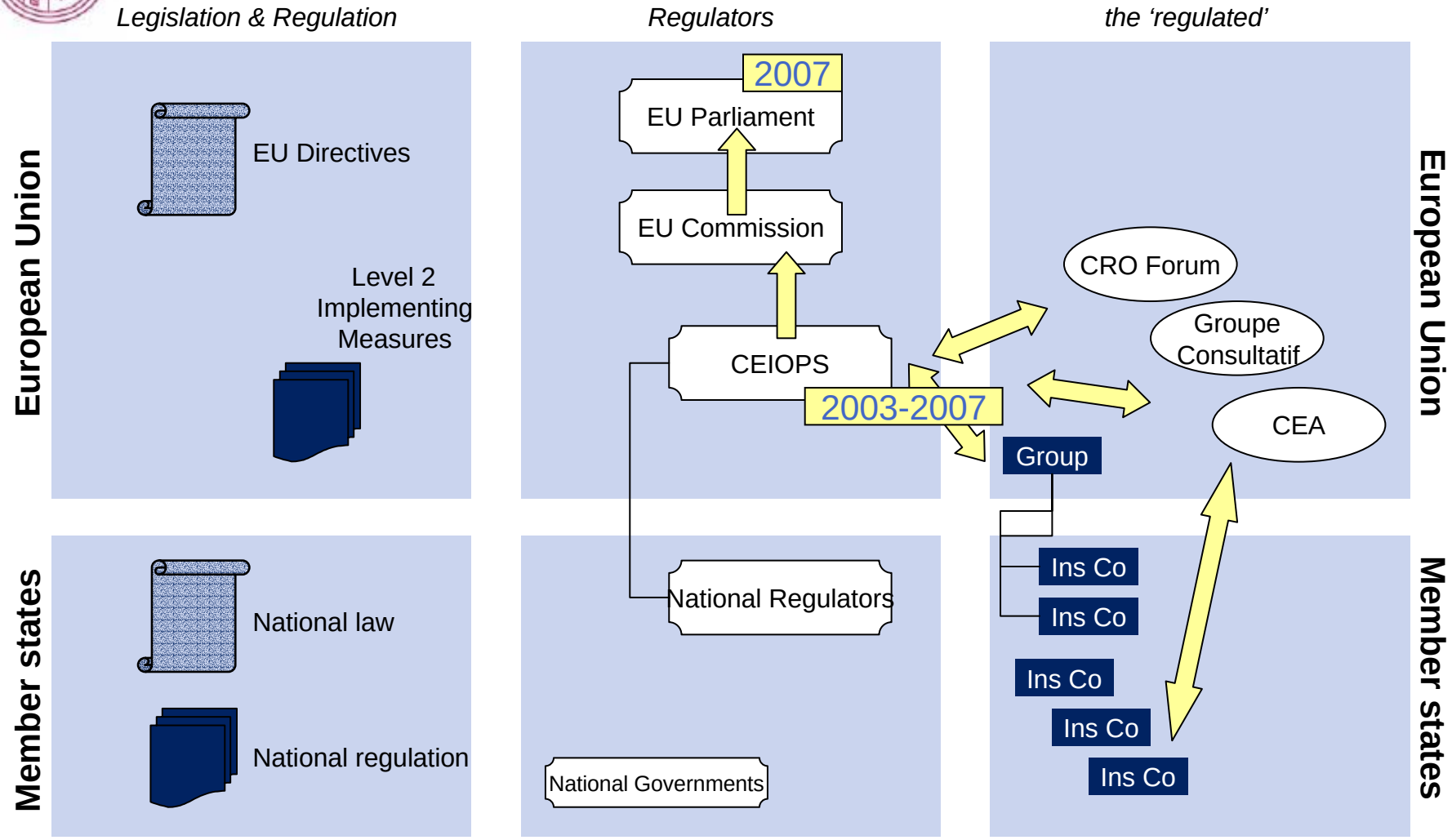


What is Solvency II and what does it do?

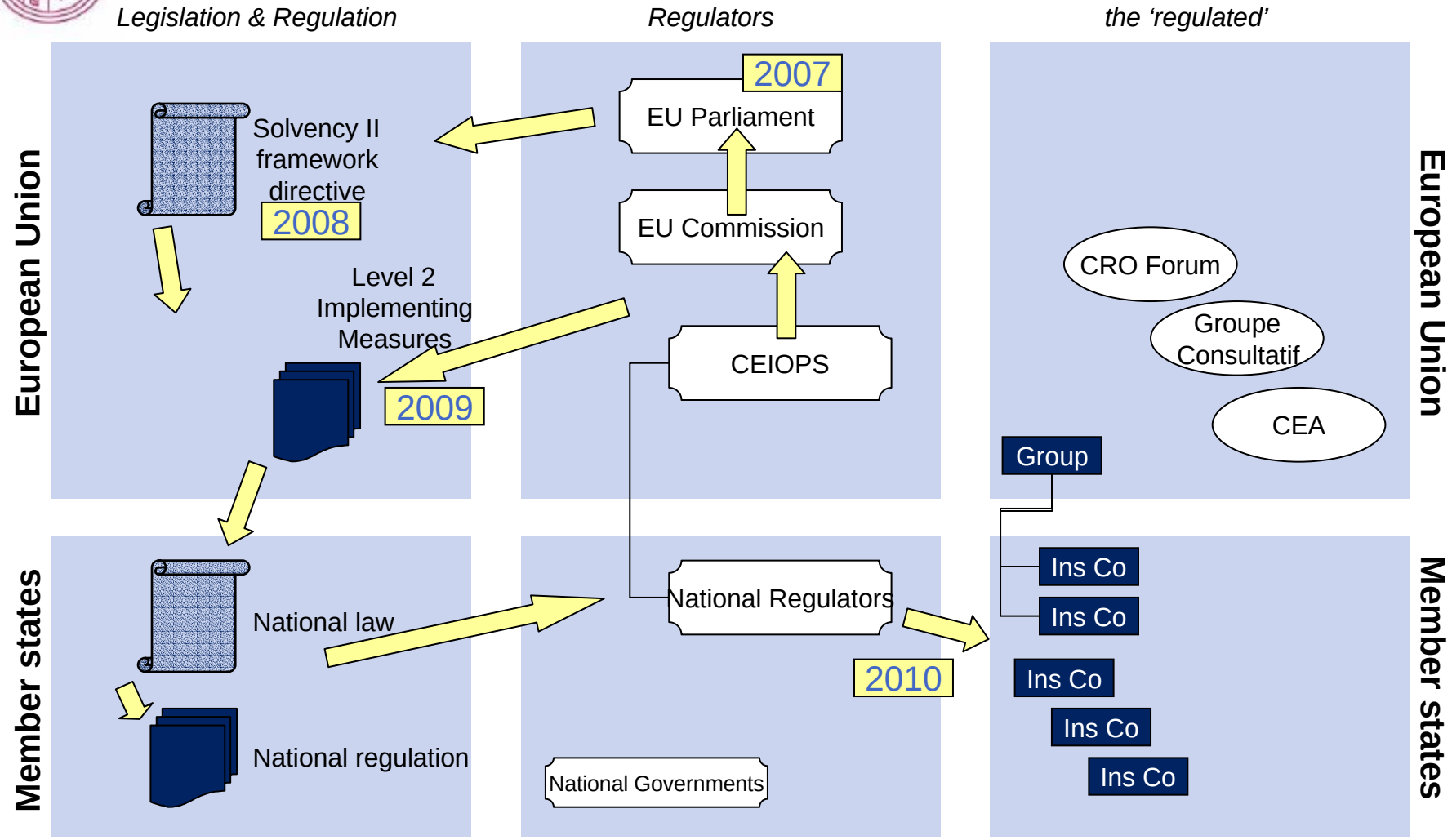
- The proposed new Europe-wide framework for prudential supervision of insurance.
- Replacement for Solvency I regulations which became mandatory in Europe in January 2004. However this is a transitional system and is only a minor update to the much older solvency margin calculation.
- Problems with Solvency I
  - Outdated system (rules date from 1970s)
  - Insufficiently risk-sensitive
  - Did not reflect best practice
  - Difficulties in supervising multinational, diversified groups
  - Does not encourage / reward risk management iniatives

Aim of Solvency II is to link to the required capital of insurance companies more closely to the risk profile of insurance companies

The Solvency II Process 2003 - 2007

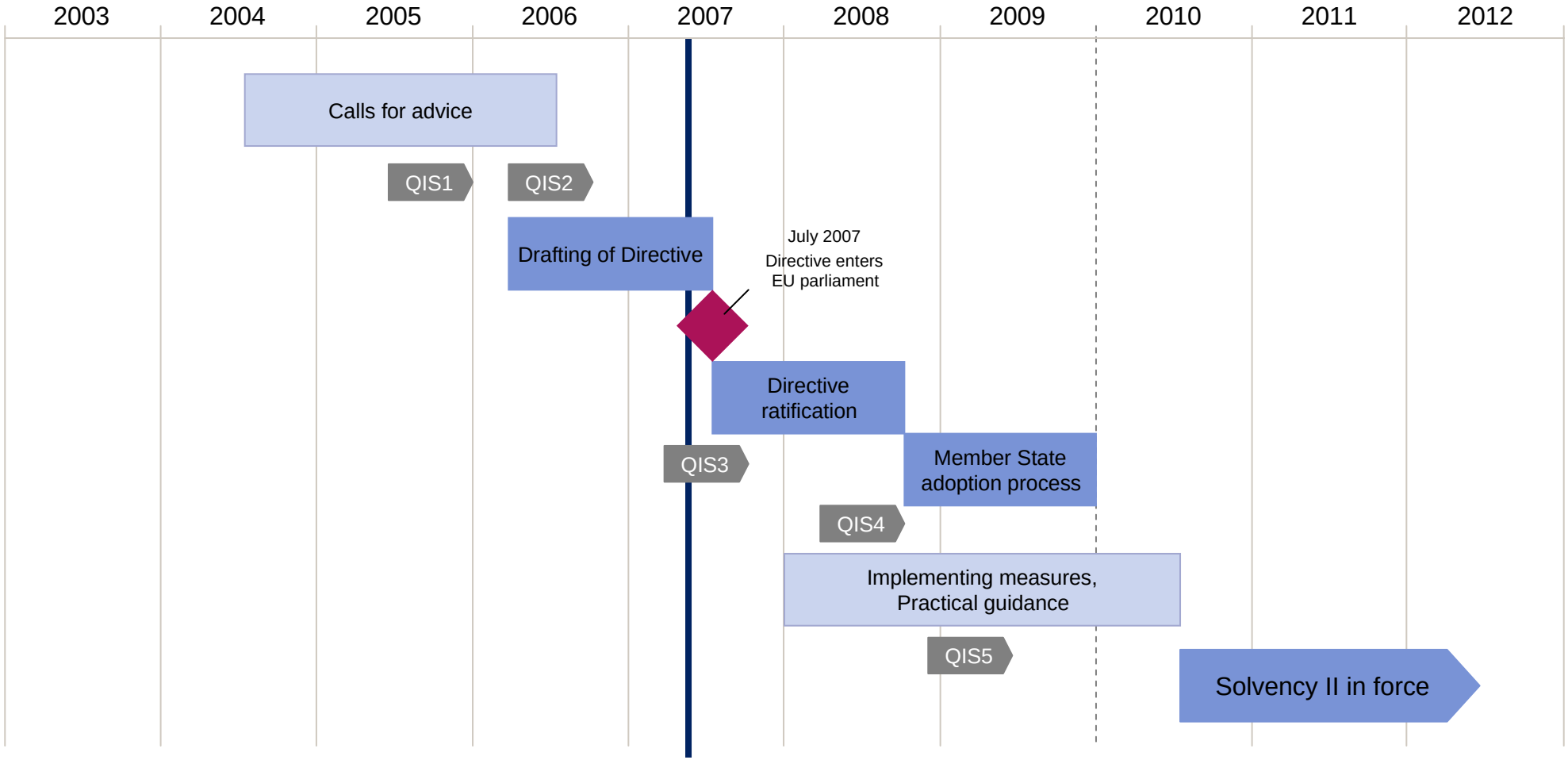


The Solvency II Process 2007 - 2010



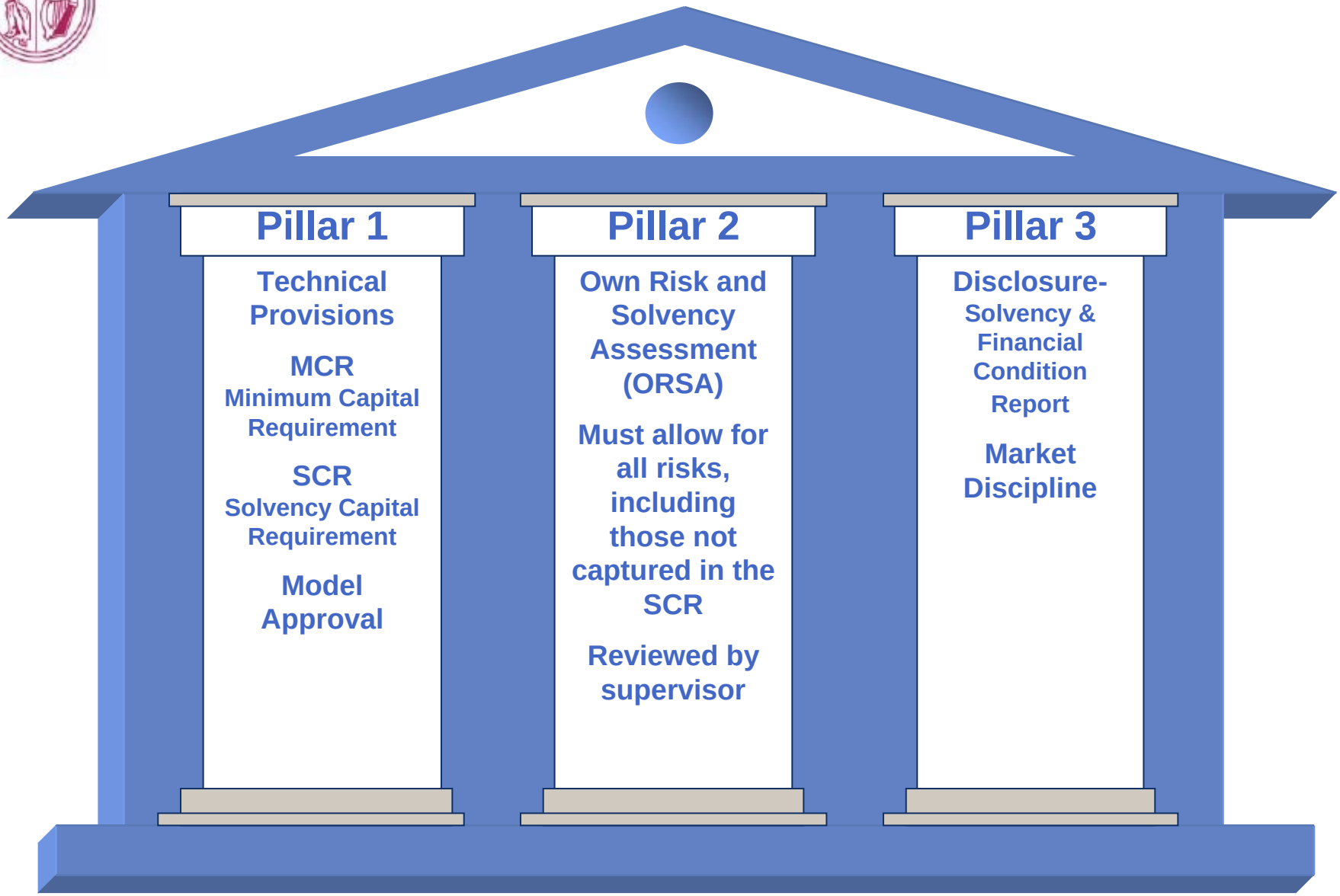
Solvency II Timeline

Overall project timetable

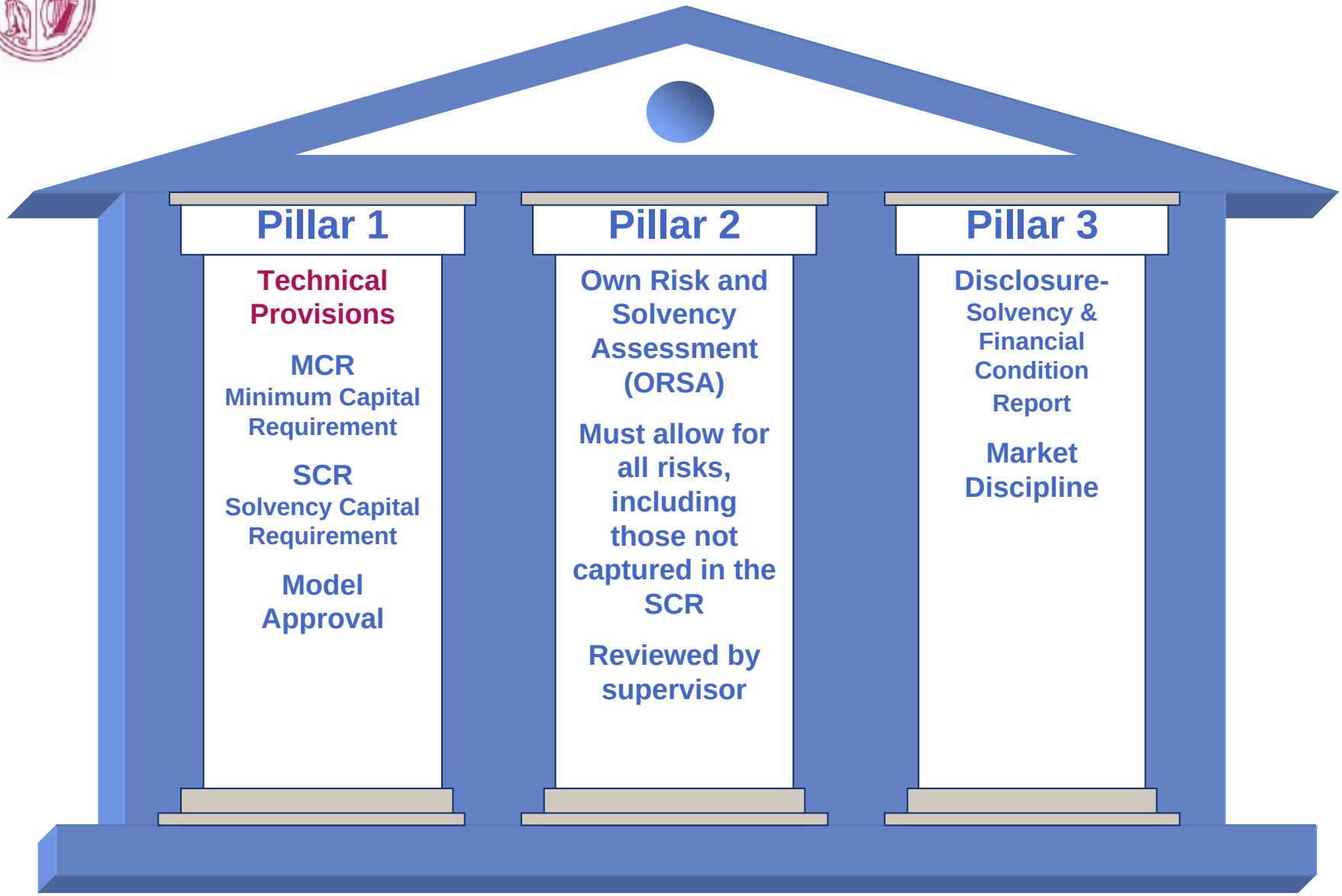


2. Pillar 1

Solvency II Framework

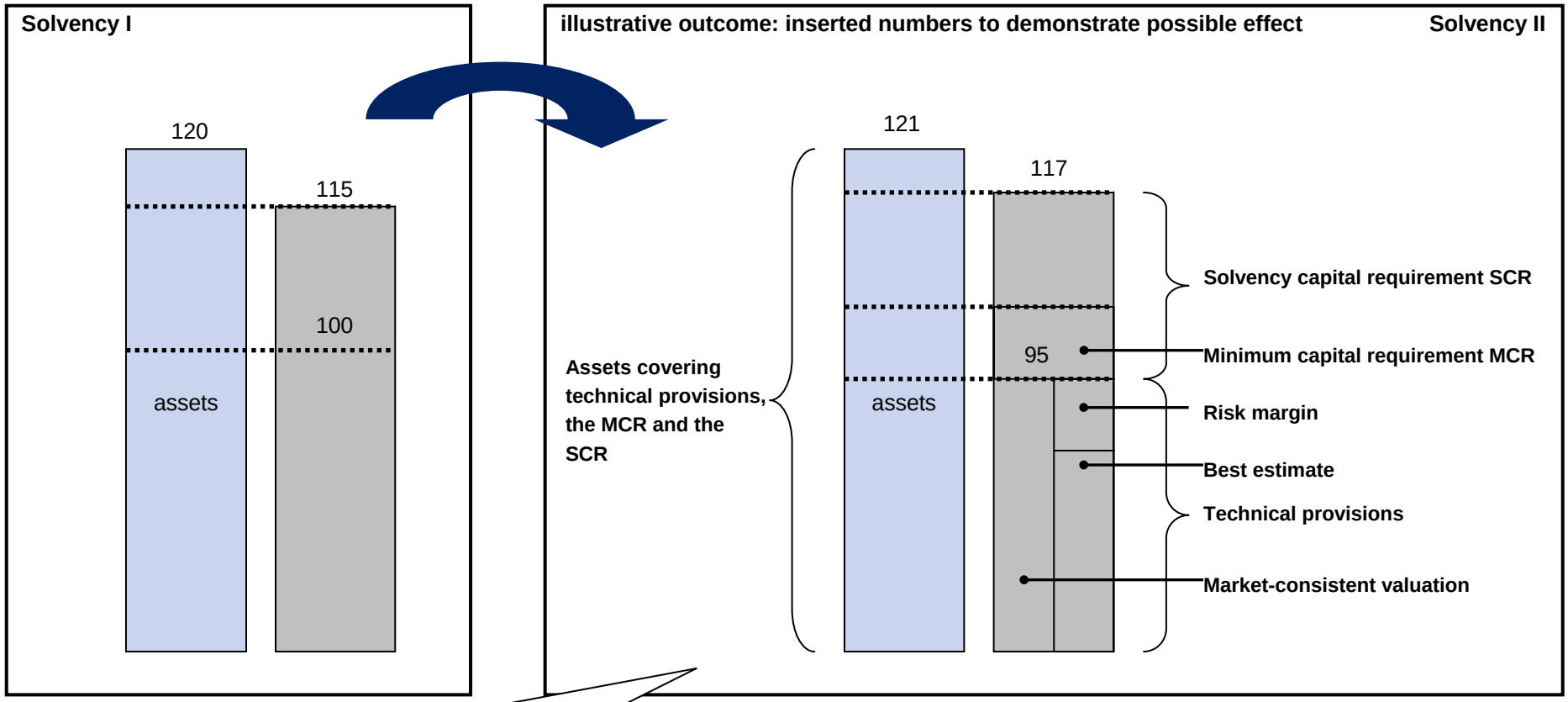


Solvency II Framework



Solvency II Technical Provisions

recasting the insurance balance sheet



technical provisions decreased to 95 from 100 SCR of 22 increased from 15 under Solvency 1 eligible capital increased solvency ratio decreased but above 100%

QIS2 Report: “the impact on companies’ solvency positions seems to differ between undertakings, with the overall impact appearing to depend on a combination of opposing effects.”

Technical Provisions

Proposed principles and method for the valuation of technical provisions:

- Use market-consistent information when available
- Use best estimate plus explicit risk margin when market consistent information is not available
- Technical provisions should ensure insurance liabilities could be taken over by another insurer
- Cost of Capital method of calculating risk margin recommended by CEIOPS

Technical Provisions

Cost of capital approach:

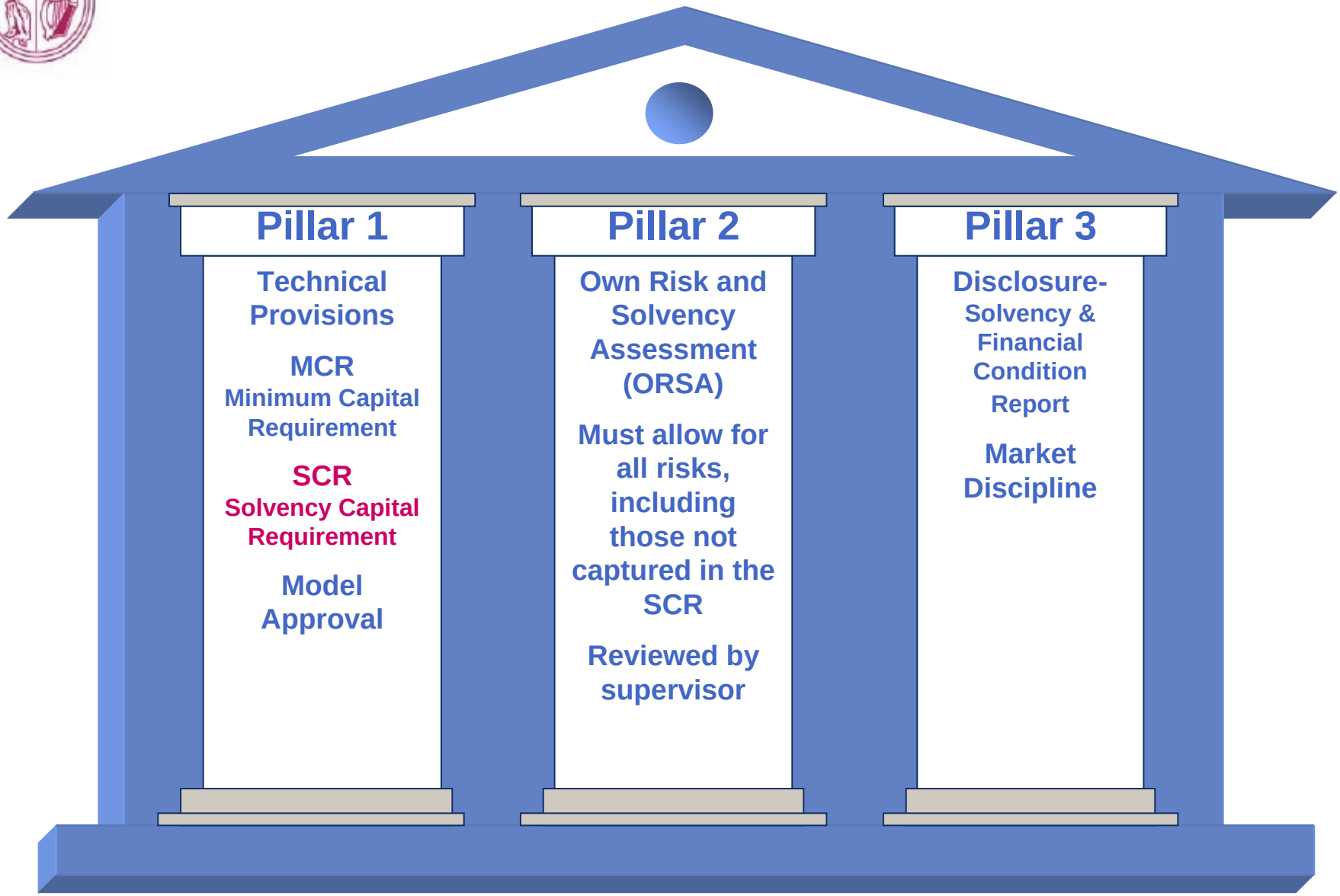
- **Project the SCR for years 1, 2, … until the portfolio runs off**
- **Multiply each future SCR by cost of capital factor (QIS 3: use 6% above the risk free rate) to get cost of holding future SCRs**
- **Discount each future year's cost of capital using the risk free yield curve**

Technical Provisions

QIS 3 cf QIS 2

- **Cost of capital approach rather than percentile**
- **Hedgeable/non-hedgeable risks- reasonable interpolation/extrapolation permitted**
- **Discounting: clarification that deflator methods can be used where appropriate**

Solvency II Framework



Solvency Capital Requirement (SCR)

EU Commission: Framework for Consultation

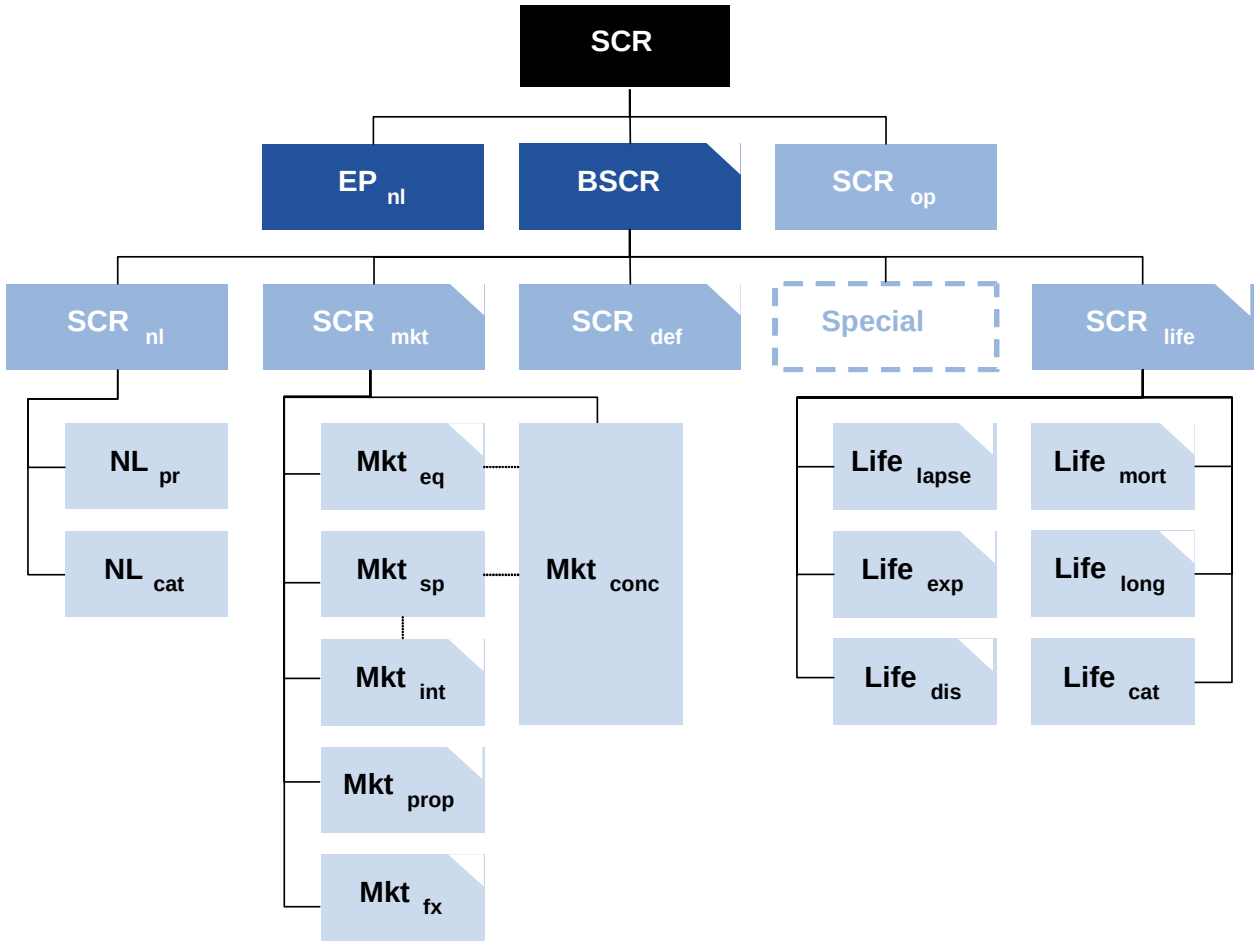
- **SCR reflects level of capital**
  - to enable firm to absorb significant unforeseen losses and
  - that gives reasonable assurance to policyholders and beneficiaries (IAIS SE8)
- **When SCR not covered**
  - firm shall re-establish the amount of capital covering the SCR in due time,
  - based on a concrete and realisable plan submitted to the supervisor for approval.

SCR

Proposed principles:

- **Derived using either an approved internal model or a 'standard formula'**
- **99.5% confidence level over 1 year on value at risk approach, or VaR (equivalent to BBB credit rating)**
- **As a minimum to cover insurance, market, credit and operational risks**
- **Assumptions on going concern basis**
- **Part of supervisory review process (SRP)**

CEIOPS proposed structure for SCR standard formula



SCR standard formula- life insurer

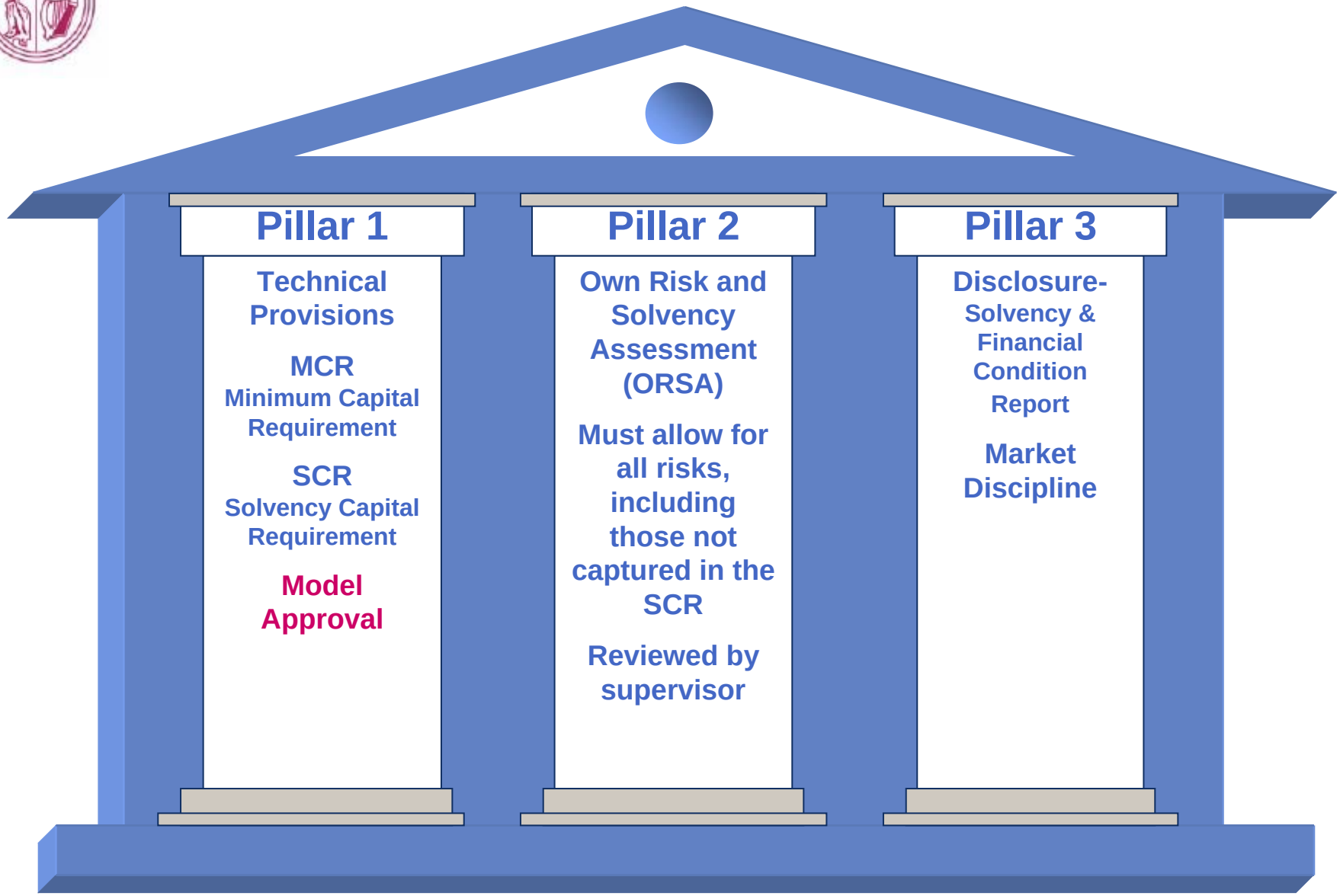
- **Life underwriting risk module**
  - Mortality, longevity, lapse, expense, disability, catastrophe risk sub-modules
- **Market risk module**
  - Equity, property, fixed interest, spread risk, concentration risk, currency risk sub-modules
- **Default risk module**
- **Operational risk module**
- **Adjustment for profit-sharing aspects in each sub-module (KC-factor)**

SCR

QIS 3 cf QIS 2

- **Market risk includes new spread risk and concentration risk sub-modules**
- **Market risk correlations adjusted**
- **Equity risk calibration reduced**
- **Life underwriting**
  - scenario approach adopted
  - catastrophe risk module added for
    - › mortality catastrophe e.g. epidemic risk
    - › Lapse risk on unit-linked business if TP< payment on termination

Solvency II Framework



Internal model decision

Internal risk management	Regulatory capital requirement
use test: Is the actuarial model genuinely relevant for and used within risk management?	**calibration test:** Is the SCR computed by the undertaking a fair, unbiased estimate of the risk as measured by the common SCR target criterion?
Base methodology / 'actuarial model'	
statistical quality test: Are the data and methodology underlying both internal and regulatory applications sound and sufficiently reliable to support both satisfactorily?	

SCR- internal models

Use test- IM central to:

- risk management and decision-making
- economic and solvency capital assessment
- system of governance

SCR- internal models

Statistical quality test- IM meets standards:

- Probability distribution forecast
  - based on sound actuarial/ statistical techniques
  - current, credible info/ realistic assumptions
  - broadly consistent with approach to technical provisions
  - assumptions justified by firms
  - data appropriate and accurate
  - No particular method, provided IM meets criteria of use test
- All material risks to be covered, including all those addressed in Standard Formula

SCR- internal models

Statistical quality test- IM meets standards:

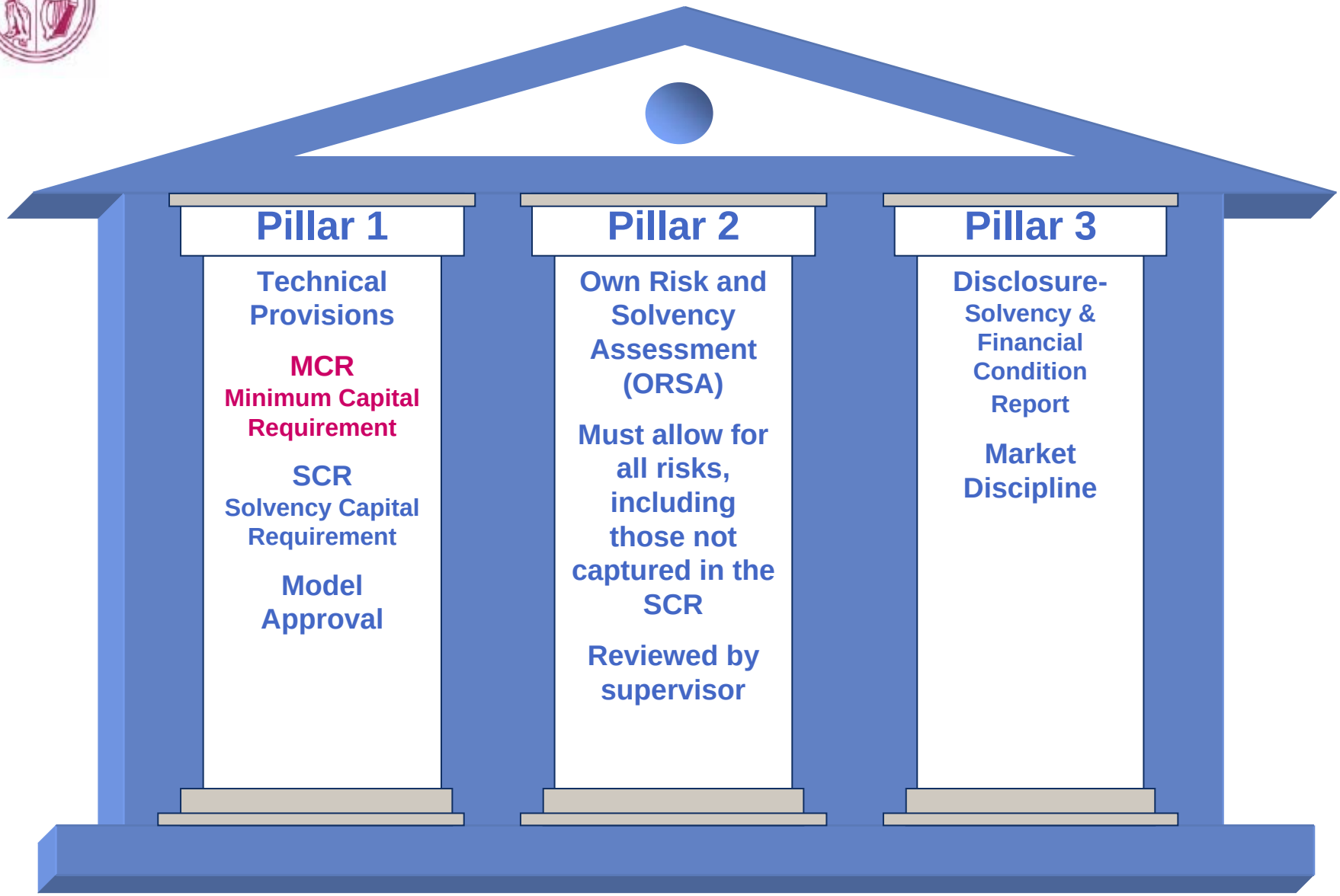
- **Diversification approach to be sound and implemented with integrity**
- **Allowance for risk mitigation permitted provided counterparty credit risk and other risks arising reflected in IM**
- **Financial guarantees or options to be modelled where material**
- **Management actions can be modelled provided firm reasonably expect to carry out in specific circumstances**
  - allowance for time to carry out management actions and obligations to policyholders e.g. policy wording, marketing literature affecting policyholder expectations

SCR- internal models

Calibration standards:

- Different risk measure/ time horizon permitted provided policyholders' protection equivalent to Standard Formula i.e. 99.5% over 1 year, VaR
- Where feasible, use this measure
- Approximations permitted where firm demonstrates approach provides equivalent protection
- Supervisors may require models to be run on benchmark assumptions to verify specification meets market practice

Solvency II Framework



Minimum Capital Requirement (MCR)

- **The capital level representing the final threshold that could trigger the ultimate supervisory measures in the event that it is breached**
- **Level representing an unacceptable risk to policyholder**
- **To include consideration of impact of closure on, for instance, asset values – QIS3 does this implicitly**

MCR

Proposed principles:

- Simple and robust
- Straightforward, like Solvency I
- Auditable
- As risk sensitive as possible
- Consistent with the rest of Pillar I

MCR

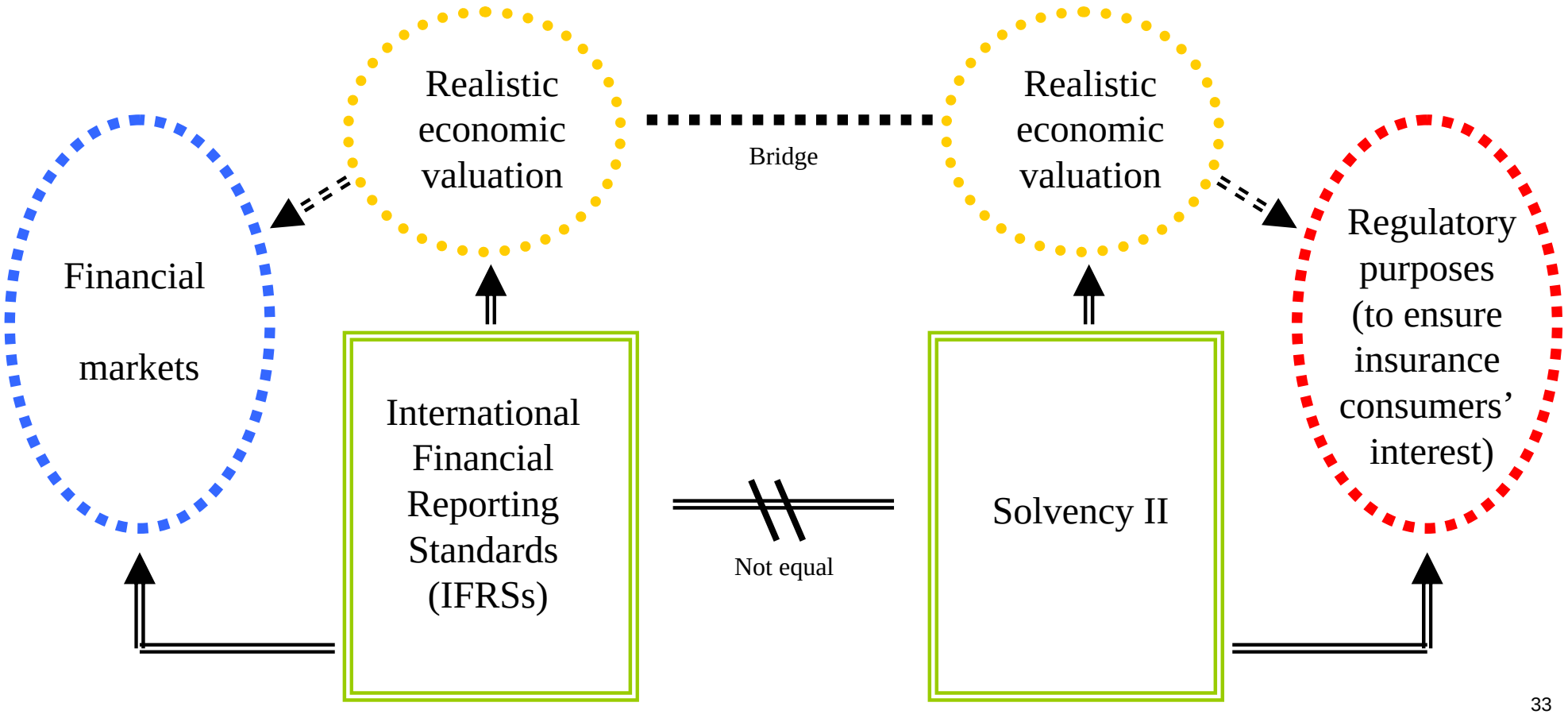
QIS 3 cf QIS 2

- Modular approach has been developed
- Allowance for profit-sharing now included
- 2 alternatives for market risk on factor-based approach
- Data for Compact approach also available via SCR calculations

Capital hierarchy

- **Highest quality capital = unlimited eligibility**
  - fully loss absorbent in going concern or winding up (tier 1)
- **Other eligible elements = limited eligibility**
  - loss absorbent but not meeting all characteristics of highest quality items (tier 2)
  - elements whose loss absorbency needs to be assessed by the supervisor (insurance tier 3)
- **Limits**
  - lower quality capital should not exceed highest quality capital (i.e. t2 + t3 < t1)
  - some further differentiation within T1 and T2
  - contingent items not eligible for MCR

Solvency 2 and IASB



Consolidation

AIG

Insurance groups in the EU market

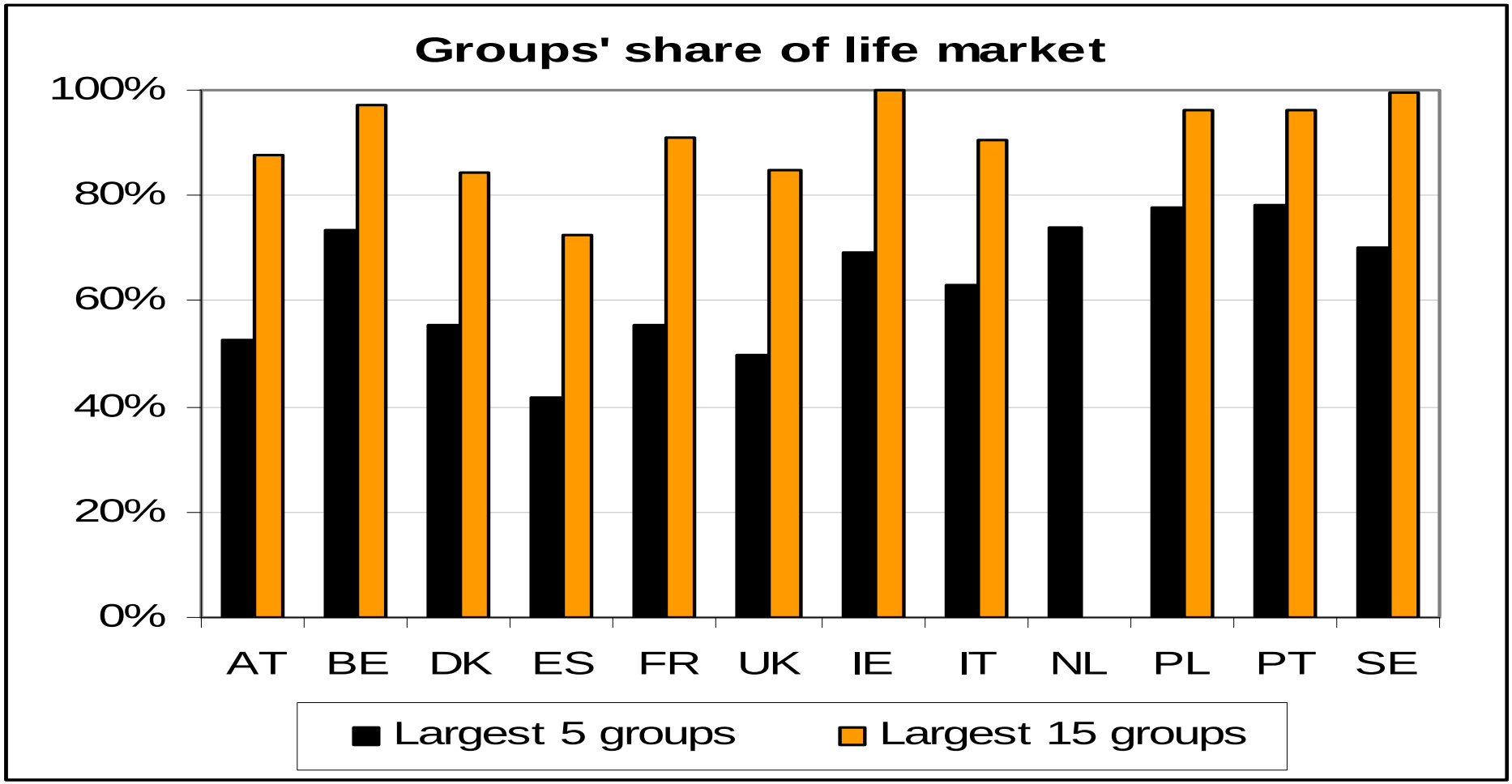
20 largest EU insurance groups:

- Global direct premium €635bn (24.3%)
- Europe direct premium €461bn (50.3%)
- Total investments €3,470bn (60.0%)

Sources:

CEA European Insurance in figures, June 2006; Swiss Re Sigma no. 5, 2006.

Insurance groups in Member States' life markets

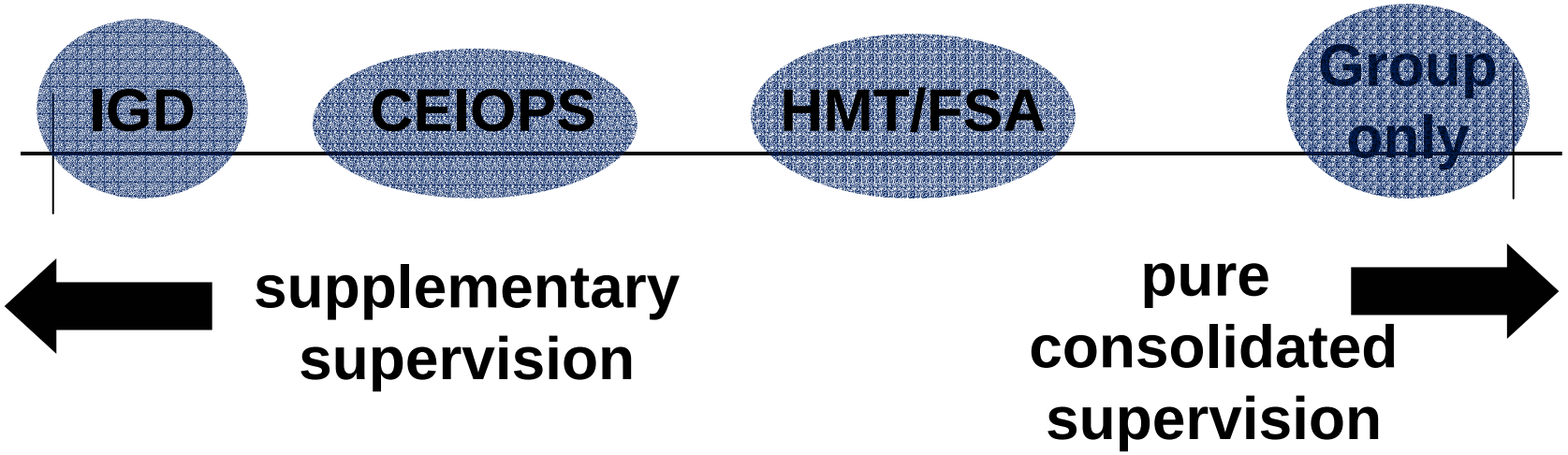


Source: CEA European Insurance in figures, June 2006

Two views of an insurance group

Group supervision is about balancing two views of an insurance group:

- **As a collection of independent legal entities: "supplementary supervision"**
- **As a single economic entity across which risks are pooled and diversified: "pure consolidated supervision"**



E&Y Survey

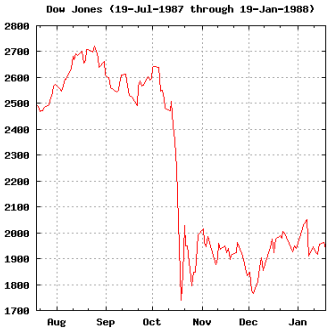
- Only 20% believe internal models meet Solvency II standards
- Divided on whether information systems development will present a challenge
- 64% see a need to upgrade the skills of actuaries / risk managers
- Operational risk analysis least developed because of absence of data

Survey of 54 insurers in several countries with average assets of €110bn published September 2006

Risks to a smooth transition

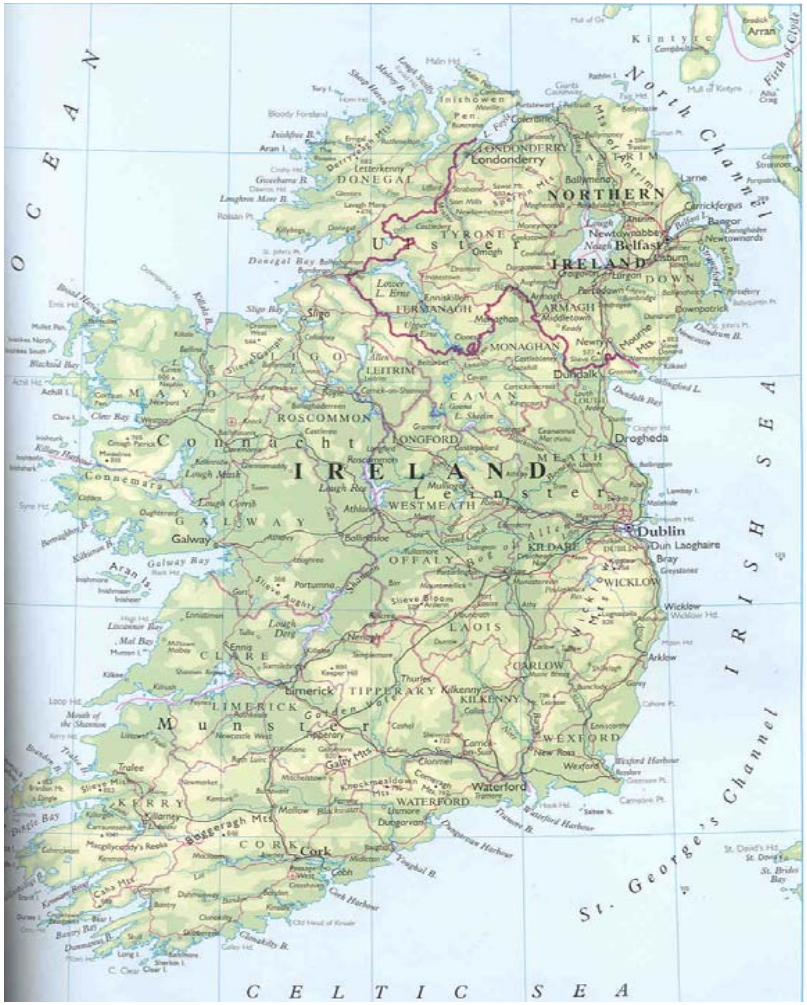
- Tax
- Politics
- Legal systems
- Supervisor roles
- Supervisory competence
- Smaller mutuals
- Calibration
- Capital markets developments

AKG Photo



Life in Ireland

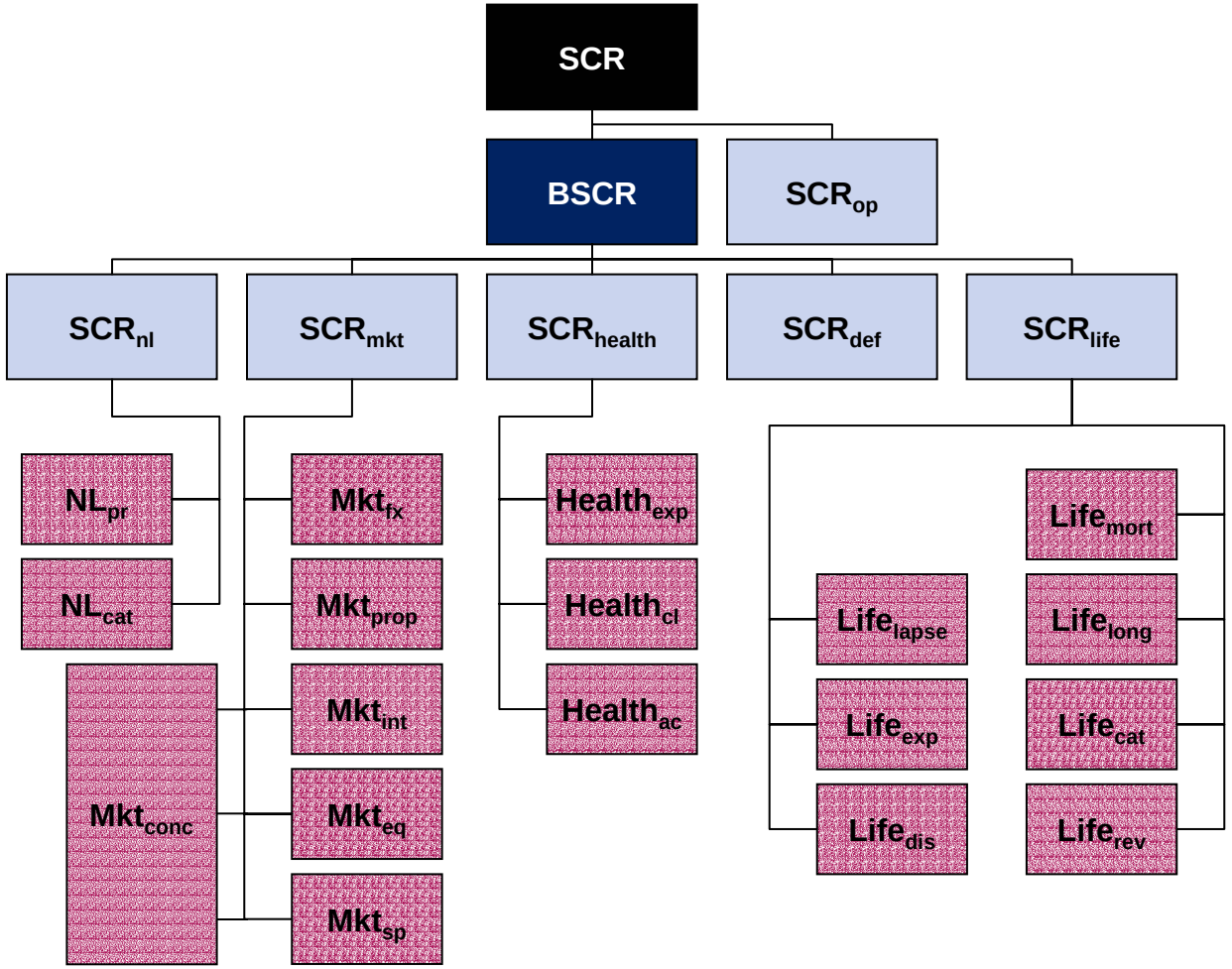
- Relatively high operational and low market risks?
- Calibrate op risk elements of standard formula?
- Cost/benefit of internal models?
- Match pace of other regulators?
- Group supervision?



3. Pillars 2 and 3

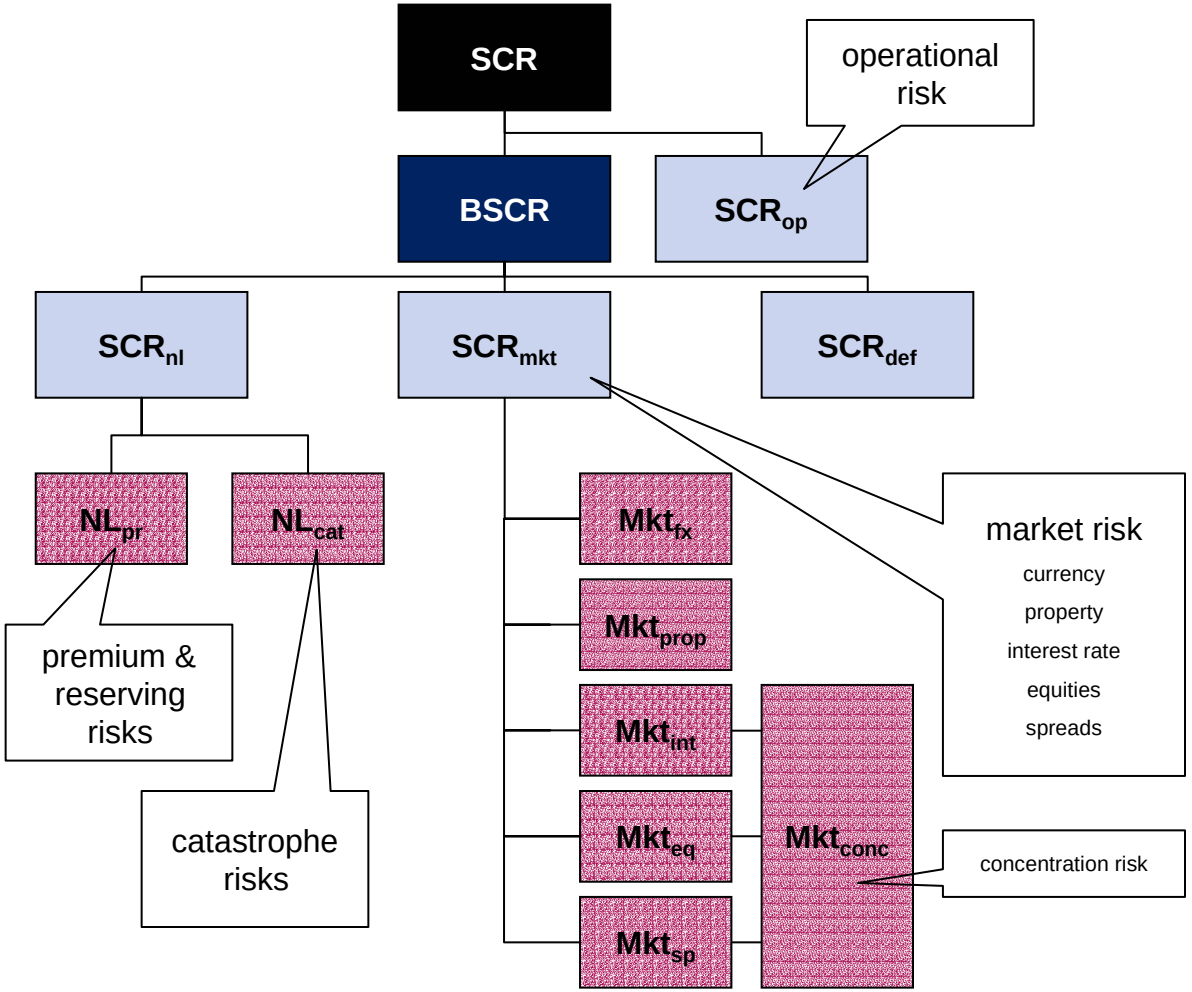
‘Standard Formula’ Solvency Capital Requirement SCR

The complete hierarchy

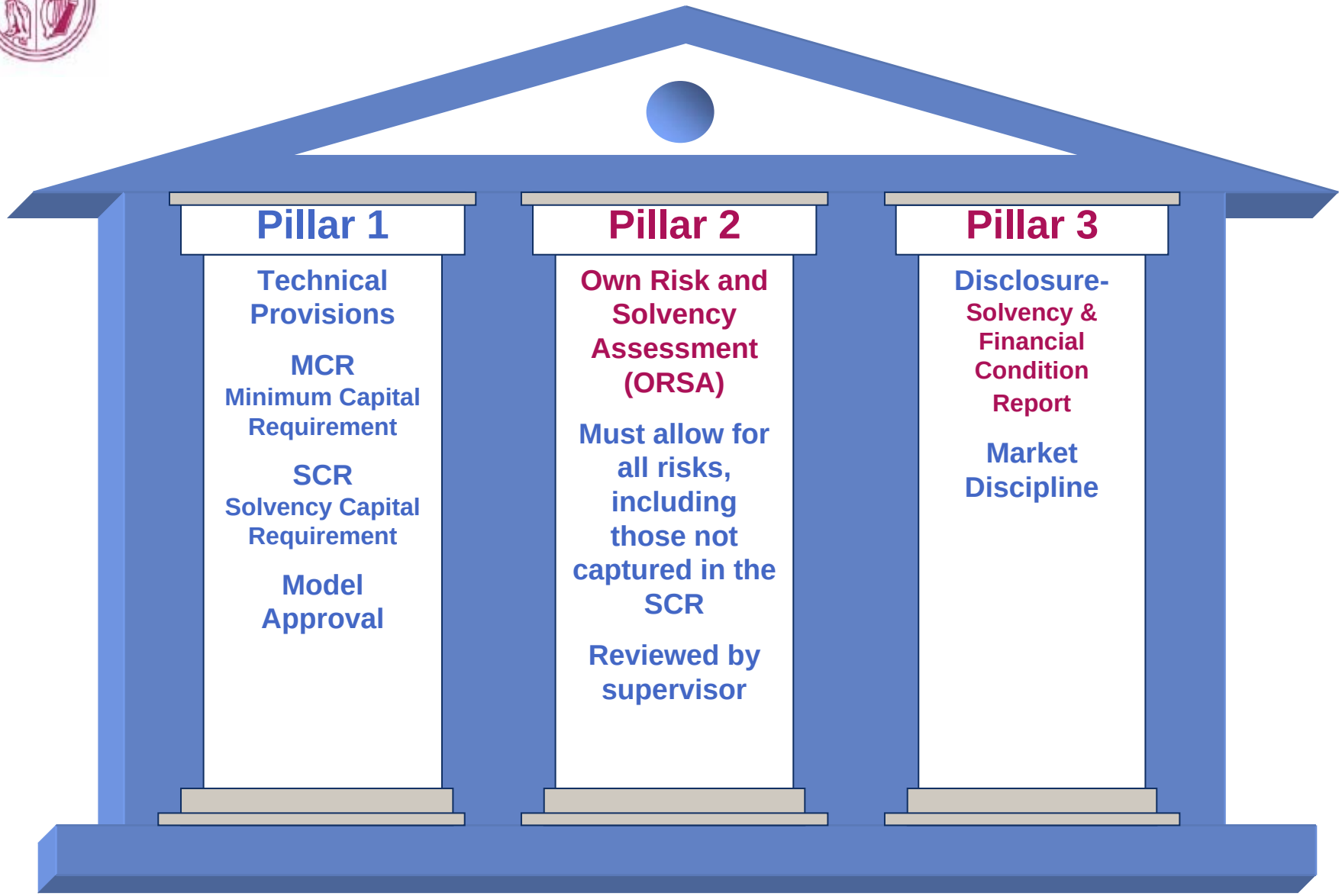


‘Standard Formula’ Solvency Capital Requirement SCR

The risk modules for non-life insurers



Solvency II Framework



Pillar 2

Risk Management and Supervisory Process

Pillar 2 covers the supervisory review process and internal governance and risk management requirements.

- **Supervisory Review:** to cover governance, ORSA, balance sheet components, internal models
- **Capital add-ons:** may be applied for weaknesses in the calculation of the SCR or inadequacies in internal governance and risk management
- **Own Risk and Solvency Assessment (ORSA)** which requires:
  - Assessment of capital required based on internal risk profile and risk tolerance
  - If internal model is used, reconciliation of SCR to internal capital assessment
  - Onus is placed on insurer management to consider all risks and capital related to all risks (e.g. insufficient to rely on having mechanically performed all the modules in the ‘standard formula SCR’
- **Governance Requirements:** robust and documented system of governance required

Pillar 3

Disclosure & Market Discipline

- The Draft Directive outlines requirements for:
  - Information to submit to regulator
  - Public disclosures
  - Disclosures by regulators
- Each company must publicly disclose a ‘Solvency and Financial Condition Report’ which includes:
  - Business overview
  - Governance structure, especially for risk profile
  - Valuation methodology and assumptions for assets and technical provisions
  - Risk management process
  - Capital – MCR, SCR, including capital add-ons and available capital
  - Internal model – methodology, assumptions, validation process

Pillar 3

- Each regulator must also publish:
  - Average capital add-on and distribution of the add-ons (% SCR)
  - The proportion of add-ons due to:
    - SCR standard formula not being adequate
    - SCR internal model not being adequate
    - Inadequate governance

Questions

Thank You