



Eidgenössische Finanzmarktaufsicht FINMA  
Autorité fédérale de surveillance des marchés financiers FINMA  
Autorità federale di vigilanza sui mercati finanziari FINMA  
Swiss Financial Market Supervisory Authority FINMA

# CAE 2010 Spring Meeting

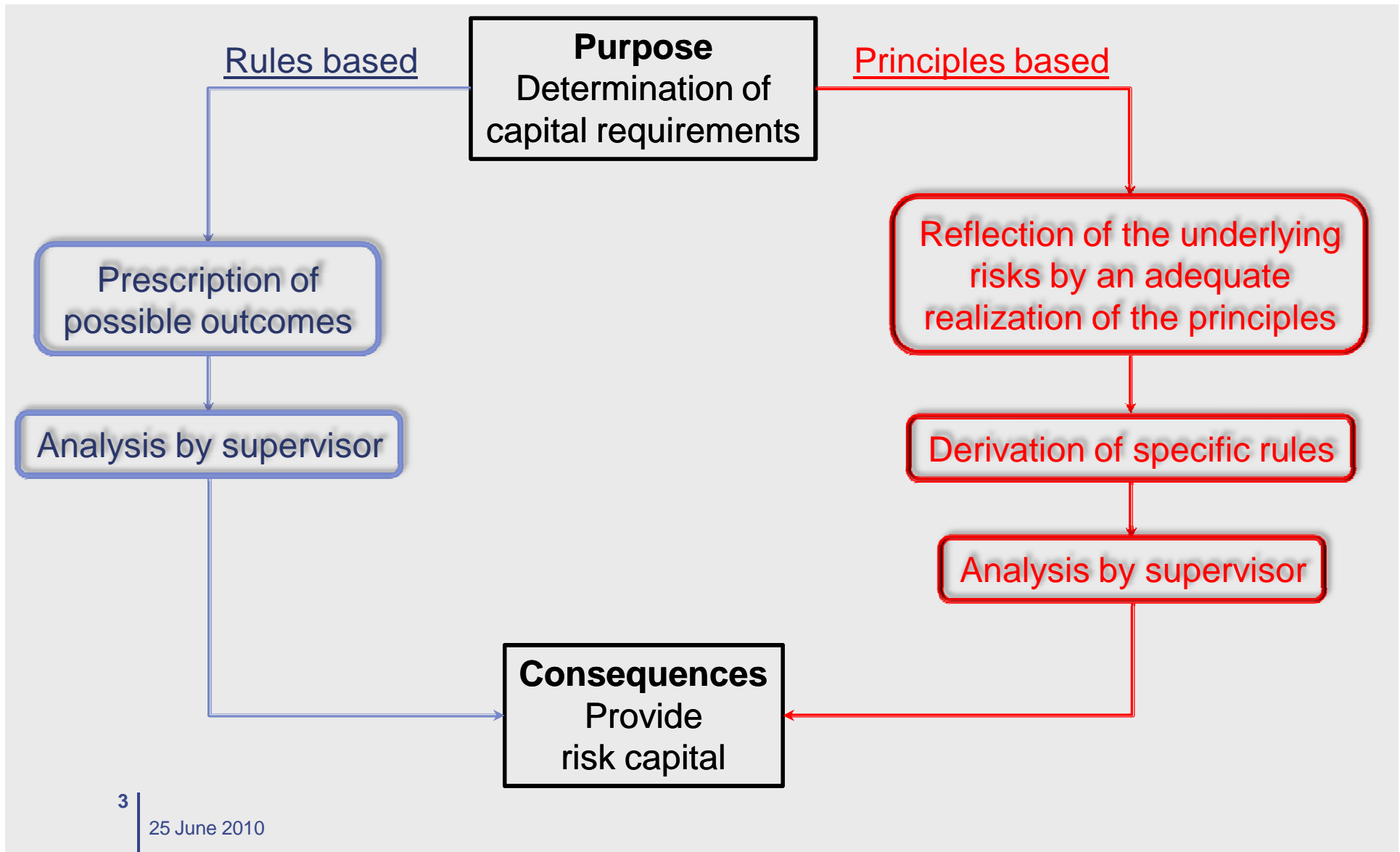
Regulatory Round Table

Roger Meli, Quantitative Risk Management

25 June 2010

- Rules based supervision vs. principles based supervision
  - ◆ Impact on FINMA's work
  - ◆ Impact of internal models
  - ◆ Comparability
- International coordination/collaboration between the regulators
  - ◆ Data exchange
  - ◆ Collaboration with other supervisors
- Current issues
  - ◆ All the requirements due by January 1<sup>st</sup> 2011
  - ◆ Equivalence of SST and Solvency II

# Rules based versus principles based solvency regulation (1 / 4)



# Principles based versus rules based solvency regulation (2 / 4)



- Principles based supervision – convincing arguments:
  - ⇒ The supervisor does not insist on static rules but wants the undertakings to follow certain higher principles.
  - ⇒ A principles based approach focuses on “doing the right thing” but is also focused on trust and a risk based supervision.
  - ⇒ A principles based system creates a competitive basis for diverse risk models.
  - ⇒ Principles based supervision is more flexible regarding removing guidelines which appear to be counterproductive or obsolete over the time.
  - ⇒ Principles based supervision is a risks based supervision which assures a comprehensive applicability.

# Principles based versus rules based solvency regulation (3 / 4)



- Principles based supervision – Janus face of the medal:
  - ⇒ Supervision becomes much more complex.
  - ⇒ A principles based solvency system requires not only from the undertakings highly specialized people, but also from the supervisor.
  - ⇒ A principles based supervision generates room for a legal uncertainty.
  - ⇒ Allowing for comparability is rather challenging due to the ambiguity of mechanisms and models although based on the same calibrations.

# Principles based versus rules based solvency regulation (4 / 4)



Rules Based	Principles Based
- Precise guidelines	- Fundamentals
- Exact specifications	- List of duties (principles)
- Limits	- Objectives
- Detailed specification	- Minimum standards
- Interdiction	- Behavioral rules

## Principles of the Swiss Solvency Test (SST):

- Total balance sheet approach
- Market consistent valuation
- Risk based capital requirements
  - ◆ Insurance risks
  - ◆ Market risks
  - ◆ Credit risks
  - ◆ Operational risks are not quantitatively captured (capital additions are considered)

## Calibration:

- Expected shortfall of the change in available capital at 99 %.
- Time horizon is determined at one year.
- Discounting is performed on the yield curve based on government bonds.



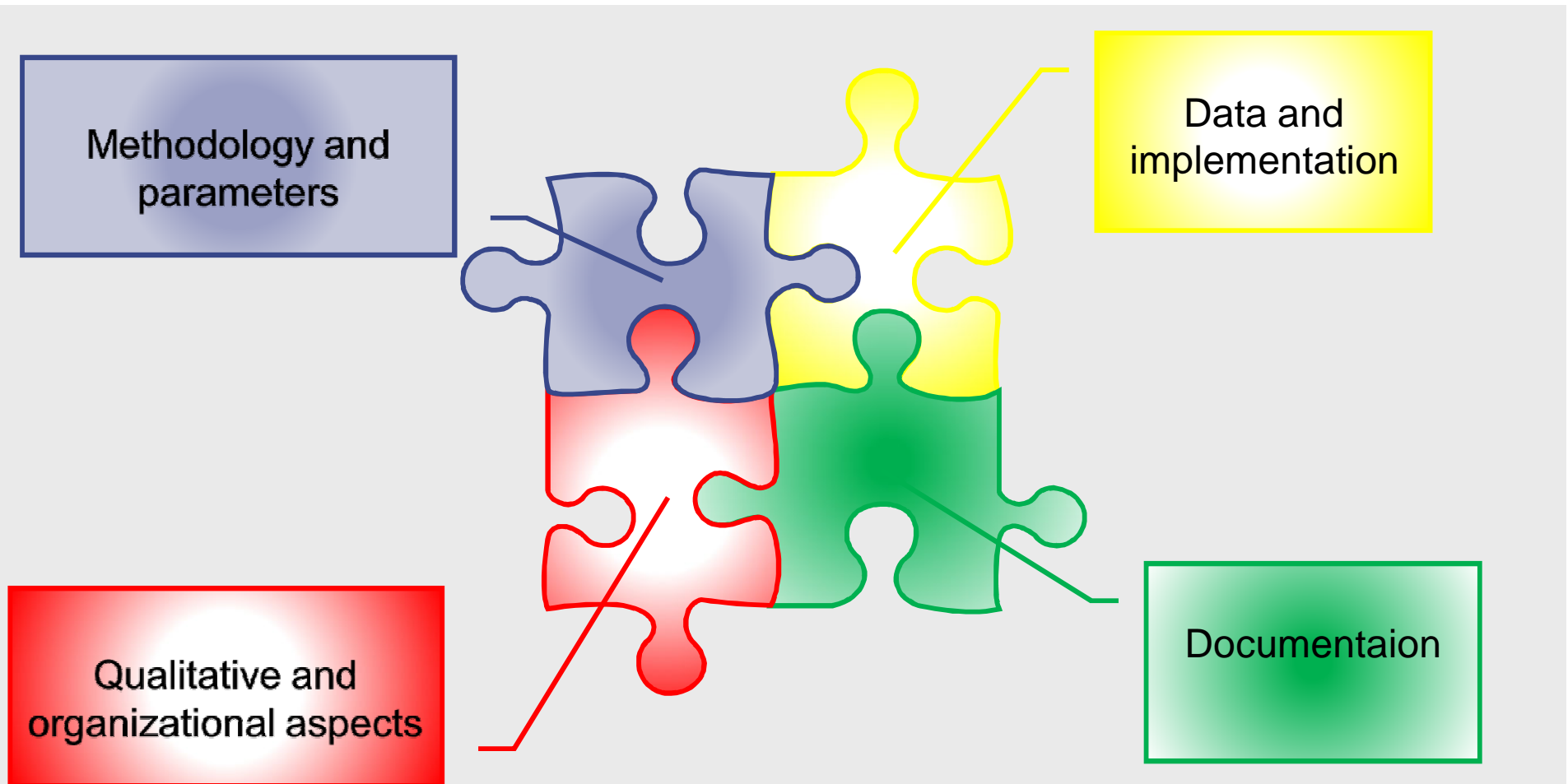
## Risk model:

- Standard model is a stochastic model.
- SST emphasizes principles and encourages the use of internal models.
- Internal models are mandatory for certain companies (e.g. reinsurers) and groups (legal entity approach).
- SST makes extensive use of generic and individual scenarios (to reflect tail risks, tail dependencies, concentration risks, etc. ...).

## Internal models:

- If the standard model is not suitable, companies are required to develop and use (partially) internal models.
  - ◆ The following companies must use an internal model.
    - Reinsurers (Approx. 30)
    - Insurance groups (9)
    - Most life insurance companies
- Many companies choose to use (part of) their internal model for regulatory purposes.
- Approximately 70 (partially) internal models are in use.
- FINMA has defined a set of requirements and a review process for the approval of internal models.

# Important components (1 / 5)



## Important components (2 / 5)

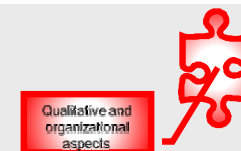
Requirements on methodology and parameters:



- Model passes the **calibration test**.
- Model uses the following parameters and features prescribed by the supervisory authority.
  - ◆ Time horizon one year.
  - ◆ Risk measure is the expected shortfall.
  - ◆ The confidence level is 99 %.
  - ◆ Cost of capital rate (over the risk free rate) is 6 %.
  - ◆ The risk free yield curve is free of counterparty risk, based on yields of government bond.

## Important components (3 / 5)

Requirements on qualitative and organizational aspects:



- The model passes the use test.
- The Board of Directors and Senior Management are aware of the results of the regulatory solvency analysis and take them into account in their decisions.
- The Board of Directors and Senior Management understand the model, its outputs and limitations.
- Exposure limits at the company level are set in accordance with the model.
- It is an advantage if the model is also used for purposes such as
  - ◆ Risk management, economic solvency assessment.
  - ◆ Pricing, performance management, etc.

# Important components (4 / 5)

Requirements on data implementation:

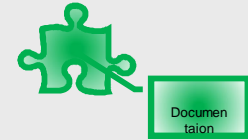
- Company processes ensure that risk and valuation data is complete, correct and current.
- IT implementation



# Important components (5 / 5)

Requirements on documentation:

- Company Model documentation
  - ◆ Must be self-contained.
  - ◆ Must enable a knowledgeable third party to decide within a reasonable amount of time whether internal model fulfills regulatory requirements.



According to article 46 of the Swiss Insurance Supervision Act (ISA), the approval process comprises the following issues:

- At any time, FINMA may involve third parties to examine adherence to this law (ISA). The costs are payable by the insurance company.
- FINMA reserves the right to appoint a third party to do a review of a certain object and therefore may:
  - appoint the third party.
  - determine the exact scope of the project.
  - issue all the general conditions such as time horizon, skills of the people involved in the project and so on ...



# SST – outsourcing of projects



- FINMA uses this opportunity and outsources certain tasks regarding the approval process of IM to third parties:
  - ◆ The final decision regarding compliancy is with FINMA.
  - ◆ The study of the third party will be used as an expert opinion with the aid of which FINMA decides.
  - ◆ FINMA determines the exact scope as well as the deliveries of the project and examines the skills of the specialist involved in the project based on their CVs.
  - ◆ FINMA have regular telephone conferences arranged to supervise the progress of the project and in which – for transparency reasons – all three parties are involved. Proceeding as described ensures an active participation and that the project is on track.

# International coordination between the regulators



Collaboration and data exchange:

- Involved in numerous work groups, such as IAIS (SSC & others).
- Certain international companies participate voluntarily in QIS5.
- Regulatory dialogues with EU, NAIC, ...
- Switzerland has a Memorandum of Understanding (MoU) with all the members of CEIOPS.
- Information to foreign regulators may be provided only if permitted or not prevented under laws applicable.
- Joint on-site inspections with foreign supervisors might be a powerful tool to prove internal models of international insurance companies.

- Technical specifications regarding the SST are also monitored critically and certain knowledge achieved might entail adjustments or refinements.
- Approval of parameters based on expert opinion.
- Error calculation of reserves and dependencies between accident years.
- Modelling of the tail and tail dependencies.
- Appropriate involvement of inflation.
- Utilization of vendor models.
- Market consistent value
  - ◆ DAC

SST capital requirements will become fully binding in 2011:

- Based on the Insurance Supervision Ordinance (ISO, Art. 42 & 43), all insurance companies are compelled to have a model to quantify their risks. The calculation of the target capital is based on:
  - ◆ A model to quantify all relevant risks.
  - ◆ An aggregation procedure, which combines all results of the models analysed and the of the scenarios evaluated.
- SST in the context of the European supervision:
  - ◆ SST and Solvency II share the same defining principles.
  - ◆ SST and Solvency II are not identical but equivalent solvency frameworks.

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