

Biennial Convention 2007

Adventures in Risk

23-26 September 2007 • Christchurch, New Zealand



Institute of Actuaries of Australia



ERM – Legislative Hot Air or Competitive Advantage?

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The Solvency II framework in Europe

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Does ERM add value?



The Solvency II project has a number of aims

- Solvency standards match risk and encourage proper risk control
- Harmonise standards across the EU
 - avoid need for Member States to set higher standards
- Assets and liabilities on a “fair value” basis, consistent with IASB standard
- Capital standards permit timely intervention
- Similar to Basel II for banks, with same “3 Pillar” approach – although definitions of Pillars not identical
- Not be too onerous to operate for smaller companies.



Regulation is divided into three “pillars”

Measurement of Assets, Liabilities and Capital	Supervisory Review Process	Disclosure Requirements
<ul style="list-style-type: none">• Eligible capital• Technical provisions• Capital requirements• Asset valuation• Risks to be included• Risk measures and assumptions• Risk dependencies• Calculation formula• Internal model approach	<ul style="list-style-type: none">• Internal controls• Risk management• Corporate governance• Stress testing• Continuity testing	<ul style="list-style-type: none">• IFRS Phase 2• Unifying Risk and Financial Reporting<ul style="list-style-type: none">– Public disclosure• Private disclosure to the regulator



Several basic principles have been agreed

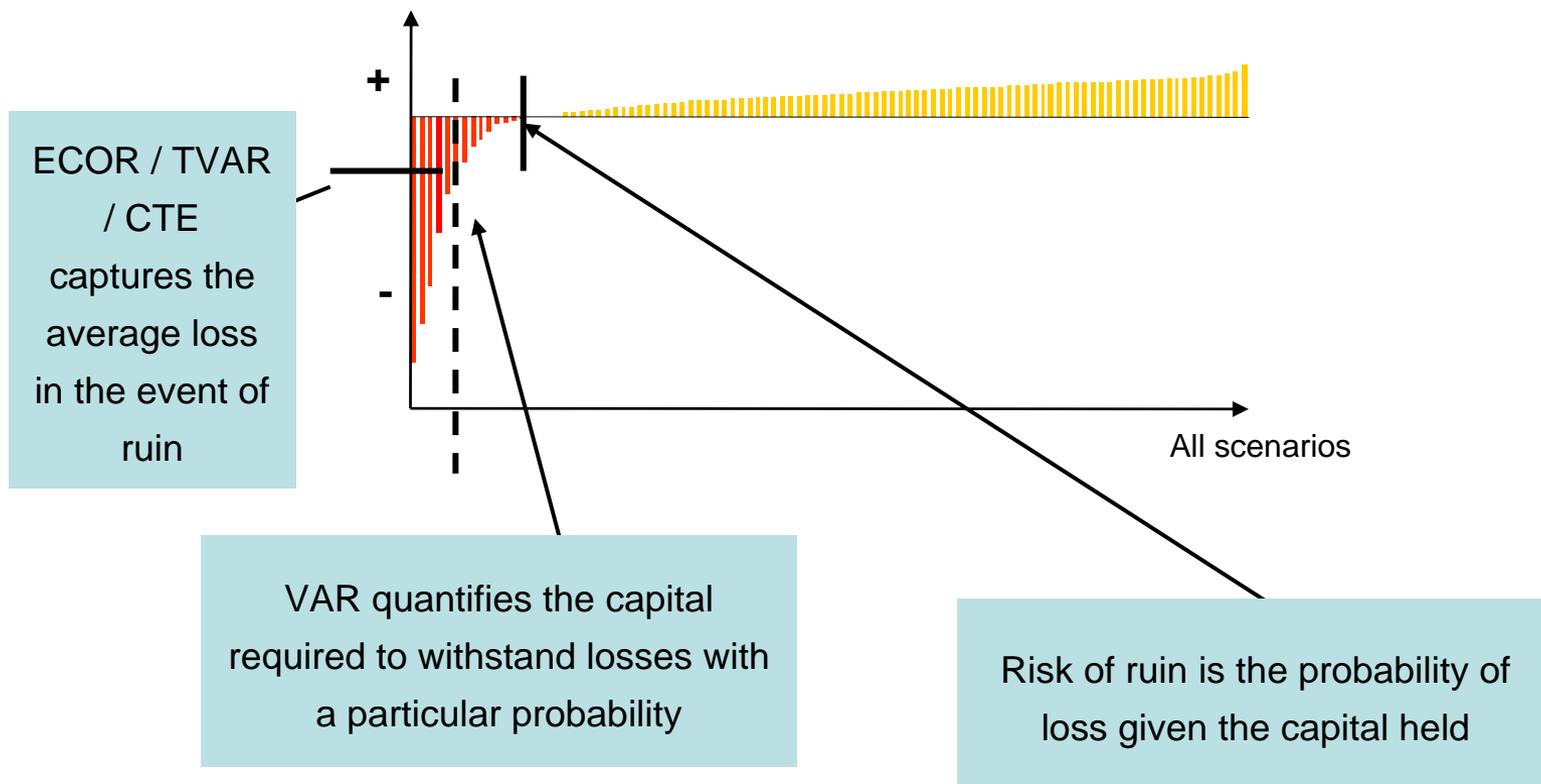
- Solvency Capital Requirement (“SCR”) based on a market-consistent, total balance sheet approach
 - No prudence in excess of market value of liabilities
- Two tier approach with an absolute minimum (MCR), a target (SCR) and a ladder of intervention in between
- Diversification recognised at both solo and group level
- Risk mitigation recognised
- SCR determined by a “Standard Approach” or by an approved internal model



The economic basis for the SCR is a 0.5% risk of ruin or equivalent TVAR

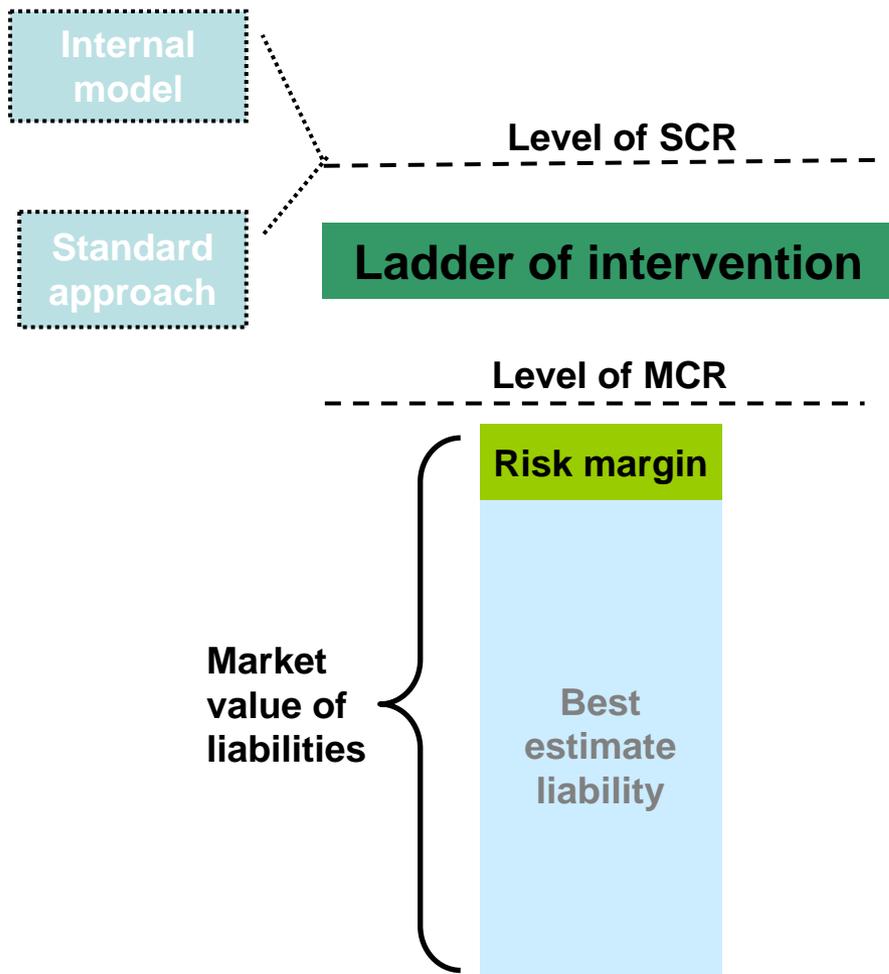
Various definitions of measures of risk:

Financial Results From A Series of Stochastic Scenarios





The structure of Pillar 1



- Technical Provisions – market value of liabilities
- Solvency Capital Requirement (SCR) – target capital level
- Minimum Capital Requirement (MCR) – below this ultimate supervisory action is triggered
- Ladder of intervention between SCR and MCR



Technical provisions

An Economic Approach

- For life assurance, start with discounted value of best estimate cashflows
- Add risk margin
 - Hedgeable risks; use market-consistent techniques
 - Non-hedgeable risks; use cost of capital approach to derive market value margin
- Discount general insurance claims provisions
- No arbitrary floors:
 - Surrender value
 - Unearned premium limitations

Risk margin

Best Estimate Liability (including value of options and guarantees)



The cost of capital approach

- **Applies to**

- **Non-hedgeable risks only**
 - Exclude market risk
 - Allowance for diversification

- **Length of time for which capital is required**

- **Various options:**
 - Liability run-off
 - Run-off of underlying risk drivers
 - Run-off from internal model

- **Cost**

- **Current proposal is 6% pa**



There are strong incentives to use internal models

Lower Capital Requirements

- Margins for conservatism in the Standard Approach
- Standard Approach will not allow for group diversification effects
- Standard approach does not reflect company specific data and underwriting
- More precise allowance for correlations of risks

Competitive advantage

- Reflects natural hedges
- Reflects own risk profile including hedging and reinsurance
 - Encourages good risk management
- Provides information about distribution of outcomes
- Can be integrated in financial management framework



Solvency II is much more than just capital requirements

- Supervisory review process will include:
 - Systems and controls throughout the company
 - Risk appetite and risk policies
 - Risk governance structure
 - How ERM is embedded in management processes
- Internal models will only be approved if:
 - They are comprehensive and accurate
 - Calibration is based on solid data and analyses
 - The model is widely used in financial management



The Solvency II framework in Europe

The Role of Actuaries in ERM

Does ERM add value?



Does the selection and training of actuaries make them good ERM practitioners?

Selection:

- Strong mathematical and statistical skills
- Endurance to survive examination process
- Ability to explain complex concepts

Training:

- Deep understanding of insurance liabilities
- Knowledge of insurance regulations
- Complex modelling skills



There is competition for ERM jobs in insurance – and even more in other industries

Should actuaries run ERM programmes?

Advantages

- Knowledge of insurance liabilities
- Modelling skills
- Established in company hierarchy

Disadvantages

- Banking industry is further ahead:
 - Experience base established
 - Jargon and tools well established
- Actuaries are sometimes set in traditional ways



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The cynic's view

Regulator's and politicians have a one sided view of risk:

- They have little incentive to lower consumer prices or improve shareholder returns
- They lose their jobs when failures occur
- Their successors over-react

ERM is the latest fashion:

- Consultants encourage it to sell more work



How seriously should you take ERM?

Which functional areas should understand a company's risk policies, know how to apply them, and hold someone accountable for managing to those policies?

- Pricing?
- Underwriting?
- Investment?
- Operations?
- Sales & Marketing?
- Reinsurance?



Competitive advantage flows from good ERM practices

- Managers understand the relative importance of risks and how to manage them
- Accurate pricing requires accurate risk quantification
- Risk mitigation and transfer strategies optimise value creation:
 - Business mix optimises use of diversification credits
 - Capital directed to profitable risk types
- Investor/rating agency trust => lower cost of capital

Good ERM is good common sense

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