



Solvency II Training Workshop Overview of Three Pillars (CEO & CFO)

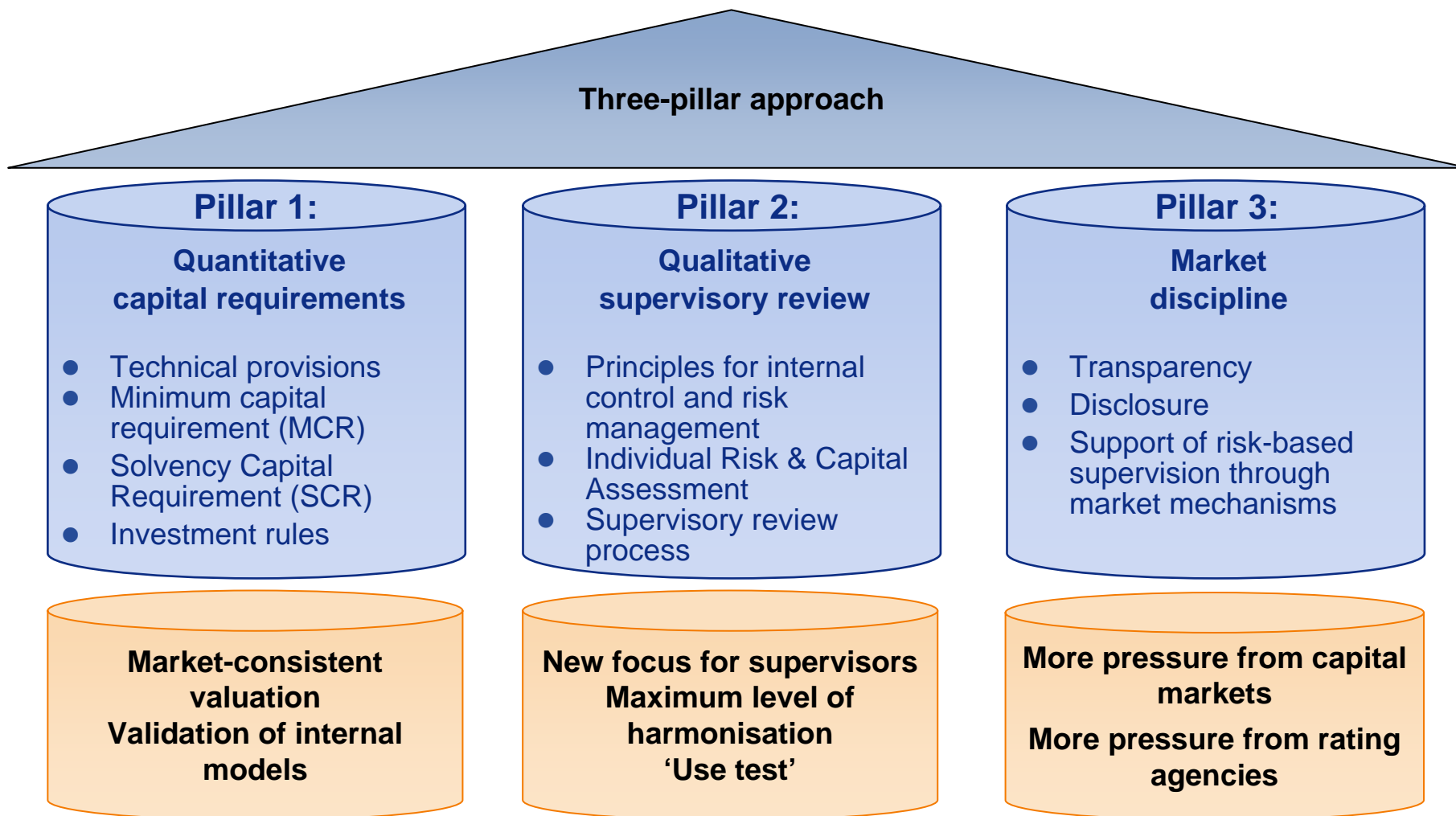
22 June 2008

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Agenda

- What is Solvency 2?
- When will it happen?
- Standard Formula vs Internal model
- Technical Provision building blocks
- What are the practical implications?

Solvency 2 – Three-pillar approach



Pillar 1 – Quantitative Capital Requirements

- Different method of calculating technical provisions under Solvency II and IFRS 4.
- Communication and embedding of the technical provisions in the business.
- Minimal Capital Requirement (“MCR”) fails to reward appropriate risk management behaviour.
- Internal capital models produced lower Solvency Capital Requirements (“SCR) during QIS3. Significant advantage in having an approved internal model.
- Significant implications on IT systems and data collection.

Pillar 2 – Qualitative Supervisory Review

The key to Pillar 2 is to demonstrate that the Company has:

- Effective enterprise risk management.
- Embedded risk and capital management into the business – “use test”.

The implications are:

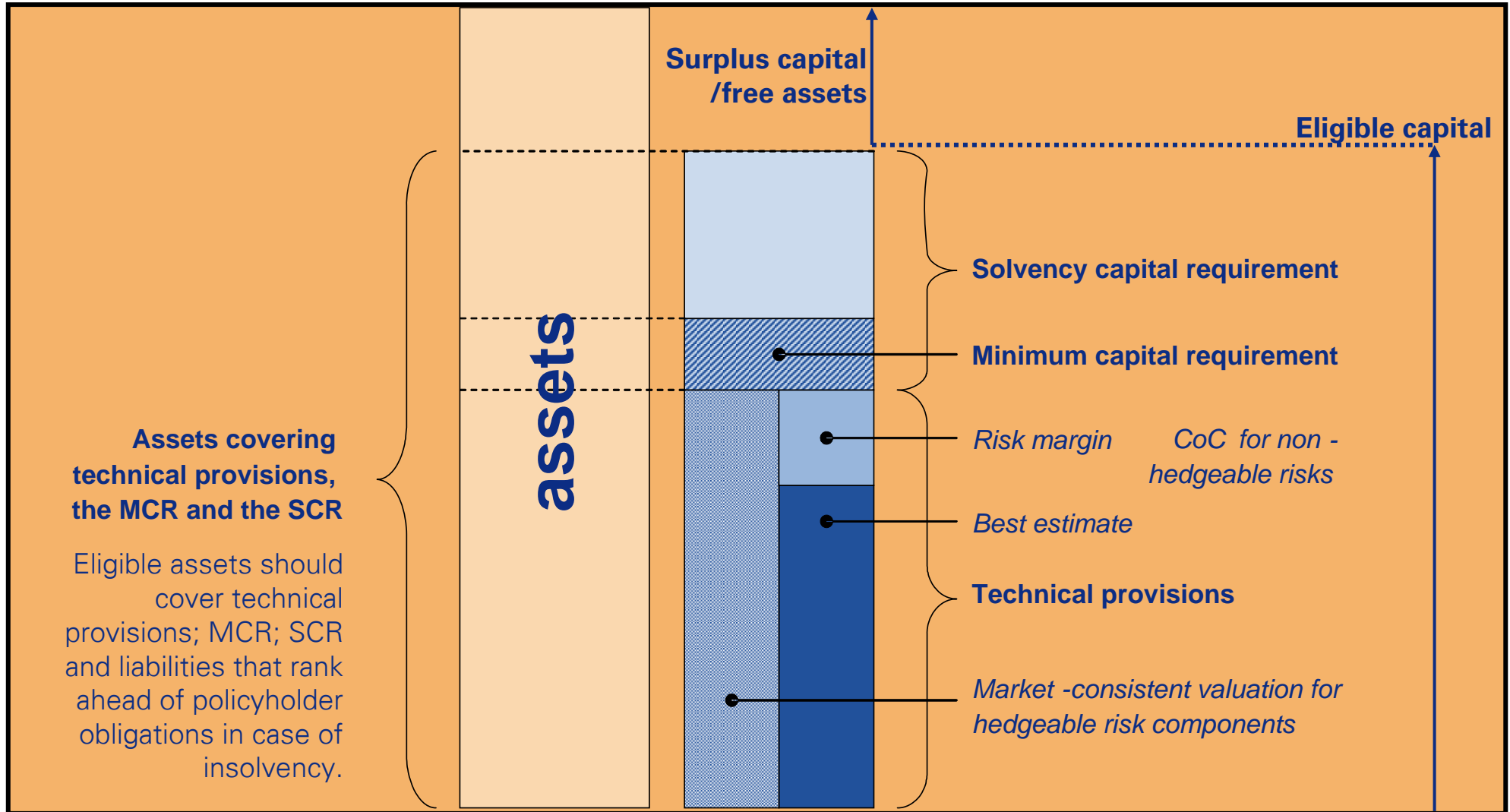
- Embedding will require significant management and IT time and resource.

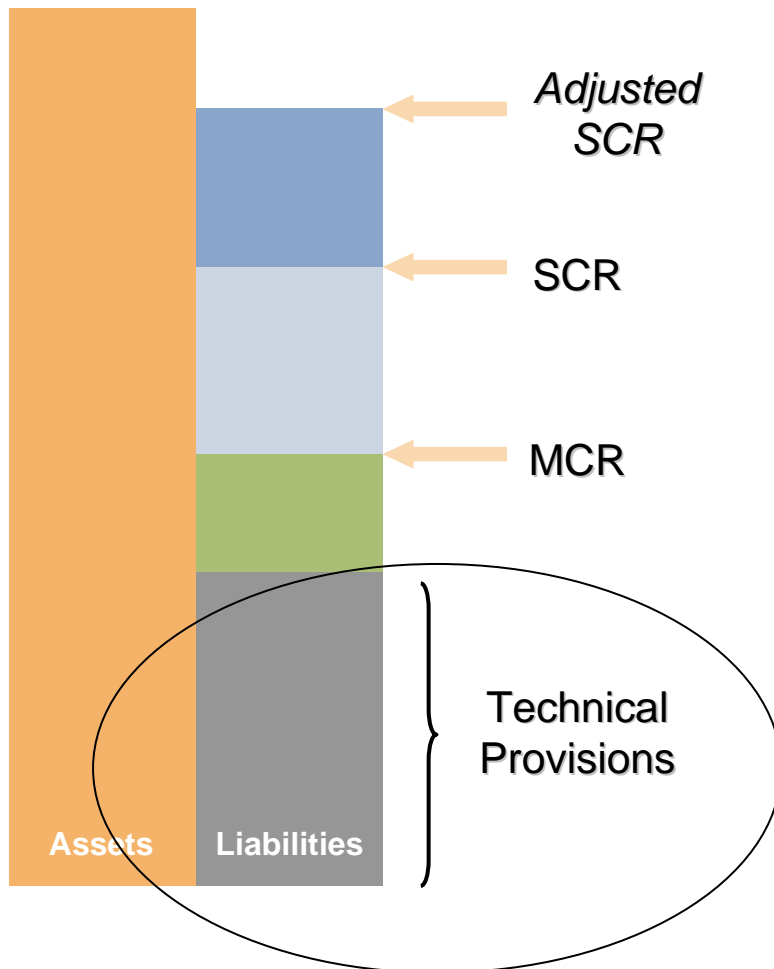
The main focus on Pillar 3 will be disclosure in the form of the solvency and final condition report. This report will cover:

- Governance and risk management
- Valuation principles applied for solvency purposes
- Internal model: methodologies, assumptions and validation
- Capital requirements:
 - The company's MCR and SCR and breaches during the year
 - Breakdown between SCR standard formula and internal model calculations
- **Transitional period after Directive implementation not exceeding 3 years**

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Proposed framework

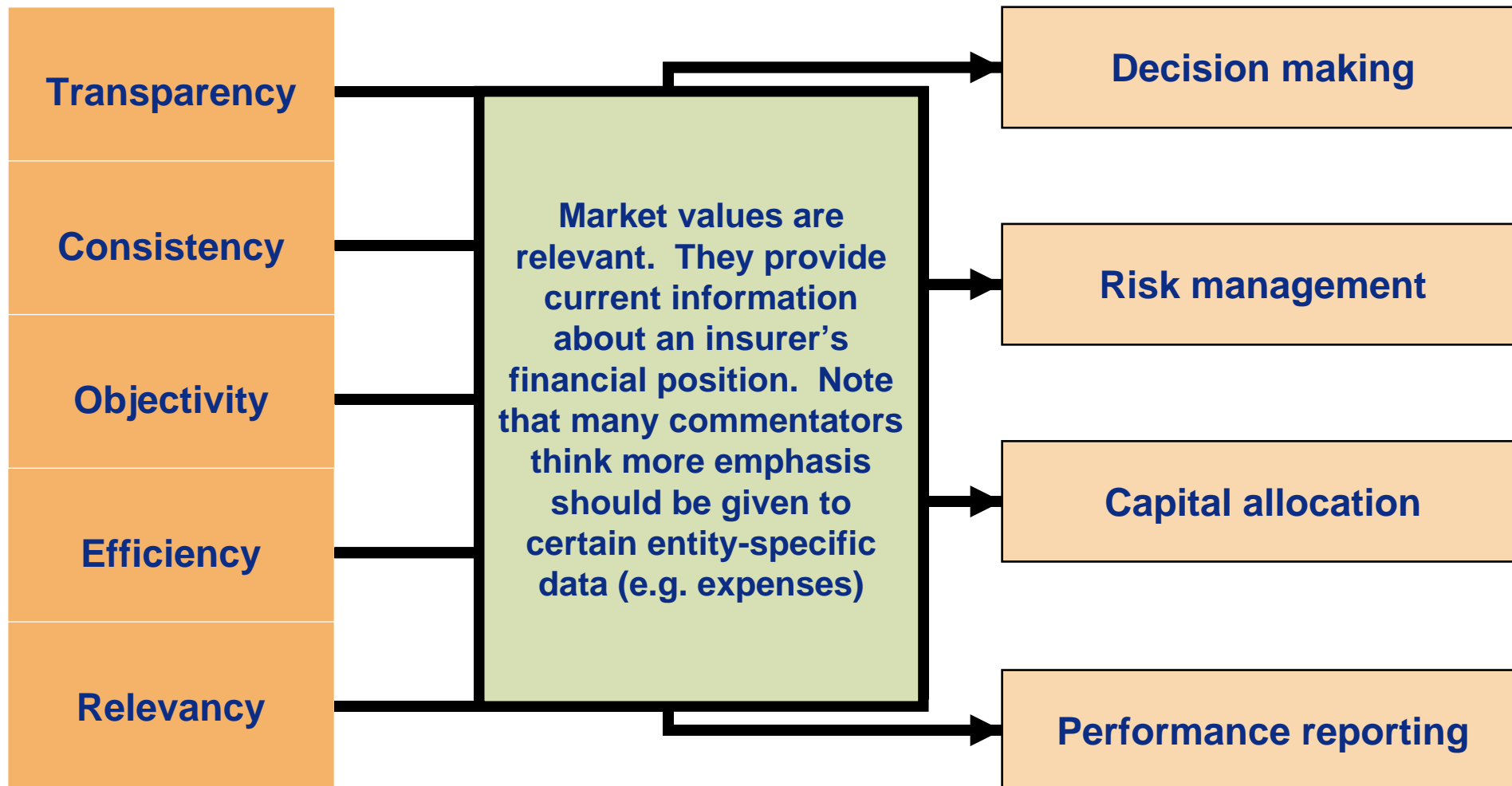


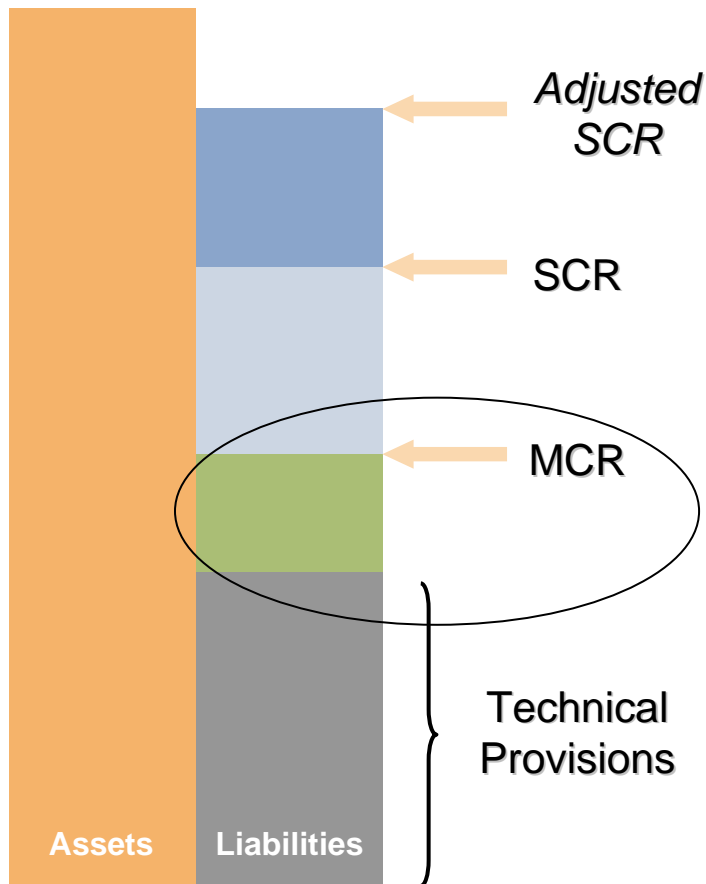


Technical provisions

- Market consistent value of liabilities
- Best estimate
- Plus explicit risk margin – market value margin
 - Market-consistent valuation for hedgeable risk components e.g. traded securitised risks
 - Cost of Capital (CoC) approach for non-hedgeable risk components e.g. most insurance risks: mortality, etc.
 - CoC is based on the Swiss Solvency Test (SST):
 - The risk margin is the smallest amount of capital which is necessary, in addition to the best-estimate of the liabilities, so that a buyer would be willing to take over the portfolio of assets and liabilities
 - Risk Margin = present value of the cost of capital of the future risk capital associated with the portfolio of assets and liabilities
 - A buyer (or a run-off company) needs to put up capital during the run-off period of the portfolio of assets and liabilities and therefore a potential buyer needs to be compensated for the cost of having to put up that capital
- **How should CoC be calculated and implemented?**

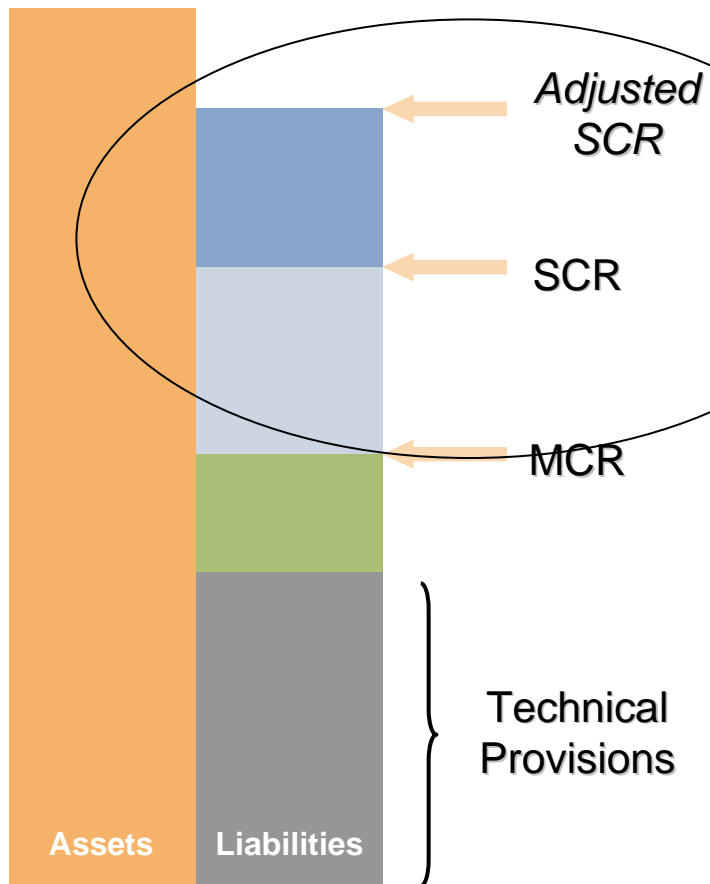
What are the advantages of market-consistent measures?





Minimum Capital Requirement

- An absolute floor and level representing an unacceptable risk to policyholder triggering ultimate supervisor intervention
- Simple and robust calculation but not sensitive enough as some risk components e.g. operational risk are excluded
- Preference for factor based approach: Formulaic construction
- Ratio of MCR to SCR
 - Issues from QIS 2:
 - NL – no adjustment for expected profitability
 - L – inadequate reflection of profit-sharing business
- **Proposed responses:**
 - **Modular approach – Solvency 1 plus**
 - **Compact approach – Percent of last year's SCR calculation: standard formula or model**



Solvency Capital Requirement

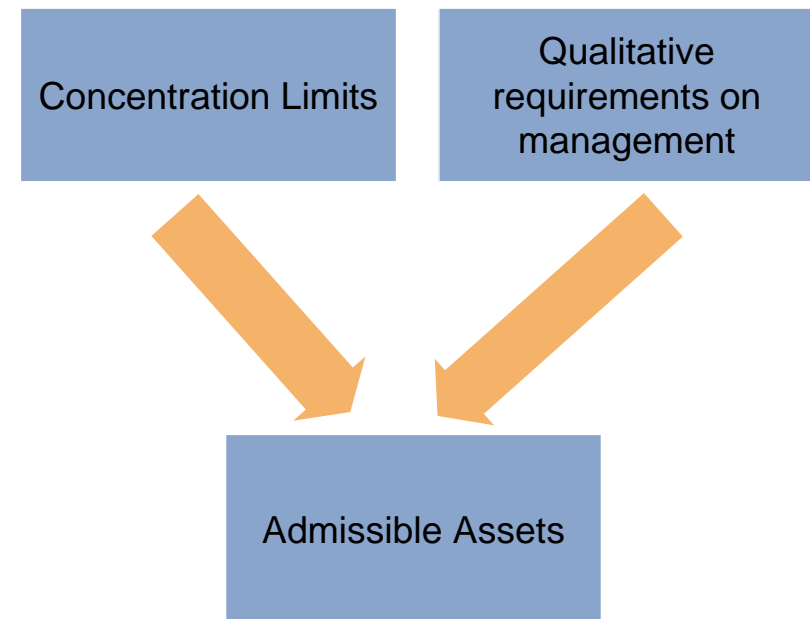
- To absorb significant unforeseen losses
- Standard approach: formulaic plus scenarios
- Internal models: full and partial
- As a minimum to cover insurance, market, credit and operational risks
- Calibrated at 99.5% VaR confidence level over 1-year horizon
- Adjusted SCR: Pillar 2 add-on
- Complexity: cost-benefit issue for smaller firms
- **EC pressure on transparency – Disclosure?**
 - **Breaches of SCR**
 - **SCR add-on**

Reinsurance

- More tailored to the true risk profile
- SCR more accurately reflects risk mitigation
- Only to the extent that it can be reliably quantified
- Should allow for the increase in credit risk

Asset Rules

- 'Prudent Person Plus'
- Eligible assets to cover
 - technical provisions
 - MCR and SCR
- i.e. same asset rules



Assets

Valuation guidelines	
Market type	Value
<ul style="list-style-type: none"> ● Reliable, observable prices. ● Liquid market 	<ul style="list-style-type: none"> ● Set equal to their market values. ● Long/Short position in assets: use bid/offer price
<ul style="list-style-type: none"> ● Observable but not reliable 	<ul style="list-style-type: none"> ● Reasonable proxies can be used (description of proxies should be disclosed)
<ul style="list-style-type: none"> ● No readily available market 	<ul style="list-style-type: none"> ● Alternative approach should be adopted, but should still be consistent with any market information.
<ul style="list-style-type: none"> ● Illiquid or non-tradable assets 	<ul style="list-style-type: none"> ● Prudent basis, taking into account credit and illiquidity risks

In absence of any sufficient evidence, value of assets should not be higher than acquisition cost minus sellers profit margin.

Own funds: Quality criteria and classification

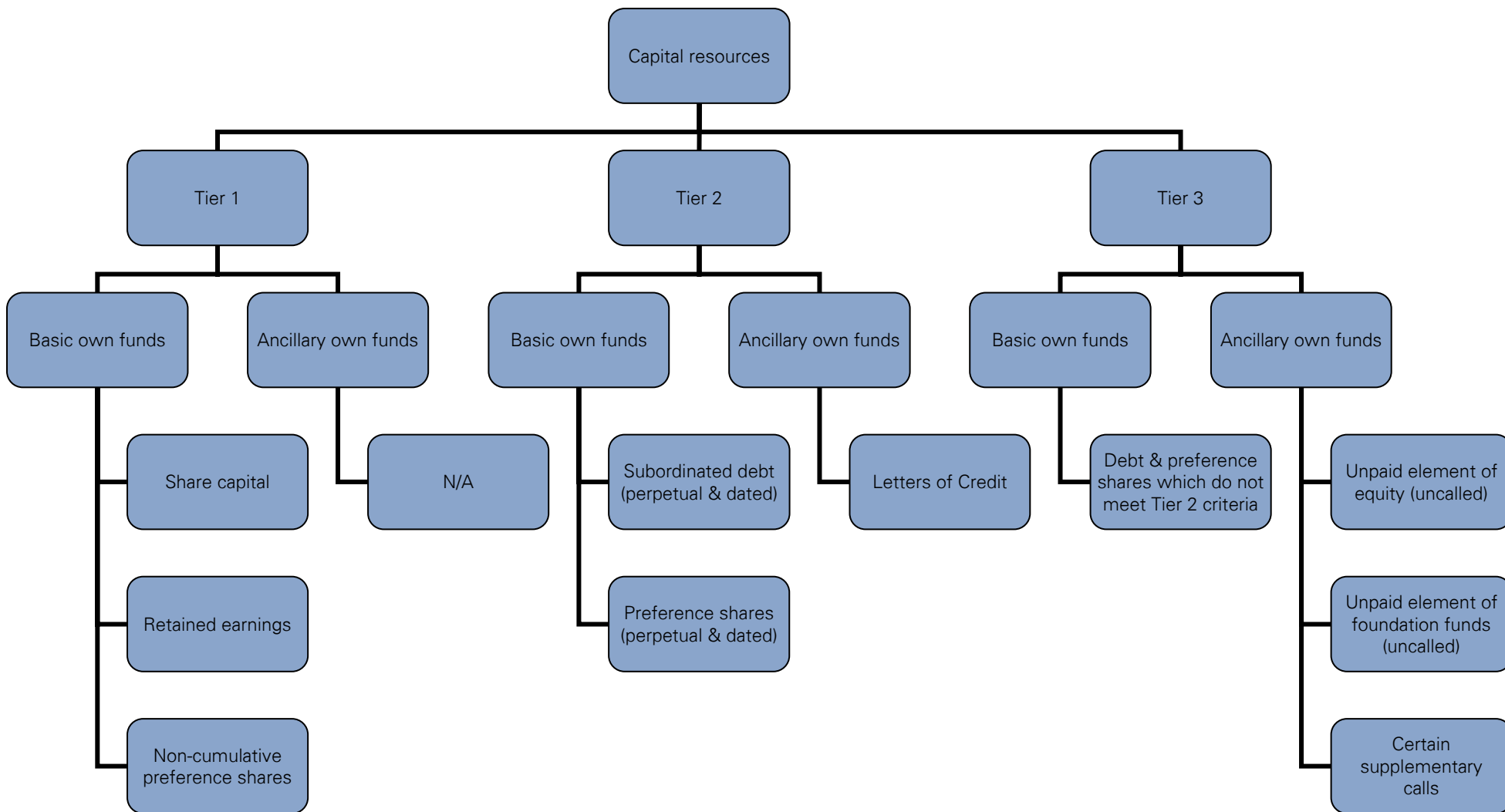
The proposed directive (*Article 92*) lists five classification criteria for own funds:

- **Subordination** – inability to repay item holder until all other obligations have been met
- **Loss absorbency** – total amount of item is available to absorb losses upon winding-up
- **Permanence** – item can be called up on demand to absorb losses on an ongoing basis as well as upon winding-up
- **Perpetuality** – item undated or has a sufficient duration vis-à-vis undertaking’s obligations
- **Mandatory servicing costs** – no mandatory fixed charges (e.g. interest servicing) to redeem nominal sum

Quality \ Nature	Basic own funds	Ancillary own funds
High	Tier 1	Tier 2
Medium	Tier 2	Tier 3
Low	Tier 3	-

- The SCR must be covered by at least one-third Tier 1 own funds
- Only Tier 1 own funds and basic Tier 2 own funds are eligible to cover the MCR (i.e. not ancillary own funds)
- Tier 3 items cannot exceed one-third of total eligible own funds

Potential classification of capital instruments





When will it happen?

Four stage process

Level 1	“Framework” principles
Level 2	Technical implementing measures
Level 3	Cooperation among national regulators - non-binding guidance
Level 4	Enforcement

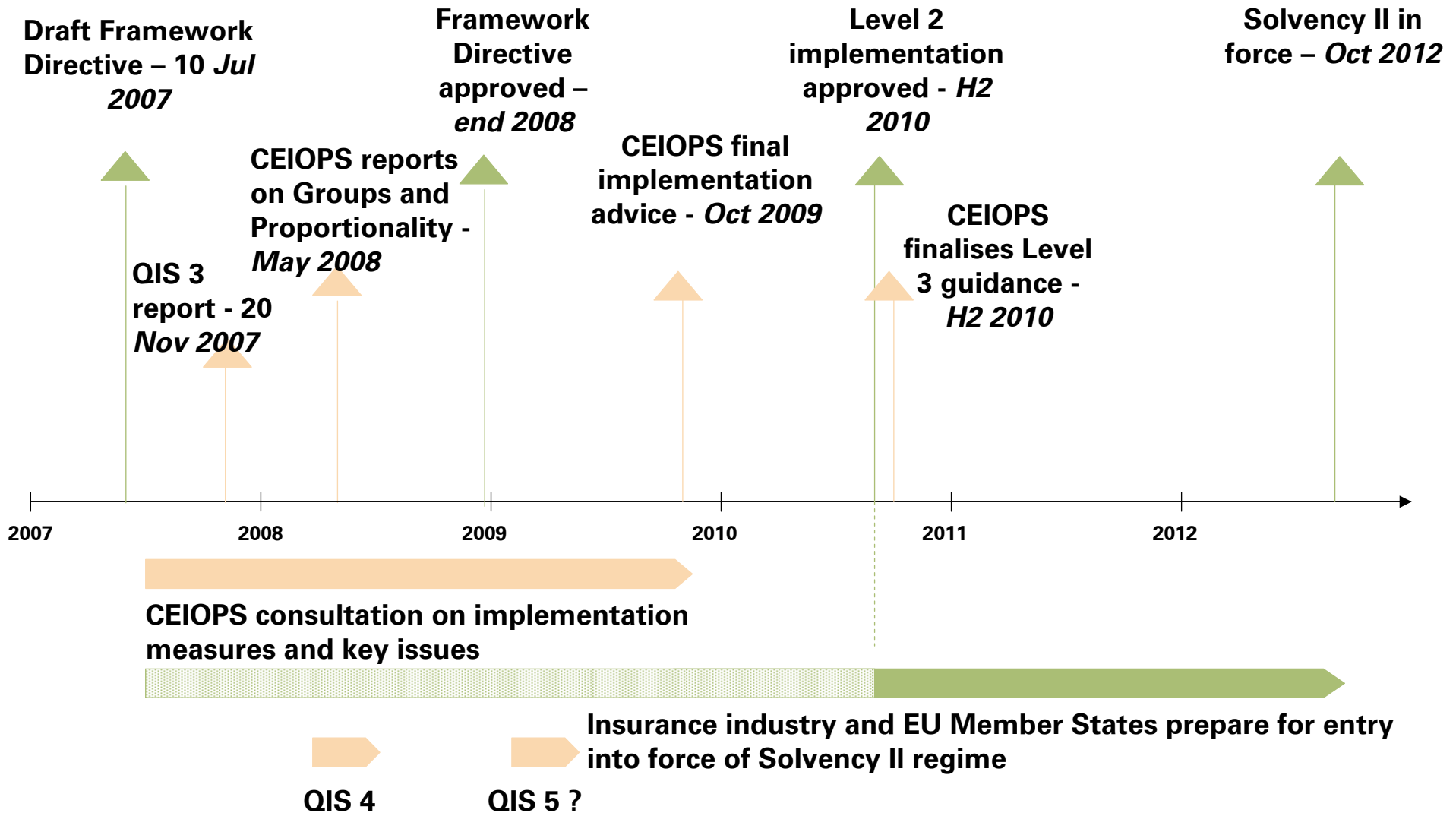
Level 1 - Framework Directive Proposal published on 10 July 2007

CEIOPS now working on Level 2 and 3 - further consultation and Quantitative Impact Studies expected

Implementation date now expected to be October 2012

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Solvency II timeline

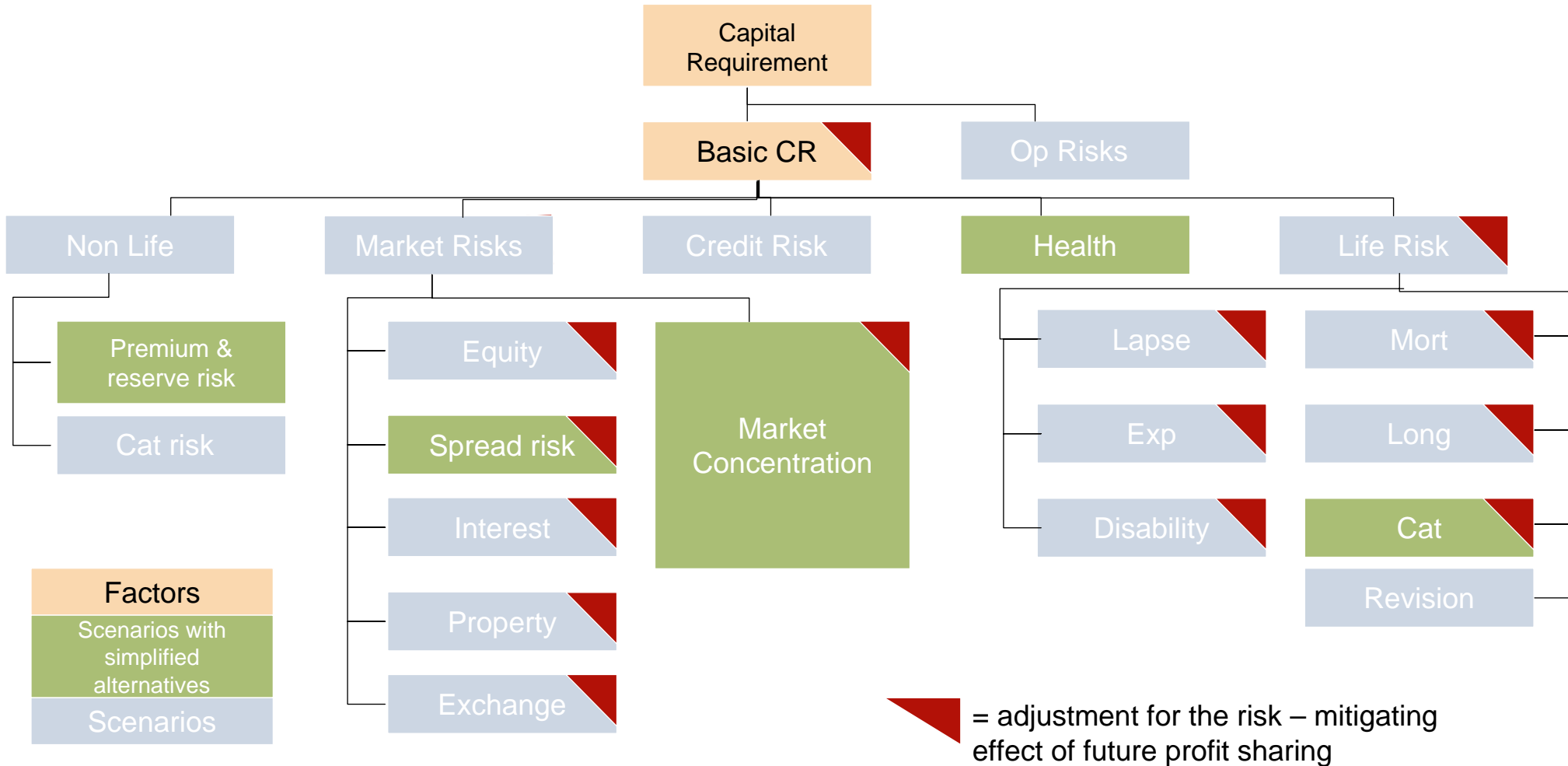




Standard Formula vs Internal Model

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SCR – Standard Formula



Solvency II is a regulatory framework which is fitted to:

large multi-line insurance groups

- mutualisation techniques, statistical laws
- consumer protection system

Israel are generally:

smaller insurers or reinsurers?

- Personal lines insurance, risk management tool, fiscal tool

Internal Model – What is an Internal Model

- **What is an internal model?**

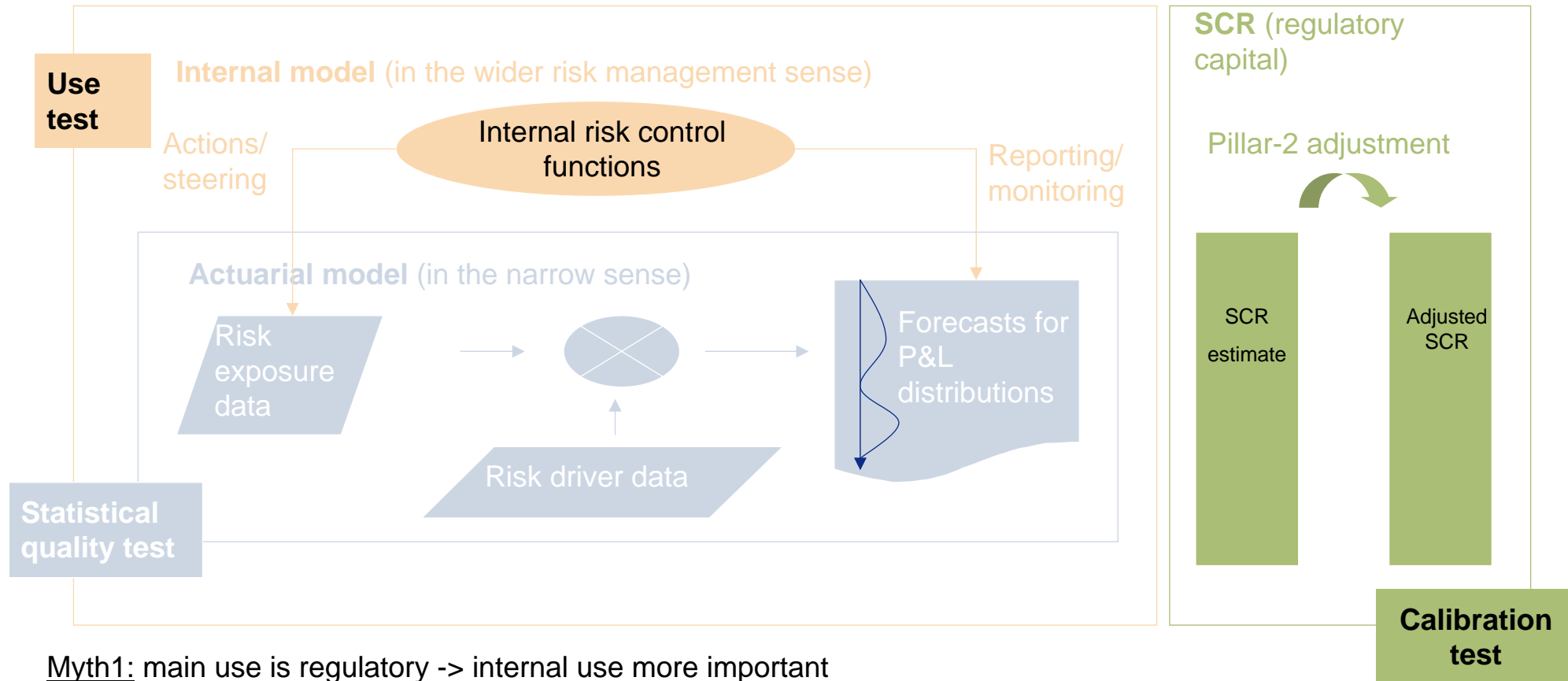
- *“A risk management system developed by an insurer to **analyse the overall risk position**, to **quantify risks** and to **determine the economic capital** required to meet those risks” –Solvency II Glossary (CEA/GC)*

- **What is the purpose of an internal model?**

- *To fully integrate processes of risk and capital management within the insurer*
- Solvency II directive allows for two types:
 - –Full internal models
 - –Partial internal models

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Internal Model



Myth 1: main use is regulatory -> internal use more important

Myth 2: main goal is computation of SCR

Myth 3: One risk measure -> distributions & several risk measures/metrics for reporting

Internal Model – Expected Benefits

- **Improved risk sensitivity** of SCR related to the insurer's specific profile leading to a more adequate modelling of non-standard, especially non-linear, contracts,
- **Better alignment** of regulatory capital requirements with economic capital
- **Encouragement of innovation in risk management methodology** leading to higher competitiveness through better risk management and hence lower costs of capital,
- **More effective pillar 2 discussion** and familiarity of the supervisor with more detailed exposure data than is generally available in accounting records,
- **Cost efficiencies through re-use of risk modelling** infrastructure for discussion with supervisors, rating agencies, analysts and shareholders.

- **Insurers must satisfy:**
 - Use test
 - Statistical quality standards
 - Calibration standards
 - Validation standards
 - Documentation standards
- **Use of external vendor models does not exempt insurers from any of the standards**



Technical Provision building blocks

Overview of differing requirements

Building block 1 - Future cash flows

Requirement	Solvency II	Phase II
Measurement attribute	<ul style="list-style-type: none"> ● Best estimate (expected present values of future cash flows, using the relevant risk free yield curve) <ul style="list-style-type: none"> – Current – Credible – Realistic assumptions 	<ul style="list-style-type: none"> ● Estimate of the future cash flows arising from the contract <ul style="list-style-type: none"> – Explicit – Unbiased – Market-consistent – Current
Which cash flows?	<ul style="list-style-type: none"> ● All cash flows required to <i>settle</i> the insurance obligations over the lifetime of the contract (which is consistent with using entity-specific cash flows) 	<ul style="list-style-type: none"> ● Only contractual cash flows ● Market-consistent cash flows should be used, not entity-specific cash flows
What is meant by estimates of cash flows?	<ul style="list-style-type: none"> ● Probability-weighted average <ul style="list-style-type: none"> – Use adequate actuarial methods and statistical techniques – ‘Mean of the probability distribution for the expected PV of the liability cash flows’ – Specific techniques, e.g. Chain Ladder and Bornhuetter-Ferguson, may be prescribed 	<ul style="list-style-type: none"> ● Probability-weighted average <ul style="list-style-type: none"> – Identify each possible scenario – Determine the present value of the cash flows in each scenario – Make an unbiased estimate of the probability of each scenario

Overview of differing requirements

Building block 1 - Future cash flows (continued)

Requirement	Solvency II	Phase II
Reinsurance	<ul style="list-style-type: none"> • Should be calculated gross • Reinsurance assets should take account of expected losses arising from counterparty default 	<ul style="list-style-type: none"> • Calculate gross at current exit value (for both assets and liabilities) • Calculating on a net basis and grossing up may be acceptable
Management actions	<ul style="list-style-type: none"> • Projected cash flows should reflect future management actions (considering the obligations to policyholders) 	<ul style="list-style-type: none"> • Not specifically discussed • Presumably would take account of what the hypothetical market participant would do
Assumptions	<ul style="list-style-type: none"> • assumptions should be assessed separately for different risk groups • Current and credible assumptions should be used • Volatility of experience should be considered (demonstrable and compared with actual experience) in setting assumptions 	<ul style="list-style-type: none"> • Assumptions that a hypothetical market participant would use in valuing the liabilities • May not have full knowledge of the portfolio?
Tax	<ul style="list-style-type: none"> • Taxation payments required to meet policyholder liabilities should be allowed for in the calculation of technical provisions 	<ul style="list-style-type: none"> • Not discussed specifically • Some of these cash flows may be accounted for under IAS 12

Overview of differing requirements

Building block 2 - Time value of money

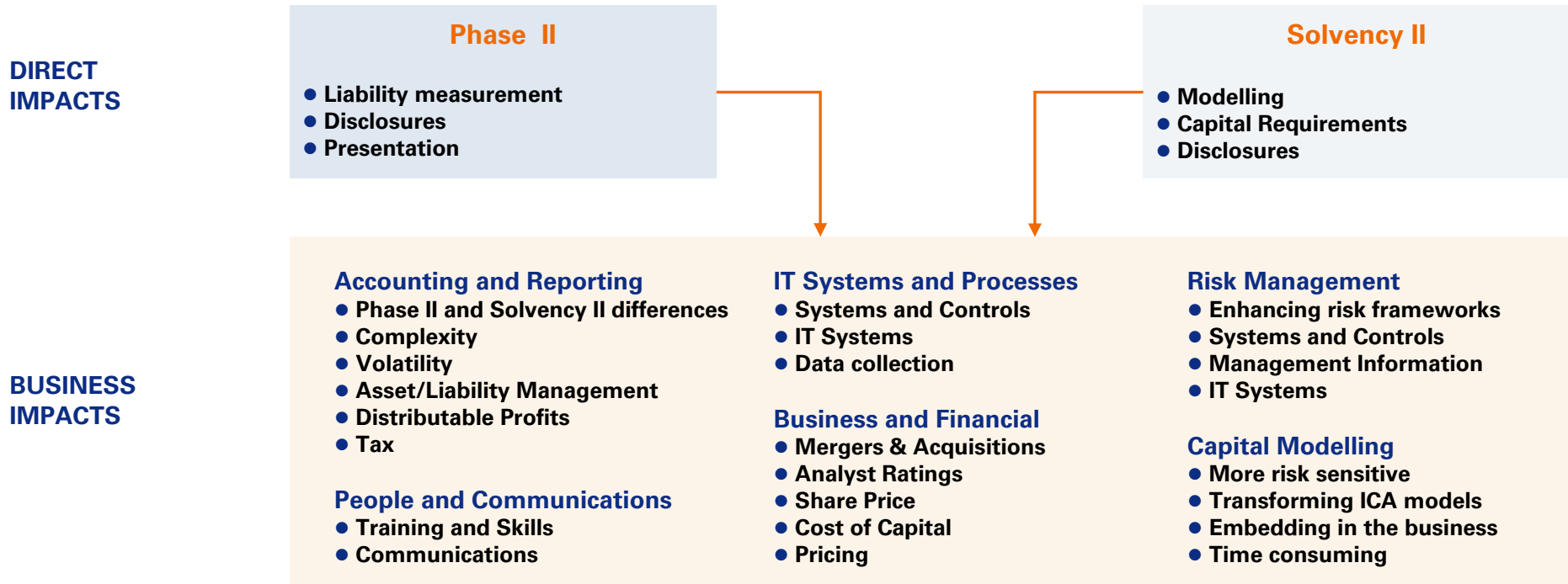
Requirement	Solvency II	Phase II
Discount rates	<ul style="list-style-type: none"> ● Risk-free rate yield curve based on the liability under consideration ● The structure to use will be mandated 	<ul style="list-style-type: none"> ● Discount rate consistent with observable current market prices for cash flows whose characteristics match those of the insurance liability (for example timing, currency and liquidity) ● Should exclude any factors that influence the observed rate which are not relevant to the liability (for example, risks not present in the liability but present in the instrument for which the market prices are observed)
Credit characteristics of the liability	<ul style="list-style-type: none"> ● No adjustment to take account of the own credit standing of the insurance or reinsurance undertaking 	<ul style="list-style-type: none"> ● Credit characteristics of the contract are reflected in its measurement ● Current exit value of a liability is the price for a transfer that neither improves nor impairs its credit characteristics
Risk margin	<ul style="list-style-type: none"> ● The cost of providing an amount of eligible own funds equal to the SCR ● Method of calculation shall be the same for all insurance and reinsurance undertakings ● A 'Cost of capital' approach 	<ul style="list-style-type: none"> ● An explicit and unbiased measurement of the compensation that market participants would demand for bearing risk
Service margin	<ul style="list-style-type: none"> ● Not covered specifically, but the cash flows for this have already been taken into account 	<ul style="list-style-type: none"> ● The liability should include, in addition to the margin for the service of bearing risk, an unbiased estimate of the margin that market participants would require for rendering other services



What are the practical implications?

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The importance of an integrated approach



Key issues

- Solvency II may come into operation before a final IFRS Phase II Standard is finalised
- Solvency II and IFRS II requirements overlap in many areas and may conflict

Possible solution

- A flexible and co-ordinated approach to Phase II and Solvency II is required
- A 'Multi-release' strategy with mitigation activities to minimise the risk of re-work

Phase II

- Greater volatility
- More complexity
- Trade off between reliability and relevance
- Additional disclosures
- Prolonged timescale to develop a final standard

Solvency II

- More comprehensive than the current regime
- Required to hold capital against market risk, credit risk and operational risk
- Greater focus on identification, measurement and management of current and future risks, using an Own Risk and Solvency Assessment (ORSA)
- Prescriptive requirements will specify the actuarial methods and statistical techniques to be used to measure technical provisions
- Much is yet to be agreed over how to convert market consistent valuation methods into pragmatic rules without compromising the principles
- Rating agency and regulatory approaches will converge

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Business Impacts

Systems and data

Data quality

- Availability, granularity and consistency of data
- Streamline the collection of data for Phase II, Solvency II, MCEV, management information, etc.

Calculating probability-weighted scenarios

- Understand the drivers
- Identify central assumptions and correlations on claims, expenses, lapses and economic variables
- Assign probability-weightings
- Establish the extent to which deterministic scenarios will be acceptable

Cash flows

- Cash flows for gross insurance and reinsurance could be fundamentally different from existing basis, especially for stop-loss and XL reinsurance
- Identify contracts meeting guaranteed insurability criteria
- Cash flow projections for contractual and constructive obligations
 - Future regular premiums (and benefits)
 - Ex gratia payments
 - Terminal bonuses
 - Discretionary payments on overseas DPF contracts
- Other cash flow projections for all contracts
- Cash flow projection analysed between
 - Insurance contracts
 - Investment contracts
 - Mutual funds
 - Service companies

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Business Impacts

Systems and data (continued)

Market-consistent data for expenses and assumptions

- Identify the hypothetical market participant
- Gather relevant data for the portfolio
- Identify market-consistent data (e.g. mortality, longevity, lapse rates, claims costs, interest rates) for own portfolios
- Identify replicating financial instruments

Unbundling

- Determine whether cash flows are interdependent
- Separate the insurance and deposit cash flows

Some other uses for the data

- Budgeting
- Forecasting
- Actuarial
- Pricing
- Treasury management

Timing, cost and systems requirements

- It can take years to build the required quantities of data
- Data needs to be collected at a sufficiently granular level to support the modelling of the different risks
- Consider data infrastructure and capacity issues
- IT will be the biggest cost especially where there are data quality and legacy system issues
- Engagement with IT is required now to manage the cost and achieve proportionate benefits

Corporate Governance

- Identification and use of risk drivers
- Quality of management information

Risk management and modelling

- Acceleration of changes in risk management
- Asset / liability management
- Current ICA standards and calculations are unlikely to meet FSA validation criteria
- Need to decide if an internal modelling approach is appropriate - define data needs and perform an impact assessment
- Internal models will be time-consuming to develop
- Internal models need to be used widely in the firm in making risk management and business decisions to be validated by the regulator
- Insurers who transform their approaches to risk management and modelling are likely to benefit the most

Capital requirements

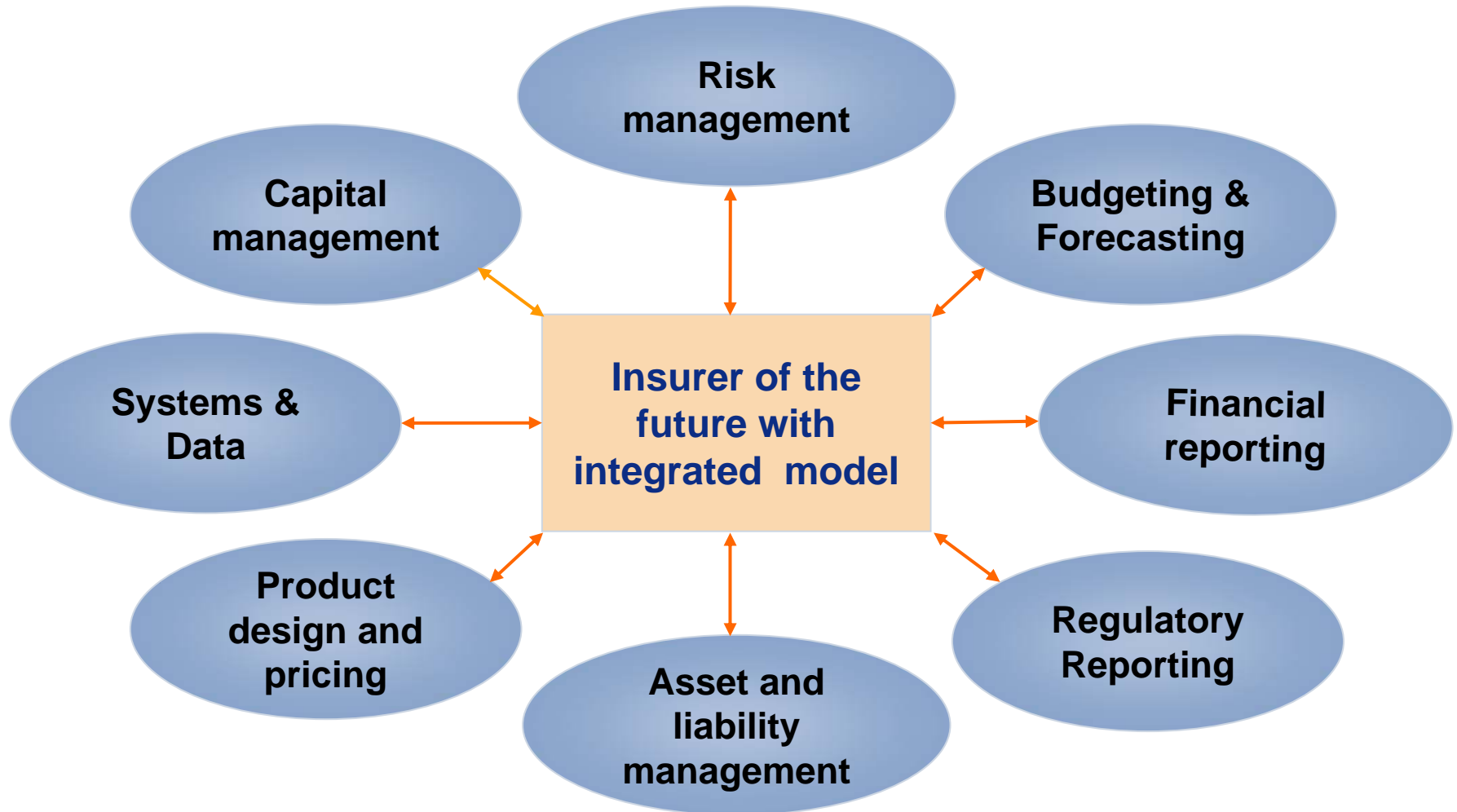
- Firms best-placed will include those with a low risk profile, diversified portfolios and advanced, embedded risk management and modelling capability
- Firms not well-placed will include those with a high risk profile, niche players and smaller firms
- Regulators will have to balance the need for flexibility with the need to avoid giving a competitive advantage to a particular firm to achieve a level playing field
- Link between MCR, SCR and ORSA
- Disclosure of sensitive matters, particularly capital add-ons
- International groups may gain significant benefits from changing their group structures
- Risk based capital will change product profitability and pricing, which needs to be built into product strategy

Communications

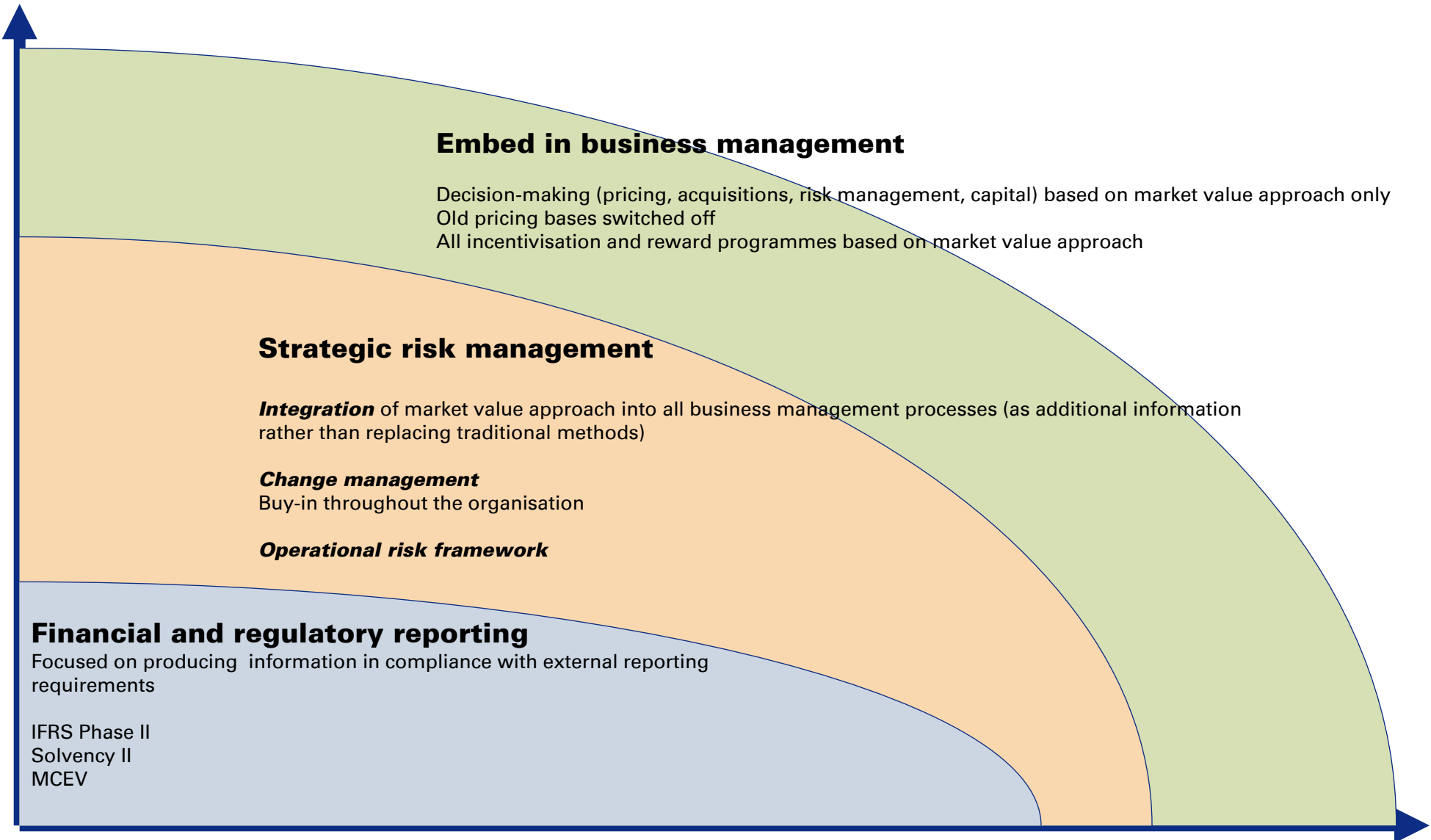
- Internal, Regulators, Other stakeholders, Capital markets and analysts

Timing

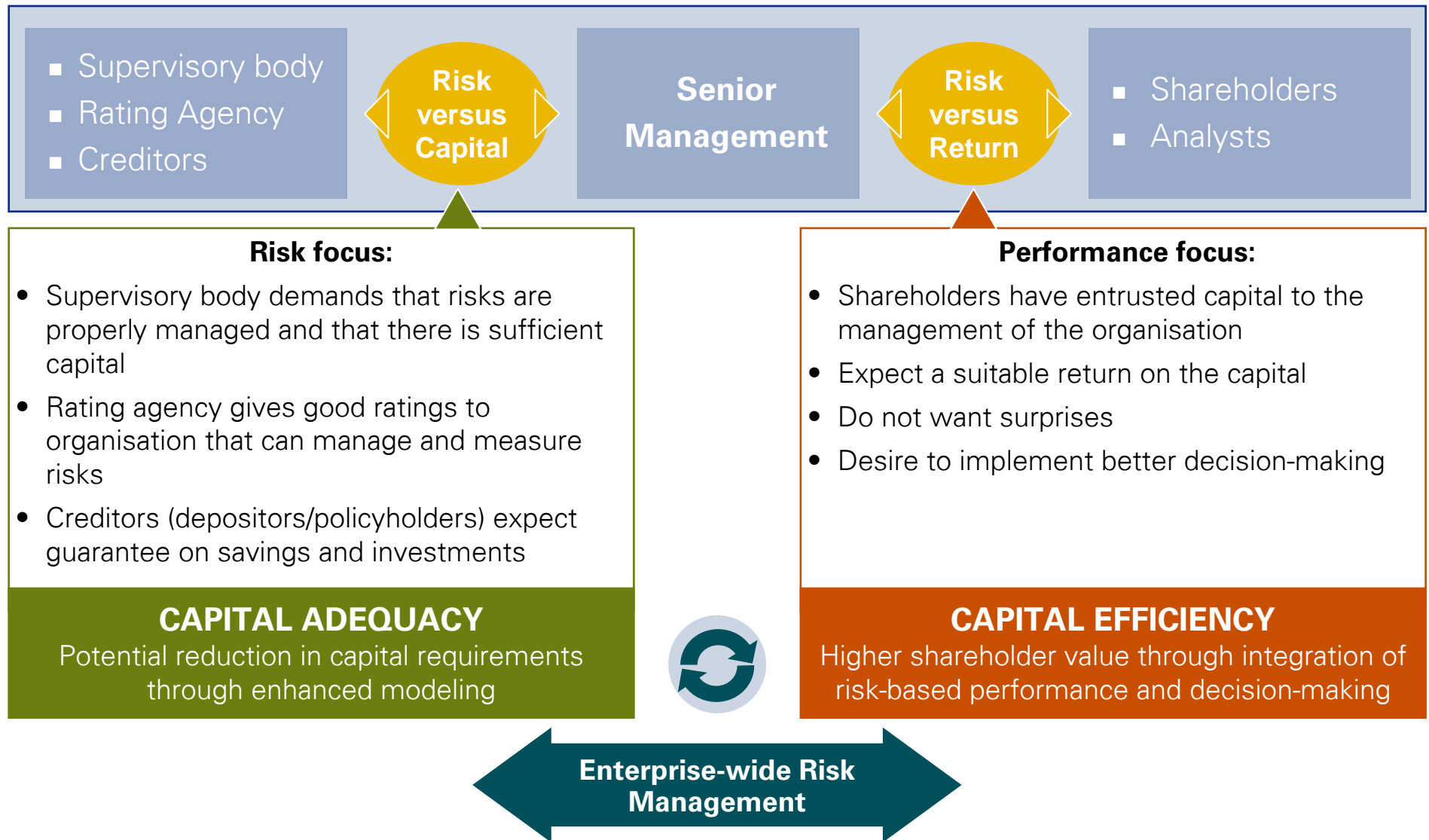
- Companies need to start work in some areas while deferring others
- Key impacts, potential timeline and decision points are needed now to optimise the business impacts



The integration can deliver compliance and business benefits...



For many insurers, the largest challenge of Solvency II is a more integrated management of risk, return and capital



The road ahead

- Implementation of RBC will be a significant step forward in delivering more risk based capital management and has helped to meet the challenges of Solvency II.
- A considerable amount of resource and expense is still required to have a fully integrated approved model. The capital benefits are significant.
- A strong risk management culture will ensure risks are understood, controlled and effectively communicated. Effective ERM will be a key driver in achieving Solvency II.
- Crucial that capital and risk management is embedded into the business. It is the DNA of an insurance Company.
- Return on risk adjusted capital should be a key driver in the remuneration of underwriters and management.

Implications of Solvency II

- Solvency II will have considerable implications on risk and capital management. Participation in QIS 4 will be a benefit in assessing a firm's readiness for Solvency II.
- Differences between Solvency II and IFRS need to be resolved.

Finally, a question to you all

**Are we in danger of overcomplicating
the way we run our business?**