Embedding Risk Based Capital in an Organisation: practical lessons

2003 Life Convention

Mark Train
Philippe Guijarro

1

Overview

- Drivers of Change
- Designing the Framework
- Managing the Project
- Practical Issues
- Key lessons learnt

2

Drivers of change

3

External drivers: FSA requirements

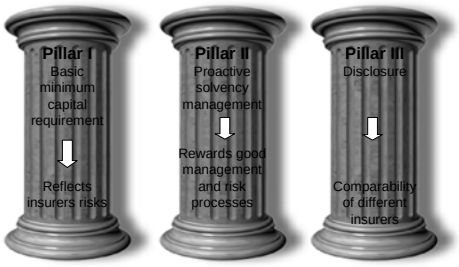
"We propose to require that all insurance companies in future make their own assessment - on reasonable assumptions - as to the capital and other financial resources that they are likely to need in order to adequately meet the risks and uncertainties of their business"

"Firms will increasingly find that the emphasis of our supervision will increasingly shift to focus on the need to hold real economic capital (as measured by the excess of assets over liabilities under realistic accounting) in order to meet their risks."

Howard Davies, Former Chairman FSA

4

New Regulatory Framework for Capital



5

PricewaterhouseCoopers

Future of UK Insurance sector

- A more rational basis for prudential supervision in capital and solvency requirements.
- Greater emphasis on risk in the technical provisions .
- Increased focus on the quality of the insurer's risk management.
- Coherent link through financial reporting and capital adequacy.
- Challenge of establishing meaningful risk metrics.

6

Other Drivers

External
- Capital Scarcity
- Investment Community
- Rating Agencies
- Convergence of FS Industry

Internal
- Increased risk awareness
- Prominence of risk management
- Performance management

7

Designing the Framework

8

Questions that RBC raises

- **How solvent will my company be?**
- **How much capital will be required for the company?**
- **How will business decisions change?**
- **How will this be embedded into the culture and managed so the company is fully ready for implementation?**
- **What products should we be selling to reduce the probability of insolvency in the next 15 years?**
- **How much capital should we retain to support each business unit?**

9

What benefits should be sought from the project?

- Reduce “enhanced capital requirement” by meeting the use test
- Framework to allocate capital to business units
- Business units supported to achieve return on capital targets
- Ability to price with confidence
- Common risk-reward language established across your business
- Enhanced communication to the markets, regulators and rating agencies
- Integration of risk management processes, actuarial functions, finance and capital

10

Critical success factors

- Demonstrate clear CEO leadership supported by senior management team
- Treat the project as a pragmatic business framework not a technical model driven by FSA requirements
- Define coherent programme objectives linked to delivery of an integrated framework
- Demonstrate commitment through visible action or decisions taken differently
- Define required behavioural changes
  – make relevant at different levels of the organisation
  – proactively plan to achieve effective knowledge transfer
- Dedicate adequate resources within the businesses

11

Scope will need to cover several related areas

- Governance
  – roles and responsibilities
  – strategy selection/validation
  – risk adjusted performance targets
- Capital allocation
  – capital structure and dividend policy
  – business unit/products/customer segments
- Performance management
  – performance measures
  – pricing decisions
  – Incentives
- Communication
  – internally
  – to the market and the FSA
- All of which will need to be supported by delivery of:
  – appropriate management information (covering systems and data issues)
  – development of skills and capabilities

12

Consider scope on a staged basis

Position at end of model development	Goals for 2004	2005 and beyond
Suggested programme areas: – governance, roles and responsibilities – strategy selection/validation – capital allocation – performance management – communication – management information – skills development	• [ ]	• [ ]

How far, how fast?

13

Key issues for management

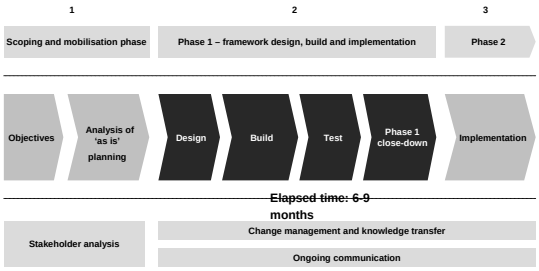
- What benefits will accrue from these projects?
- How are you ensuring that common standards, methods and principles are applied across workstreams?
- How do you know the outputs will have external credibility?
- How will you get comfort the results are materially correct?
- How have you ensured consistency with the PPFM?
- How have management preferences been elicited, captured and approved?

14

Managing the Project

15

Overview of typical approach



16

1: Scoping and mobilisation

- Establishing the project team
  - Although low profile, critical to success
  - How is the project managed
  - Roles and responsibilities
  - Opportunity to engage business sponsor
  - Medium term vision/goal agreed
- Establishing the project structure
  - Getting buy in from key business areas
  - Appropriate communication lines
  - General awareness/training programmes
  - Tangible steps to achieve the vision/goal

17

1: Scoping and mobilisation

- Review existing Risk Management objectives:
  - Regulatory?
  - Intended to improve business management?
- Define risk appetite, including:
  - Ensuring a ruin probability consistent with a target credit rating
  - An appropriate time horizon over which to measure risk and capital
  - Other criteria, e.g. maintaining a target published free asset ratio

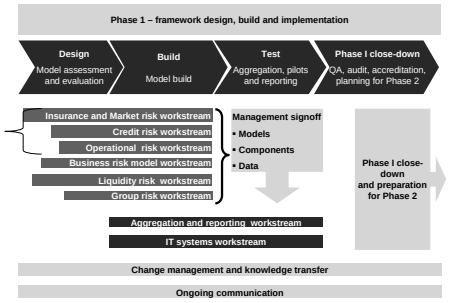
18

1: Scoping and mobilisation

- Principles for Risk Based Capital agreed:
  - Run-off approach
  - Target solvency level at fixed point
  - Frequency of solvency assessments (annual, continual…)
  - Implications for model design
- Determine the extent to which the existing modelling capabilities are useable in the RBC project, including:
  - Assess existing asset and liability models
  - Determine reporting capability (linking into other reporting tools)

19

Phase 1 overview



20

Practical issues

21

Key Risks – practical lessons

- Insurance and market risk
- Credit risk
- Operational risk

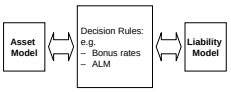
22

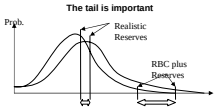
Insurance and market risk

23

Insurance and market risks – key design elements

- Measurement approach
- Modelling approach
- Data / grouping
- Decision Rules
- Scenario Generators
- Optimisation of models
- Reporting





24

Insurance and market risks – activities

- **Assess optimal software to meet functionality requirements**
- **Define corporate structure / hierarchy for model – e.g. subsidiaries, funds / sub funds**
- **Assessing elements of the business to be modelled**
- **Engage IT department to support requirements**
- **Operational issues**
  - **what key results will be required?**
  - **in what format?**
  - **how often should the model be run?**
  - **how should it be controlled?**

25

Insurance and market risks – design specification

- Define which variables will be deterministic and which will be stochastic
- Defining distribution functions
- Agreeing areas for stress-tested (and definition of stress test)
- Define dependencies, e.g. lapses that depend on market conditions
- Produce and circulate specification for RBC calculations and reporting requirements

26

Credit risk

27

Credit risk – activities

Activities in estimating economic capital for credit risk include:

- Decision as to the credit risk portfolio methodology to be adopted
- Collecting data, including:
  - Probabilities of default per credit risk exposure
  - Severity of losses per credit risk exposure
- Considering wider areas – e.g. credit grading model for re-insurance exposures
- Assessing credit loss correlation

28

Operational risk

29

Key Challenges in Operational Risk Quantification

- Sufficient history of loss data
- Selection of distributions to best represent operational risk data
- Applying industry results to an individual institution
- Combining internal and external data in a statistically valid manner
- Compensating for lack of data in certain risks or businesses
- Linking in quantitative analysis with qualitative assessments

30

Operational Risk – activities

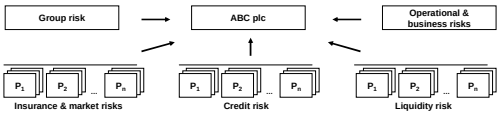
- Collecting data, including:
  - Financial information (both P&L and balance sheet items)
  - Qualitative information regarding insurance strategy and risk controls, policies and processes
  - Liaising with risk management division
- Building models for the estimation of operational risk capital
- Analysis of the results of the models, including:
  - Reasonableness of the results
  - Impact of risk controls
- Workshops to fine tune the model variables and their interdependencies

31

Bringing it all together

32

Risk Based Capital aggregation – overview and activities



Bring together results (models):

- **For different classes of business and risk categories**
- **To capture correlation effects**
- **Build in controls to check reasonableness of bottom-up analysis**
- **Explaining and reporting results**

33

Key Lessons Learnt

34

Key lessons learnt

- Carry out an impact study!
- Engage executive/management effectively
- Don't underestimate the impact of the appropriate project team/structure
- Assess the potential users of the model/framework
- Put in place strong project management
- Maximise the re-use of previous work
  - PPFM
  - Existing documentation and internal risk assessments
  - Control procedures
- Get real!

35

Embedding Risk Based Capital in an organisation: practical lessons

2003 Life Convention

Mark Train
Philippe Guijarro

36