

Society of Actuaries in Ireland

ERM

Concepts and Framework

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13<sup>th</sup> May 2010

# Lecture Plan

- Introduction to ERM
  - Describe the concept of ERM
  - Discuss the framework for risk management and control
- External Risk Frameworks
  - Understand risk frameworks in regulatory environments
  - Role of credit agencies in evaluating risk management functions
- The ERM Process
  - Describe why it is necessary or desirable to manage risk
  - Risk appetite, risk capacity, risk objectives
  - Elements of a risk management function
  - Strategy selection
  - Risk management control cycle

## Introduction to ERM:

## What is ERM?

*“ERM is the discipline by which an organization in any industry assesses, controls, exploits, finances, and monitors risks from all sources for the purpose of increasing the organizations short- and long-term value to its stakeholders.”*

(“Overview of Enterprise Risk Management”, Casualty Actuarial Society, Enterprise Risk Management Committee, May 2003)

# Introduction to ERM: Concepts and their role

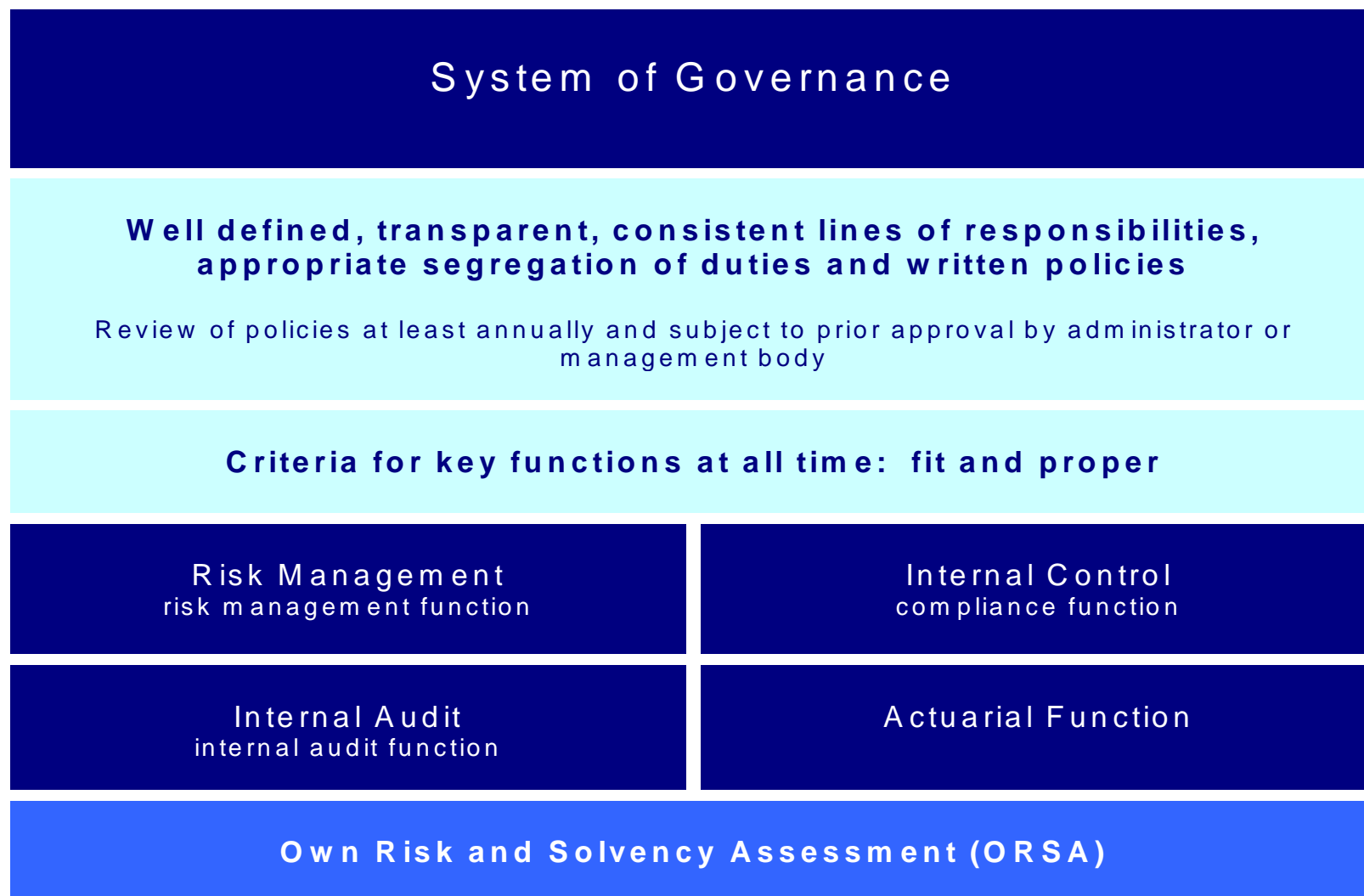
- Holistic approach
  - Risks not considered in isolation
  - Concentration and diversification
- Downside and upside risks
  - Outcomes not symmetrical
- Measurement of risk
  - Quantify absolutely or relatively
- Unquantifiable risks
  - Loss distribution not identifiable
  - Nature of risk
- Responses to risk
  - Doing nothing
  - Managing (“mitigating”) risk

# Introduction to ERM:

# Governance Framework

- Board
  - Leadership
  - Compliance – codes of honesty and fair dealing
  - Organisational responsibilities
- Central Risk Function (CRF)
  - Advise Board
  - Overall risks and risk appetite
  - Report, identify, manage, monitor
- Audit function
  - Financial systems
  - Regulatory compliance, systems, governance codes
- Legal risks
  - Legislation, contract provisions, court judgements

# Governance & Solvency II



# Introduction to ERM: Culture

- Consultative leadership
- Participation in decision-making
- Openness
- Accountability v blame
- Organisational learning
- Knowledge sharing
- Good internal communication
- Project appraisal bias

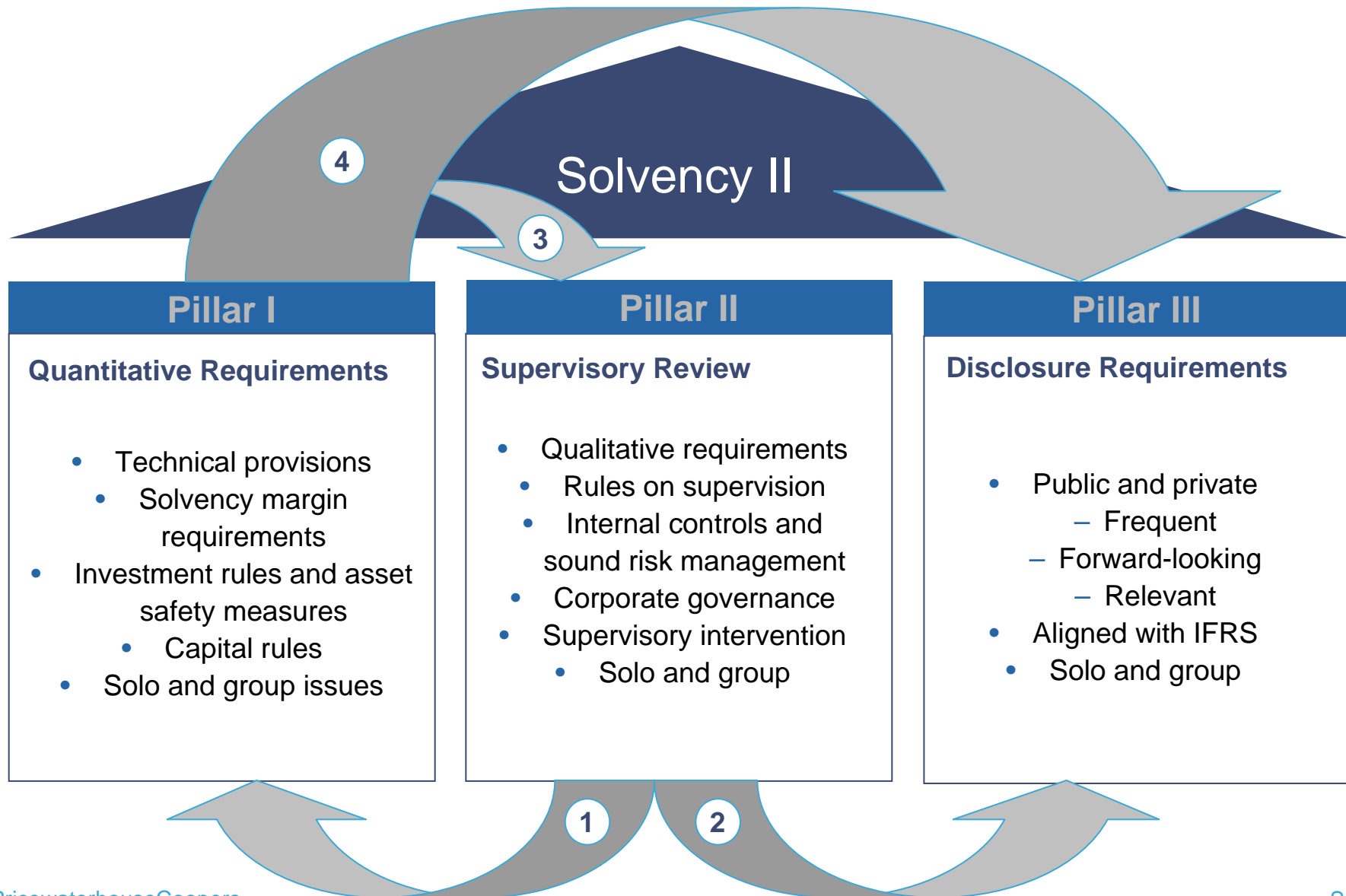
# Introduction to ERM: Culture

## Risk Related Culture Survey

#	Question	Attribute	Mean Rating		Std Dev	Count	SD	D	N	A	SA
1	The leaders of my unit set a positive example for ethical conduct	Leadership and Strategy	1.42	Strong	0.71	186	1	3	9	77	96
2	I understand the entity's overall mission and strategy	Leadership and Strategy	1.05	Good	0.69	186	0	7	18	119	42
3	Disciplinary action is taken against those who engage in professional misconduct	Accountability and Reinforcement	0.21	Action Needed	1.20	175	11	55	18	68	23
4	Turnover of personnel has not significantly affected our ability to achieve objectives	People and Communication	0.81	Caution	0.88	145	4	3	39	69	30
5	The leaders of my business unit are receptive to all communications about risk, including bad news	Risk Management and Infrastructure	0.99	Good	0.85	183	2	13	16	106	46



# Solvency II - the Three Pillars



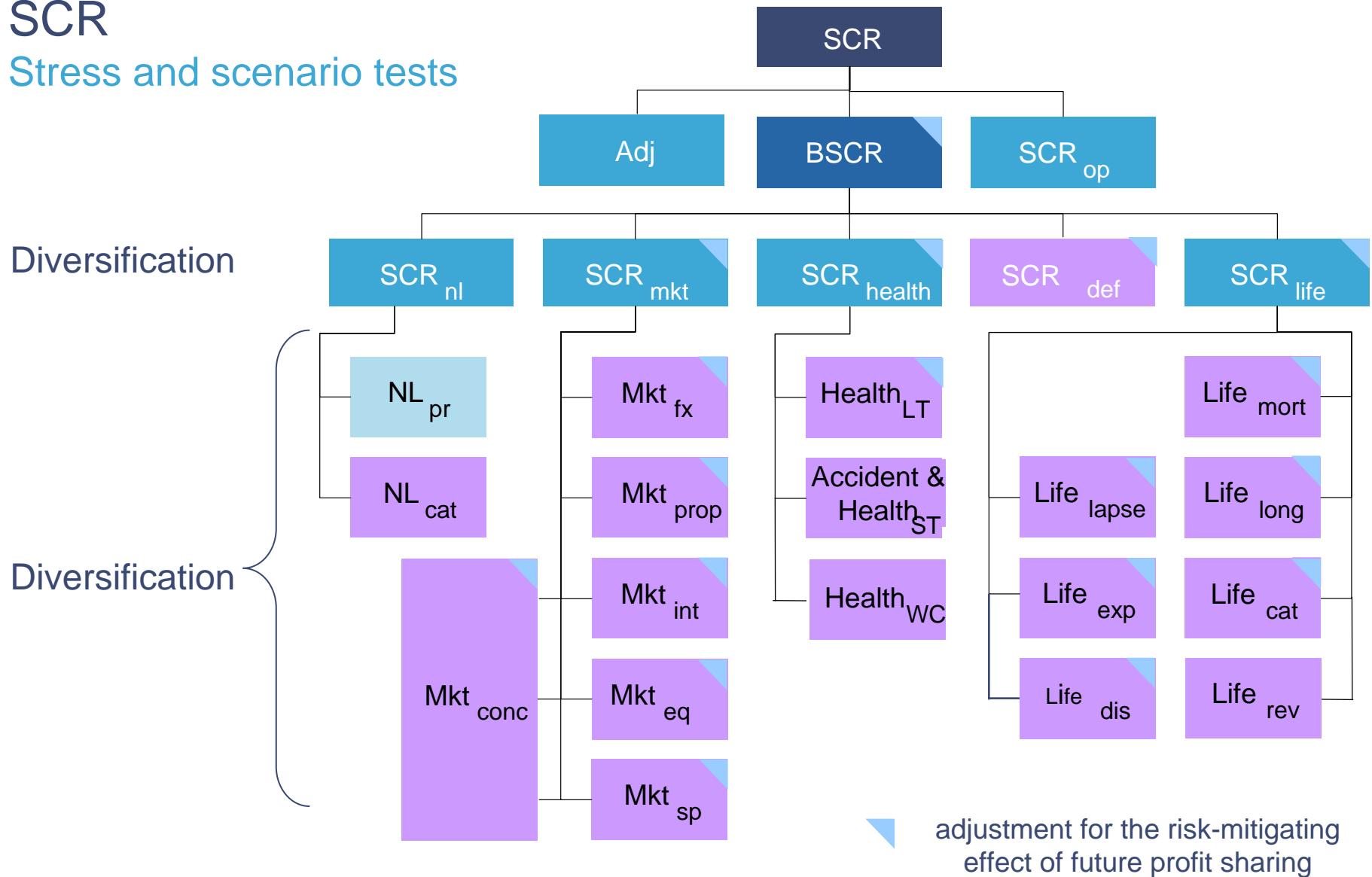
# Solvency II

- Solvency 1 a crude measure of ER
- Business mix
- Reserve risk
- Premium risk
- Asset Liability mismatch
- Market Risk
- Credit Risk
- Operational Risk
- Catastrophe Risk
- Concentration Risk
- Expense Risk
- Longevity Risk
- Epidemic Risk
- Lapse Risk
- Disability Risk
- Diversification

# SCR overview

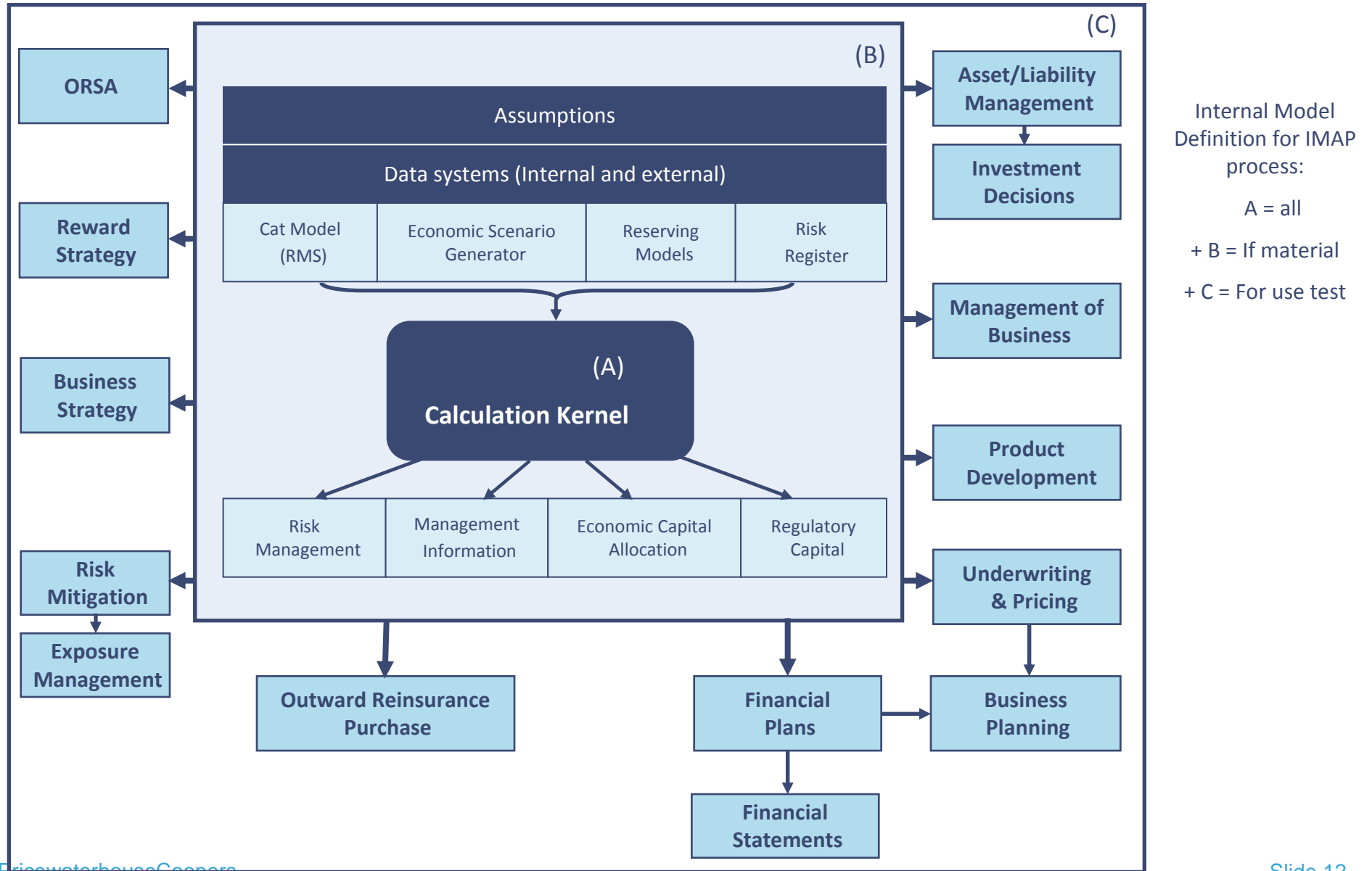
## SCR

### Stress and scenario tests

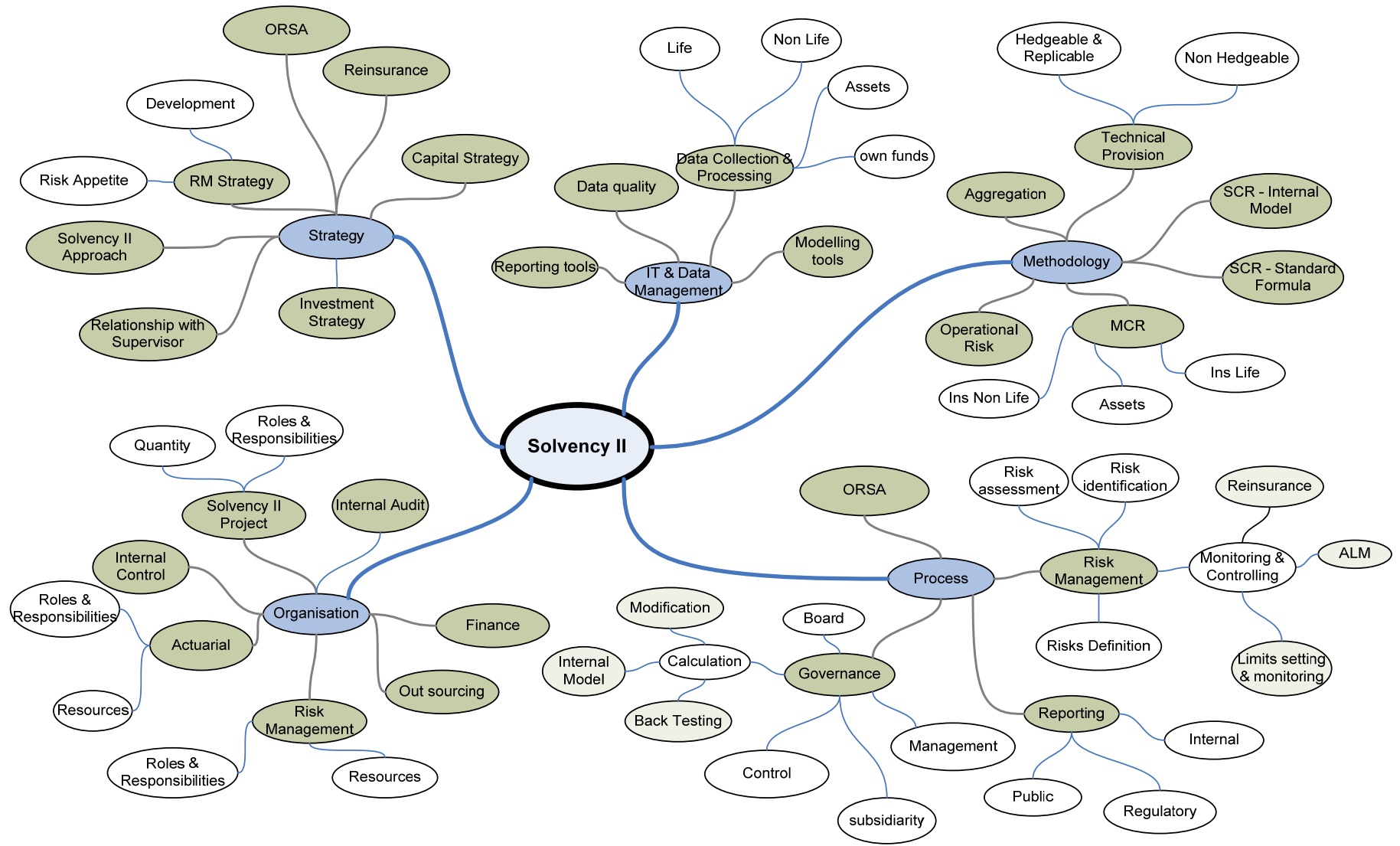


Source: QIS 4 Technical Specifications

# Internal Model Definitions: What is in and what is out?



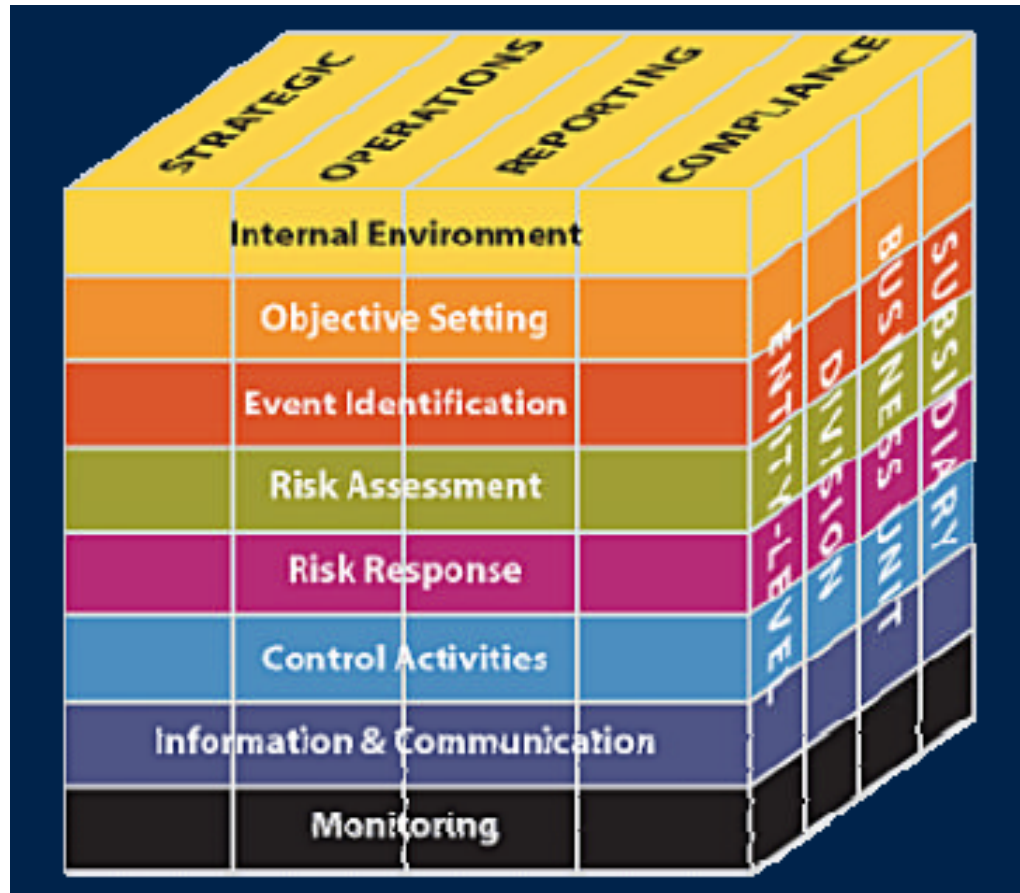
# Solvency II – impact



# External Risk Frameworks: Other

- AS / NZS 4360
  - Not mandatory
  - UK healthcare service provision
- COSO ERM framework
  - Buffer against fraudulent reporting
  - Initially to assess internal control systems
  - ERM – Integrated Framework (2004)
  - Accountancy and audit perspective
  - 3 dimensions: risk process, business level, objective

# External Risk Frameworks: COSO Cube



# External Risk Frameworks: Non Regulatory

- ISO 3100
  - International Organisation for Standardisation
  - Step forward but omits risk culture
  - Captive managers
- Credit Agencies – S & P (2005)
  - RM on all important risks together – no silos
  - Economic capital focus
  - Operational performance v choices and tolerance
  - Transparency of ERM practices
  - Classification system
  - Limited to insurance and reinsurance companies
  - Marketing literature
  - Limited investigation detail
  - No agency risk
  - Reputation of credit agencies in 2010



# The ERM Process

- Benefits of ERM
- Stakeholder management
  - Shareholders
  - Customers + policyholders
  - Company directors
  - Employees
  - Regulators
  - Government
  - Professional advisors
  - Credit rating agencies
  - Creditors
  - Subcontractors + suppliers
  - Pension scheme trustees+
  - General public
  - Contagion – credit risk

# The ERM Process:

# Conflicts

- Agency Risk
  - Misalignment of interests
  - Incomplete + asymmetric information
  - Agency costs
- Credit crunch
  - Banking misalignment
  - Bonuses + loan growth
  - 100% mortgages
- Other
  - Financing
  - Dominant CEO + yes people
  - Management decisions

# The ERM Process:

# Risk Appetite Terminology

- Risk Profile
  - Complete description of risk exposures including future risks
- Risk Appetite
  - High level statements about degree of risk accepted to achieve objectives
  - Targets + limit setting across organisation as a whole
  - Statements + risk tolerances
- Risk Tolerance
  - Detailed + quantitative in nature
- Risk Limits
  - Guidelines on acceptable actions
  - Component of risk capacity
- Risk Capacity
  - Volume of risk in organisation – economic capital

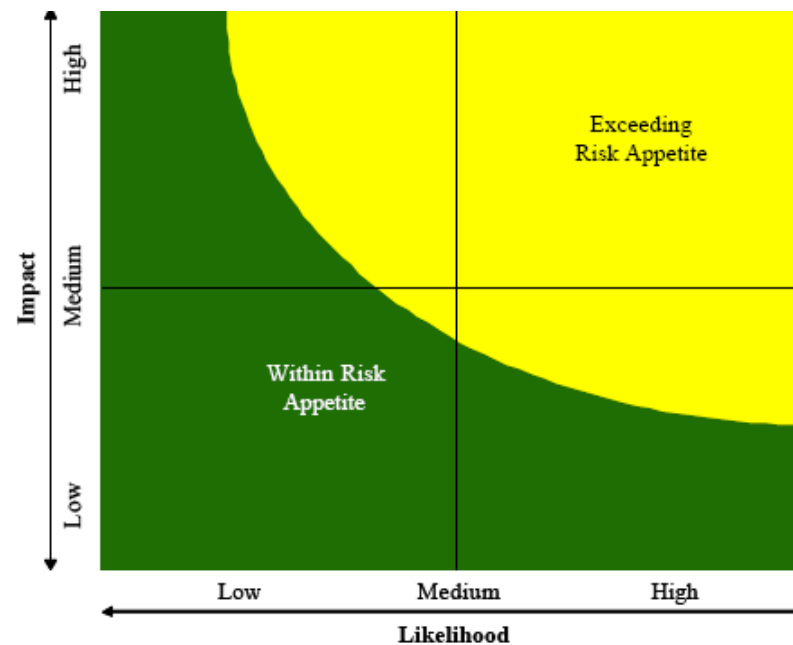
## The ERM Process:

## Establishing Risk Appetite

- Solvency level
  - X stay above Y with 99.5% probability over next 3 years
- Credit Rating
  - Probability that X falls to Y in next 12 months is less than 1%
- Earnings + dividends
  - Earnings volatility over next 12 months is no more than Y%
  - Company prepared to lose Y with less than 0.5% probability over next 12 months
- Risk tolerances and risk limits
  - Avoid concentrations of risk
  - Cover all risks including non quantifiable risks
  - Quantifiable tolerance + probability

# The ERM Process: Risk Appetite

1. What risks is the company in business to accept and what risks will it not accept – e.g., is the organization prepared to accept minor losses from fraudulent Motor claims but not willing to accept large Property claim losses from natural catastrophes?
2. Is the company comfortable with the amount of risk accepted, or to be accepted, by each of its classes of business or product channels?
3. What levels of risk is the company prepared to accept on new product initiatives in order to achieve the company-wide desired return on invested capital of 15%?
4. Is the entity prepared to accept more risk than it currently is accepting and, if so, what return level would be required?



# The ERM Process: Strategy

## Example: Setting Strategic Objectives

An insurance company considering its options for enhancing customer services identified three strategies:

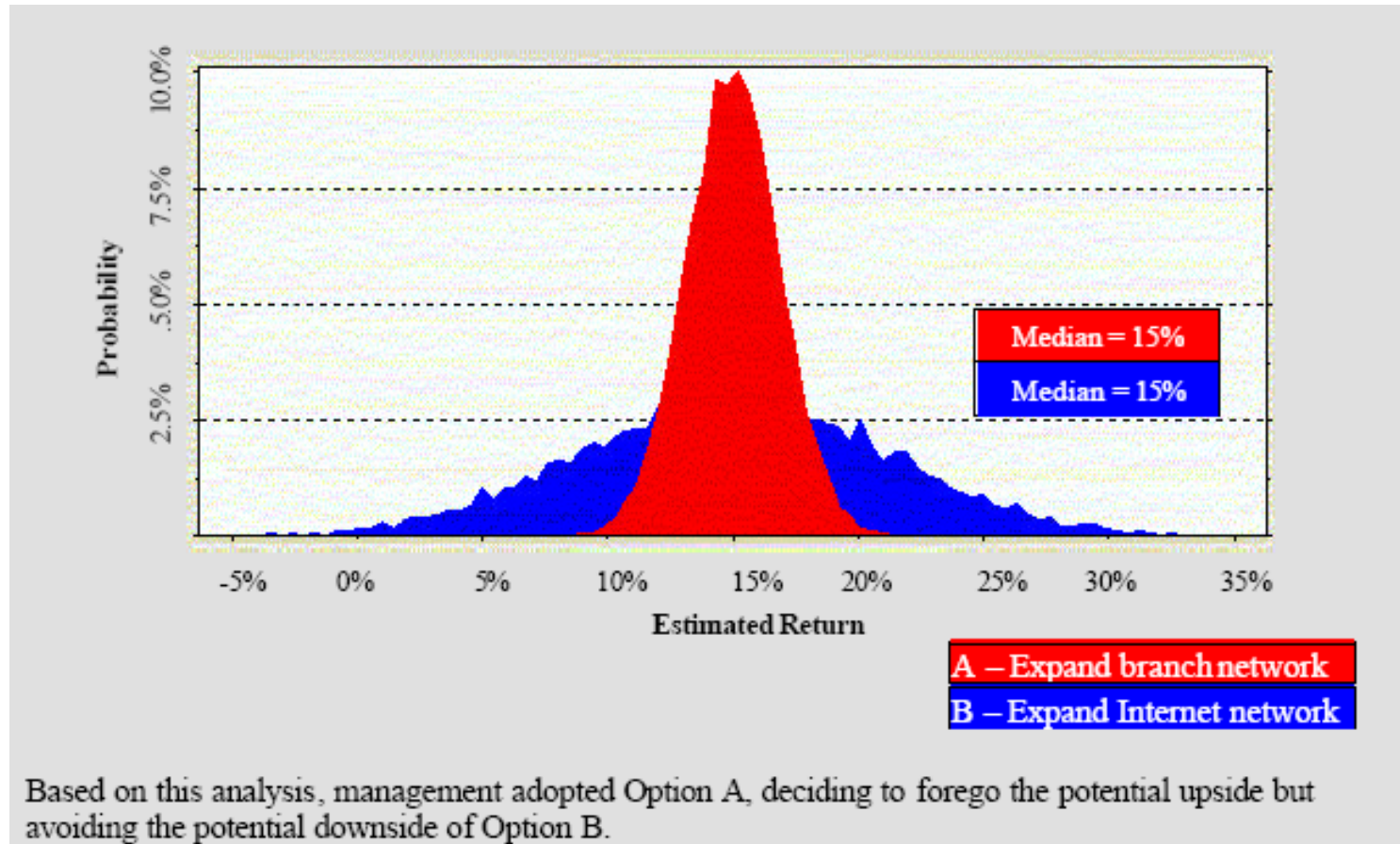
- Option A – Expand its branch network into new areas matching its target demographics
- Option B – Scale back the branch network to 50% of its current size , and significantly enhance its Internet and call-centre capabilities
- Option C – Maintain the branch network, and outsource the existing Internet and call-centre operations to a lower-cost company in a foreign country

When considered against the company's vision, which encompasses contributing to the communities within which it operates, Option C was seen as inconsistent with the vision, given the job losses that would result.

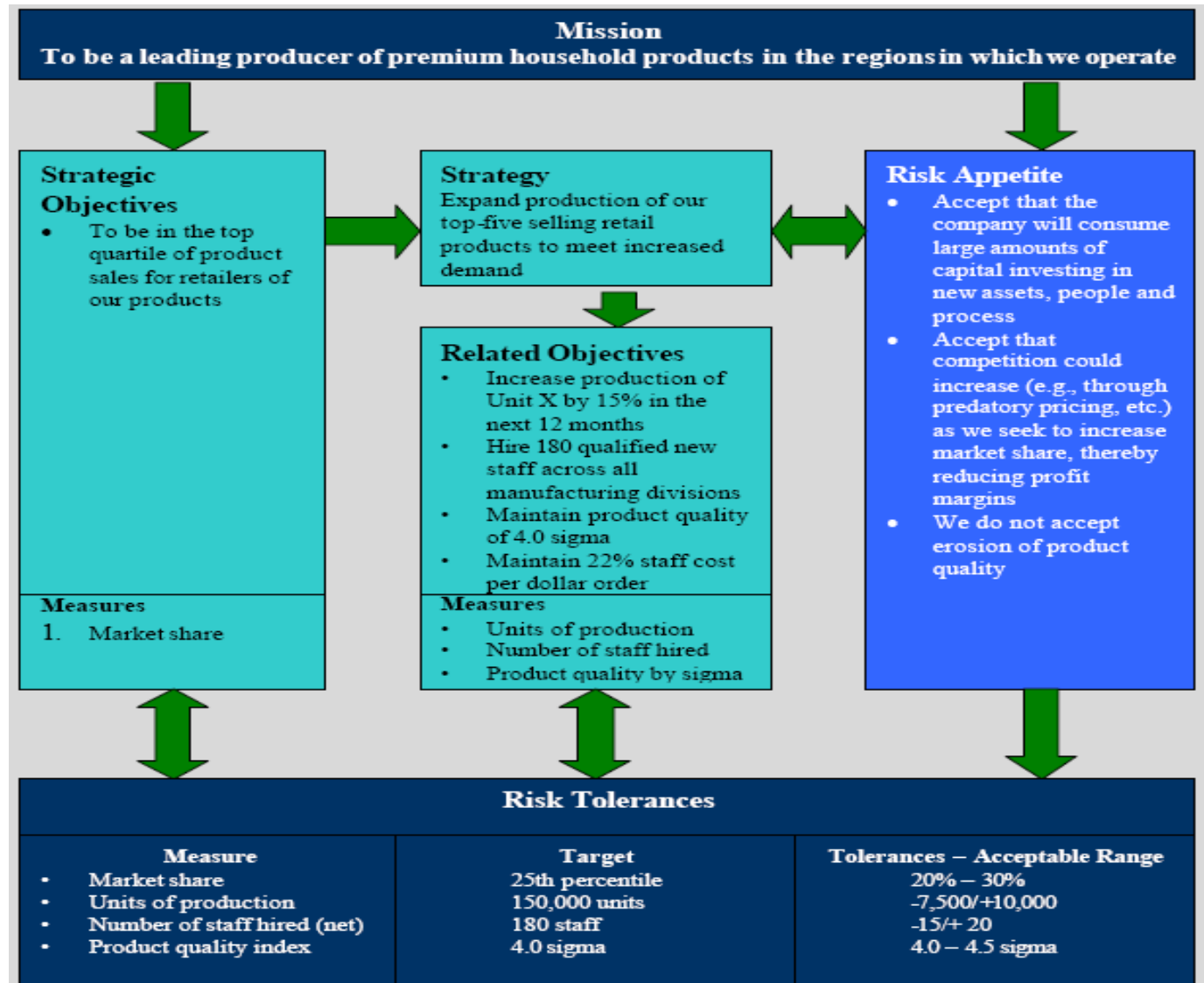
Management then focused on Options A and B.

# Objective Setting 3

## Example: Setting Strategic Objectives

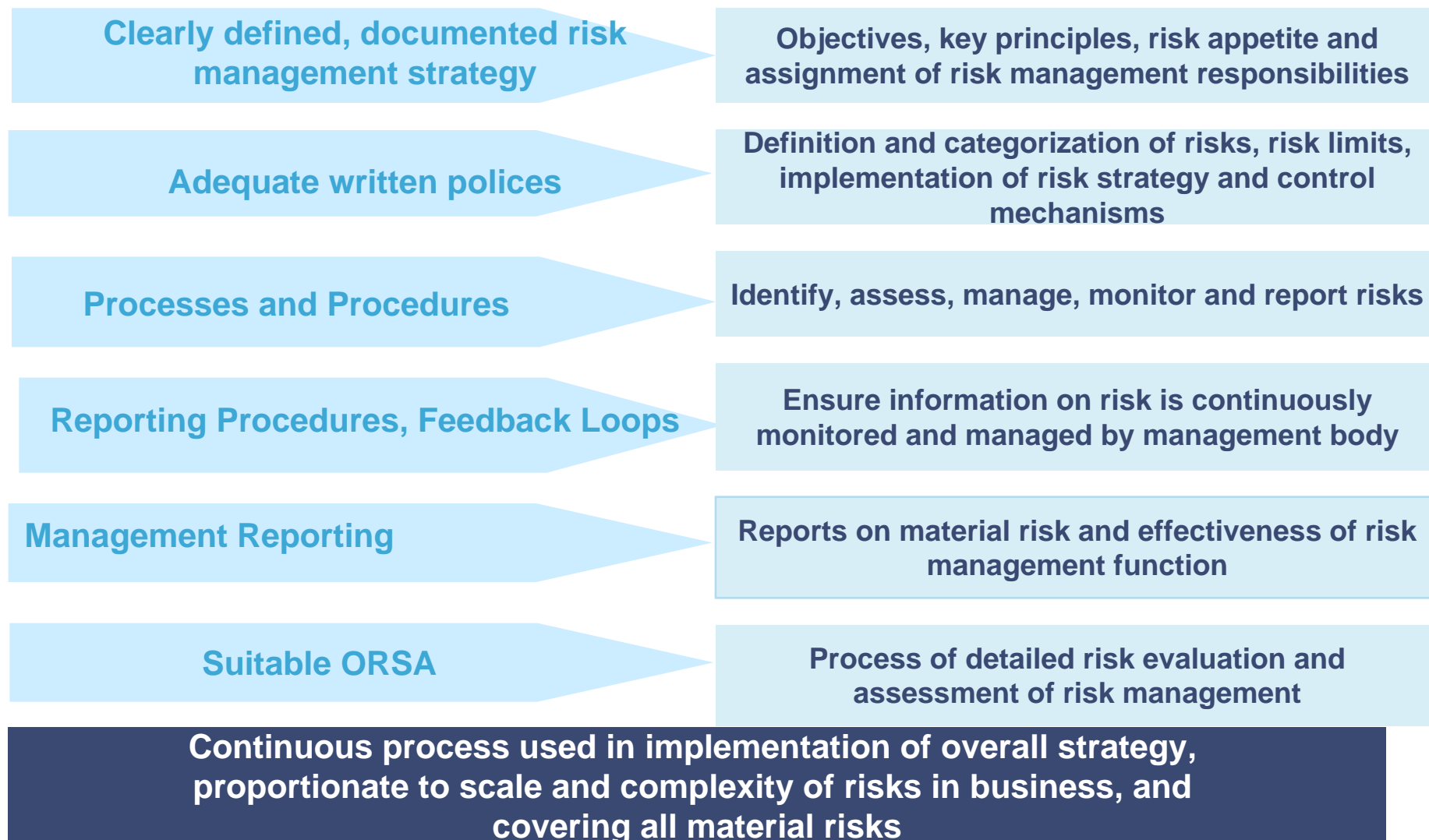


# Objective Setting 4

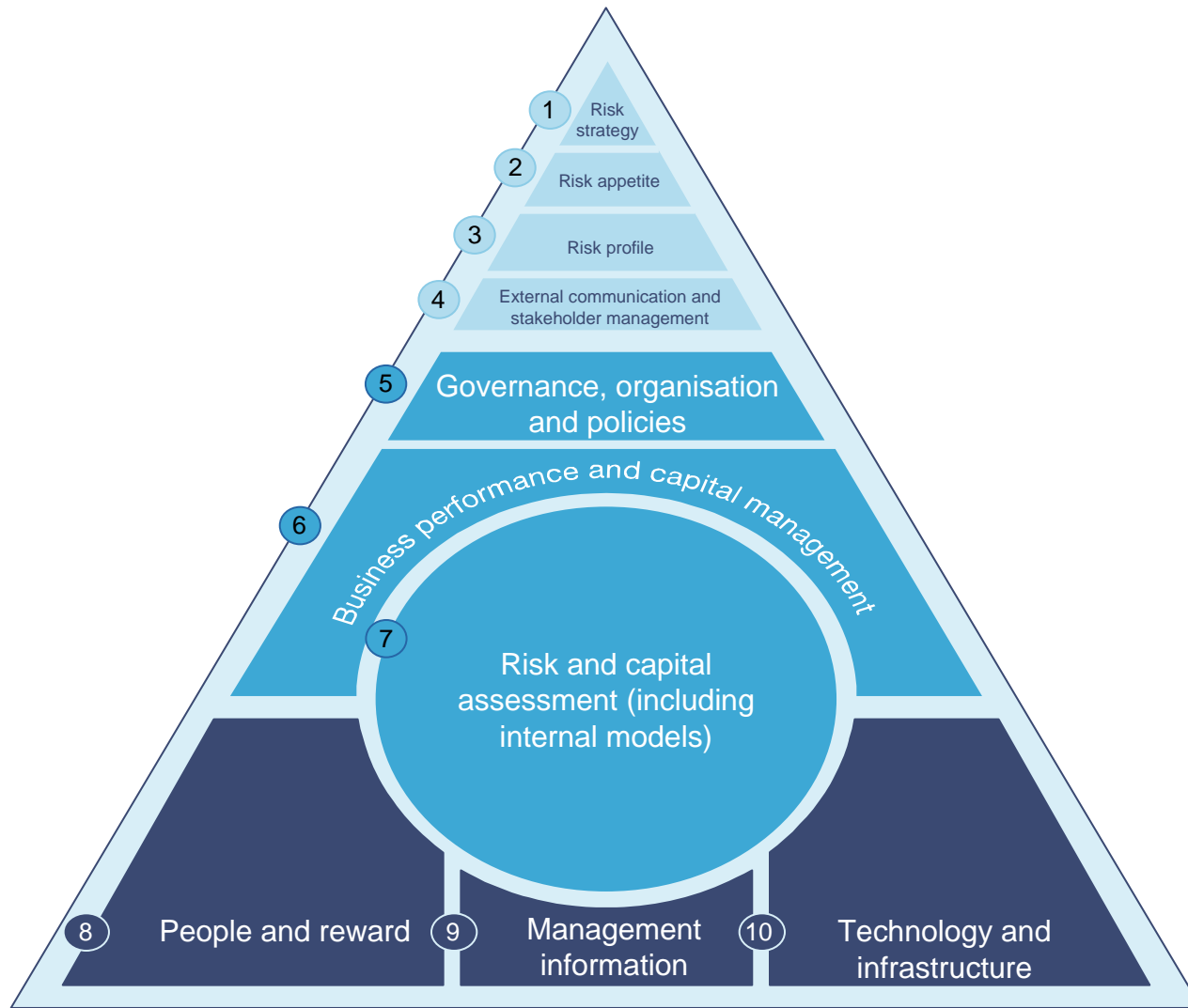




# An Effective Risk Management System defined - CEIOPS



# Risk Management Framework – used as a tool



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