

The Actuarial Profession
making financial sense of the future

CIGI 2012
Mark Cockroft (Novae Re) & Sarah MacDonnell (Towers Watson)



PPOs – results and issues from 2011 working party

London; May 10th, 2012

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Presentation agenda

- Best estimate reserving and Solvency II impact
- Liability limits
- Industry survey results

Other sections in the 2011 paper

- Industry claims pool: pros & cons
- Underwriting and pricing for aggregate reinsurance covers, e.g. stop loss XLs
- Role of the FSCS

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Acknowledgements

2011 working party members

- Anthony Cloughton
 - Avni Gohil
 - Bruce Stocker
 - Gary Yeates
 - Karl Murphy
 - Mark Cockroft (Co-Chair)
 - Nathan Williams (Co-Chair)
 - Peter Yeates
 - Peter Saunders
 - Sarah MacDonnell
 - Simon Warsop
 - Sylvie Le Delliou-Viel
- ...plus several others we consulted and spoke with

Fair cross-section of
the UK motor market:
6 insurers
2 reinsurers
4 consultants

Carrying on 2012
+ 6 more

Presentation agenda

- Best estimate reserving and Solvency II impact
- Liability limits
- Industry survey results

Best estimate reserving and Solvency II impact: current practice (or “the obligatory ostrich pic”)



Arguing for non-materiality will not suffice in the future if PPOs continue to grow in number. Eventually they will be material to the balance sheet risk.

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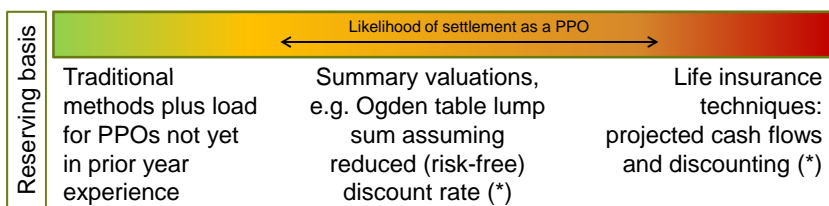
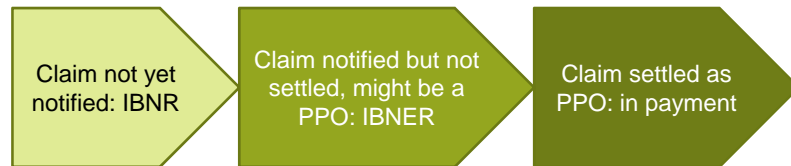
QIS5 technical specifications: “Annuities stemming from non-life contracts”

- TP.1.13:
“In particular, annuities stemming from non-life insurance contracts (for example motor vehicle liability insurance) are life insurance obligations”
- TP.2.49 & TP.2.55: *substance* (nature of liability) over *form* (legal form of original contract)
- TP.2.58:
“...value technical provisions [for annuities] separately from...remaining non-life obligation...should apply appropriate life insurance valuation techniques...consistent with valuation of life insurance annuities with comparable technical features.”
- TP.2.63-67: Lump sum reserves allowable in run-off triangles pre-“annuitisation” (i.e. before becoming obligated to pay an annuity)

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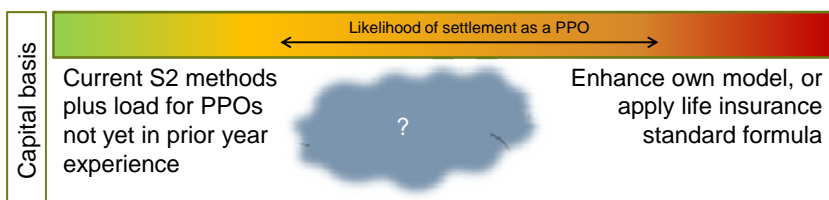
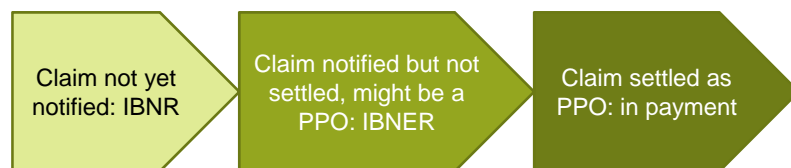
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Timeline of a PPO claim: best estimate reserving



Note (*): See last year's PPO paper for details

Timeline of a PPO claim: Solvency II capital



Solvency capital requirement for life insurance contracts – standard formula

- Reminder: SCR = Basic Solvency Capital Requirement + Op Risk + adjustment for risk-absorbing effect of technical provisions and deferred taxes
- BSCR for life insurance consists of a series of stresses:
 - Market risk (bond spreads, interest rate and term structure, illiquidity premium, etc)
 - Life underwriting risk (mortality/longevity, morbidity, expense overrun, revision risk, etc)
- Op Risk as for non-life but different factors apply
- No discretionary PPO benefits, so TP adjustment assumed to be nil

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Presentation agenda

- Best estimate reserving and Solvency II impact
- **Liability limits**
- Industry survey results

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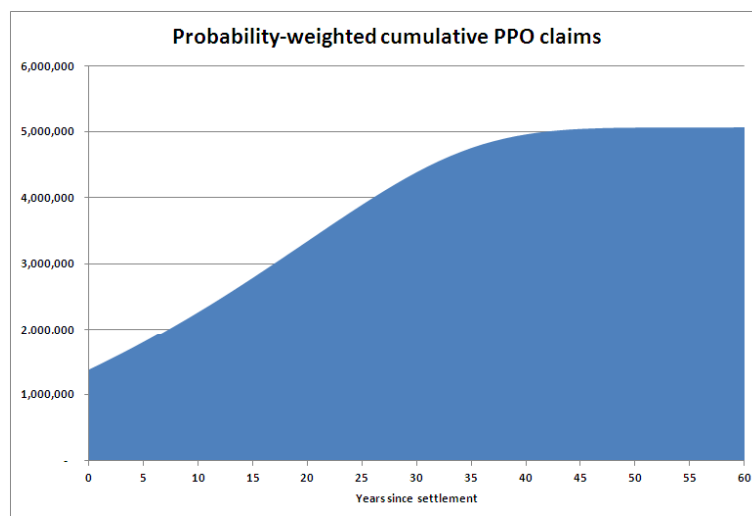
Liability limits – the problem (1)

- GIRO working party survey results for 21 liability PPOs:
 - Average lump sum = £1.3m
 - Average initial annual payment = £80k
 - Average future life expectancy at settlement = 26 years

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Liability limits – cumulative payout pattern for average case (lump sum + PPO)



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Liability limits – the problem (2)

- GIRO working party survey results for 21 liability PPOs:
 - Average lump sum = £1.3m
 - Average initial annual payment = £80k
 - Average future life expectancy at settlement = 26 years
- Therefore, “average case” total payment = £5.1m (*)
- This will increase for new loss events happening today
- Typical PL limits are £1m-5m; EL at £10m
- These are just the average, there is a wide range of values
- Current liability limits are not sufficient for PPOs

(*): Assuming 3.5% p.a. ASHE inflation, probability-weighted annuity

Liability limits – potential solutions

- Don't award PPOs
 - Claimants' needs are not always addressed
 - This is largely current practice by the Courts
- Increase limits generally
 - Liability market is still very soft; no-one will pay for higher limits and insurers won't give them away for free
- Index/increase limits for PPOs
 - Complex wording issues, different interpretations, may “invite” PPOs
 - Possibly the best solution, but nothing happening yet

Presentation agenda

- Best estimate reserving and Solvency II impact
- Liability limits
- Industry survey results

Industry Survey 2011

Profile of a PPO

Additional measures in 2011

- Propensity
- MIB experience
- Liability PPOs
- Nature of Injury

Current reserving practice

Contributors

- UK motor market
 - 12 insurance groups
 - 9 out of the 10 top insurers
 - 87% of FSA regulated entities by premium volume
 - 8 out of the 12 also contributed to last year's survey
- Motor Insurer's Bureau

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Contributors

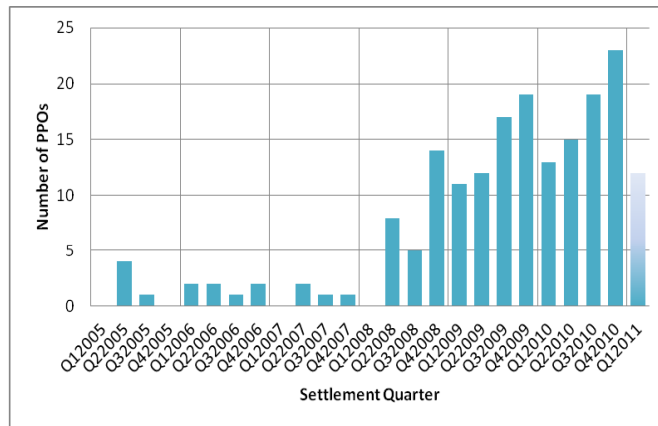
- Allianz Insurance
- Aviva
- AXA
- esure
- Groupama
- Highway
- HSBC
- Liverpool Victoria
- NFU Mutual
- Provident
- RBSI
- RSA
- Zurich Insurance

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Update

Number of PPO claims by settlement quarter

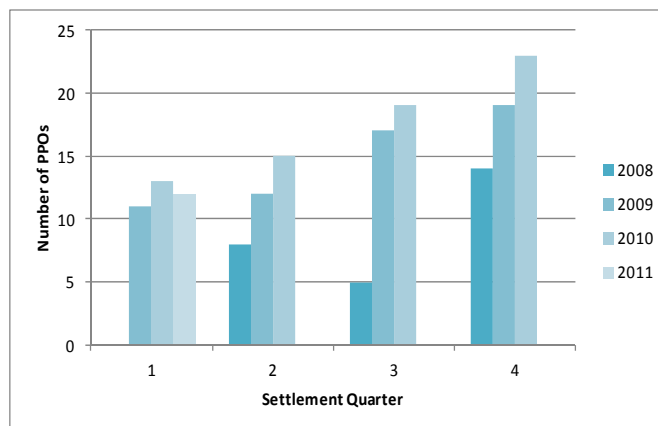


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Update

Number of PPO claims by settlement quarter



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Industry Survey 2011

Profile of a PPO

Additional measures in 2011

- Propensity
- MIB experience
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- Nature of Injury

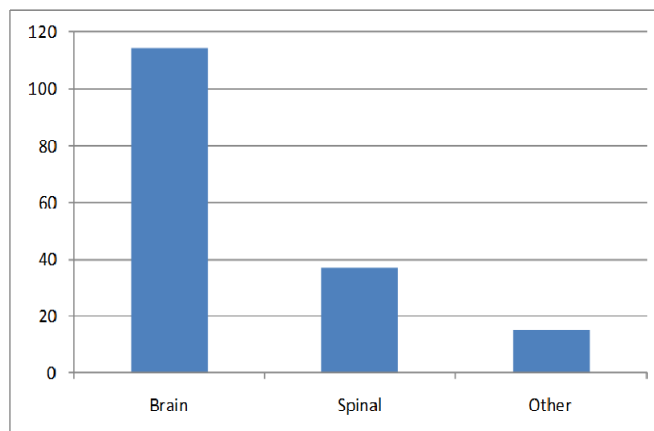
Current reserving practice

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Profile of a PPO

Number of PPOs by type of injury



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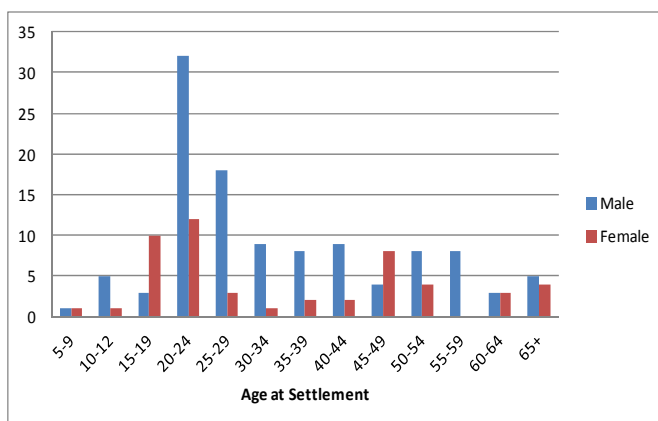
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Profile of a Motor PPO

- Brain or spinal injuries
- Average age at settlement: 34

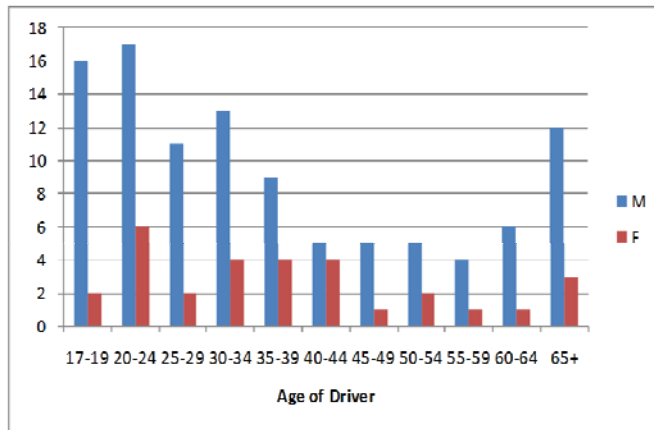
Profile of a PPO

Number of PPOs by age at settlement



Profile of a PPO

Number of PPOs by age of driver

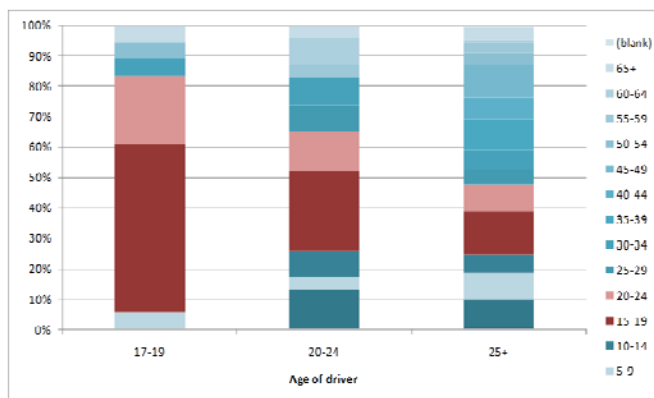


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Profile of a PPO

Age of driver against age of claimant at the time of the accident



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Profile of a Motor PPO

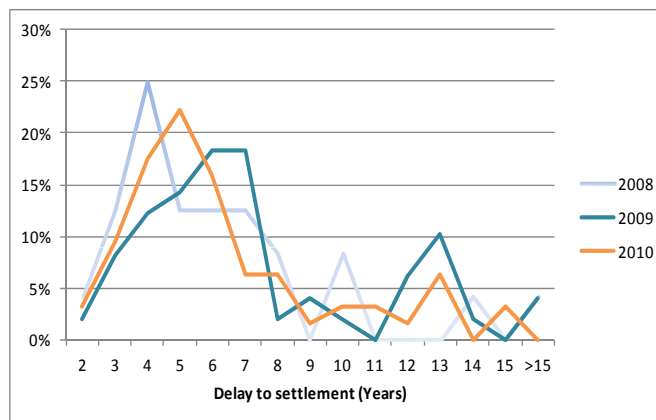
- Brain or spinal injuries
- Average age at settlement: 34
- Delay to settlement: 6 years

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Profile of a PPO

Distribution of delay to settlement



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Profile of a Motor PPO

- Brain or spinal injuries
- Average age at settlement: 34
- Delay to settlement: 6 years
- Future life expectancy at settlement: 41
- Life expectancy reduction: 10 years
- Indexation linked to ASHE 6115
- Annual PPO payment: £80k
- Lump sum: £2m

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Industry Survey 2011

Profile of a PPO

Additional measures in 2011

- Propensity
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- Nature of Injury

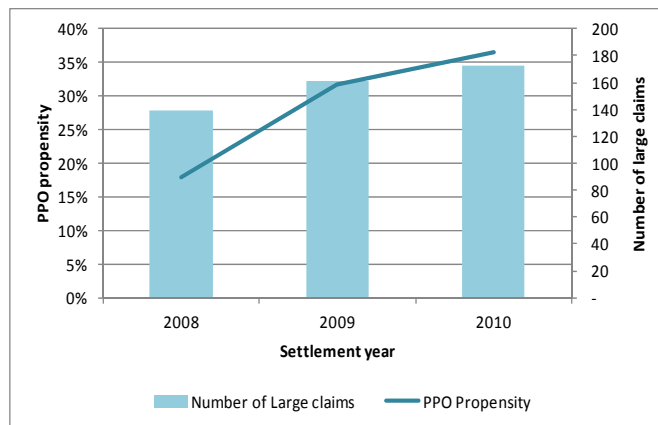
Current reserving practice

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Overall propensity

Number of large claims (>£1m) which settle as PPOs

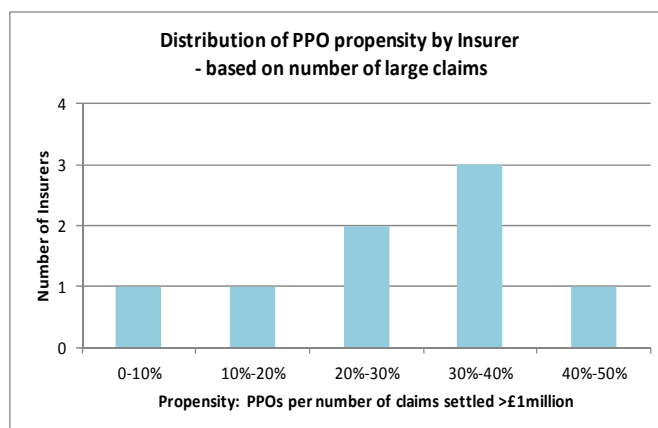


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Propensity by insurer

Variation in propensity between insurers



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Industry Survey 2011

Profile of a PPO

Additional measures in 2011

- Propensity
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- Nature of Injury

Current reserving practice

Industry Survey 2011

Profile of a PPO

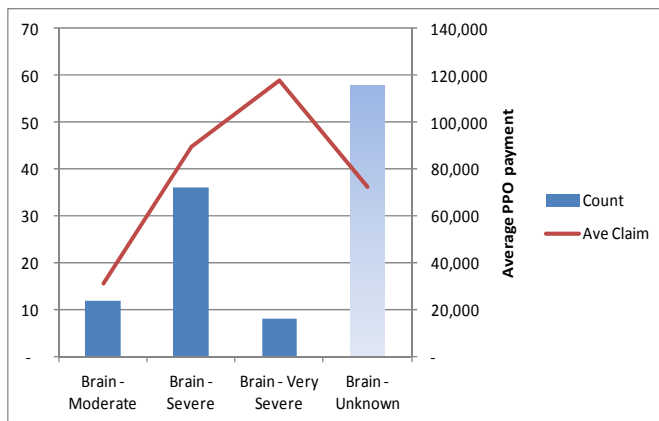
Additional measures in 2011

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- Nature of Injury

Current reserving practice

Brain Injury PPOs

Initial payment amount (£)

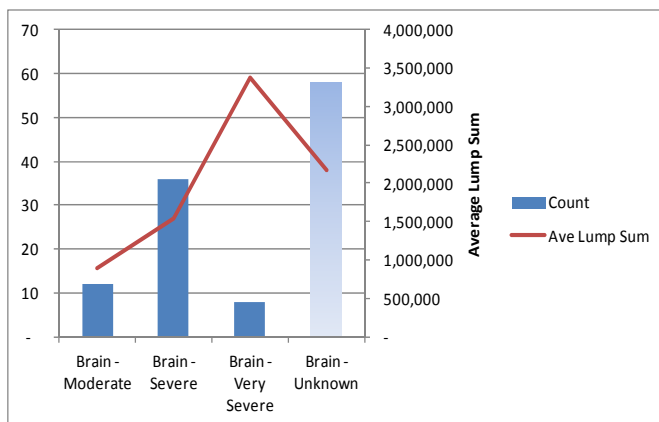


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Brain Injury PPOs

Lump sum amount (£)

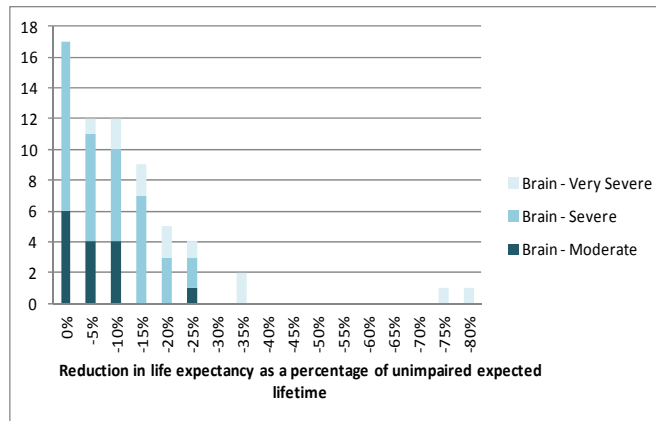


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Brain Injury PPOs

Percentage reduction in life expectancy



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Industry Survey 2011

Profile of a PPO

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Current reserving practice

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Reserving practice

Claims can be split into different elements for reserving purposes

- Claim settled as PPO (in payment)
- Future PPOs
 - Claims notified but not yet settled as PPO: IBNER
 - Claims not yet notified: IBNR

Current reserving practice

PPOs in payment

- Similar practice across the industry
 - Reserves calculated on an individual basis
 - NPV cashflow approach
- Differences in assumptions used
 - Earnings inflation
 - Life expectancy
 - Investment return

Reserving practice

Annuity certain approach

- Assume payments will be made with certainty for every year of future life expectancy

Probabilistic approach

- Take into account probability of survival for all future payments

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Reserving practice example: Male 49 year old at time of settlement

Probabilistic approach

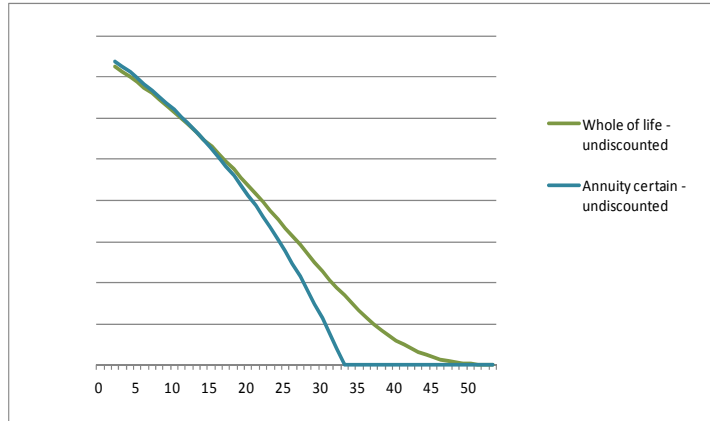
- Future life expectancy
 - Year 0: 31.03 years
 - Year 1: 30.13 years 0.90 difference
- Discrepancy is larger as the claimant becomes older
 - Year 20: 14.67 years
 - Year 21: 13.98 years 0.31 difference

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Reserving practice

Development of reserves over time

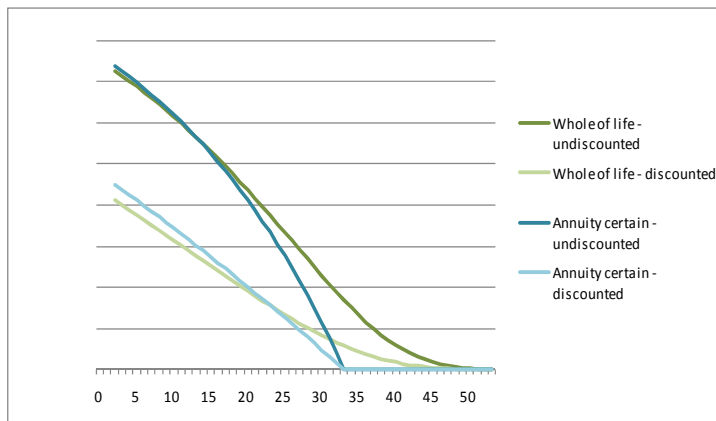


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Reserving practice

Development of reserves over time



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Reserving practice

Probabilistic approach

- Takes into account effect on life expectancy of someone who has already survived a year
 - Not always material over the course of a single year, however will become more material over the longer term
 - Allows for possibility of survival longer than their original life expectancy assumption
- Impact on discounting
- When PPOs are material, Solvency II requirement

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Reserving practice

Reserves may increase from year to year

- Once survived a year, an individual's life expectancy will have increased
- Effect of the discount unwinding

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Current reserving practice

- Known PPOs
- Future PPOs
 - Claims already reported but not yet settled as PPOs
 - IBNR claims

Current Reserving Practice

Future PPOs

- No consistent approach in the market
- Significant element of the reserves – delay to settlement
- Almost all respondents monitor open claims for likelihood of turning into a PPO
 - Variety of ways this is achieved

Observations

- Lack of consistency in / disclosure of assumptions
 - Economic assumptions
 - Life expectancy
- Nature of injury
- Life insurance methodologies
 - (Re)education needed

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Questions or comments?

Expressions of individual views by members of The Actuarial Profession and its staff are encouraged.

The views expressed in this presentation are those of the presenters.



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What we are doing in 2012 working party

- Overseas markets
- Impaired life mortality / future life expectancy
- Classification of injury
- Reinsurance issues
- Continue industry survey

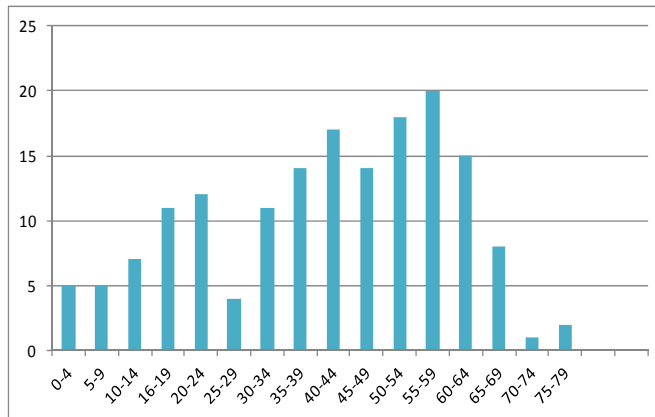
Suggested discussion points

Some thoughts:

- Are PPOs here to stay? Even if the Odgen discount rate comes down?
- Are liability limits of indemnity sufficient? What about limit indexation in case of PPO?
- Is there sufficient awareness of reserving and capital implications, even among actuaries?
- Industry pooling of experience (a new role for CMI?)

Profile of a PPO

Distribution of future life expectancy at the time of settlement

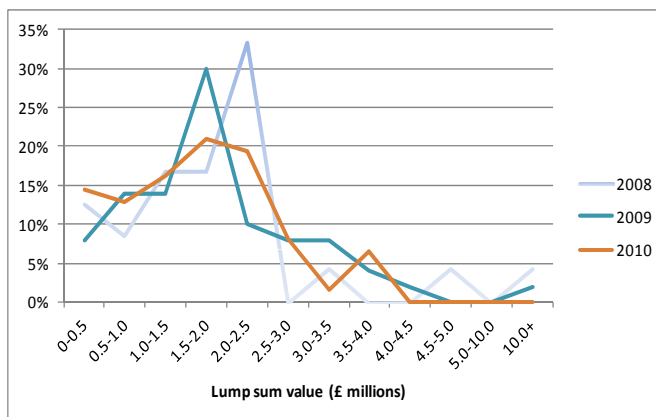


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Profile of a PPO

Distribution of lump sum payment amounts

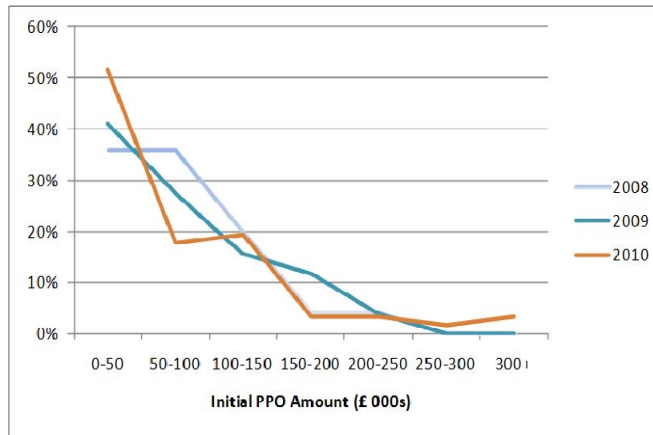


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Profile of a PPO

Distribution of initial PPO payment amount

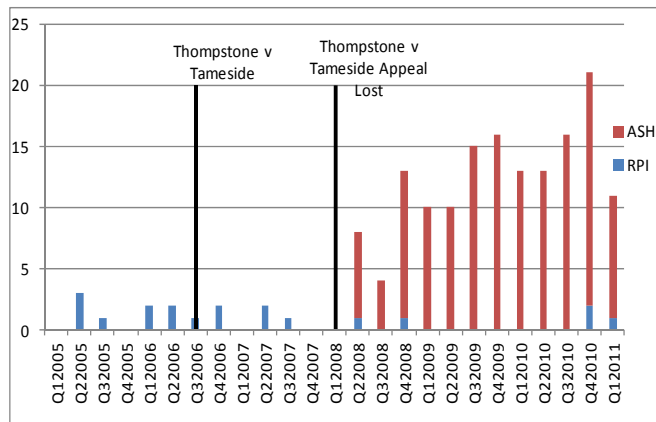


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Profile of a PPO

Number of PPOs by settlement quarter - split by RPI and ASHE indexation



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History

2003 Courts Act

- Courts can impose a PPO for some or all of the heads of damage
- Implemented April 2005

Thompstone versus Tameside and Glossop NHS Trust

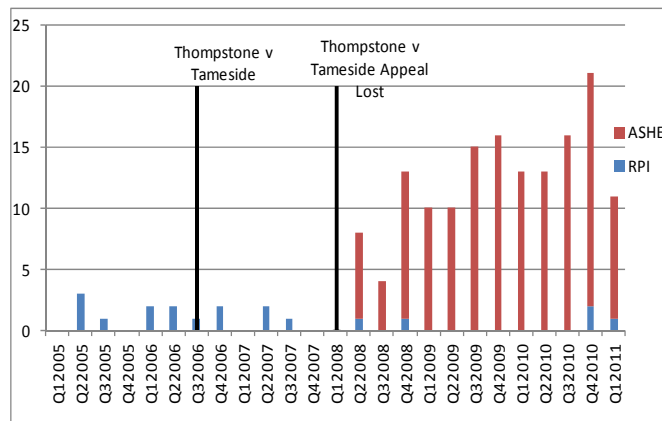
- November 2006 ruling
 - RPI was the automatic index but it is not suitable for wage based costs or losses
 - Indexation linked to ASHE, for example, for medical care
- Upheld by Court of Appeal January 2008
- NHS abandoned appeal to House of Lords late 2008

ASHE

- Annual Survey of Hours and Earnings
- Sub-category 6115 relating to salaries of care assistants and home carers
- Difficult to match investments
 - Survey not an index
 - Methodology changes
 - No long term projections
 - Different percentiles used

Profile of a PPO

Number of PPOs by settlement quarter - split by RPI and ASHE indexation



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Industry Survey 2011

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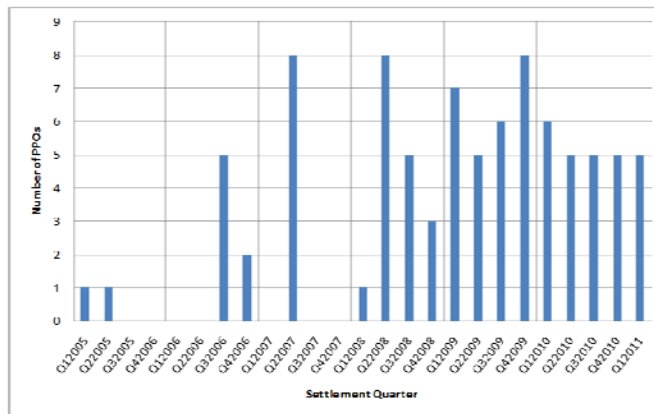
Current reserving practice

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MIB experience

Number of claims by settlement quarter

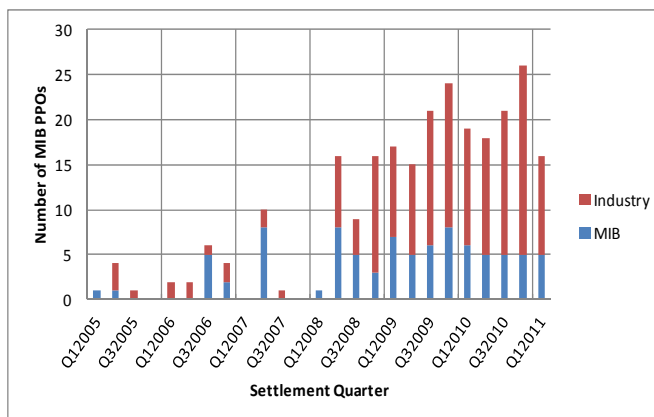


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MIB experience

Number of claims by settlement quarter

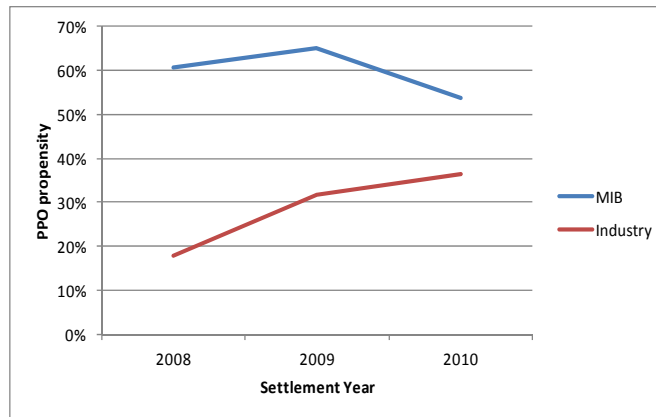


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MIB experience

Propensity: number of PPOs per large (>£1m) settlement

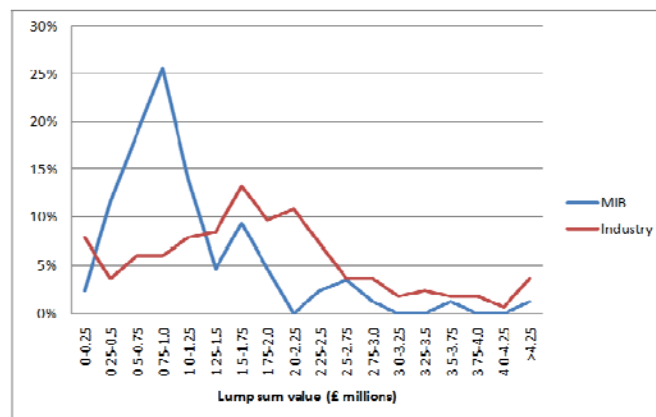


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MIB experience

Lump sum



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Industry Survey 2011

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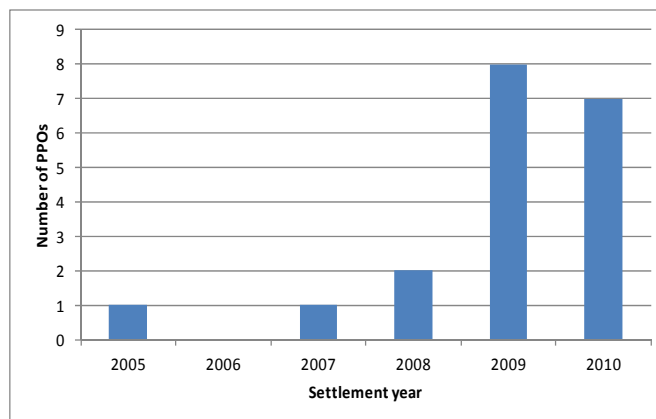
Current reserving practice

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Liability PPOs

Number of liability PPOs by settlement year

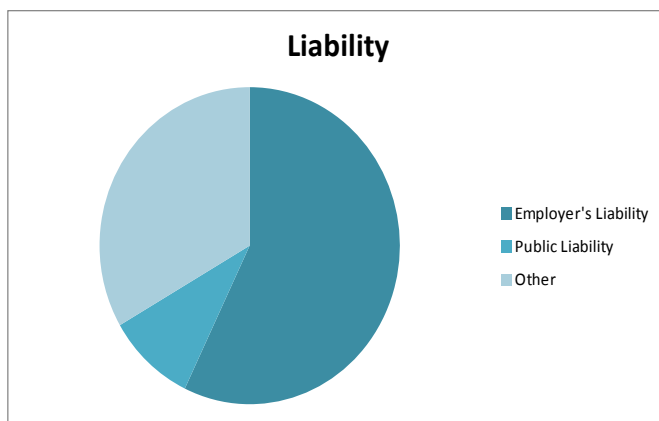


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Liability PPOs

Cover type

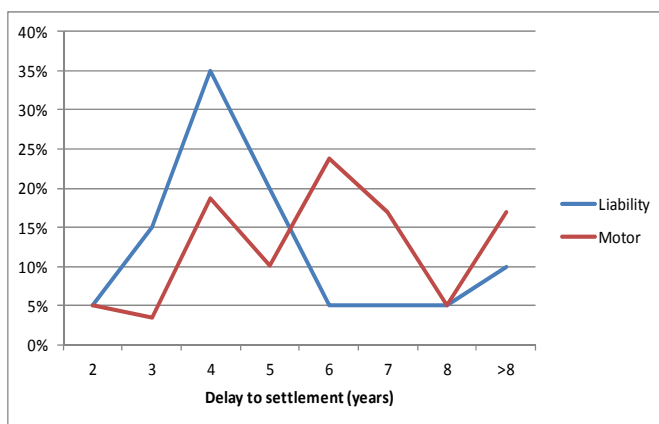


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Liability Vs Motor PPOs

Delay to settlement

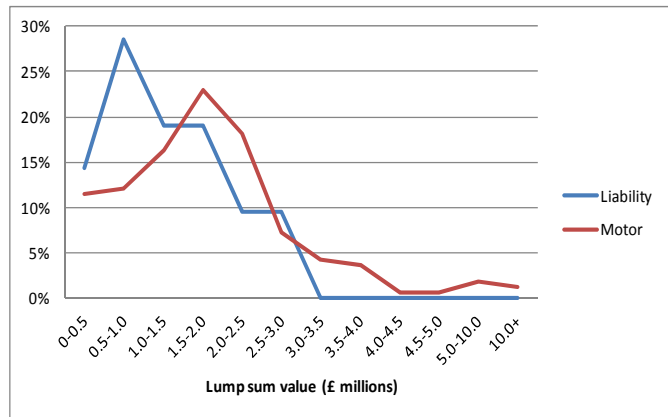


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Liability Vs Motor PPOs

Lump sum

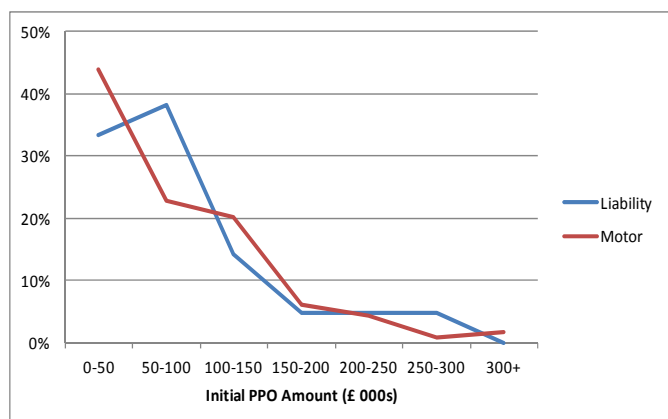


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Liability Vs Motor PPOs

Initial PPO amount



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