

## C05 – Reserving for Solvency II What might we reasonably expect?

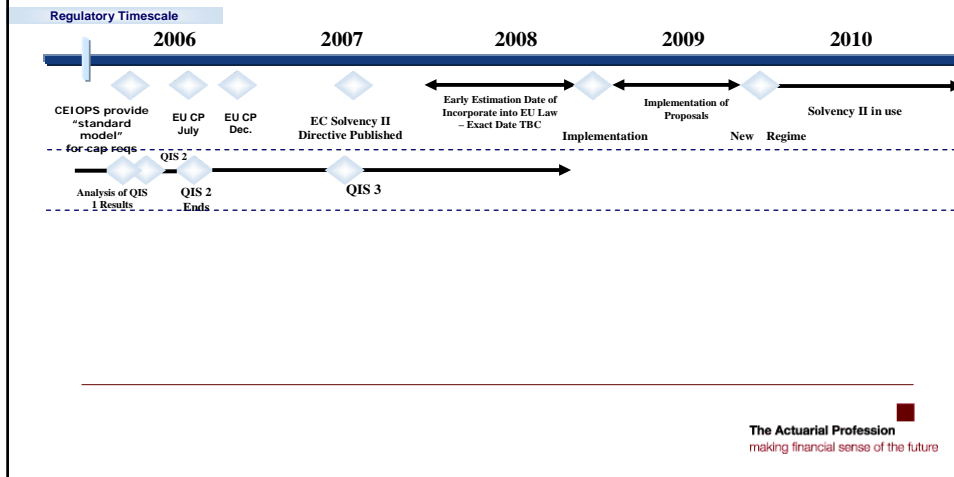
28 September 2006  
Kathryn Morgan  
James Rakow

### **Reserving for Solvency II Agenda**

- Introduction
- “QUIS”
- Lively debate
- Prize

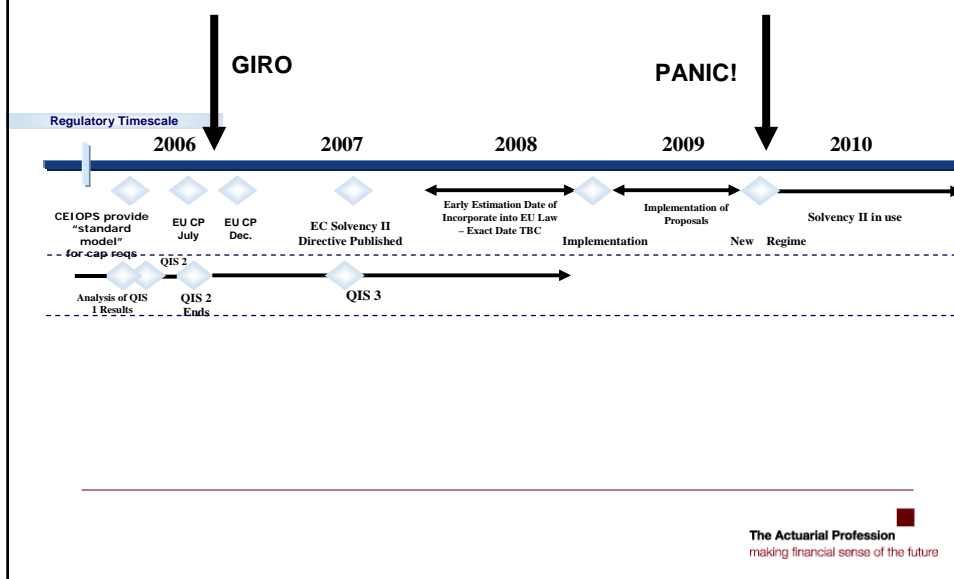
# Reserving for Solvency II

## Time line



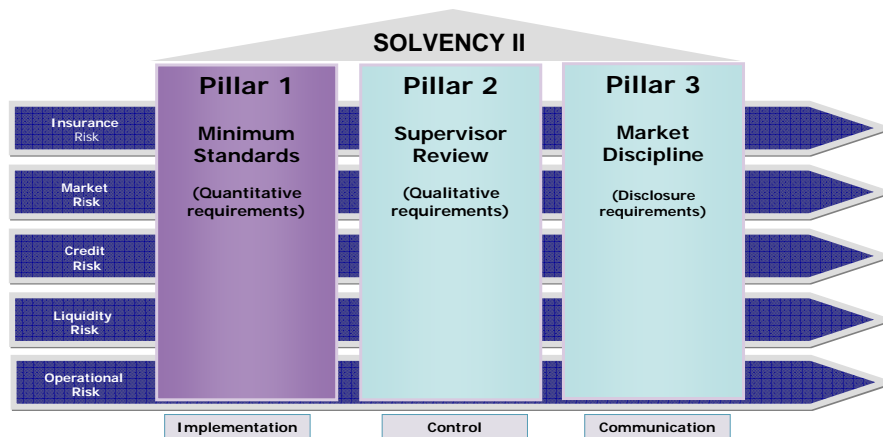
# Reserving for Solvency II

## Time line



## Reserving for Solvency II

### The three pillars



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## 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

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## Reserving for Solvency II

### The eight cornerstones

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

## Reserving for Solvency II

### The ~~eight~~ three 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.

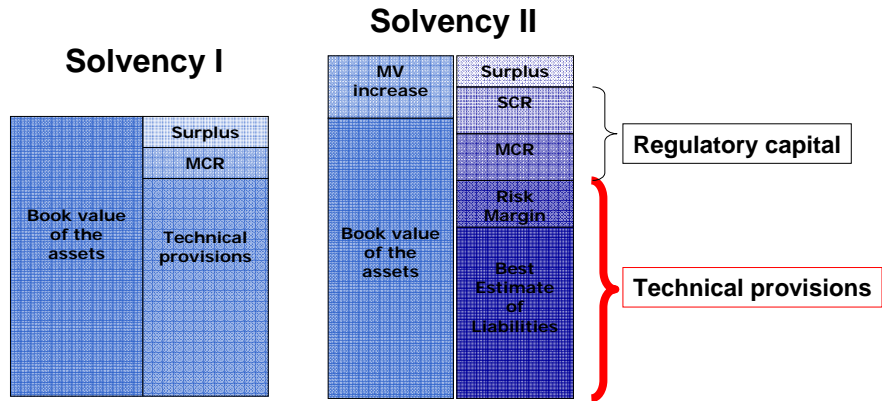
## Reserving for Solvency II

### The three cornerstones

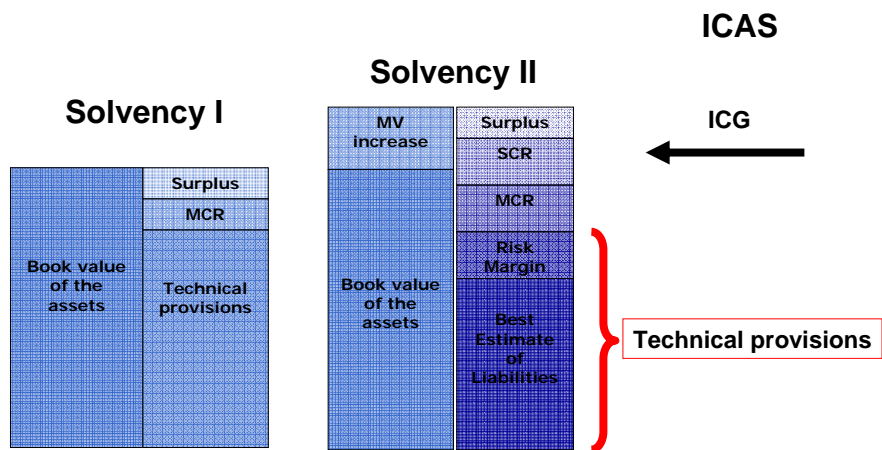
#### ▪ **Cornerstone VI**

- 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.

## Reserving for Solvency II



## Reserving for Solvency II



## 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

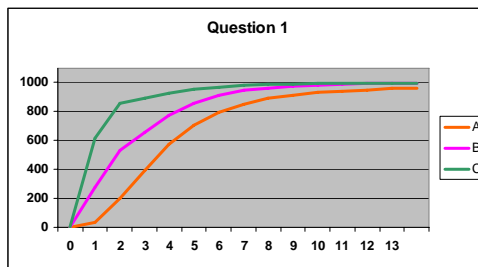
### 1. Discounting

- 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?

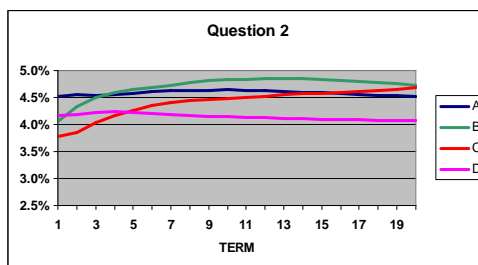


Hint: A is the bottom line

# Reserving for Solvency II

## 1. Discounting

- Q2. Nominal Yield Curve : Name the Year (2002, 2003, 2004 2005)



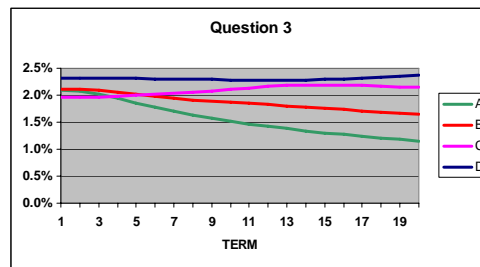
Hint: D is the bottom line



## Reserving for Solvency II

### 1. Discounting

- **Q3. Real Yield Curve : Name the Year (2002, 2003, 2004 2005)**



Hint: C is above B

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## Reserving for Solvency II

### 1. Discounting

- Who is going to decide on the discount rate?
- and when?

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## Reserving for Solvency II

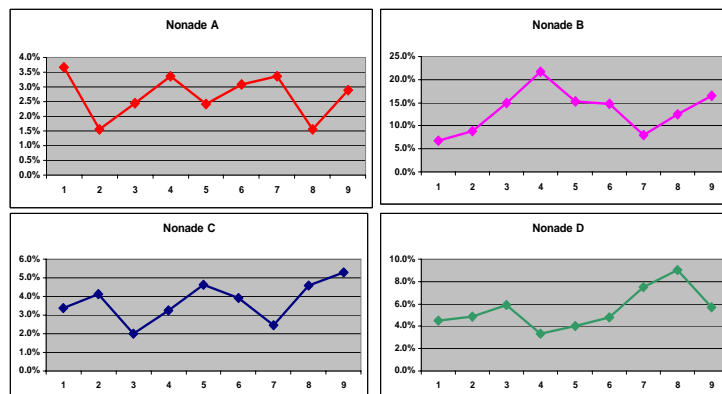
### 2. Best Estimates

- Q4
- Q5
- Q6

## Reserving for Solvency II

### 2. Best Estimates

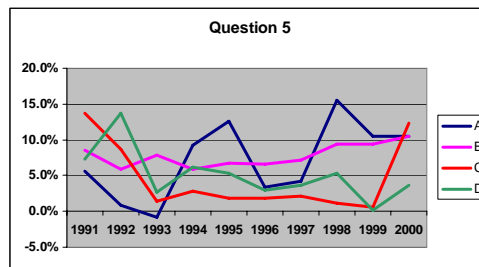
- Q4. UK RPI Inflation : Put the Nonades in Chronological Order



## Reserving for Solvency II

### 2. Best Estimates

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



Hint: C is at the bottom

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## Reserving for Solvency II

### 2. Best Estimates

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

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## Reserving for Solvency II

### 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?

## Reserving for Solvency II

### 3. Margin

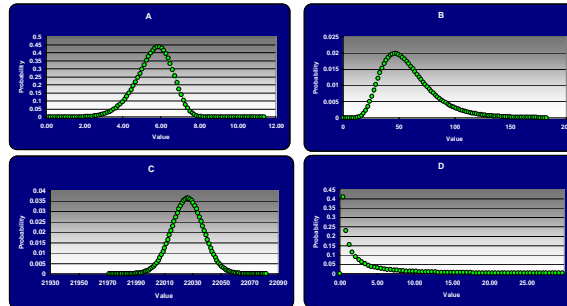
- Q7
- Q8

## Reserving for Solvency II

### 3. Margin

- Q7. Match the name to these 4 distributions

- NORMAL
- WEIBULL
- LOG NORMAL
- EXPONENTIAL



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## 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

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## Reserving for Solvency II

### 3. Margin

- Which needs the most attention / effort?:
  - The discounted best estimate
  - The margin
  
- What help can the profession provide?

## 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?**

## Reserving for Solvency II

### 4. Convergence of Accounting and Capital Bases

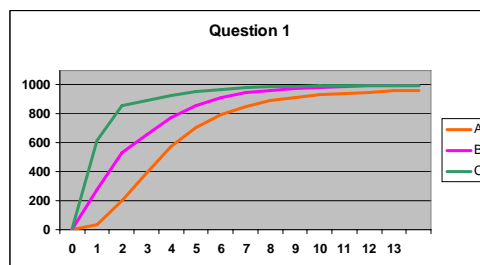
- **What will be the new challenges in communication?**
  - Managing expectations better
  - New challenges to our results
  - New concepts
  - Sensitivities
  - Responsibilities for assumptions and results
  - The impact of inflation and discounting
  - Timing of discussions

## 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

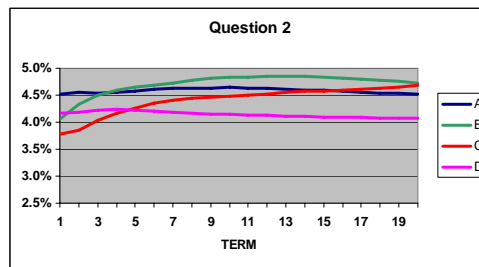




## Reserving for Solvency II

### 1. Discounting

- Q2. Nominal Yield Curve : Name the Year (2002, 2003, 2004 2005)
- **A =2004 B =2003 C= 2002 D= 2005**  
1 mark for each correct answer



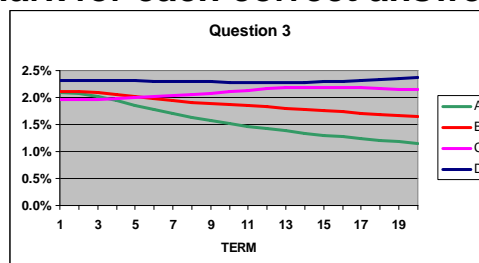
Hint: D is the bottom line

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## Reserving for Solvency II

### 1. Discounting

- Q3. Real Yield Curve : Name the Year (2002, 2003, 2004 2005)
- **A =2005 B =2004 C= 2003 D= 2002**  
1 mark for each correct answer



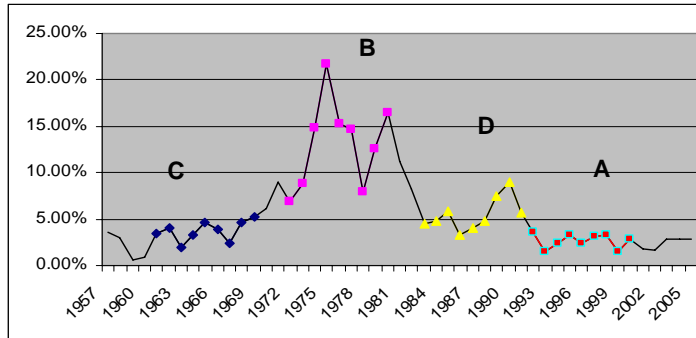
Hint: C is above B

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## 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

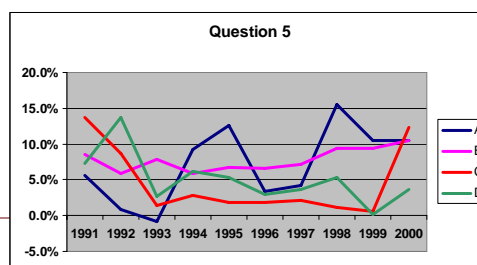


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## Reserving for Solvency II

### 2. Best Estimates

- 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



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## Reserving for Solvency II

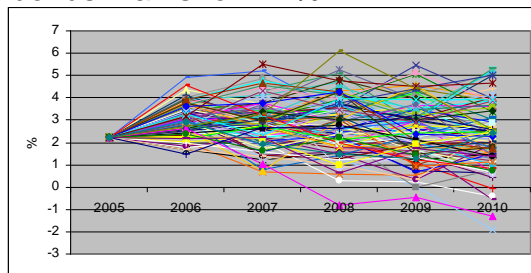
### 2. Best Estimates

▪ Q6. Future Inflation

Average UK RPI rate over the next 5 years

(2006 to 2010)? 2.7 %

2 bonus marks for 2.7%



} 1 mark (0, 4.5)

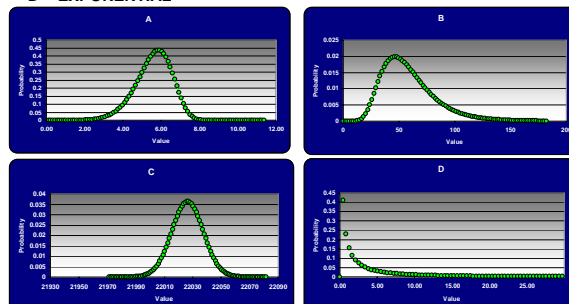
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## Reserving for Solvency II

### 3. Margin

▪ Q7. Match the name to these 4 distributions

- A = WEIBULL
- B = LOG NORMAL
- C = NORMAL
- D = EXPONENTIAL



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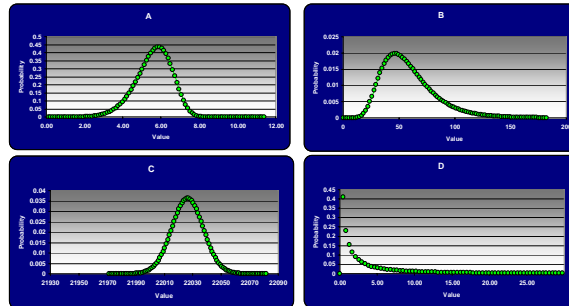
## Reserving for Solvency II

### 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



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## 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

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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?**
- 1 mark for any year on or after 2010