



# Solvency II overview

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INTNL-2: Solvency II - Update and Current Events

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# Solvency II – overview

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Solvency II is the proposed new Europe-wide framework for prudential supervision of insurance, due to come in force end of 2012.

Aims to address problems with Solvency I:

- ▶ Outdated system
- ▶ Insufficiently risk sensitive
- ▶ Does not reflect best practice
- ▶ Difficulties in supervising multinational, diversified groups

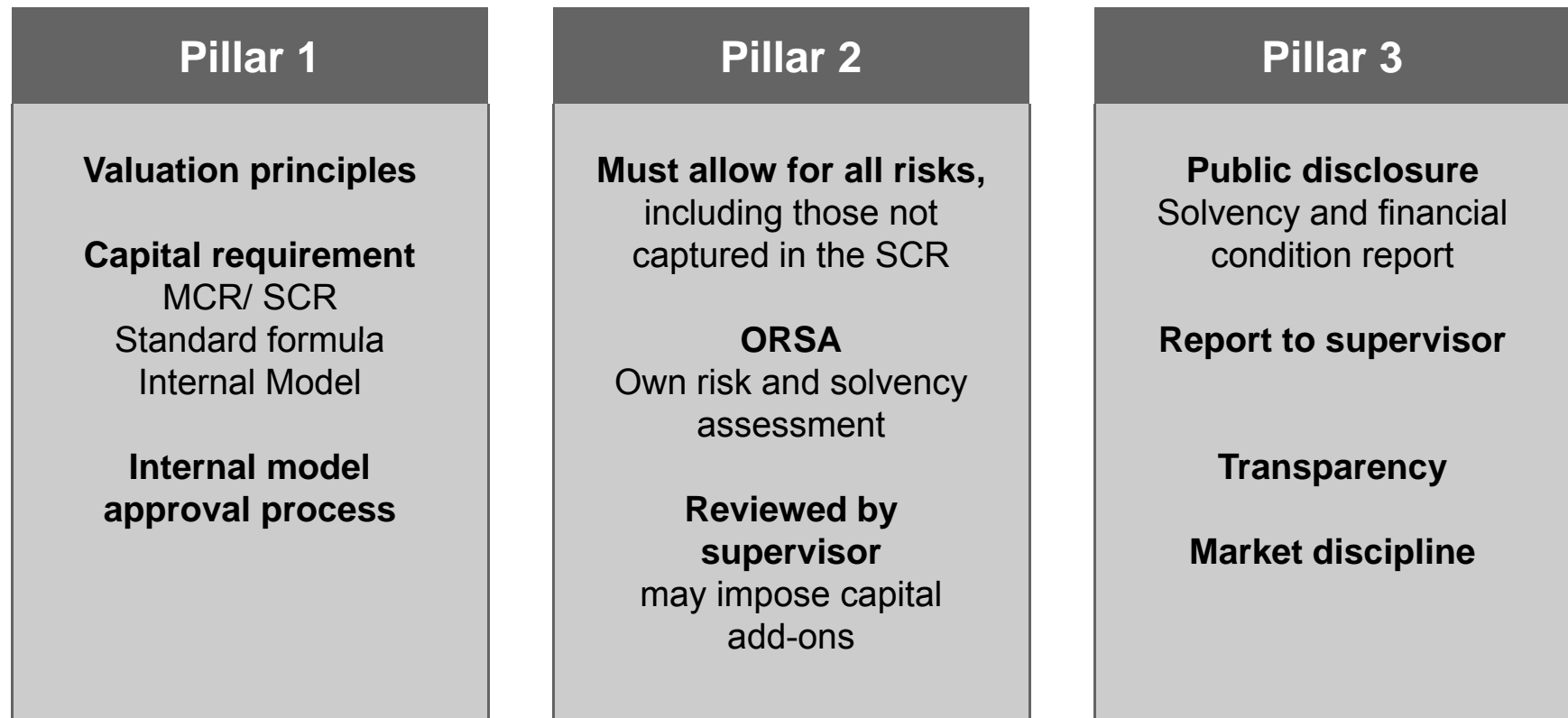
A fundamental change to Solvency requirements:

- ▶ Market consistent approach for valuing liabilities (links to IFRS)
- ▶ Capital requirements linked to risk profile
- ▶ Convergence of economic capital and regulatory capital
- ▶ Lead supervisor for international groups
- ▶ Capital add-ons for deficiencies

# Solvency II – three pillar approach

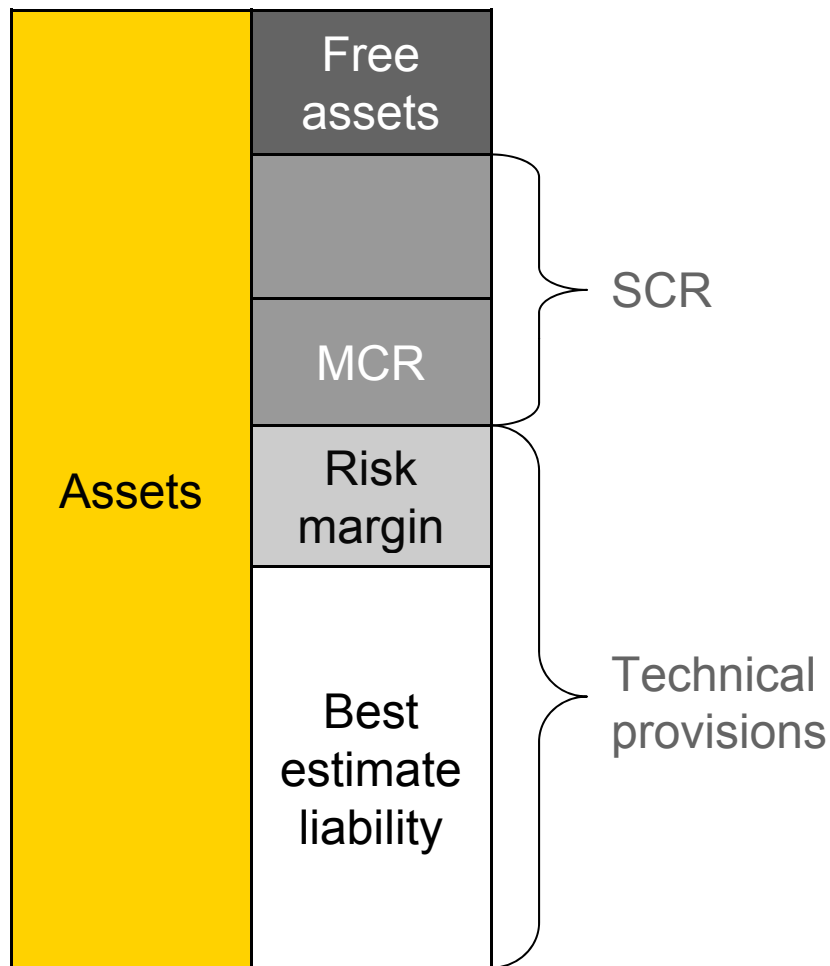
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Solvency II is based on the three pillar Basel II model from the banking industry, with more focus on enhanced risk management standards:



# Pillar 1

## Market-consistent balance sheet



### *Assets*

- ▶ Assets valued at market value

### *Technical provisions*

Three building blocks, similar to IFRS:

- ▶ **Best estimate** of all future cash flows
- ▶ **Discounted** at a risk-free interest rate
- ▶ **Risk margin** for non-hedgeable risks and unavoidable market risks

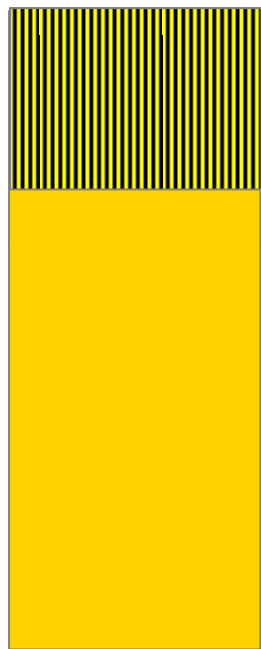
### *Capital requirements*

- ▶ **SCR** = first regulatory intervention point
- ▶ **MCR** = final regulatory intervention point

# Pillar 1

## Technical Provisions

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**Risk Margin**

### **Risk Margin**

- ▶ Cost of Capital approach
- ▶ Designed to cover the cost of providing capital to support the business in run-off
- ▶ Captures cost of non-hedgeable risks

**Best estimate reserves**

### **Best Estimate Reserves**

- ▶ Discounting at risk free rate – no allowance for credit spreads
- ▶ Discretionary benefits and effects of reasonable management actions included

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# Pillar 1

## Risk Margin - Cost of Capital Approach

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- ▶ Solvency II requires a Cost of Capital approach for determining the Market Value Margin
- ▶ Market Value Margin defined as present value sum of a capital base each period, over the lifetime of the liabilities, multiplied by a cost of capital rate per period.

$$MVM = \sum_i CoC\_rate * C_i * v^i$$

- ▶ Inputs required:
  - ▶ Initial Capital Base
  - ▶ Capital Base in each subsequent period over the lifetime of the liability
  - ▶ Cost of Capital Rate per period
  - ▶ Discount rates

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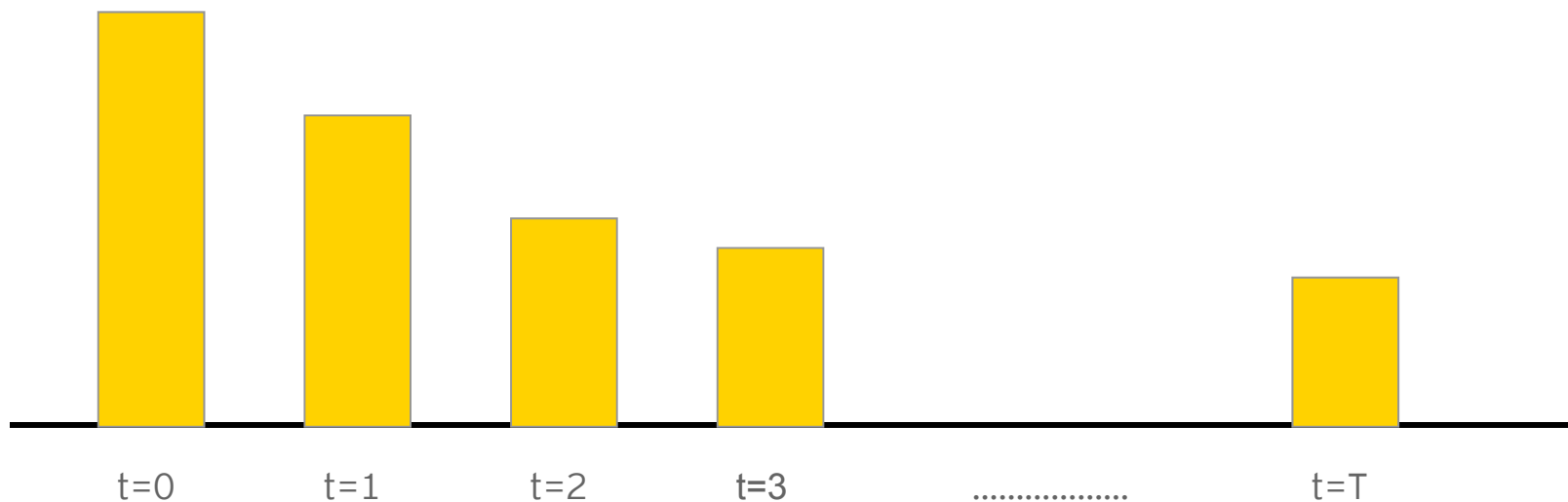
# Pillar 1

## Risk Margin - Steps to calculate (1)

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**Step 1.** Calculate SCR(t) for  $t=0$  and for each future year

- ▶ for each segment
- ▶ throughout the lifetime of obligations in that segment
- ▶ SCR(0) corresponds to today's capital requirement of the firm
- ▶ but only those risks considered non-hedgeable are considered for  $t \geq 1$ :  
insurance, operational and counterparty default relating to ceded reinsurance





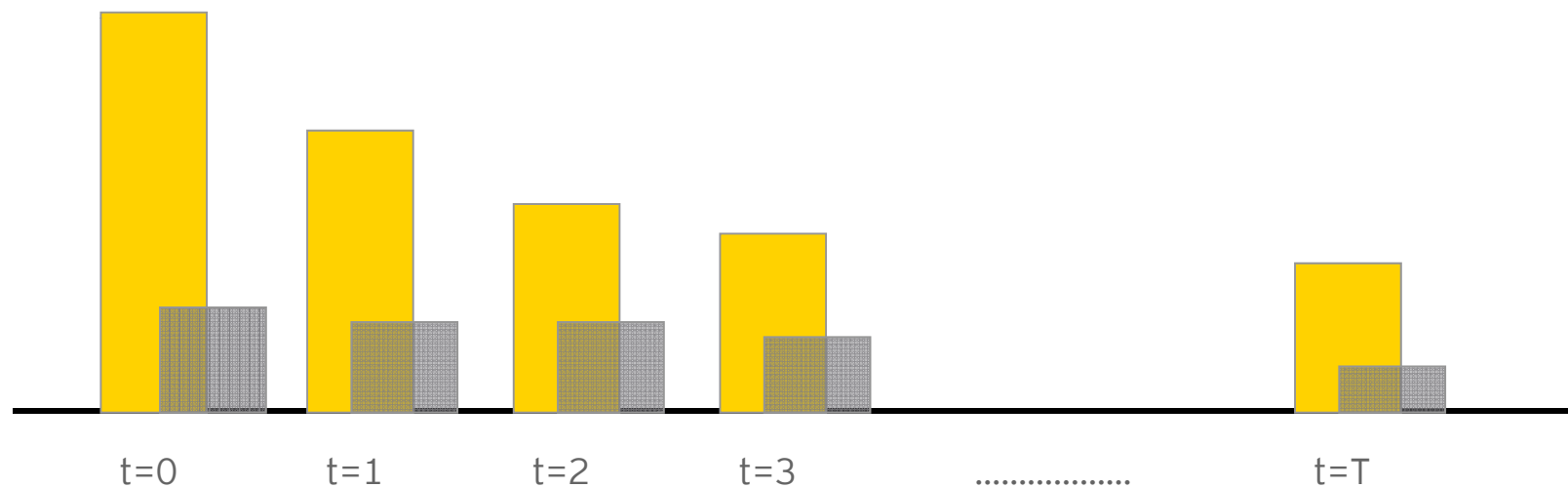
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# Pillar 1

## Risk Margin - Steps to calculate (2)

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**Step 2.** Multiply each of the SCR's by the Cost-of-Capital rate (6% under Solvency II) to determine cost of holding future SCR's



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# Pillar 1

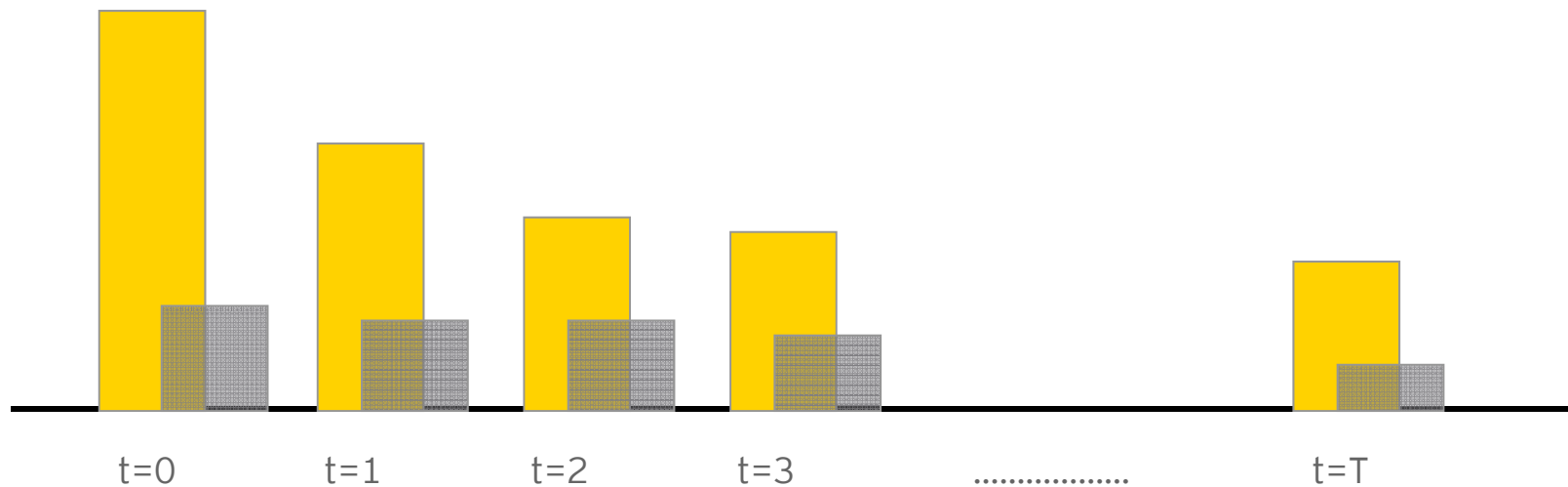
## Risk Margin - Steps to calculate (3)

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**Step 3.** Discount the amounts calculated in step 3

- ▶ using the risk free yield curve at  $t=0$
- ▶ sum of discounted values is risk margin (for this segment)

**Step 4.** Total risk margin is sum of risk margins in all segments



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# Pillar 1

## Risk Margin - Issues

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Issues around the Risk Margin include:

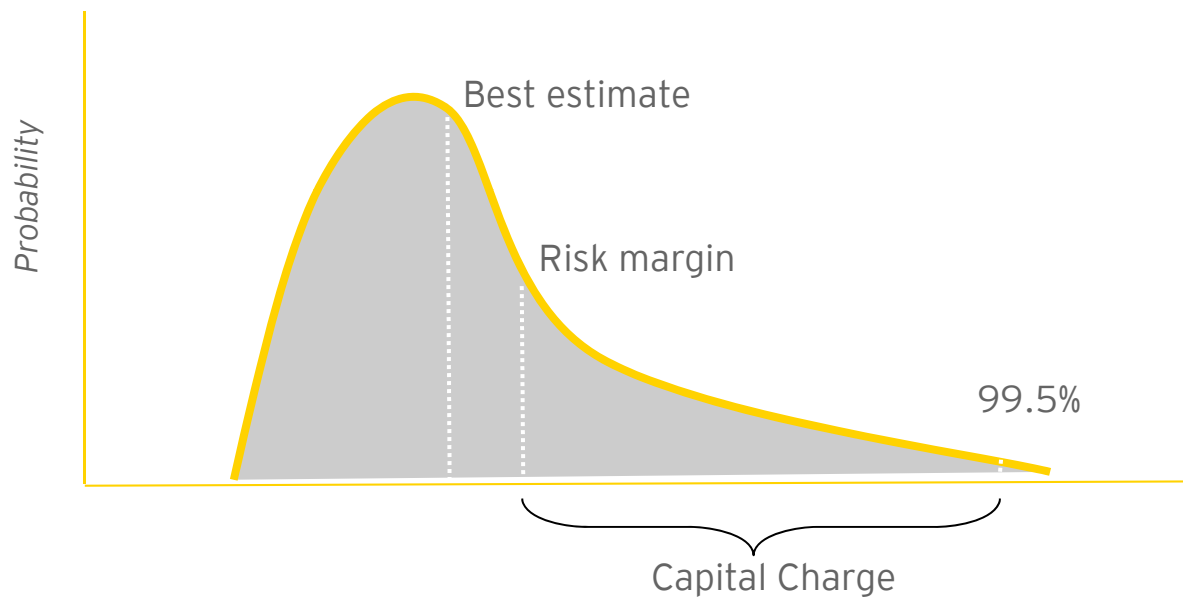
- ▶ Discount rate to be used
- ▶ Credit for any illiquidity premium
- ▶ How to calculate all future SCR amounts (simplifications)
- ▶ Potential circularity issues with SCR
- ▶ Level of diversification (between lines of business / group entities)
- ▶ Cost of capital rate

# Pillar 1

## Solvency capital requirement

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Solvency capital requirement (SCR) is calibrated to achieve **99.5%** probability of survival (**value-at-risk**) over **one year time period**.



There are *two alternative* approaches for calculating the SCR:

- ▶ Standard formula
- ▶ Internal model

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# Pillar 1

## Standard Formula

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- ▶ Combination of stress and scenario tests and factor-based calculations.
- ▶ Performed in a modular approach – each factor and formula explicitly laid out, including correlation coefficients.
- ▶ Companies can use undertaking specific data as parameters in certain instances.
- ▶ Same rules for all companies in industry – “one size fits all” model means it likely fits no one!

### **QIS Exercises**

- ▶ Standard Formula developed in quantitative impact studies (QIS) — “dry runs” to understand and test the implications of Solvency II
- ▶ QIS5 exercise currently underway, running August to November 2010

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# Pillar 1

## Internal Models

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- ▶ Developed by the firm and needs approval from regulator, demonstrating compliance with a number of tests
- ▶ Partial internal model approach is possible and permitted:
  - ▶ E.g., an insurer might model some specific risks that are not handled effectively by standard formula SCR
- ▶ Internal model approach is likely to be preferred where similar internal models are already in use and for complex organizations. (*Standard formula can be penal*)
- ▶ In order to attain internal model approval, companies must satisfy the following tests:
  1. Use test
  2. Statistical quality standards
  3. Calibration standards
  4. Profit and loss attribution
  5. Documentation standards
  6. External models and data

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# Pillar 2

## Governance

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Firms must have a system of governance to “*provide for sound and prudent management of the business.*”

System of governance shall at least include:

- ▶ Adequate transparent organizational structure
- ▶ Clear allocation and appropriate segregation of responsibilities
- ▶ Effective system for ensuring the transmission of information

Six key “aspects” which firms must have in place:

### **Conditions**

- ▶ Fitness and propriety
- ▶ Outsourcing
- ▶ Internal control

### **Functions**

- ▶ Risk management function
- ▶ Internal audit function
- ▶ Actuarial function

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# Pillar 2

## Actuarial function

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Key tasks should include:

- ▶ To coordinate the **calculation of technical provisions**
- ▶ To ensure the **appropriateness of the methodologies** and underlying models used as well as the assumptions made in the calculation of technical provisions
- ▶ To assess the **sufficiency and quality of the data** used in the calculation of technical provisions
- ▶ To **compare best estimates** against experience
- ▶ To **inform the administrative or management body** of the reliability and adequacy of the calculation of technical provisions
- ▶ To express an **opinion** on the overall **underwriting policy**
- ▶ To express an **opinion** on the adequacy of **reinsurance arrangements**
- ▶ To contribute to the effective implementation of the **risk management system** in particular with respect to the risk modelling



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# Pillar 2

## Own Risk and Solvency Assessment (ORSA)

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- ▶ *The entirety of the processes and procedures employed to identify, assess, monitor, manage, and report the short and long term risks that the business faces or may face and to determine the own funds necessary to ensure that its overall solvency needs are met at all times.*
  
- ▶ Builds on the Pillar I SCR calculation by articulating the firm's view of required capital.
  
- ▶ A regular practice of assessing overall capital needs with a view to the firm's specific risk profile that forms part of the risk management system.
  
- ▶ It is:
  - ▶ An internal assessment process and as such should be embedded in strategic decisions
  - ▶ A supervisory tool for the supervisory authorities
  
- ▶ The ORSA aims at enhancing awareness of the interrelationships between the risks the business is currently exposed to, or may face in the long term, and the internal capital needs that follow from this risk exposure.

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# Pillar 2

## Supervisory Review and Action

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- ▶ Pillar 2 is also the place at which Supervisors examine the entities to assess the adequacy of the capital calculations, risk management processes and governance framework
- ▶ Is the Supervisor finds deficiencies from requirements in any areas, can impose **capital add-ons** to increase the level of required capital.
- ▶ In theory capital add-ons should be a temporary measure while entities address the issues raised by the Supervisor. However there may be situations where it is acceptable to continue with the add-on indefinitely, eg if there is the lack of data for a particular risk.

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# Pillar 3

## Disclosures

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Pillar 3 consists of three aspects:

**Report to supervisor – RTS**  
Information to submit to regulator

**Solvency and financial condition report — SFCR**  
Public disclosures – at least annually

**Disclosures by regulators**

- ▶ RTS and SFCR will contain a qualitative report, including quantitative data and quantitative reporting templates.
- ▶ Extensive additional disclosures may be compared with US GAAP.
- ▶ External audit may be required for some parts, no firm determination yet.
- ▶ A written disclosure policy approved by the management body is needed to ensure appropriate governance around information so that it is complete, consistent and accurate (on an ongoing basis).

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# Third country equivalence

## Background

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Solvency II equivalence is defined at three levels:

### **Article 172: reinsurance supervision**

- ▶ EU member states cannot require localization of assets/collateralization relating to reinsurance contracts written in the equivalent third country.

### **Article 227: group solvency calculation** (affects groups with EU parent)

- ▶ For group solvency, EU member states will take into account the capital requirement and eligible own funds as laid down by the equivalent third country (i.e., risk-based capital [RBC] for US), rather than requiring Solvency II basis calculation.

### **Article 260: group supervision** (affects groups with non-EU parent)

- ▶ EU member states rely on the equivalent group supervision exercised by equivalent third country supervisory authorities.
- ▶ If not equivalent, the regulator may require a new EU holding company to be set up, containing all EU entities. This sub-group would then be subject to group supervision under Solvency II.

No assessments of equivalence have yet been made...

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# Third country equivalence

## United States

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CEIOPS recently provided advice to European Commission (EC) on which countries should be considered for first wave of equivalence assessments.

Recognized **Switzerland**, **Bermuda** and **United States** as most important to EU insurance marketplace.

However identified a number of issues with assessing equivalence for United States, including:

- ▶ The lack of a single, central regulator
- ▶ The absence of any group supervisory framework
- ▶ Professional secrecy, especially with NAIC as does not act as a supervisory authority

CEIOPS' recent advice to European Commission advocates **Bermuda** and **Switzerland** to be included in the first wave of equivalence assessments, before introduction of Solvency II.

Deferred decision on United States to EC, saying it “stands by ready” to carry out an assessment in relation to Reinsurance Supervision and Group Solvency Calculation.

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# Current state of play

## Developments and market activity

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### ▶ **Developments**

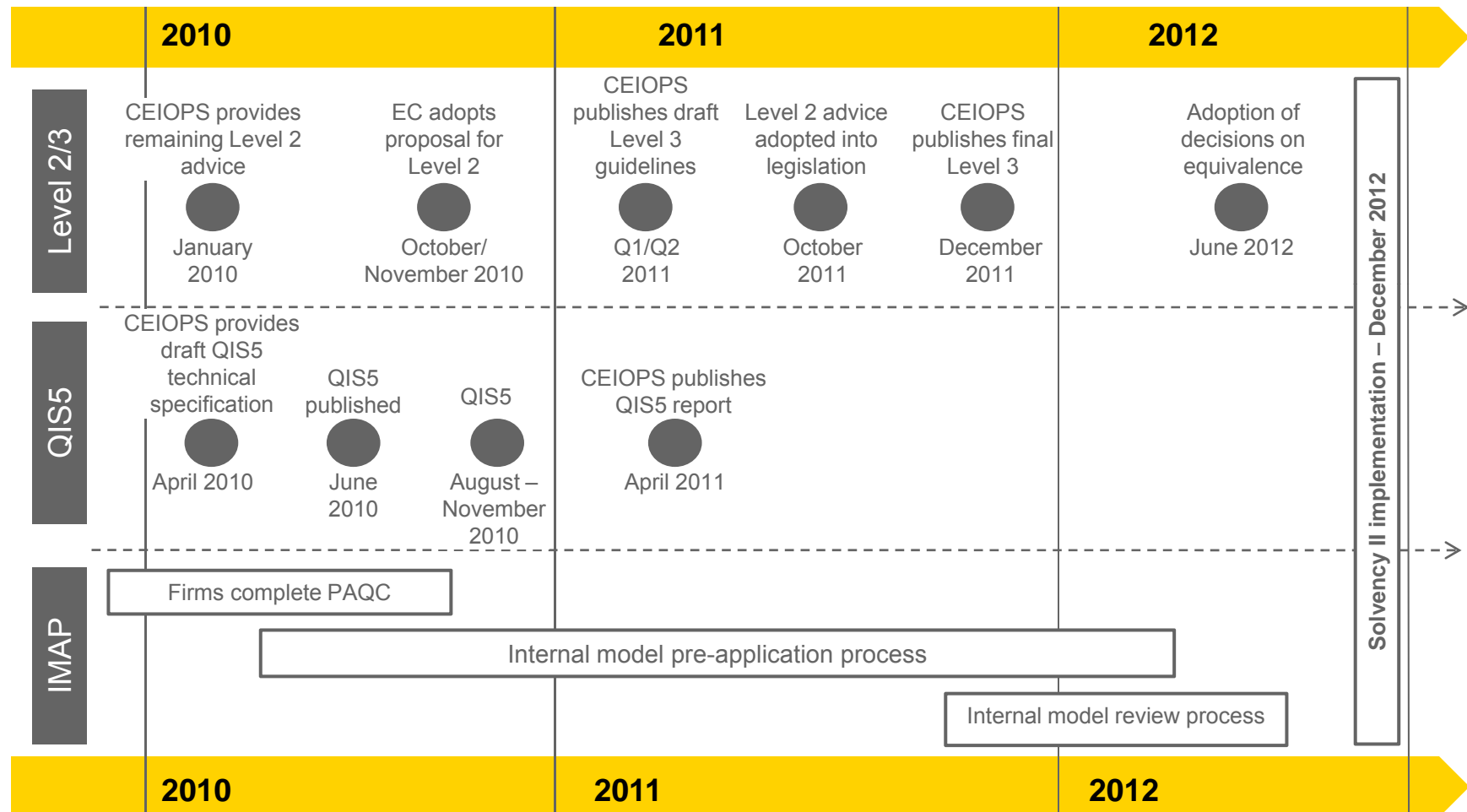
- ▶ Level 2 guidance is largely finalized.
- ▶ FSA (UK regulator) released guidance on its Internal Model Approval Process (IMAP), including the pre-application qualifying criteria (PAQC) which companies need to complete to be considered.
- ▶ QIS5 exercise is now underway – submissions are due by November 2010.
- ▶ Bermuda, Switzerland (and United States?) likely to be considered for equivalence.

### ▶ **Market activity**

- ▶ Companies have carried out gap analyses, developed their detailed plans and business cases and are embarking on their implementation phase and model building.
- ▶ Some of the key areas attracting debate in the design exercises and where companies expect potentially significant costs include:
  - ▶ Internal model build
  - ▶ IT infrastructure, data quality and management
  - ▶ Documentation
  - ▶ ORSA report
  - ▶ Capital efficiency/group diversification

# Current state of play

## Timeline



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