



INSURANCE

Solvency II Training Workshop Implications and Specific Impact

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Clemens Frey and Ash Ruparelia

ADVISORY

Agenda

- Integrated Insurer Model
- UK Example – ICA regime
- Project Plan
- Capital Needs



Integrated Insurer Model

The environment for Insurance companies world wide is changing . . .

Trends

A world-wide tendency for regulators to better align capital requirements with the risks insurers face by:

- Introducing new capital requirements and risk modeling standards
- Putting strong emphasis on the need for a consistent and comprehensive approach to modeling risk
- Requiring a higher level of transparency

New focus of rating agencies and regulators on enterprise risk measurement and embedding internal models into business processes

Increased reliance on sophisticated internal models in order to base management decisions on risk-adjusted return measures

Impact on insurance companies

Insurers will see fundamental changes in the way that their capital adequacy is assessed:

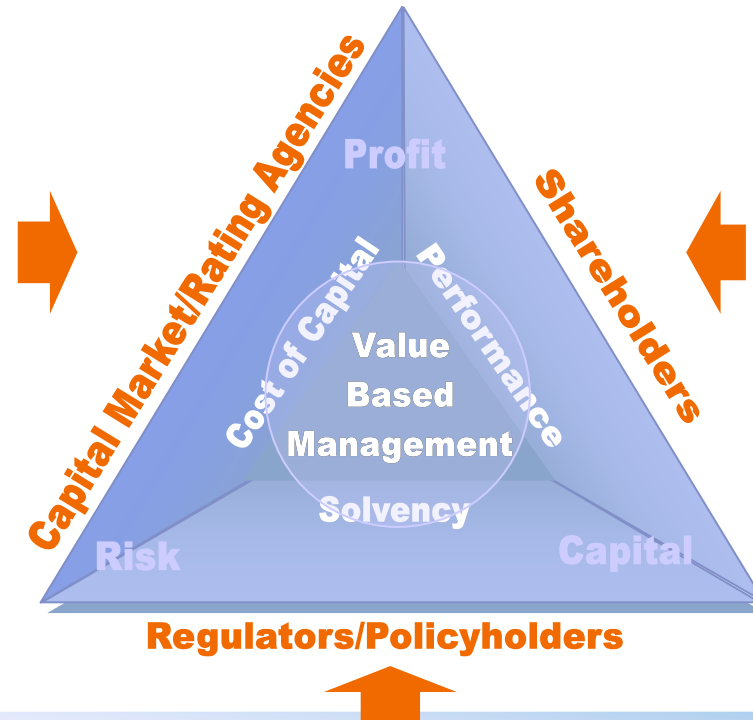
- They will need to demonstrate greater understanding of risk and the capital needs of their business
- Companies that fail to implement capital assessment on time, potentially face having higher capital requirements imposed by regulators

Improvement in risk model standards by insurers and increasing use of risk models within the business

. . . trends will impact upon the heart of business processes, including calculation of risk-based capital numbers and stochastic modeling

Why is it time to take a look under the hood of your economic capital models ...

Ratings: rating agencies are placing increasing weight on firms' internal modeling as a key part of their Enterprise Risk Management framework. This focus is likely to increase over time and be reinforced by the changes brought about by regulatory developments such as Solvency II in Europe. The insurance industry is expecting that internal economic capital models will become part of the key criteria used to assess a well managed insurer and thus impact the views of financial analysts.

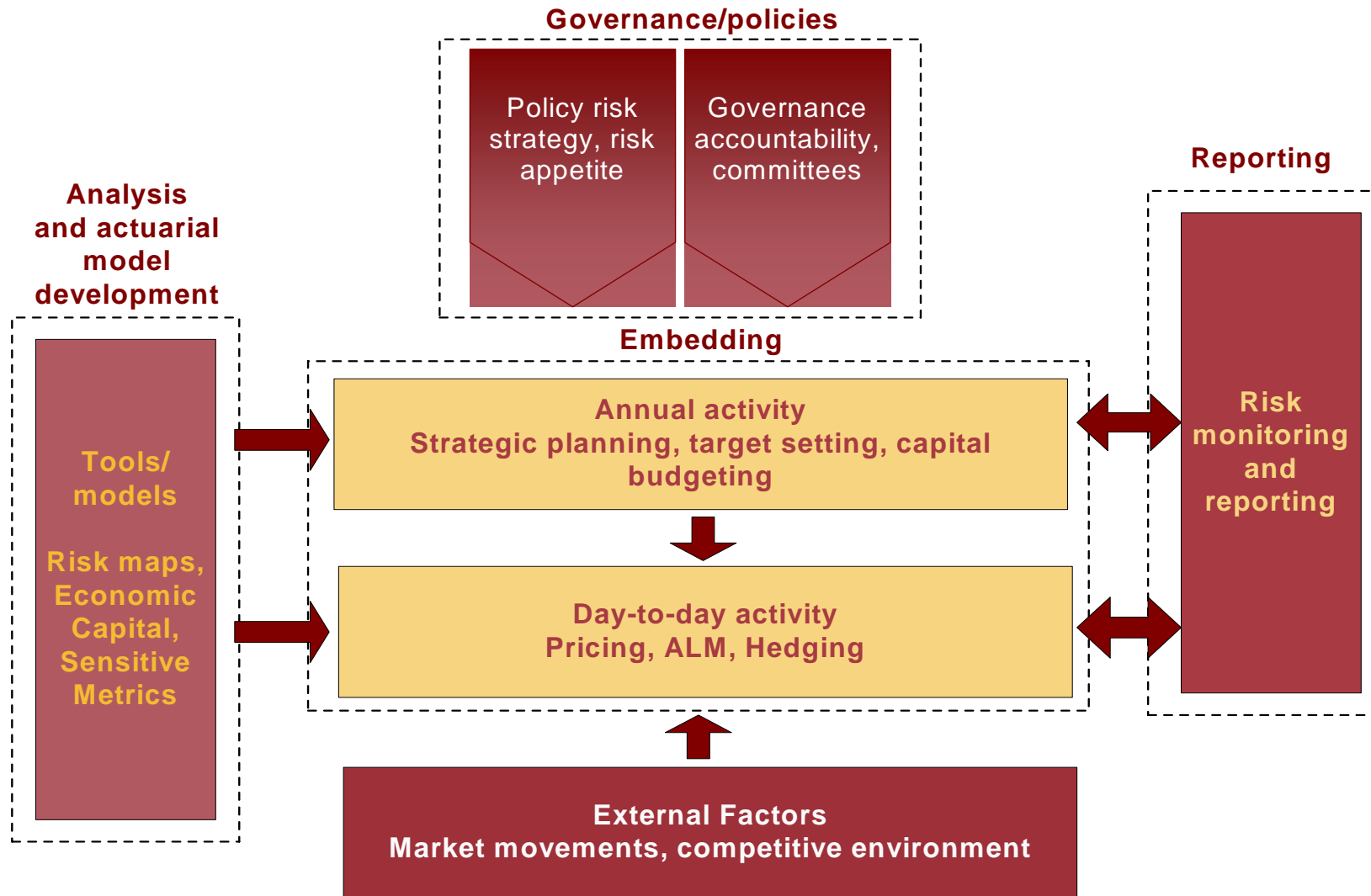


Return Optimization: internal models are not just about regulatory capital. They provide information to support key business decisions around capital allocation, assessment of risk adjusted return on capital by line, risk or deal, technical pricing, active portfolio management, concentration analysis, risk transfer analysis and optimal reinsurance structures.

Regulators: for EU insurers, internal economic capital models are encouraged as an alternative to the standard economic capital model for the calculation of the Solvency Capital Requirement (SCR) under Solvency II. There will be quantitative incentives for firms to invest in their own internal models to help more accurately reflect their individual risk exposures and mitigation strategies. Integration of such models into business processes and decision making should lead to better risk management and deliver Pillar 2 benefits. The International Association of Insurance Supervisors is developing global guidance for solvency regulation. Initial drafts have come to the same conclusions as Solvency II, and the three pillar architecture has been taken up.

... internal economic capital models are continuously gaining in importance due to regulatory, rating agency and business drivers

Insurer of the future with integrated model



A thorough and robust reserving process is the cornerstone of a successful insurance organisation.

The key attributes are:

- Reviewed and agreed by underwriters and management ensuring “one version of the truth.”
- Performed on a consistent and regular basis.
- Analyses the combined ratio and return on risk adjusted capital by line of business, including full expense allocation.

IBNR and P&L (contd)

A thorough and robust reserving process enables:

- The identification of lines of business that are not achieving profitability and return on capital targets so that appropriate action can be taken at the earliest opportunity.
- The embedding of the underwriting performance into the financial reporting and capital management of the business.
- The combined ratio and return on risk adjusted capital to be the key driver in the remuneration process of underwriters and management.

Risk Management

Enterprise Risk Management is high on the rating agencies agenda.

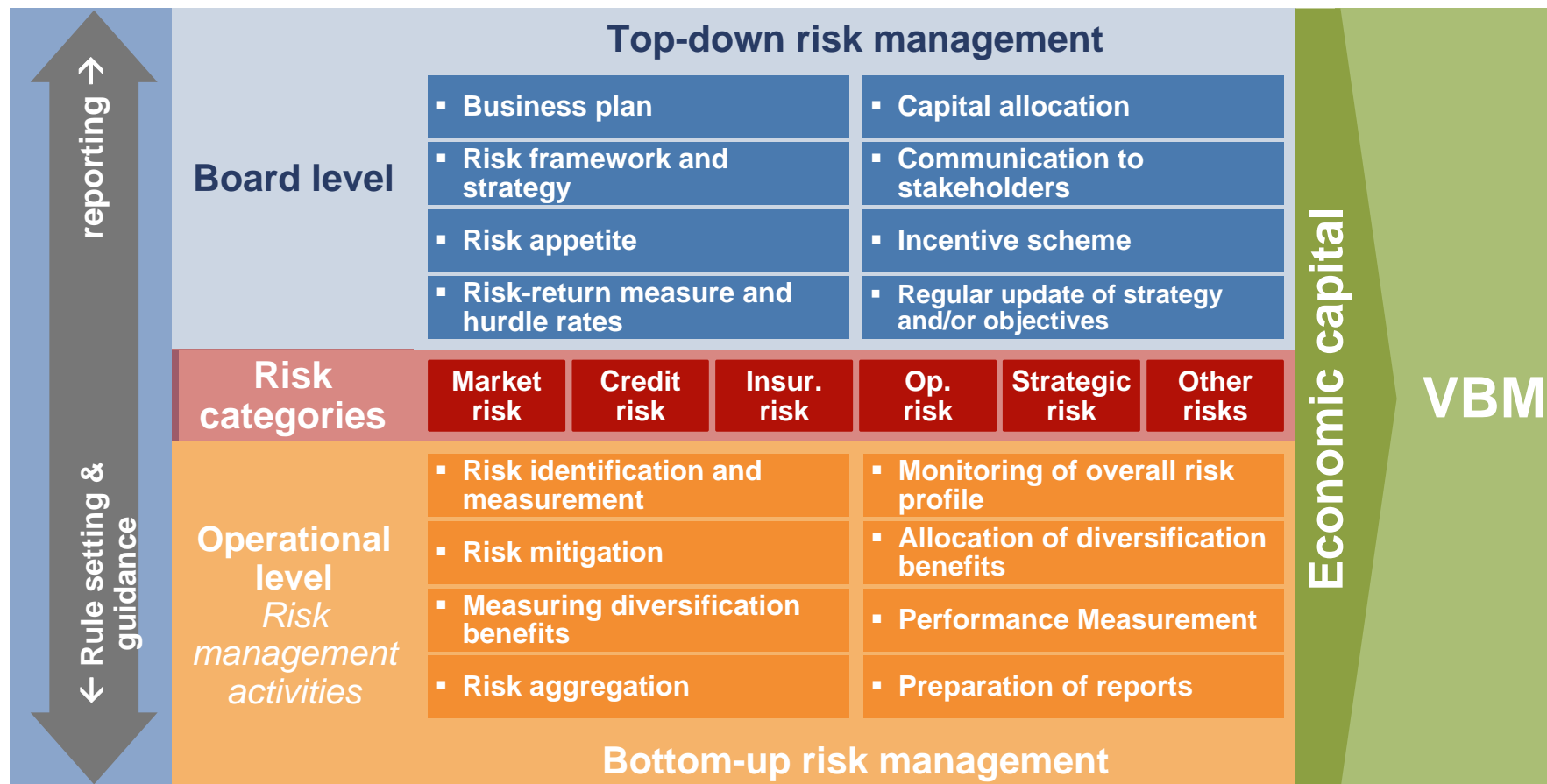
“Effective enterprise risk management (ERM) acts as the common thread that links balance sheet strength, operating performance and business profile”.

Source: A.M. Best, Draft: Risk Management and The Rating Process for Insurance Companies, March 2007.

The ERM Framework

The building blocks

Economic Capital Management is perceived to be the core element of any insurer's risk and capital management (RCM) framework



Enterprise risk management is not about finding the perfect model, it is about having a strong risk management culture ensuring risk is understood, controlled and effectively communicated.

The key components of enterprise risk management are:

- Aligning risk appetite and strategy
- Enhancing risk response decisions
- Reducing operational surprises and losses
- Identifying and managing multiple and cross-enterprise risks
- Seizing opportunities
- Improving deployment of capital

Capital Management

The main criteria for successful capital management are:

- Drives the decision making process, ensuring the optimal use of capital
- Embedded in the business. Key driver in strategy and planning, acquisitions, new lines of business and commutations
- People are rewarded by return on capital
- Model is transparent and well documented
- Financial and non-financial information used in the model is consistent with that used in the business



UK Example – ICA regime

Individual Capital Assessment

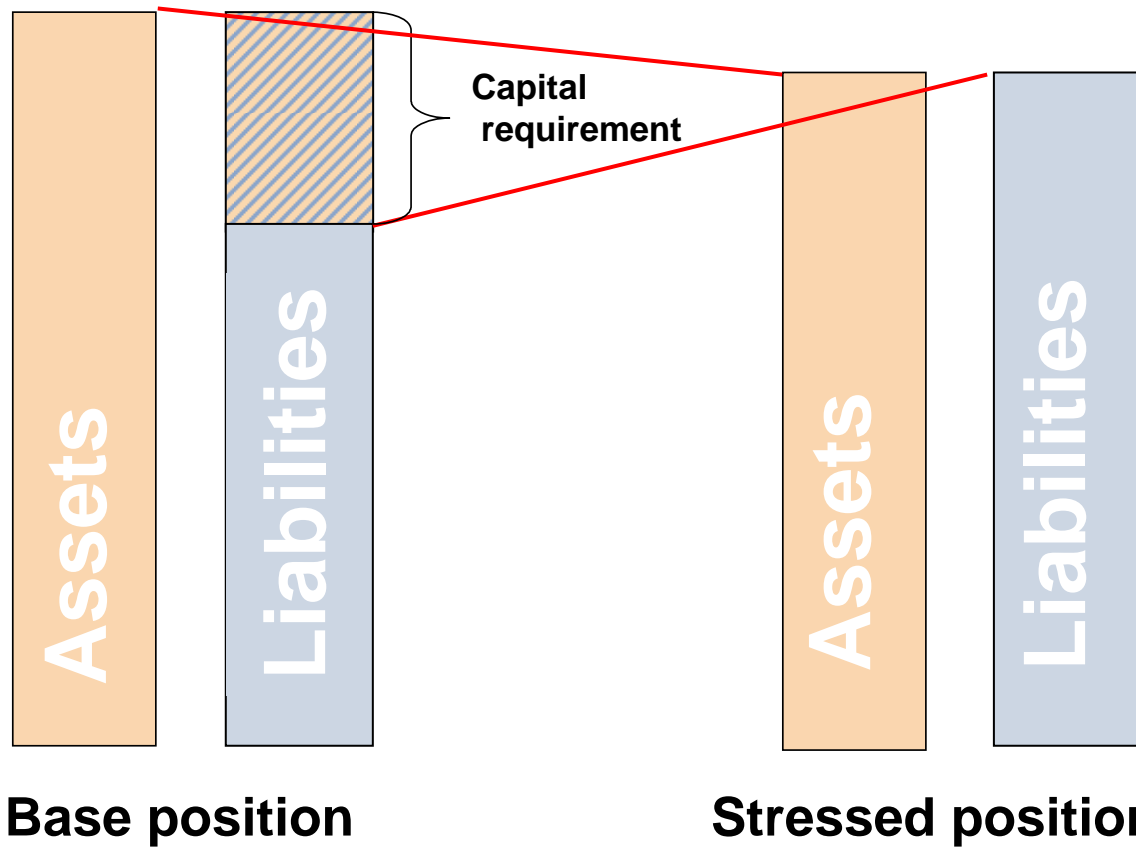
- Introduced by FSA on 1 January 2005
- ICA require a realistic assessment of a firm's risks
- Self-assessment of the capital required, i.e. to ensure that there is no significant risk that liabilities cannot be met as they fall due
- A move from rule based to principle based regulation
- The FSA reviews a company's ICA and issues a ICG which can recommend more capital is held

Individual Capital Assessment

Defines a common standard across the industry:

- This is defined as being 99.5% confident that over a one year period that assets will be equal or greater than liabilities
- An alternative expression of this is that, the firm should be able to withstand a 1-in-200 year shock to its operations
- This can be achieved by projecting its capital position for one year on the most realistic basis
- An alternative is to apply shocks to the current balance sheet and add in an allowance for new business

Capital Modelling

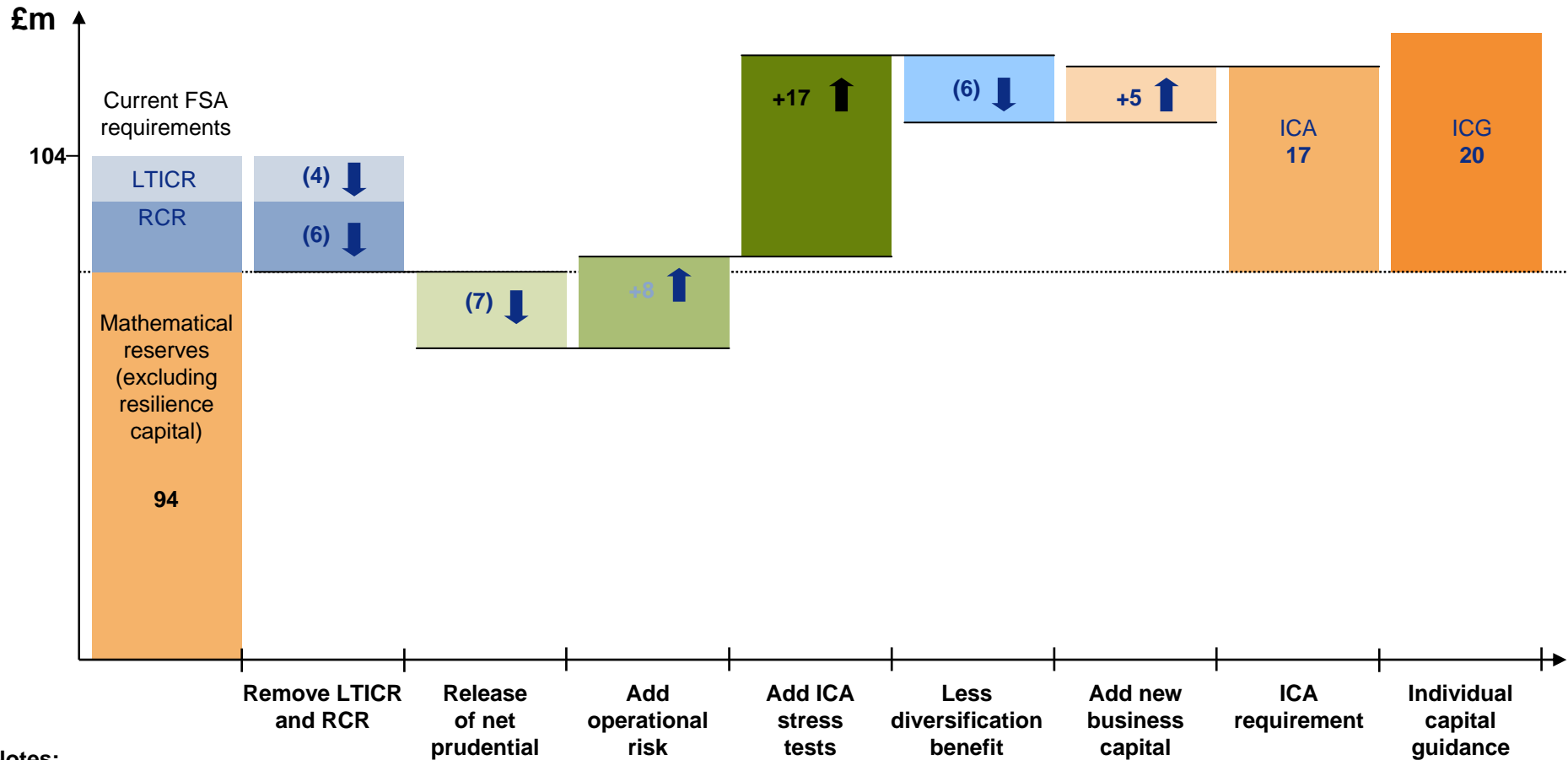


Capital is such that it can absorb any stress

Any excess assets are not part of the capital requirements but may be affected in the stressed position

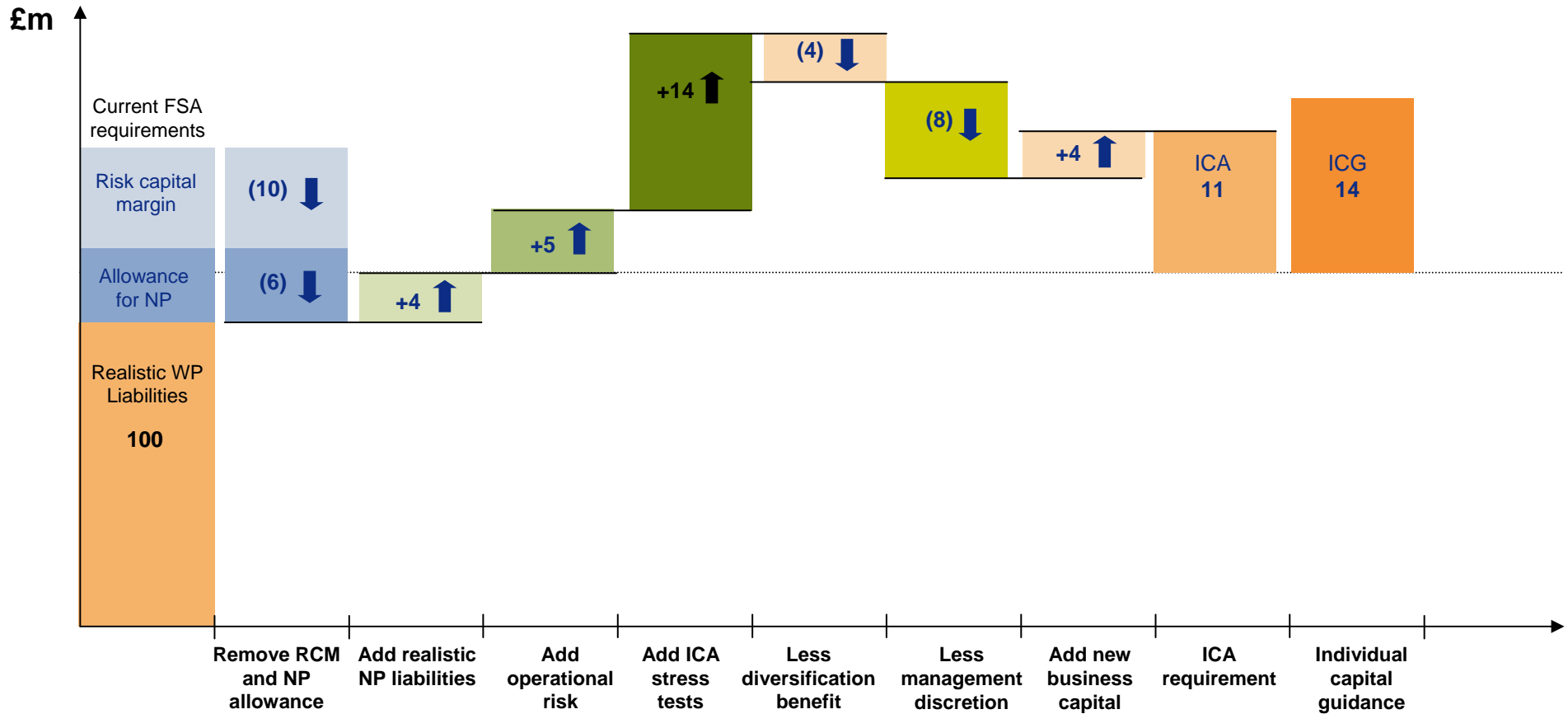
ICA Calculation – non-realistic insurer

Illustrative adjustments from FSA requirements



ICA Calculation – with-profits (realistic)

Illustrative adjustments from FSA Realistic Balance Sheet

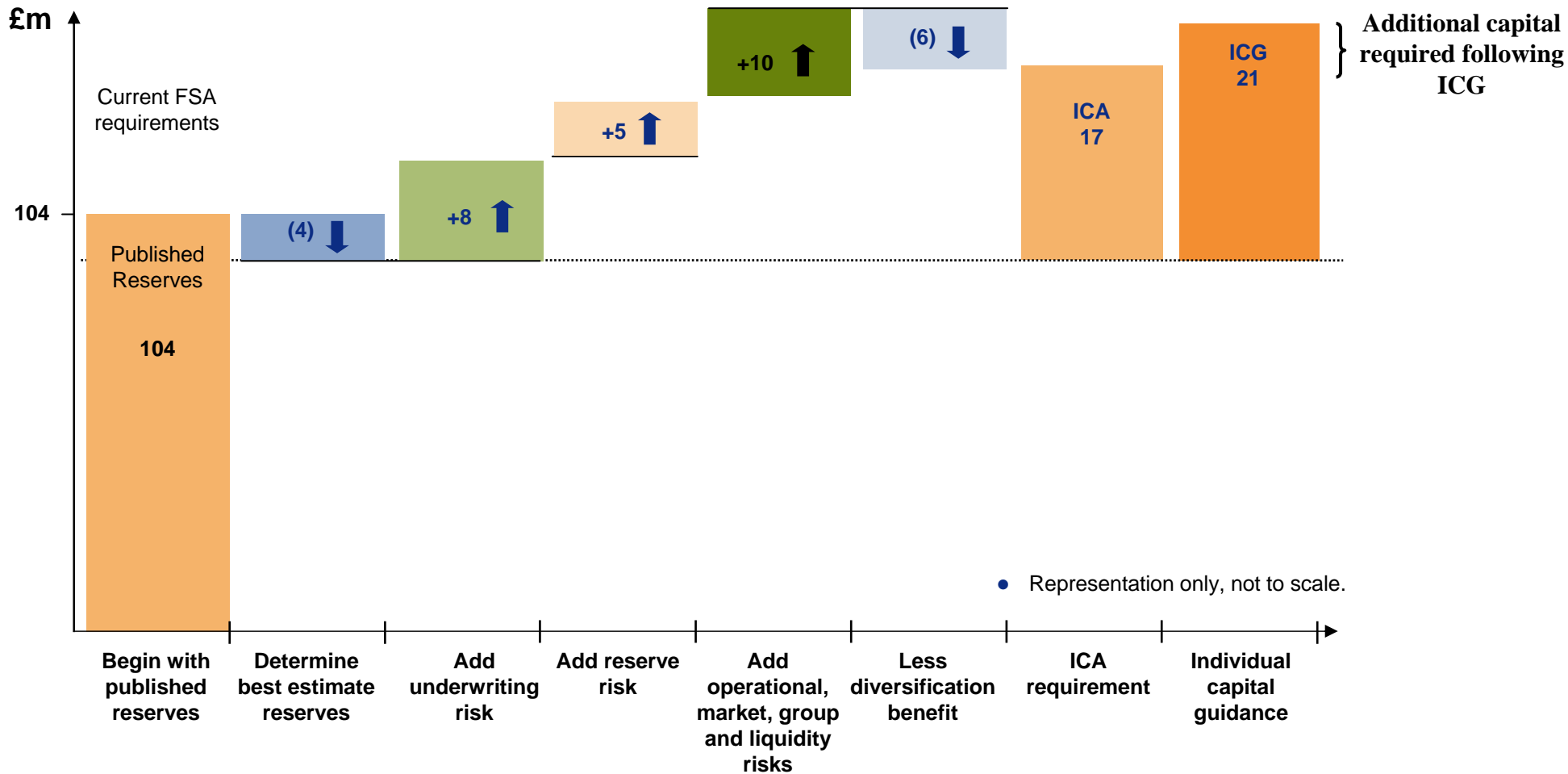


Notes:

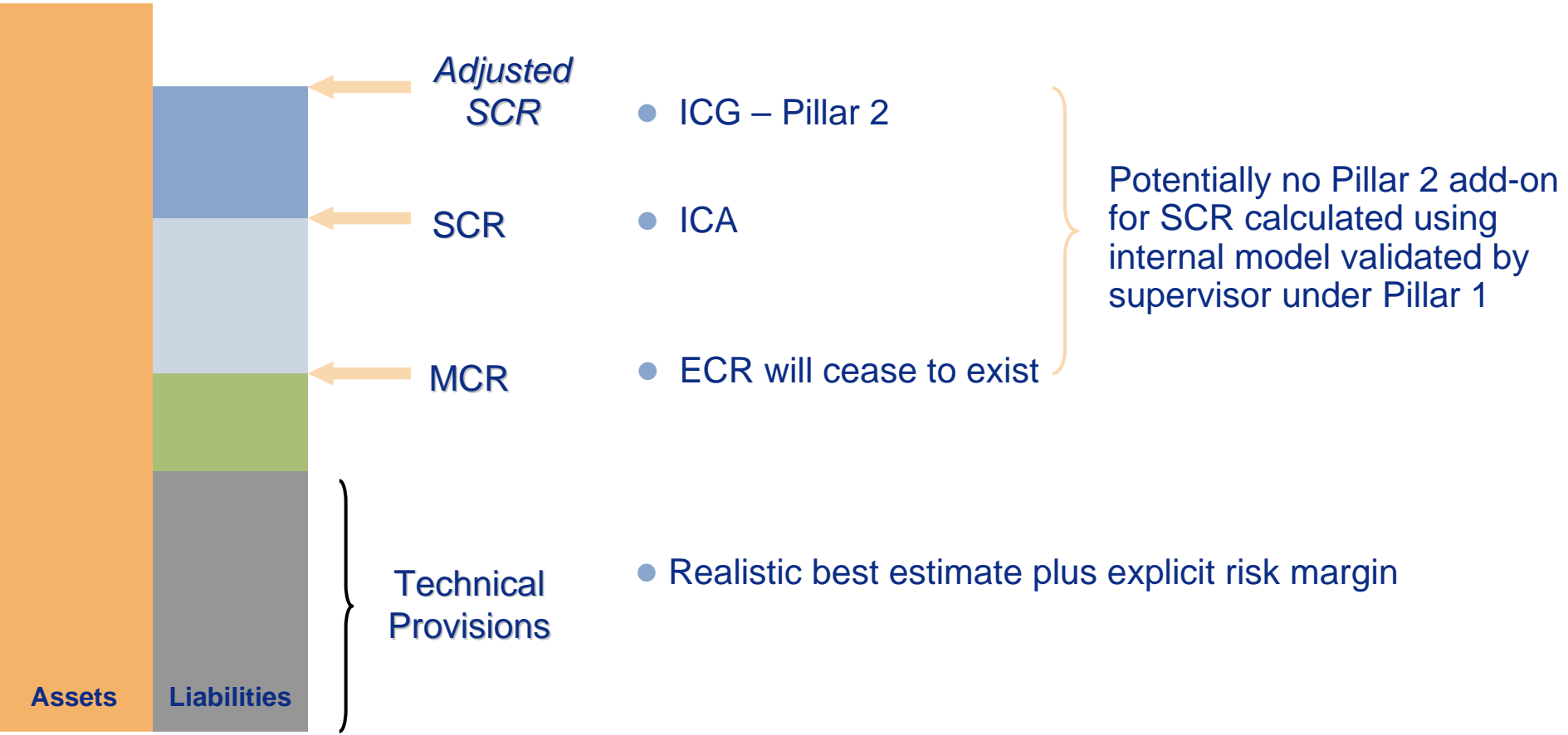
- Representation only, not to scale.
- ICA specific stress tests account for market, credit, persistency and other risks.

Example ICA Calculation – Non-life insurer

Illustrative adjustments from FSA requirements



Technical provisions and capital requirements in the context of UK ICA regime



The requirements and expectations in relation to Risk within the ICAS

IMMEDIATE REQUIREMENTS

Enables the organisation to calculate the ICA in a short period of time

Performs rigorous analysis of risk exposure through top 10 risks list and through potential econometrics

Elaborates analytical review of control environment then followed by efficient action plans to improve its effectiveness

Combines qualitative and quantitative assessments

Incorporates results from stress testing and scenario analysis to increase accuracy of the ICA

LONG TERM OBJECTIVES

Implements a scientific, reliable methodology to analyse and quantify risk exposure and tolerance

Provides the management with an accurate, detailed and easy up-to-dating reporting tool

Ensures a robust exhaustive framework to deal with operational loss events

Can provide relevant feedback on the quality of the management by highlighting areas of concern not well controlled

FSA Insurance Sector Briefing: Risk Management in Insurers (Nov 2006)

	Areas of focus & risk:	Example issues
Method	<ul style="list-style-type: none"> • What are the approaches taken to each risk area and are they appropriate? • Does your model deliver results to materiality tolerance appropriate for purpose? 	<ul style="list-style-type: none"> • Approach not suitable for all areas of business • Approach to modelling driven by data availability • Difficulties in respect of correlation
Process	<ul style="list-style-type: none"> • Are the processes surrounding your model and its outputs efficient, and is there a feedback process in place to update your model if it's found to be inadequate? 	<ul style="list-style-type: none"> • Key stakeholders not involved in process and therefore do not agree with model output • Model does not actually do what it is believed to do • Assumptions have not been sensitivity tested • No process for review or updating model • Limited back testing
Governance	<ul style="list-style-type: none"> • Are the organisational governance frameworks surrounding the model appropriate? • Is the model's performance monitored and sensitive to changes in business strategy? 	<ul style="list-style-type: none"> • Inappropriate responsibility for ICA process • Poor reporting of process and results to Board • No link to risk management processes
Data	<ul style="list-style-type: none"> • Central data warehouse • Historical relevant data (data format) • High level system architecture and capabilities 	<ul style="list-style-type: none"> • Data feeds to model are incomplete, inaccurate, inconsistent or out-of-date • Data input is not consistent with business plans and financial statements

FSA Insurance Sector Briefing – ICAS, Lessons learned and looking ahead to Solvency 2 (October 2007)

SOME KEY THEMES

The most common reasons for adding capital to a firm's ICA has been OpRisk, Management actions, Capital resources, Correlation assumptions & Non-linearity, Quality of risk management

Greater senior management focus/ engagement needed in relation to the robustness of the Risk assessments, design of loss scenarios and "use"

The definition and validation of Risk appetite and tolerances deemed deficient

Appropriate quantification of Risk exposures and correlation/ diversification assumptions

UNDERLYING RISK FRAMEWORK COMPONENTS

Strategic objectives

Organisation structure

Risk assessment

Management information

Strategic objectives

The strategic objectives need to adhere to specific requirements in relation to operational risk:

- The business strategy needs to be clearly articulated and understood
- The operational risk management function's strategy needs to be clearly articulated and understood
- Both these strategies need to be complementary of each other

KEY FEATURES OF POLICY	AN EXAMPLE OF A RISK POLICY MAY INCLUDE
<ul style="list-style-type: none">• Senior management commitment and sign-off• Documented in the form of a risk policy• Risk policy document 'owned' and updated by the risk manager, approved by the Board	<ul style="list-style-type: none">• Mission statement• Definitions• Guiding principles• Business case• Organisational structure• Risk and control strategies• Management information• Risk appetite

Risk strategy – establishing risk appetite

Risk appetite may be expressed in terms of:

- base limits
 - preferred risk asset ratios
 - target agency ratings
 - risk and return statements
 - acceptable stress losses
 - Other
- 
- Earnings volatility?
 - Capital volatility?
 - Both?

To enable the business to use risk appetite meaningfully in setting its business and risk strategies, a quantitative risk appetite needs to be supported by qualitative expressions of the risk the organisation is willing to bear

Risk appetite may be formulated through an iterative process, subject to periodic review and adjustment in the light of experience

Stress scenarios can be examined to see whether, if the scenarios were to materialise, the outcome would result in risk-taking that exceeded the stated risk appetite

Management information – efficiency in operational risk reporting

Efficiency in operational risk reporting and monitoring will be attained from efficient aggregation of information

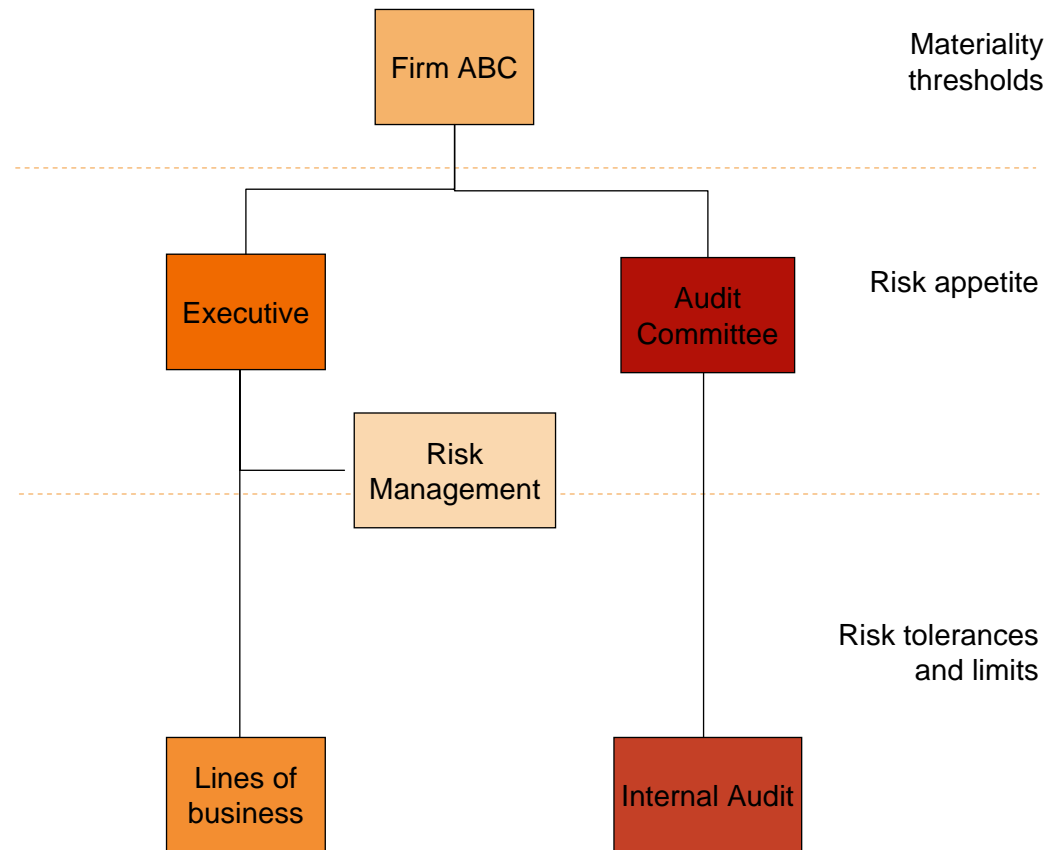
The key is to get the right information to the right people at the right time

The nature of information being monitored will have significant impact on how the information will (or can) be monitored

As such, the key stakeholders must define, allowing for the compliance threshold set by best practice and regulation, what they want to monitor

By articulating the organisation's view on key risks, the Board, and through the delegated authority, the Executive, 'sets the tone' of the organisation to risk management as a whole

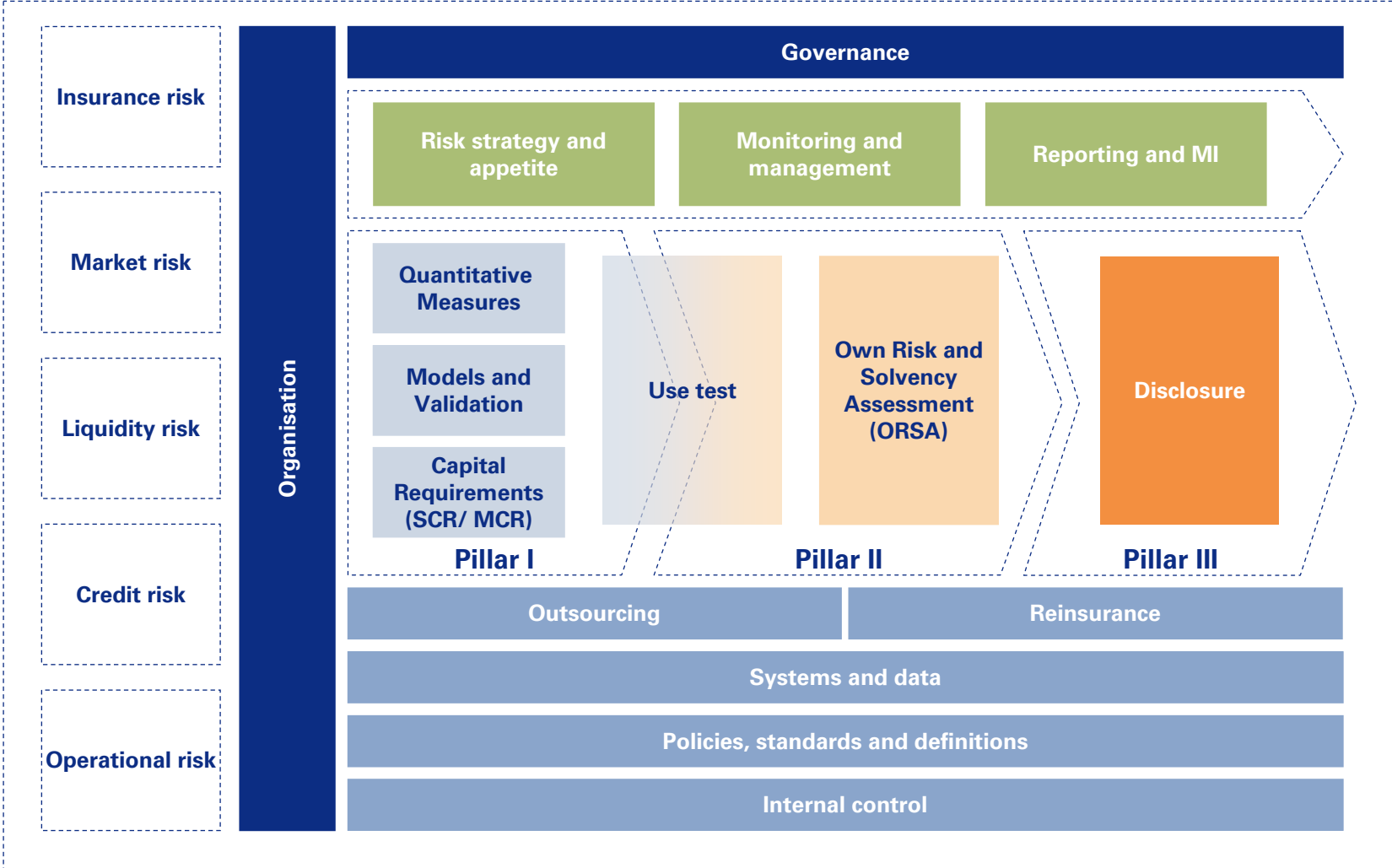
And this is expressed in-terms of materiality thresholds





Project Plan

Regulatory requirements framework



Project Issues

Uncertainties

- There are key technical issues to be resolved
- It is uncertain how long it will take to resolve these issues

Need for a joint project

- Phase II, Solvency II and MCEV need to be viewed together
- Reconciling, understanding and explaining the differences between Phase II, Solvency II, and MCEV will be critical
- A comprehensive systems and data strategy is required

Business impacts

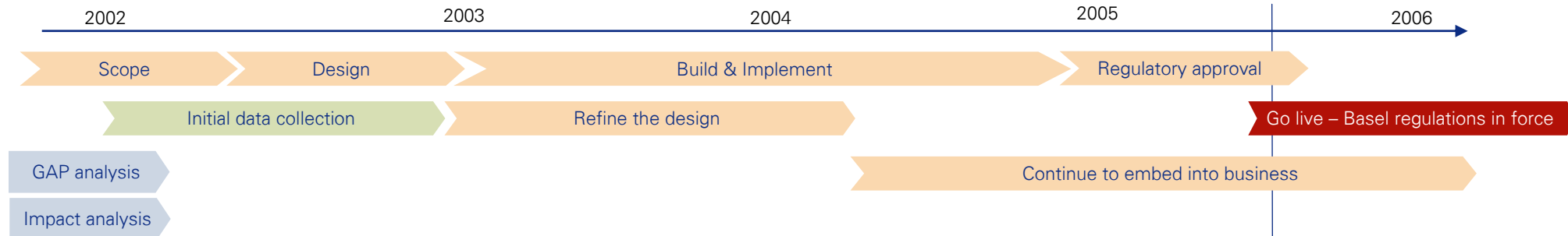
- The new requirements will have an impact on many areas of the business
- Phase II / Solvency II / MCEV projects should be business driven

Planning

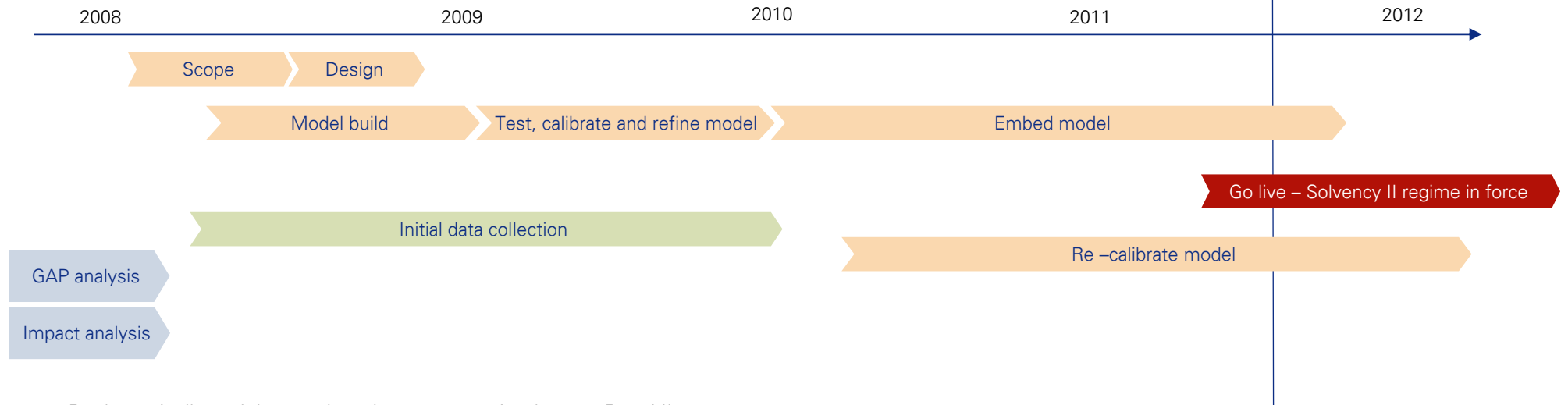
- Long-term planning will be essential to gain the maximum advantages from the changes

Why insurers need to act now

Typical Basel project lifecycle

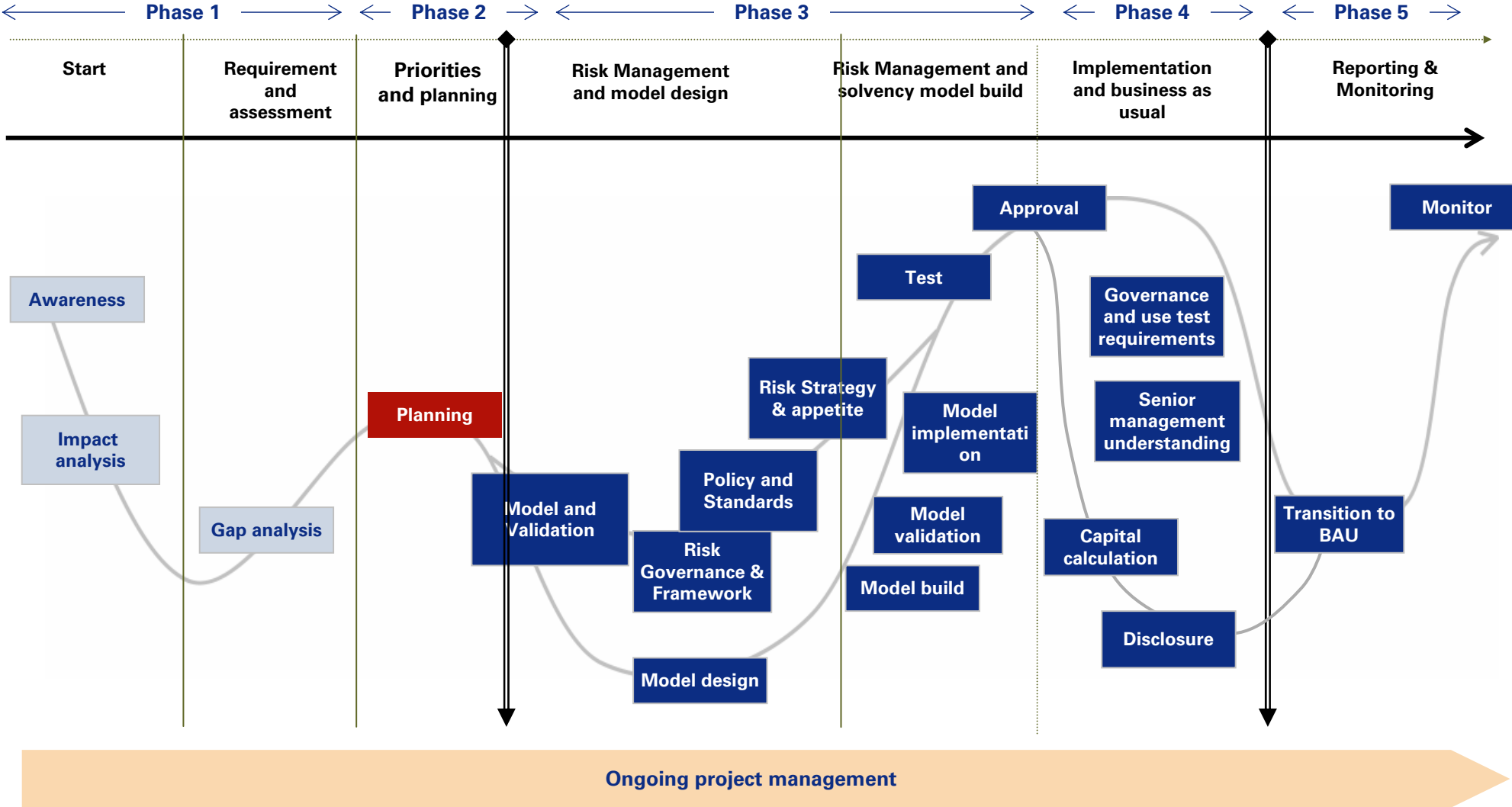


Solvency II project lifecycle



- Banks typically took longer than three years to implement Basel II
- The length of Insurance liabilities can be much greater and data collection may take many years
- Most insurers will need to start data collection and model development well before the end of 2007 to be ready to have embedded models in the business when Solvency II is implemented due to back testing, calibration and use test requirements

Solvency II Journey





Capital Needs

Observations from QIS3 Process

Irish Perspective

- Good participation by Irish Firms
 - 16 life insurers (30% with 54% market share)
 - 16 non life insurers (12% with 40% market share)
 - 2 life reinsurers
 - 5 non life reinsurers
 - Captive submission prepared by DIMA looking at representative entities
- Effort involved ranged from 2 weeks to 4 months, with average of 6 weeks
- From our work on QIS3:
 - overall capital effects generally positive for life insurers
 - mixed for international based non life insurers and reinsurers depending on the specific lines of business written

Observations from QIS3 Process

Summary Results for Irish participants

- Majority have sufficient assets to meet SCR, except for 3 participants
- Surplus Capital (excess capital after SCR/ Solv I requirements met):
- Life: 12 increased/ 6 decreased
- Non Life: 8 increased/ 13 decreased
- Technical provisions generally lower than Solv I provisions
- Ratio of QIS3 cost of capital (i.e. risk margin) to best estimate liabilities:
- Life median 2.5% [0.3%-25.8%]; Non Life median 9.7% [2.7% - 30.6%]
- Composition of SCR (median):

	Life	Non Life	Comment
Market	39%	25%	Equity and Concentration risk key contributors
Underwriting	80%	85%	Life: lapse and catastrophe
Counterparty	1%	4%	
Diversification	22%	17%	

- Operational Risk as % of SCR: Life 17%, Non Life 6%