Capital Management Survey

Insurer Views on Business Strategies and Impact on Risk Management

3rd General Insurance Conference 2-3 June 2011
Singapore Actuarial Society

Phillip Lui

Agenda

Capital management survey

Motivations for managing capital

Regional landscape

Risk and return expectations

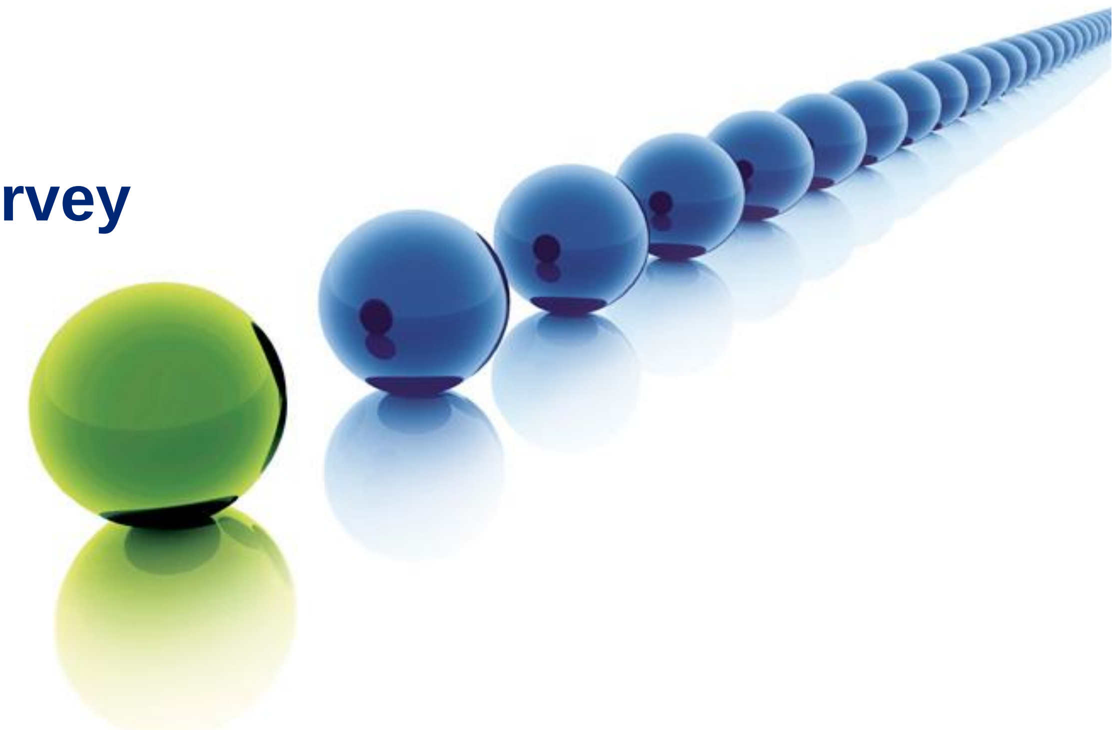
Solvency II and the Internal Model approach

Stress testing implications and lessons

Going forward in Asia

Time for questions

Capital management survey



Capital management survey

Background to survey

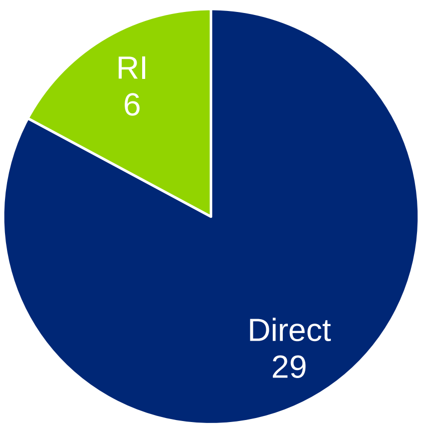
What is currently being done?

How important is capital management

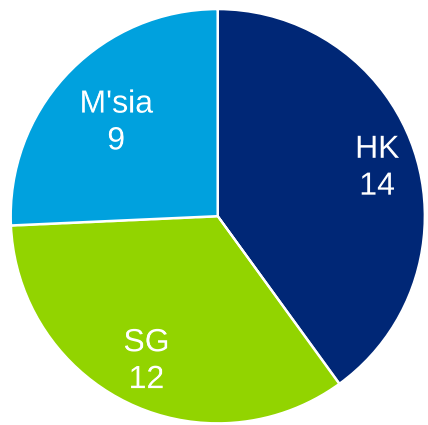
What are the next steps

Survey respondent profile

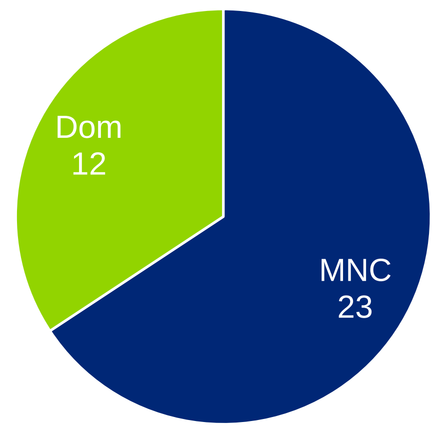
Direct / RI



Country



Entity type



Motivations for managing capital

Why manage capital?

Performance

- Profitability by line of business
- Underwriting loss ratio targets by line of business (adjusted for risk)

Solvency margin

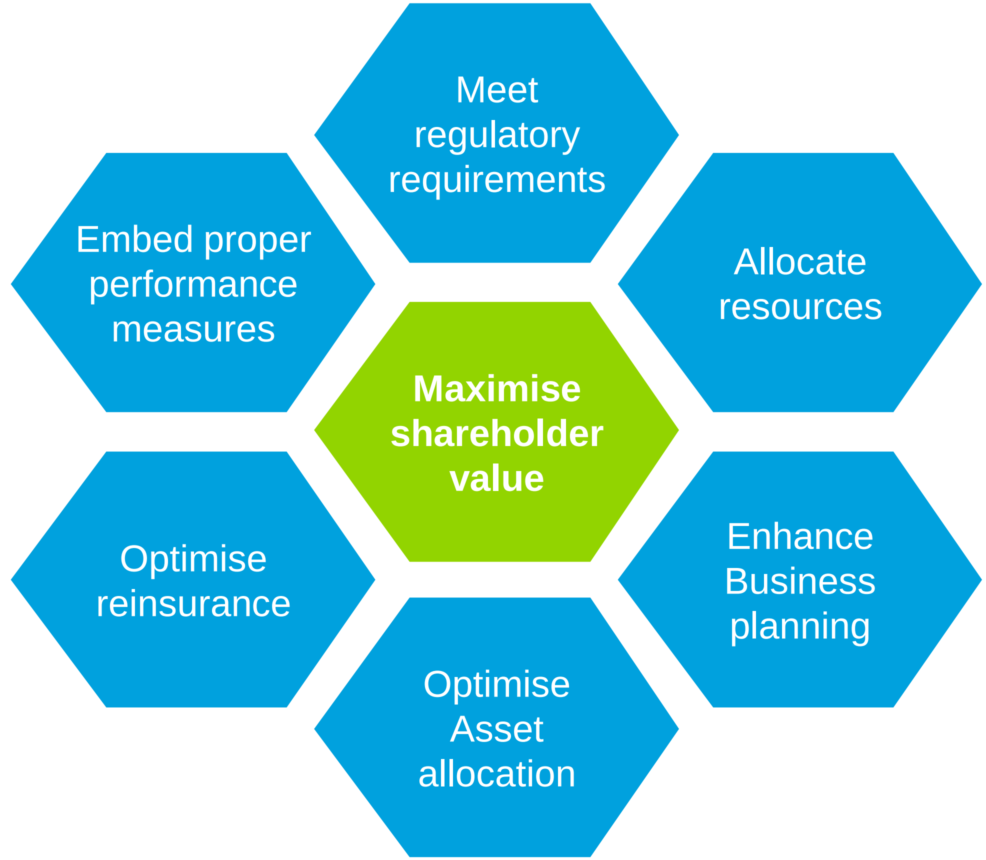
- Balance the need to operate on minimum capital whilst still comfortably meeting regulatory solvency requirements

Reinsurance

- Stronger capital implies less need for reinsurance
- Identify value of reinsurance cover

Investment

- More capital means more scope to invest in higher risk / higher growth potential assets
- Scope for potential acquisitions



Capital management survey – motivations

	Ranking of importance (1 to 7)							
	Most important				Least important			
	1	2	3	4	5	6	7	Avg
Reinsurance optimisation	1	5	6	6	8	5	2	4.2
Statutory requirement	11	7	6	3	2	0	4	2.8
Investment planning	2	2	3	7	5	6	8	4.8
Underwriting performance management	0	0	4	6	1	12	10	5.6
Pricing targets	0	2	3	6	8	8	6	5.1
Business planning	8	9	4	5	4	0	3	3.0
Company financial performance	11	8	7	0	5	2	0	2.6

1st Company financial performance (avg. 2.6)

2nd Statutory requirement (avg. 2.8)

3rd Business planning (avg. 3.0)

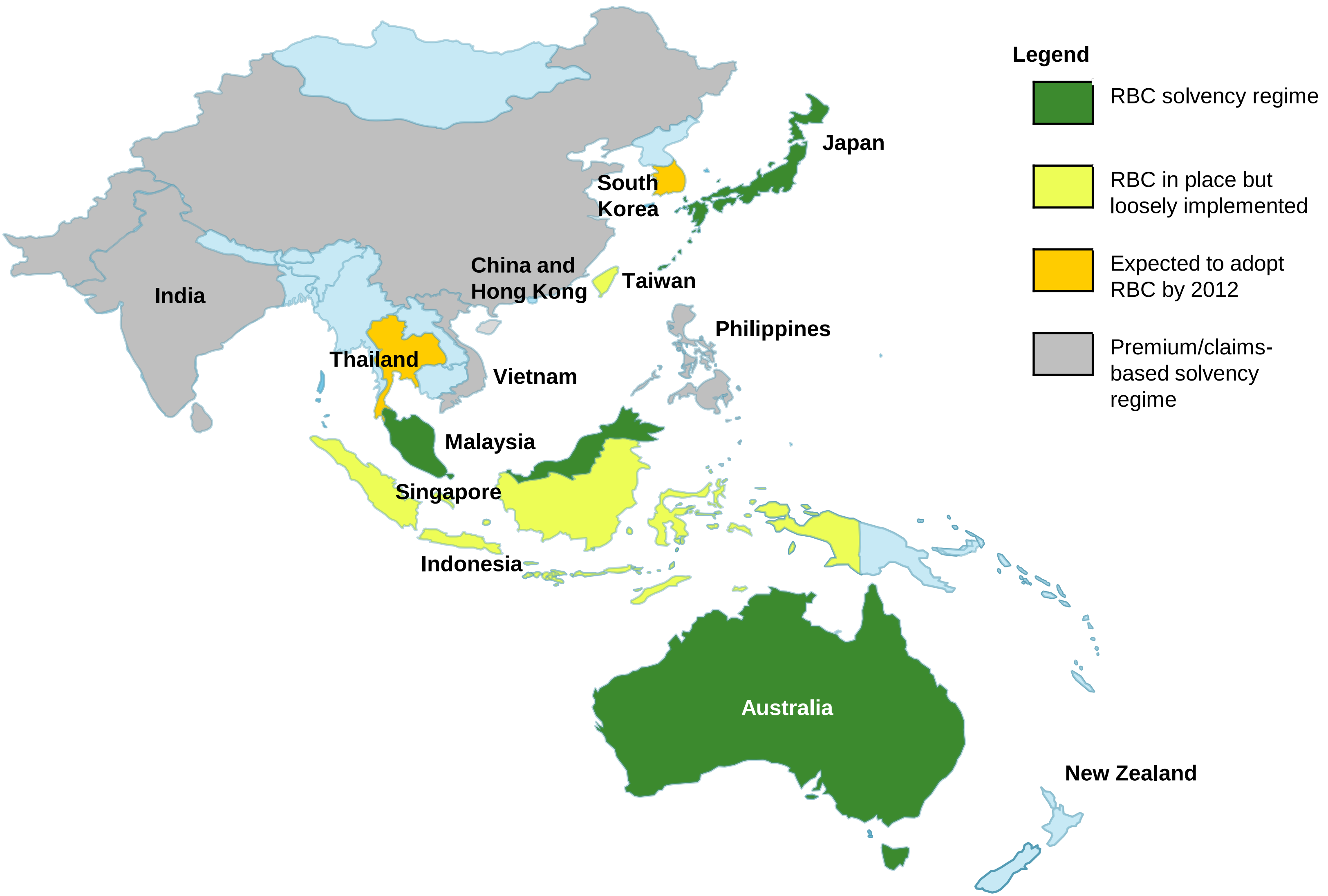
5th Investment planning (avg. 4.8)

6th Pricing targets (avg. 5.1)

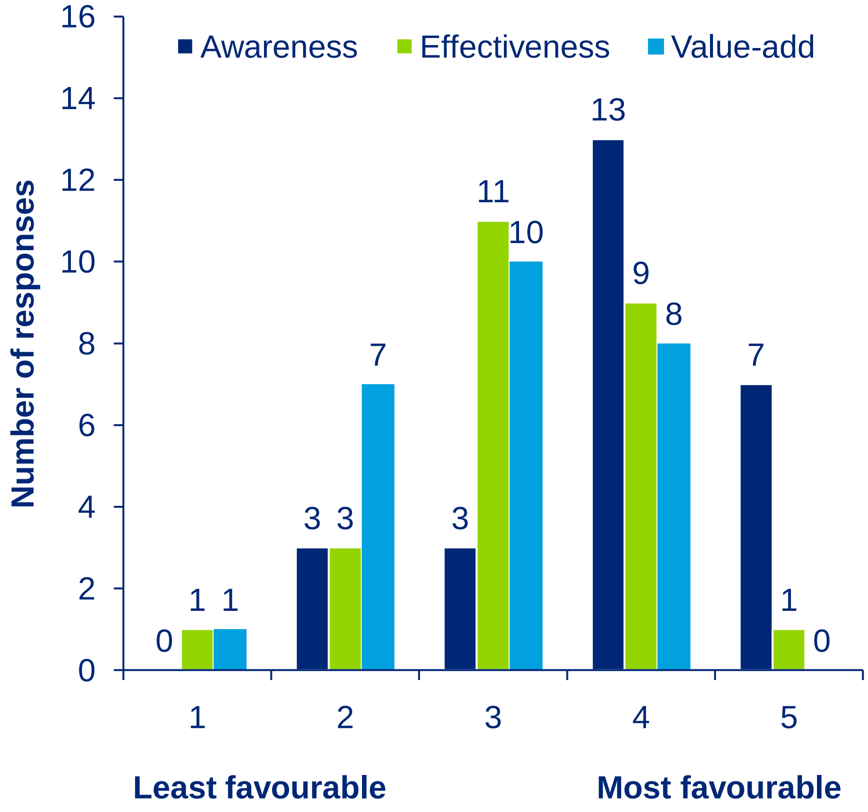
7th Underwriting performance management (avg. 5.6)

Regional landscape

Current Prudential Solvency Systems in Asia



Capital management survey – Feedback on RBC



Key observations

- Feedback from Singapore / Malaysia
- Awareness:

  With the introduction of RBC how would you rate the increased awareness of capital considerations amongst you and your management team?

  Average score of 3.9
- Effectiveness:

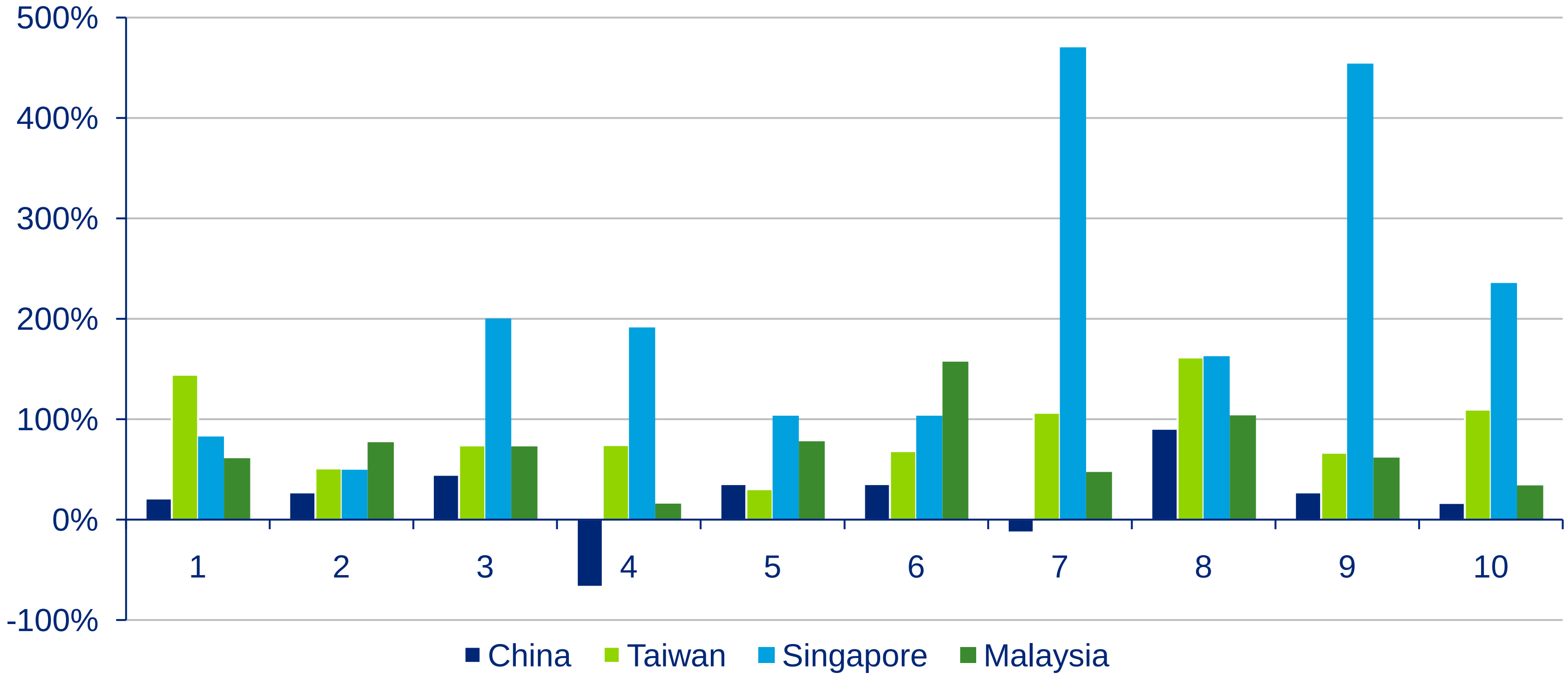
  To what extent has the RBC system increased the effectiveness of your internal risk management?

  Average score of 3.2
- Value-add:

  To what extent has the RBC system added value to your business?

  Average score of 3.0

Multiples of surplus to NWP for top 10 insurers



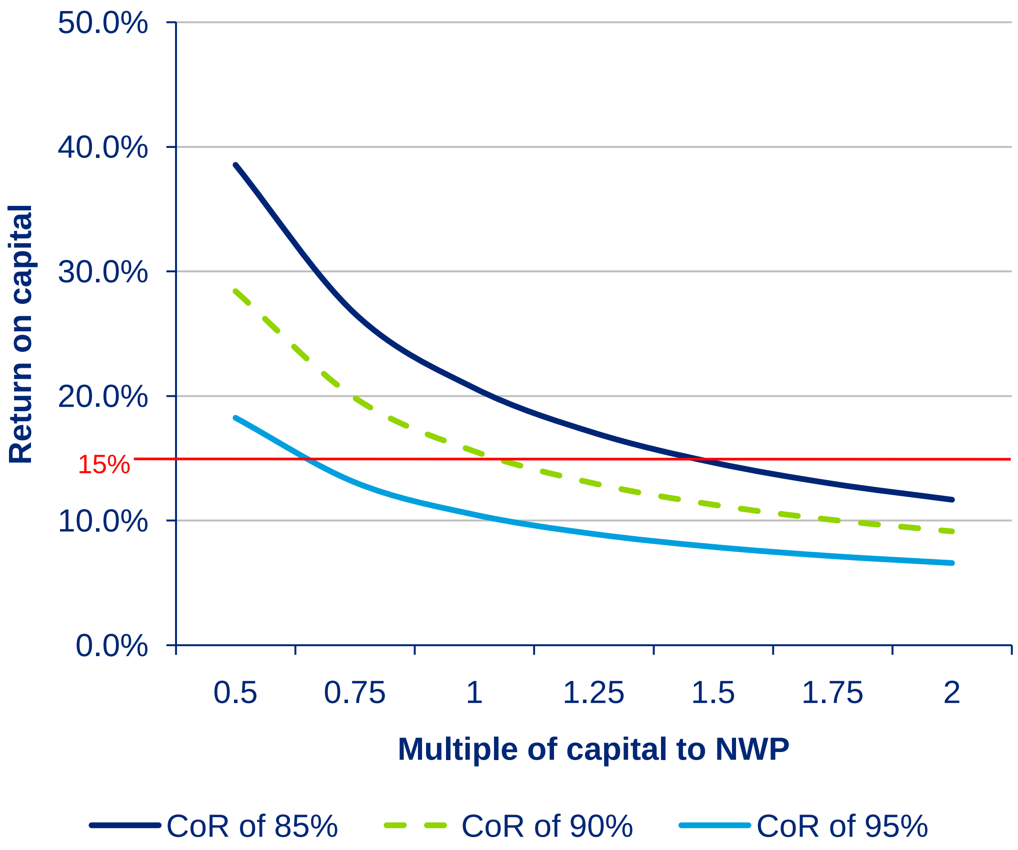
Key observations

- Singapore has 6 companies with surplus exceeding NWP and an average multiple of 200%
- Malaysia and Taiwan have average multiples of 80% and 90% respectively
- Capital levels in China are too low

Risk and return expectations

Effects on return on capital (ROC)

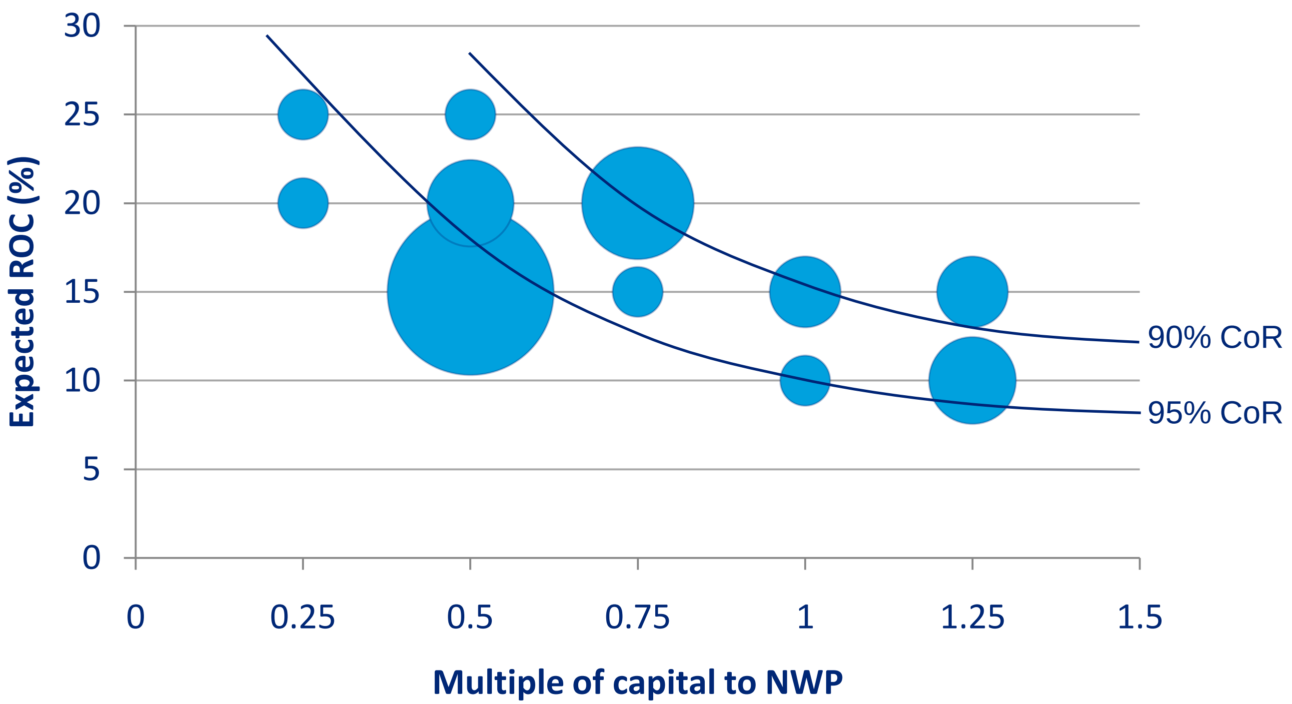
In this illustration we show the increasing requirement from underwriting performance in order to generate similar ROC increments for high capital levels



Key observations

- Assuming a target ROC of 15% is required, then:
  - For capital at 50% of NWP the required CoR is **96%**
  - For capital at 100% of NWP the required CoR is **91%**
  - For capital of 150% of NWP the required CoR is **85%**
  - For capital of 200% of NWP the required CoR is **78%**
- These calculations assume:
  - 90% of assets invested earning a return of 3% p.a.
  - Liabilities equal 100% of NWP

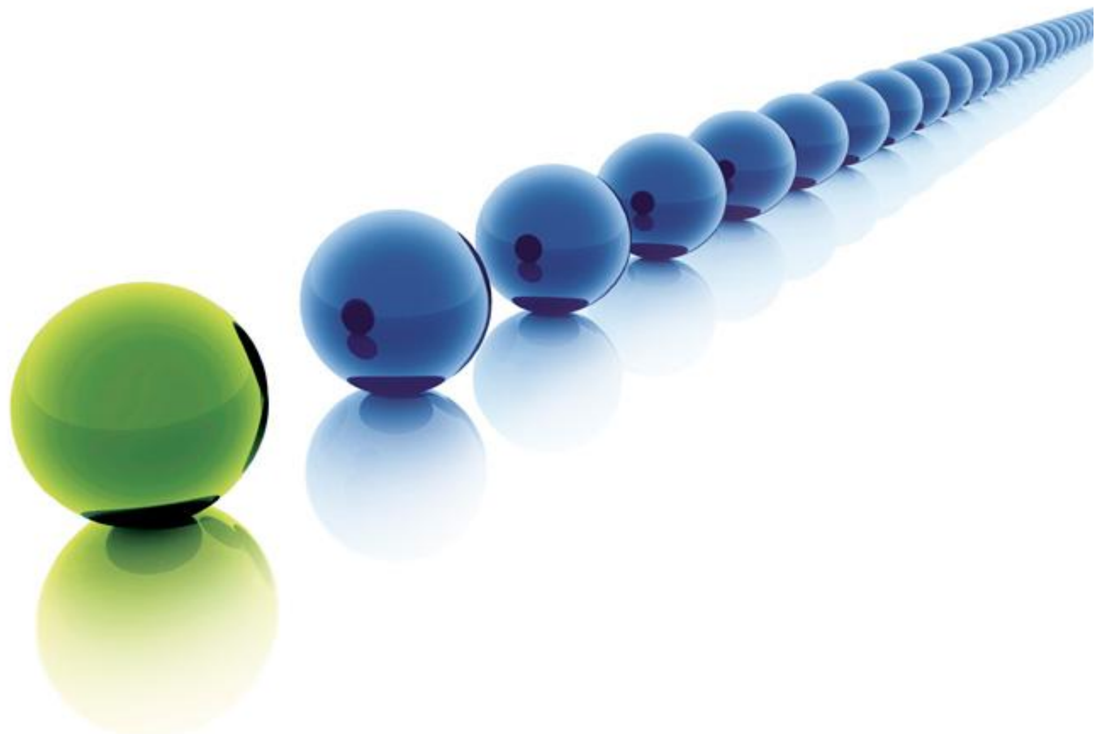
Capital management survey – Risk and Return



Key observations

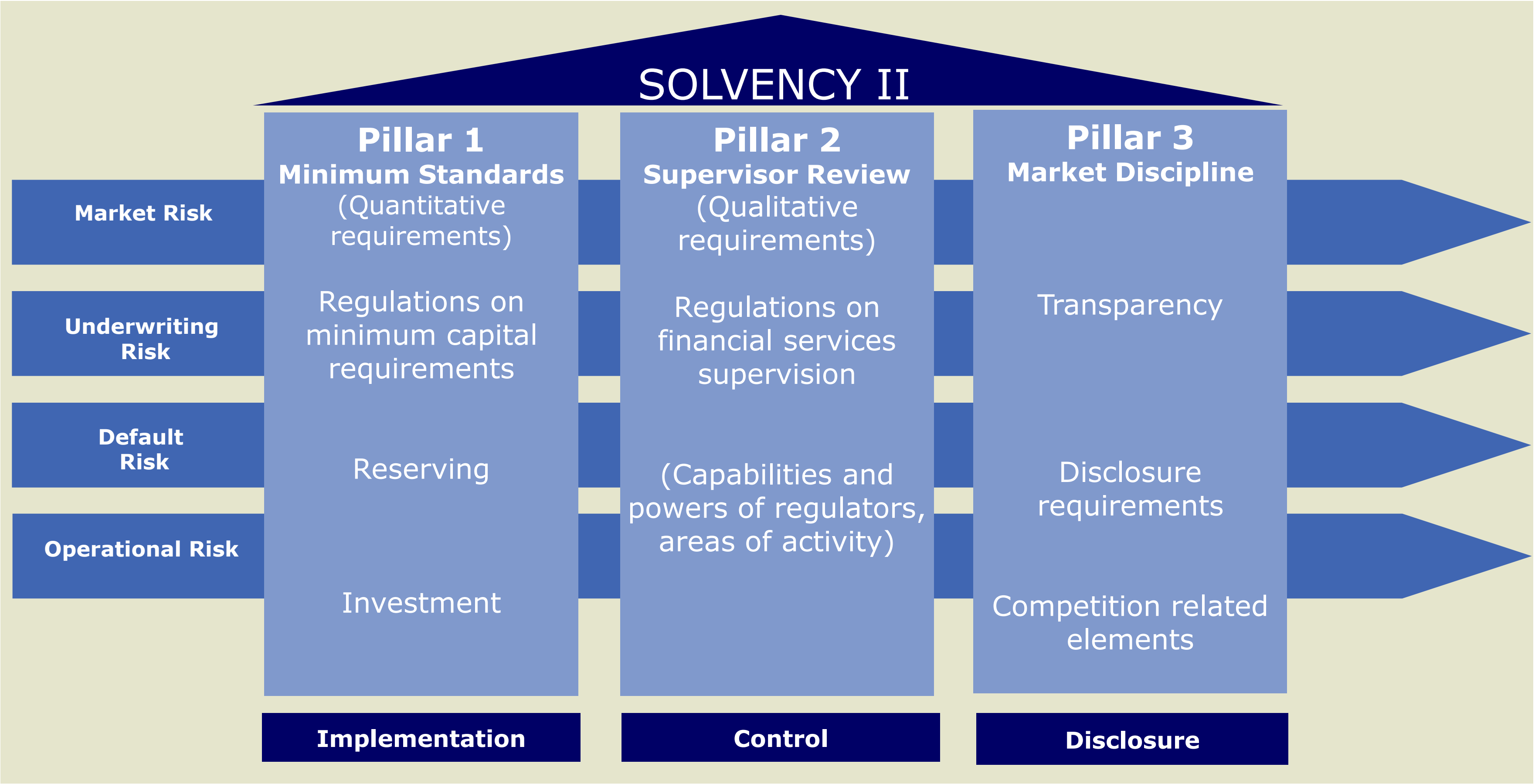
- Majority of respondents targeted 10 to 15% return on capital, with capital levels 0.25 to 0.50 times NWP
- This corresponds to a combined ratio of 90 to 95%
    - CoR curve assumes 90% of assets invested at 3% p.a. return / liabilities equal to 100% NWP

Solvency II and the Internal Model approach



Solvency II – Three pillar approach

- Three pillar structure from Basel II is to be adopted for the insurance industry.
- The new system is intended to offer insurance companies incentives to measure and better manage their risk situation.
- New solvency system will include both quantitative and qualitative aspects of risk.



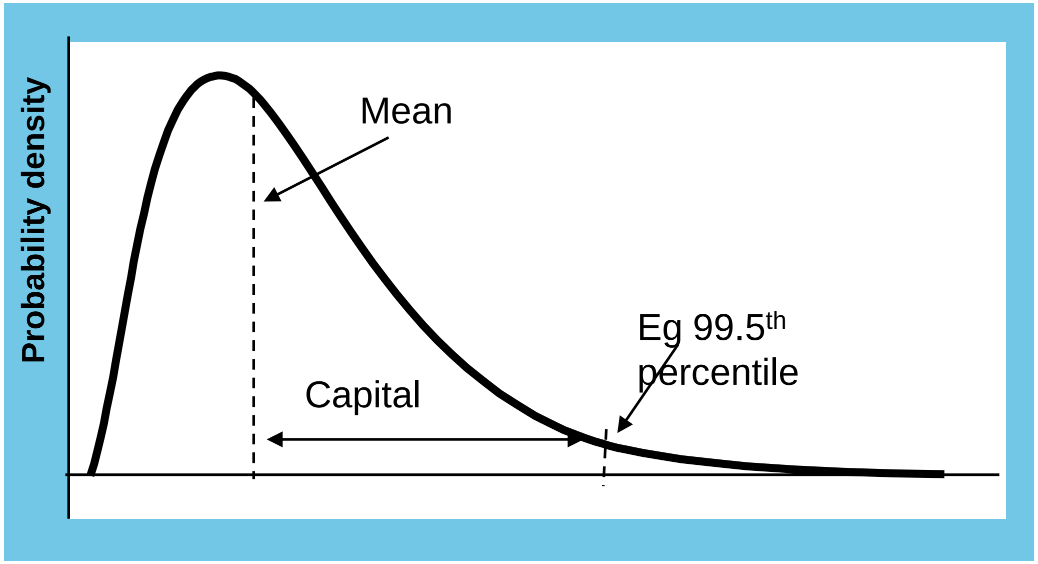
Background to Internal Capital Models

An internal capital model is a framework within which to ask questions about the future financial position of an insurance company.

Based on identification and analysis of the risks affecting an insurer

Seeks to answer questions such as:

- How much capital is needed to survive over a given time horizon with a given probability?
- What is the effect of reinsurance on capital?
- How could hypothetical risks affect the balance sheet?
- What impact do different business lines have on capital requirements?



- There is a range of possible outcomes
- The mean values is what is expected
- Look at the required percentile
- Value at Risk (VaR) is the difference between
  - Mean
  - Required percentile
- There are other measures of risk eg TVaR

Modelling drivers

From a business perspective

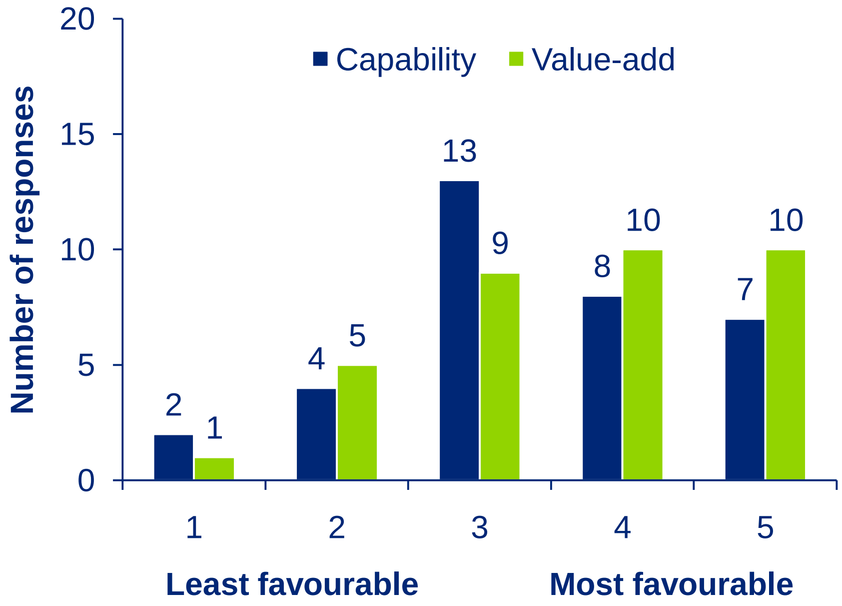
Aids risk analysis, quantification, management, understanding and communication

- Helps demonstrate risk management and understanding to ratings agencies
- Capital allocation and risk adjusted performance monitoring
- Optimising reinsurance structures
- Optimising portfolio balance
- Highly valuable within M&A activities
- Becoming an essential tool in activities such as Part VII transfers

Helps you make better informed business decisions

- Your competitors will have an internal model and will be using it

Capital management survey



Key observations

- What is your current capability to comply with a Solvency 2 (internal capital model) Prudential Regime?

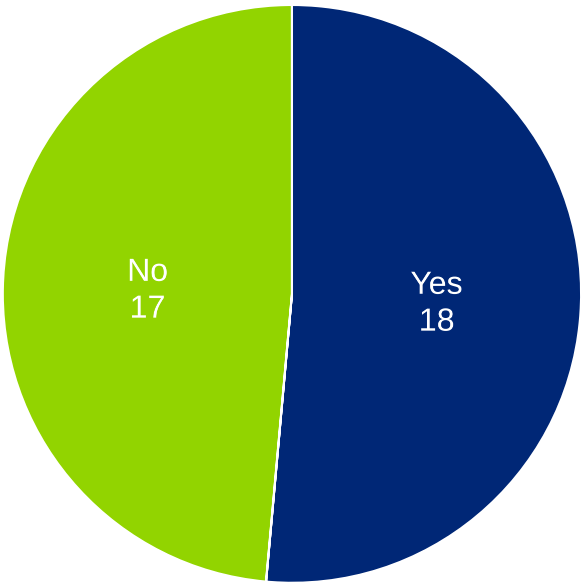
  Average score of 3.4

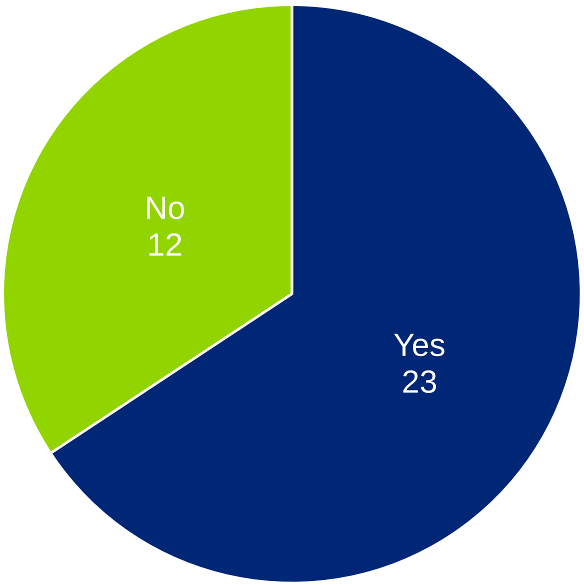
- How much value do you see in such a regime for your business?

  Average score of 3.7

Capital management survey – internal models

Now	Forward looking
Do you carry out capital modelling in your company?	Do you have plans to develop internal capital modelling capabilities in the next 3 years?





Of the 17 respondents without capital modelling now, 5 of them plan to develop an internal capital model within the next 3 years

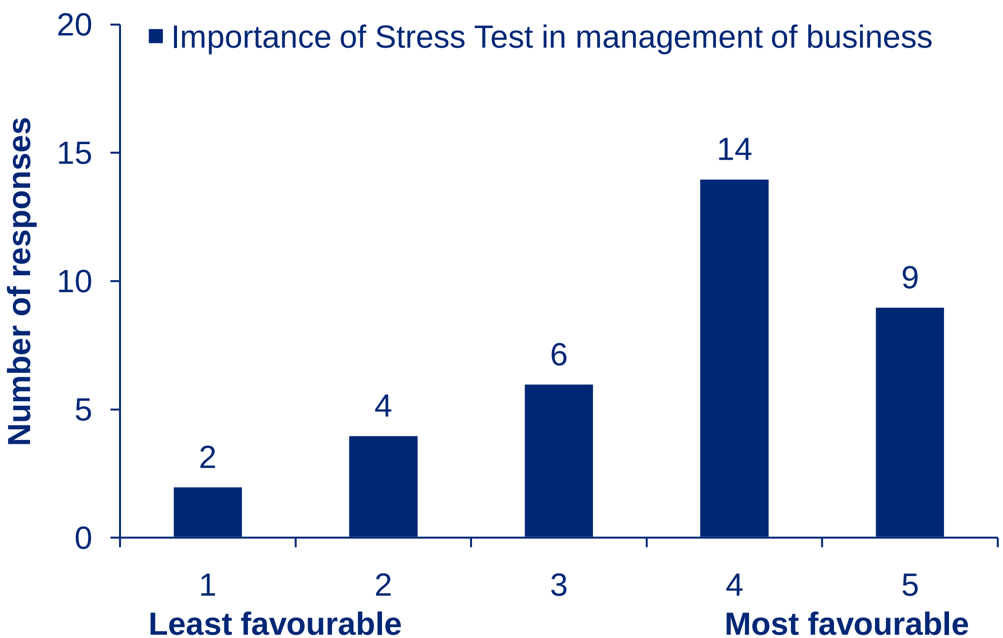
Stress testing implications and lessons

Summary of Stress Test Requirements

	Malaysia	Singapore	China
Base Case Projection	Projection of Profit and Loss, Balance Sheets and Capital Adequacy over a minimum one–year projection horizon	Projection of Revenue Accounts, Profit and Loss, Balance Sheets and Capital Adequacy for the next 3 years • Detailed calculations for 13 lines of business	Projection of Balance Sheet and Solvency ratio for the next 2 years • Reporting at the whole Company level
Scenarios	• 3 scenarios that include all material risks of the Company. • At the minimum, the Company must quantify the impact of stresses due to market, credit and insurance risks. • Companies should identify and develop scenarios appropriate to their business. • Guidelines are given for the selection of the scenarios.	• Macroeconomic scenario for the next year only comprising: ○ 25% to 30% drop in equities; ○ 5% to 20% drop in properties; ○ Sovereign yield curve increases up to 460 bp; ○ Credit spreads increases of 150 to 500 bp; and ○ Changes to the rates of exchange to the US dollar ranging from -15% to 5%. • Two Company tailored scenarios ○ Large Loss ○ Stress to Failure	• 3 Mandatory Scenarios over a 2 year projection period ○ Scenario 1 - Increase in loss and expense ratios by 5 percentage points; ○ Scenario 2 - Increase in premium growth rate by 20 percentage points; and ○ Scenario 3 - Reduction in equity returns by 30% in the first year and a nil return in the second year. • One Company selected Adverse Scenario

Observations on Stress Testing

- More understanding behind the numbers
- Large loss IBNR and premium liability calculations – appreciation of past frequency and quantum
- Better understanding of the RI response particularly in events triggering different covers
- Better understanding of the risk profiles and how these are managed (e.g. event limits on PA controls on Marine Cargo accumulations)
- Balance between short and long term business planning
- Singapore subsidiaries very strongly capitalised and have a lot of reinsurance
- Observed a number of Chinese companies appear to show deteriorating solvency in their base cases

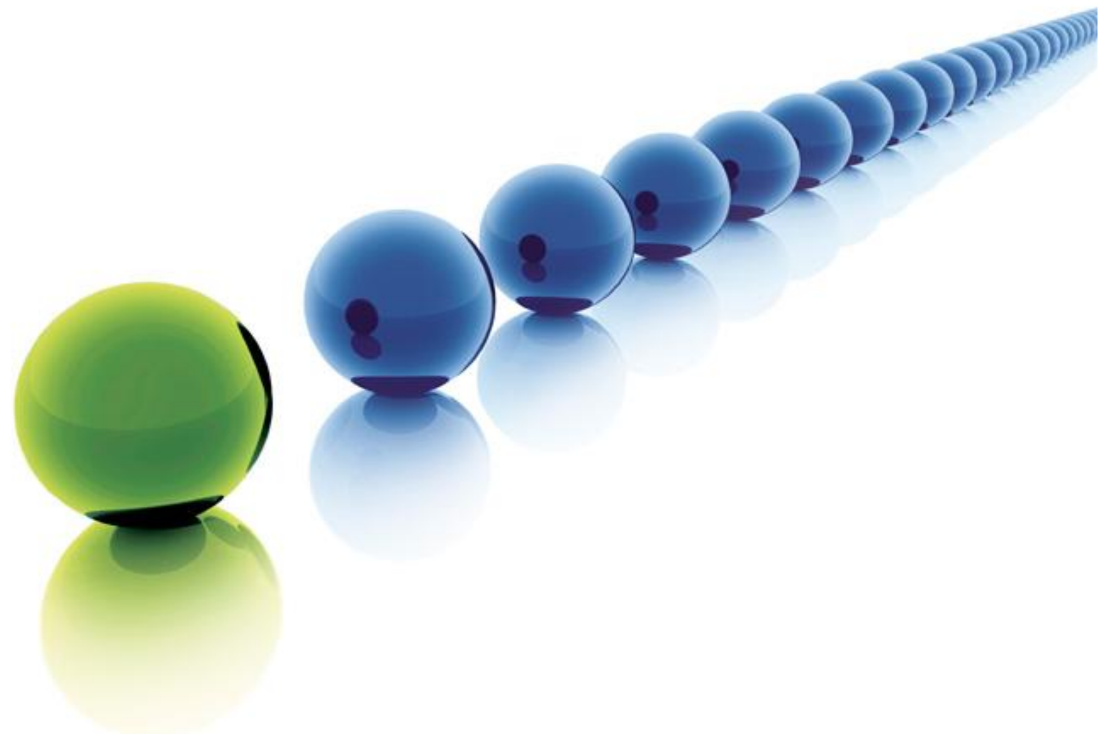


Key observations

- How much importance does stress or scenario testing have in the running of your business?

  Average score of 3.7

Going forward in Asia



Assessing RBC and Solvency II

	RBC System	Solvency II (Internal Model) System
Regulatory Capability	Accounting and Actuarial skills required	Strong capital modelling skills needed to critique insurer's submissions
Data requirements	Accounting and Actuarial reserving information databases	Extensive databases including large loss histories, risk and claim profiles, aggregate exposures, economic scenarios
Specialist Resources	Actuarial expertise in reserving (in house or external)	Specialist modelling experience
Models	No specific needs	Stochastic model
Benefits	Should gain insight into broad capital needs of the Company Can set underwriting and portfolio managers targets	Very poweful management tool to assist in many aspects Should be able to operate on a level of capital that is closely related to the Company's particular circumstances
Disadvantages	Will not get tailored capital levels to match the specific nature of the Company- instead based on industry averages Cannot optimise reinsurance or investments	Costly Will involve long implementation Will need to be carefully maintained

Where to from here?

To adopt or not adopt internal capital modelling…

- Most companies currently see the value of developing an internal capital model
- Hybrid model (mix between Standard Formula and Full Internal Model) is likely option for Asia
- How sophisticated? Depends on the capabilities and budget of the insurer
- To help management decision:

Use test	This is a crucial item under Solvency II and much can be learned. Companies need to treat the Internal Model in a pragmatic manner and to demonstrate that the Internal Model will be used throughout the organisation and to make real business decisions.
Evolution	Simplistic at first and building into something more complex and robust over time. This will also contain costs and justify value to shareholders through progressive benefits
Future direction	We would expect the use of internal models to be Industry Best Practice in the future for larger companies
Start early	Starting early will provide greater flexibility and control
Commitment	Management buy-in is critical. Models need to be embedded as an integral part of the Company's decision making and risk management

Deloitte Actuarial contact details

- Phillip Lui
  Manager
  plui@deloitte.com.hk | +852 2238 7253

Deloitte.
德勤