The Actuarial Profession
making financial sense of the future

General Insurance Reserving Seminar
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# Periodical Payments

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## A quick history of Periodical Payment Orders

- Structured Settlements were originally introduced in the Damages Act 1996.
- The legislation was amended in the Courts Act 2003.
- The “Thompstone” judgement at Court of Appeal (January 2008) was a significant milestone.
- Why are they still topical?



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## A summary of Periodical Payment Orders

- They can be awarded for future pecuniary loss
  - Cost of care
  - Loss of earnings (Sarwar v Ali & MIB)
- The security of the payment must be reasonably secure
  - Motor Insurers’ Bureau
  - NHS
  - It is protected by a compensation scheme
- A court must consider a PPO and can award one against the claimants wishes.



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## Bodily injury claims

**A bodily injury claim will have several heads of damage:**

- General damages
- Hospital costs
- Loss of earnings to date
- Future loss of earnings
  - Pension loss
- Future care
  - Including case management
- Other future costs
  - Transport, assistance, travel
  - Prosthetics
- Housing and adaptation
- Legal costs

## Specifics of PPOs

- They are paid for the lifetime of the claimant
- The idea is to match the payments to the care costs incurred by the claimant
- The payments generally increase in accordance with an index
- The court may allow an "order for variation"
- Contributory negligence may reduce the payments.

They are likely to have a very long payment pattern.





## Escalation of the payments

- At first it was assumed that that RPI would be used to increase the payments.
- This is consistent with Ogden, although the real rate of return with an Ogden payment is different to that which can be currently obtained in the investment markets.
- The "Thompstone" case allowed for escalation using an index other than RPI.
  - ASHE 6115 (Annual Survey of Hours and Earnings for Carers and care assistants).

## Sample values

The table shows sample present values based on cost of care at £100,000 per annum.

The effect of a reduction in the real yield is much greater for younger claimants.

The figures exclude any lump sum payment.

| Real Yield | 20 year old | 40 year old | 60 year old |
|---|---|---|---|
| 2.5% | 3.2 | 2.7 | 1.8 |
| 1.5% | 4.2 | 3.2 | 2.0 |
| 0% | 6.5 | 4.4 | 2.4 |

All figures £m

Figures based on female with no adjustment for impairment life expectancy (ELT 12).





## Valuation of PPOs – Case valuation - Data

**You are likely to need**

- Date of birth
- Gender
- Last payment, date and amount
- Impairment in life expectancy
- Escalation index to be applied

**In addition for XOL reinsurance:**

- All previous payments
  - Including lump sum amounts
- Historical escalation indices
- Date of loss / original policy inception date
- Treaty inception date
- Date of PPO award

## Valuation of PPOs – Assumptions

- Mortality table
- Allowing for future improvements in mortality
- Assumptions on future escalation index and discount rate
  - Must be consistent with each other
  - The real rate of return is likely to be much lower than the Ogden rate of 2.5%
  - You could use different yields over different terms.




## Valuation of PPOs – Calculations

- Remember $l\ddot{a}_x$ ....
  - Subject CT5 / 105 / A2 etc.

- The calculations are reasonably straight forward

- Although a friendly Life actuary is very helpful.

## Valuation of PPOs – Calculations (2)

**There are several complicating factors**

- Impaired life mortality
  - Estimates of future life expectancy can vary widely
  - A statistical analysis is limited
    - The cohort of claims with certain injuries is likely to be small
- Variation orders.





## Valuation of PPOs – IBNR claims

- Claims notified but not yet settled.
  - These may result in a PPO or may not.
- True IBNR claims need to be allowed for.
- The real rate of return available in the investment market can affect the relative merits of a lump sum against a PPO
  - but “Thompstone” has distorted this
- There is likely to be a knock on effect on lump sum awards.

## Valuation of PPOs – IBNR valuation

- Techniques could include
  - Uplift approach to current reserves?
  - Remove all PPO claims?
  - By subdividing the data by size of claim?
  - By capitalising claims at date of settlement?
  - Frequency analysis?





## Accounting treatment

**The discounting of a PPO significantly reduces its value**

- The Companies Act will allow discounting in certain circumstances
- The FSA solvency rules require the discount to be removed
- US GAAP requires the liability to be fixed or reliably determined in order that it can be discounted
- A rate of discount will need to be determined
  - Bond yields on a matched portfolio?

## Reinsurance

**An insurer should be prepared to have a long relationship with their reinsurers.**

- Reinsurer security becomes increasingly important
- There may be multiple claimants on a single event
- Administration of the reinsurance could be onerous.



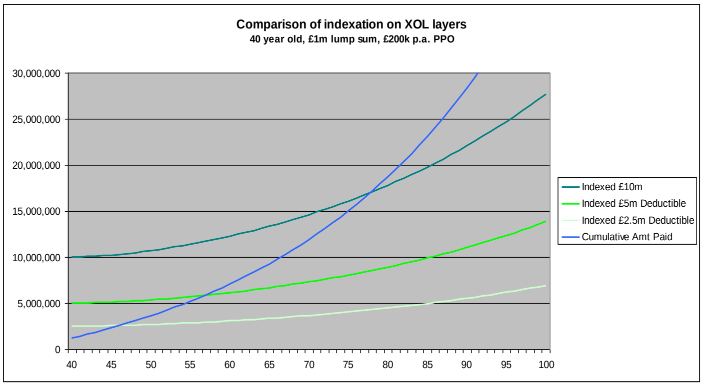


## Reinsurance - Indexation

- XOL treaty limits and deductibles are generally indexed
  - From treaty inception date to settlement date is normally average earnings
  - From Settlement onwards then it will follow the same basis at the claim escalation (e.g. RPI or ASHE 6115)
- The calculation becomes complex as all payments, as well as the associated index values are used in the calculation.

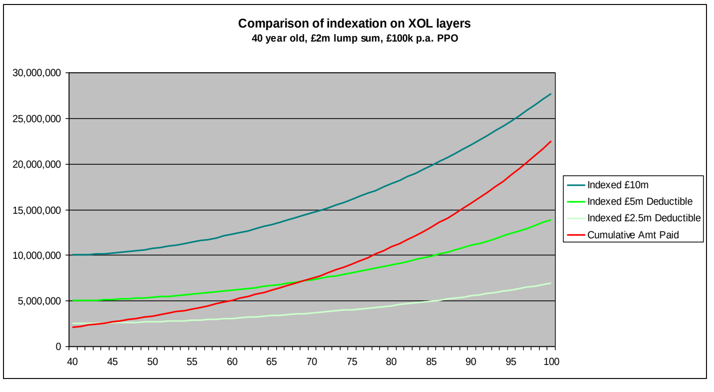
# Reinsurance – Indexation example (1)

- £1m lump sum and £200k p.a. PPO
- 40 year old female (simplified with Date of Loss = Date of Settlement)
- 3.5% escalation



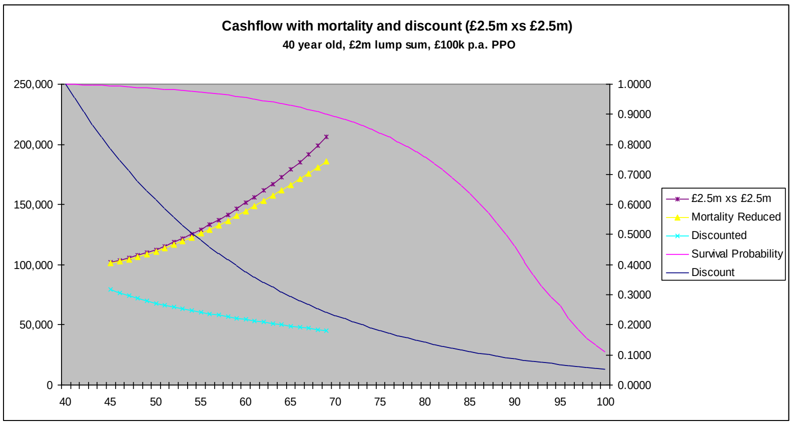

# Reinsurance – Indexation example (2)

- **£2m** lump sum and **£100k** p.a. PPO
- 40 year old female (simplified with Date of Loss = Date of Settlement)
- 3.5% escalation



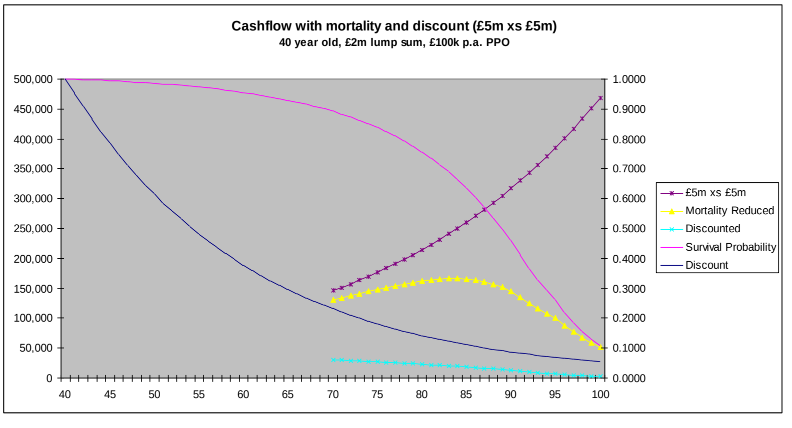
# Reinsurance – Indexation example (3)

- The cashflow is a £2.5m xs £2.5m layer. 3.5% escalation, 5% discount.
- The undiscounted total £3.4m, discounted £1.5m.




# Reinsurance – Indexation example (4)

- The cashflow is a £5m xs £5m layer. 3.5% escalation, 5% discount.
- The undiscounted total £4.2m, discounted £0.5m.



## Practicalities

- Understand how the case reserves are calculated
  - An actuary will often need to be involved

- Case reserves reported to reinsurers
  - Mortality assumptions
  - Escalation / discount assumptions
  - Indexation of treaty limits and deductibles




## Investment considerations

- It is likely to be difficult to obtain assets which match the liability profile
  - The duration of a PPO can be 60 years+
  - The indexation is likely to be higher than RPI

- The asset side will often be used to calculate a discount rate.

## Uncertainty

**Significantly more risk is borne by the insurers, and reinsurers.**

- Longevity is important
- The asset side is especially important
  - Significant market and credit risks
- These are in addition to the standard non-life reserving risks.

- Does your Solvency II approach allow for PPOs?





## 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 presenter.