C05 – Reserving for Solvency II
What might we reasonably expect?
28 September 2006
Kathryn Morgan
James Rakow

Reserving for Solvency II
Agenda

- Introduction
- “QUIS”
- Lively debate
- Prize
Reserving for Solvency II

Time line

Regulatory Timescale

- CEIOPS provide "standard model" for cap reqs
- Early Estimation Date
- Implementation of Proposals
- Solvency II in use

Analysis of QIS 1 Results
QIS 2
QIS 3

EC Solvency II Directive Published
EU CP Jul.
EU CP Dec.

Implementation
New Regime

2006 2007 2008 2009 2010

GIRO

PANIC!

EC Solvency II Directive Published
EU CP Jul.
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Implementation
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2006 2007 2008 2009 2010
Reserving for Solvency II
The three pillars

- Pillar 1 – Minimum Capital Requirements
  - Harmonised standards for the valuation of assets and liabilities and the calculation of capital requirements
- Pillar 2 – Supervisory Process
  - To help ensure insurers have good monitoring and management of risks, and adequate capital
- Pillar 3 – Market Discipline and Disclosure
  - Requirements that allow capital adequacy to be compared across institutions
Reserving for Solvency II
The eight cornerstones

- ?
- ?
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- ?
- ?
- ?
- ?
- ?

Reserving for Solvency II
The eight cornerstones

- **Cornerstone IV**
  - The solvency regime requires a valuation methodology which makes optimal use of and is consistent with information provided by the financial markets and generally available data on insurance technical risks.
Reserving for Solvency II
The three cornerstones

- **Cornerstone V**
  - The solvency regime includes the definition of technical provisions. Technical provisions have to be prudent, reliable, and objective and allow comparison across insurers. The regime should require as a minimum that sufficient assets are available to cover the technical provisions and other liabilities.

- **Cornerstone VI**
  - The solvency regime requires the determination of a ‘best estimate’ of the costs of meeting the obligations arising from the insurance portfolio, taking into account the time value of money. The discount rate for this calculation is determined by reference to the relevant risk free interest rates on the financial markets.
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Solvency I

- Book value of the assets
- Technical provisions
- Surplus
- MCR

Solvency II

- Book value of the assets
- Technical provisions
- MV increase
- Surplus
- SCR
- MCR
- Risk Margin
- Best Estimate of Liabilities

Regulatory capital

Technical provisions

ICAS

ICG

The Actuarial Profession
making financial sense of the future

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Reserving for Solvency II
What might we reasonably expect?

- Our four assertions:
  1. Discounting
  2. Best Estimates
  3. Margin
  4. Convergence of Accounting and Capital Bases

Reserving for Solvency II
1. Discounting

- Q1
- Q2
- Q3
Reserving for Solvency II
1. Discounting

- Q1. Match the Name to the Payment Pattern
  - Employers Liability (EL)
  - Motor Comprehensive (Comp)
  - Motor Non Comprehensive (Non Comp)
  - Tie Breaker: Which GIRO?

![Question 1 graph]

Hint: A is the bottom line

- Q2. Nominal Yield Curve: Name the Year

![Question 2 graph]

Hint: D is the bottom line
Reserving for Solvency II
1. Discounting


Hint: C is above B

Reserving for Solvency II
1. Discounting

- Who is going to decide on the discount rate?
- and when?
Reserving for Solvency II
2. Best Estimates

- Q4
- Q5
- Q6
Reserving for Solvency II
2. Best Estimates

- **Q5. Motor Inflation:** Which line best represents UK motor claims inflation?

  ![Graph showing motor claims inflation from 1991 to 2000.](image)

  **Hint:** C is at the bottom.

- **Q6. Future Inflation**
  Average UK RPI rate over the next 5 years (2006 to 2010)? _______% (1 dec. pl.)
2. Best Estimates

- Do we know what assumptions we are making about inflation in our best estimates?
- What do you think is a material difference in a best estimate?

3. Margin

- Q7
- Q8
Reserving for Solvency II
3. Margin

Q7. Match the name to these 4 distributions
- NORMAL
- WEIBULL
- LOG NORMAL
- EXPONENTIAL

Q8. What Does Bootstrapping Do?

A. Estimates Parameter Uncertainty?
B. Estimates Process Uncertainty?
C. Estimates Parameter and Process Uncertainty?
D. I'm Uncertain
Reserving for Solvency II
3. Margin

- Which needs the most attention / effort?:
  - The discounted best estimate
  - The margin

- What help can the profession provide?

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Reserving for Solvency II
4. Convergence of Accounting and Capital Bases

- Q9. What year will see the Convergence of Solvency 2 and IFRS?
Reserving for Solvency II
4. Convergence of Accounting and Capital Bases

- What will be the new challenges in communication?
  - Managing expectations better
  - New challenges to our results
  - New concepts
  - Sensitivities
  - Responsibilities for assumptions and results
  - The impact of inflation and discounting
  - Timing of discussions
Reserving for Solvency II
QUIS answers

Reserving for Solvency II
1. Discounting

Q1. Match the Name to the Payment Pattern

A = EL  B = Non Comp  C = Comp

1 mark for each correct answer
Reserving for Solvency II
1. Discounting


- A = 2004
- B = 2003
- C = 2002
- D = 2005

1 mark for each correct answer

**Hint:** D is the bottom line


- A = 2005
- B = 2004
- C = 2003
- D = 2002

1 mark for each correct answer

**Hint:** C is above B
Reserving for Solvency II

2. Best Estimates

- Q4. UK RPI Inflation: Put the Nonades in Chronological Order
  - ORDER = C B D A
  - 1 mark for each correct position

![Graph showing order of inflation rates]

- Q5. Motor Inflation: Which line best represents UK motor claims inflation?
  - A = IUA personal injury standardised claim severity index
  - B = 25 year gilt returns
  - C = Garage charge out rates
  - D = Spare parts inflation
  - 1 mark for A, C or D 0 mark for B

![Graph showing motor inflation rates]
Reserving for Solvency II
2. Best Estimates

- Q6. Future Inflation
  Average UK RPI rate over the next 5 years (2006 to 2010)? 2.7 %
  2 bonus marks for 2.7%

Reserving for Solvency II
3. Margin

- Q7. Match the name to these 4 distributions
  A = WEIBULL
  B = LOG NORMAL
  C = NORMAL
  D = EXPONENTIAL
Reserving for Solvency II
3. Margin

Q7. Match the name to these 4 distributions
- A = WEIBULL
- B = LOG NORMAL
- C = LOG NORMAL
- D = LOG NORMAL

1 mark for each correct answer

Reserving for Solvency II
3. Margin

Q8. What Does Bootstrapping Do?

A. Estimates Parameter Uncertainty?
B. Estimates Process Uncertainty?
C. Estimates Parameter and Process Uncertainty?
D. I'm Uncertain

1 mark for A  1 mark for D
Reserving for Solvency II
4. Convergence of Accounting and Capital Bases

- Q9. What year will see the Convergence of Solvency 2 and IFRS?

- 1 mark for any year on or after 2010