

IX Congresso Nazionale degli Attuari

PARAMETRICA®

---

**GISMONDI** & ASSOCIATI

Torino, 27 maggio 2010

Solvency II:  
Actuaries and risk management

Marinella Lazzari

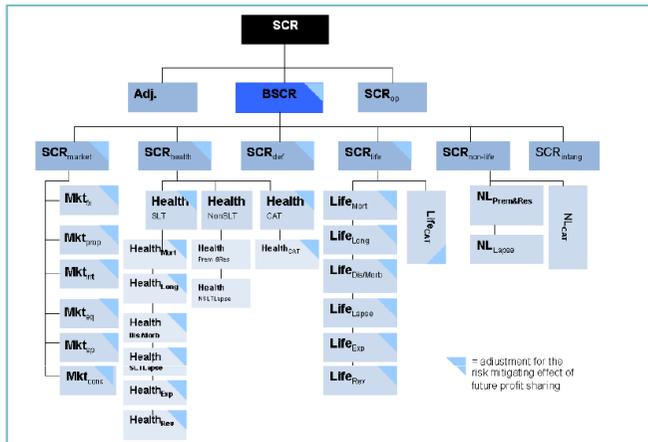
# Agenda

---

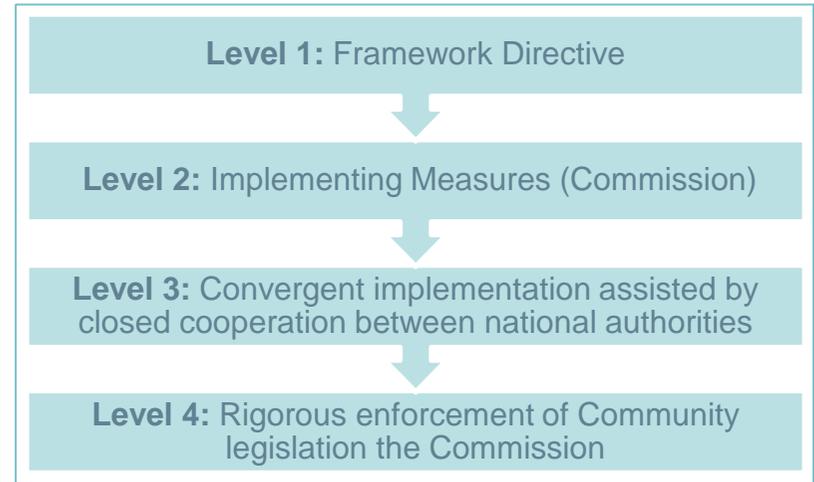
- Introduction
- Governance framework
- Risk management
- Actuarial function
- Common issues
- First remarks

# Introduction

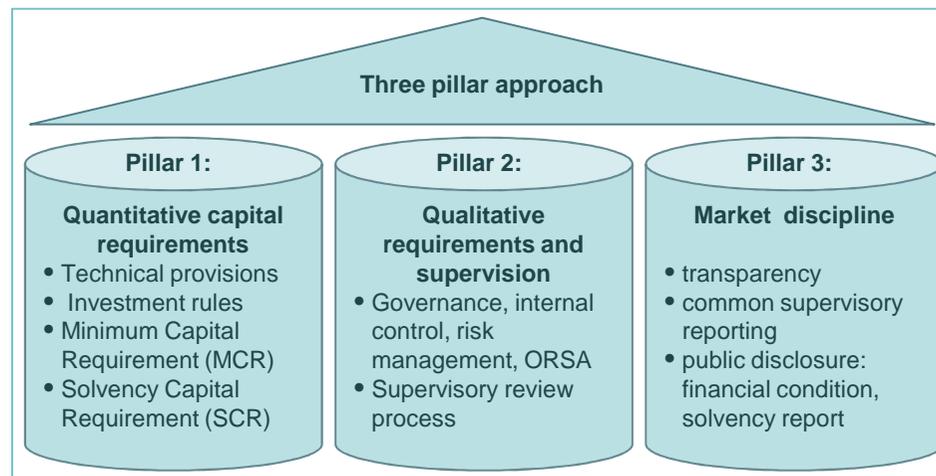
- Solvency II: fundamental change for insurance market
- not only capital requirement



- new legislative process

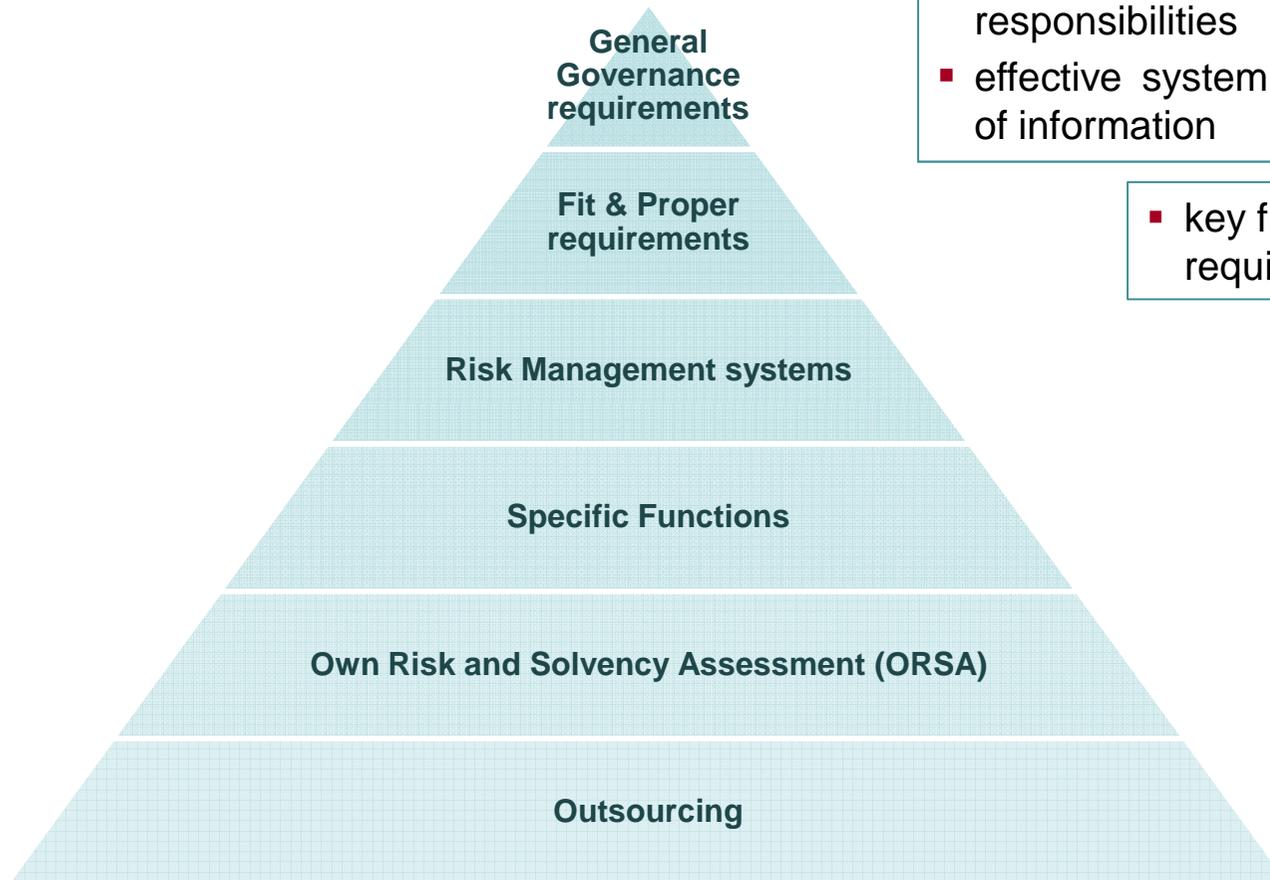


- pillar structure



# Framework: System of Governance

---



- adequate transparent organisational structure
- clear allocation and appropriate segregation of responsibilities
- effective system for ensuring the transmission of information

- key functions: at all times fulfil the requirements

- specific functions:
  - ◆ risk management
  - ◆ compliance
  - ◆ internal audit
  - ◆ actuarial

# Risk management function (1)

---

- distinction between risk management system and risk management function
- the RM system must cover at least:
  - ◆ underwriting and reserving
  - ◆ ALM
  - ◆ investment
  - ◆ liquidity and concentration
  - ◆ operational risk
  - ◆ reinsurance and other risk mitigation techniques
- provide for a RM function structured in such a way as to facilitate the implementation of the RM system
- additional task in relation of use of internal model (full or partial)

## Risk management (2)

---

### **CEIOPS' Advice**

- Board is responsible for ensuring an adequate **RM system**
- minimum requirements for an effective RM system:
  - ◆ a clearly defined RM strategy
  - ◆ adequate written policies to support the implementation for RM strategy
  - ◆ appropriate processes and procedures for identifying and reporting on risks
  - ◆ appropriate reporting procedures
  - ◆ suitable ORSA process
- set up what should be covered in the written policies for the asset liability management and investment policies
- plans to expand on written policies for the other risks through level 3 guidance

## Risk management (3)

---

### **CEIOPS' Advice**

- **RM function** shall be organized so that it can be objective and not responsible for the results of the operational business
- shall assist the Board and management in the effective operation of the RM system
- shall monitor the RM system, maintain an organisation-wide and aggregated view on the risk profile, report details on risk exposures, identify and assess emerging risk
- shall be responsible for integration of the internal model with the risk management system and the day to day functions of the company

### **Explanatory text**

- at least one member of the Board should be designated to oversee the RM function (risk committee)
- RM function is responsible for the coordination across the undertaking of risk management activities
- Level 1: “owner” of the internal model to ensure that the model is designed and maintained as an effective risk management tool and is more than a calculation kernel
- responsible for the design, maintenance and monitoring, but support/expertise from other functions, notably the actuarial

# Actuarial function (1)

---

## **Technical Provisions**

- coordinate the calculation
- ensure the appropriateness of methodologies, underlying models and assumptions
- assess the sufficiency and quality of the data
- compare best estimates against experience
- inform on reliability and adequacy
- oversee the calculation in specific circumstances

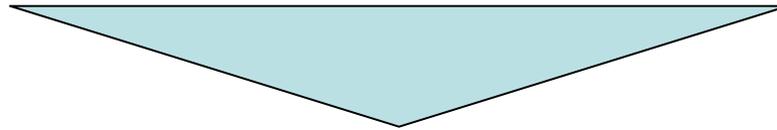
## **and in addition:**

- express an opinion on the overall underwriting policy
- express an opinion on the adequacy of reinsurance arrangements
- contribute to the effective implementation of the RM system, in particular with respect to the risk modeling underlying the calculation of the capital requirements and to the ORSA

## Actuarial function (2)

---

“The actuarial function shall be carried out by persons who have **knowledge** of actuarial and financial mathematics, **commensurate with the nature, scale and complexity of the risks inherent** in the business of the insurance or reinsurance undertaking, and who are able to demonstrate their **relevant experience** with applicable professional and other standards.”



no actuarial qualifications required

## Actuarial function (3)

---

### **CEIOPS' Advice**

- development of European Actuarial Guidelines (ensure convergent implementation of Solvency II, harmonised performance of actuarial function)
- tasks to be undertaken by the actuarial function (minimum)
- shall be constituted by persons who have a sufficient level of independency
- shall be objective and free from influence of other functions and Board
- shall at least annually produce written report

### **Explanatory text**

- prescribed as a measure of quality assurance
- incumbent upon the undertaking to make sure of skills and competences; not envisaged specific education but competences definition
- impact assessment of proposal for the following topics:
  - ◆ standards
  - ◆ tasks
  - ◆ reporting



# Actuarial function: standards

---

- Explanatory text refers to technical standards
- Group Consultatif prepared and submitted to CEIOPS the following “*Professional Standards for the Actuarial Function under Solvency II*”:
  - ◆ Public Interest Standards
    - Qualification Standards
    - Ethical Standards
    - Governance Standards
    - Communication Standards
  - ◆ Technical Standards
    - Interpretative Standards
    - Technical Implementation Standards
- GC proposes that a similar set of standards should be developed for the persons carrying out the risk management function

## Actuarial function: tasks

---

- shall annually express an opinion on the overall underwriting policy and the adequacy of the significant reinsurance arrangements:
  - ◆ address possible deficiencies and the possible consequences
  - ◆ make constructive suggestions for improvements
- the actuarial function may be involved in the original decisions on these issues. However, but requires more detailed explanations and a decided examination of other possible decision options
- the opinion on the overall underwriting policies should at least include:
  - ◆ analysis of the sufficiency of the premiums to cover future losses
  - ◆ considerations regarding inflation, legal risk, change of mix, anti-selection and adequacy of bonus-malus system
- the opinion on the overall reinsurance arrangement should include:
  - ◆ adequacy of the reinsurance and other mitigation techniques strategy in relation to the underwriting policy
  - ◆ adequacy of the calculation of the technical provisions arising from reinsurance

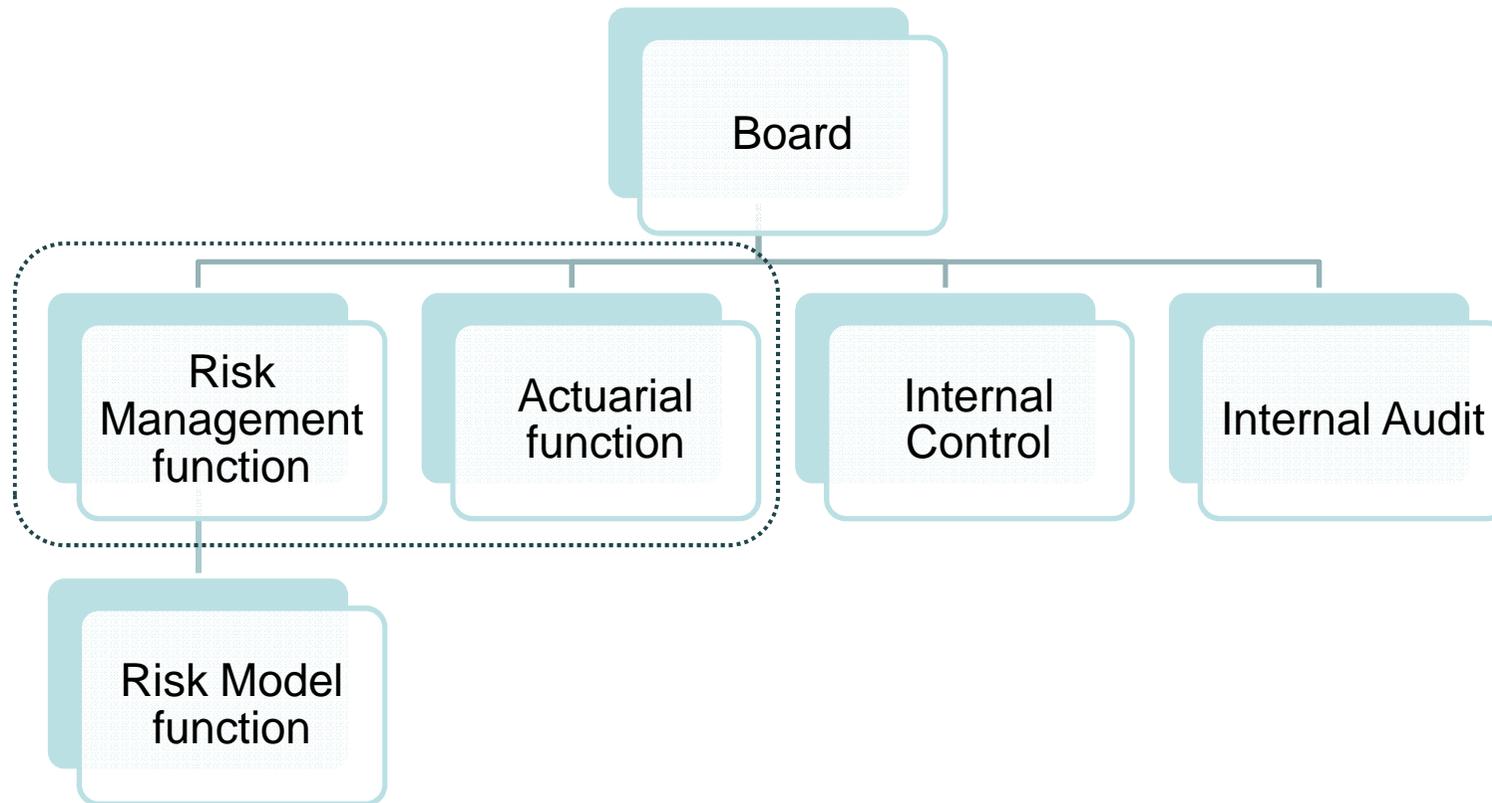
## Actuarial function: reporting

---

- shall at least annually produce written reports to be submitted to the Board on the mandatory tasks performed
- the report shall :
  - ◆ document the tasks that have been undertaken
  - ◆ clearly state any shortcomings identified and give recommendations as to how the deficiencies could be remedied
  - ◆ document the decisions to be taken in view of the findings and recommendations of the actuarial function
- the structure and content of the actuarial function's report are not defined, but shall reflect the specificities of the undertaking and take into account the principle of proportionality

# Common issues

---



## Common issues: internal model

---

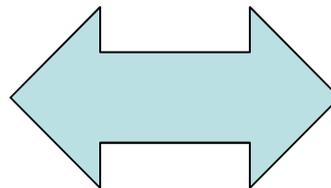
- RM function “owner” of the internal model to ensure that the model is designed and maintained as an effective risk management tool; responsible for the design, maintenance and monitoring, but support/expertise from actuarial function
- actuarial function :
  - ◆ at least for technical risks (life, health, non-life) drive model development and realization
  - ◆ important support in preparing application for supervisory approval
  - ◆ support to the model validation process through the model performance monitoring and the analysis of its results against experience
- focus:
  - ◆ documentation
  - ◆ communication
  - ◆ policies for model changes
  - ◆ valuation principles comparison

# Common issues: ORSA (1)

---

- Own Risk and Solvency Assessment (ORSA) at least include:
  - ◆ overall solvency needs considering
    - specific risk profile
    - approved risk tolerance limits
    - business strategy
  - ◆ compliance
    - continuous basis
    - with capital requirements
  - ◆ deviations from assumptions
- ORSA goal is to enhance awareness of interrelationships between:

the risk an undertaking is currently exposed to or may face in the short and long term



the internal capital needs that follow from this risk exposure

## Common issues: ORSA (2)

---

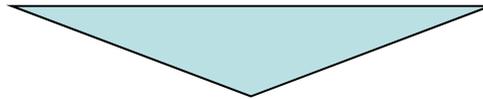
- ORSA definition of the is principles based, and currently different level of detail or the approach to be used allowed
- actuarial function:
  - ◆ quantitative assessment of risks that may affect undertaking balance sheet
  - ◆ definition of appropriate methodology and approach to achieve the link between risks, risk appetite, economic capital and regulatory capital
  - ◆ deviation analysis of undertaking risk profile from the assumptions underlying the Solvency Capital Requirement
- focus:
  - ◆ scope
  - ◆ communication
  - ◆ documentation

# Common issues: risk management system

---

## General:

- risk management function
  - ◆ to facilitate the implementation of the risk management system
- actuarial function:
  - ◆ to contribute to the effective implementation of the risk management system



- CEIOPS explanatory text:
  - ◆ does not imply that both functions should be organised as different organisational units
  - ◆ a full or partial integration of these functions is acceptable

## First remarks (1)

---

- Specific function in Level 1
  - ◆ opportunity for having a key role in the assessment of regulatory capital requirement)
  - ◆ closely work with other functions
  
- professional and technical skills
  - ◆ who is the “not actuary”?
  - ◆ need to improve business knowledge
  - ◆ continuous education
  - ◆ communication skills
  
- tasks definition
  - ◆ risk to be boxed-in

## First remarks (2)

---

- definition of professional standard
  - ◆ guidelines or rules?
  - ◆ local level?
  
- organisational structure and responsibilities
  - ◆ need to review current practice (pricing, reserving, finance, capital ...)
  - ◆ independence
  - ◆ costs
  
- interactions with risk management function
  - ◆ difficulties in functional links
  - ◆ overlapping risk for some activities
  - ◆ RM actuary?
  - ◆ appointed actuary

## References

---

*Directive 2009/138/EC on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II), November 2009*

*CEIOPS - CEIOPS' Advice for Level 2 Implementing Measures on Solvency II: System of Governance - CEIOPS-DOC-29/09, October 2009*

*Group Consultatif Actuariel Européen - Professional Standards for the Actuarial Function under Solvency II, September 2009*

*GIRO - Solvency II Actuarial Sign-Off on Underwriting and Reinsurance Policy Working Party, October 2009*

*Maxwell, B. - Solvency II: Consequences for the Actuarial Profession, December 2009*

*Morgan, K. & Olesen, A. - The Solvency II Actuary, December 2008*