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Update from the PPO Working Party

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Oliver Wallace – Tesco Underwriting



Presentation to the General Insurance Reserving Seminar 2016

21 June 2016

Agenda

- Reserving methodology
- Propensity
- Motor PPOs
- Conclusion



Note

- The views and opinions expressed in this paper are those held by the authors individually and do not represent the views and opinions of their employers or the Institute and Faculty of Actuaries.
- Although we have used our best efforts, no warranty is given about the accuracy of the information and no liability can be accepted for anybody relying on the accuracy of the information or following the recommendations in this presentation.



2015 Workstreams

Mortality – UK

Index Paper

Reinsurance

Market Solution

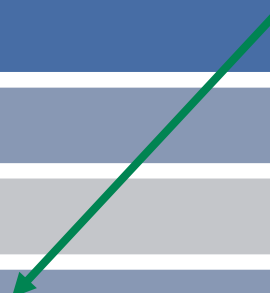
Bodily Injury Almanac

PPO Information Paper

Industry Survey

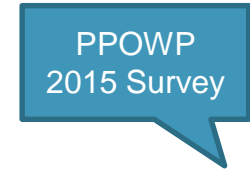
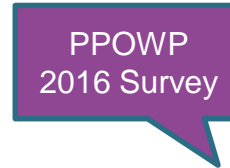
Capital

28th June – Sessional
Research Event, Staple
Inn Hall, High Holborn,
17:00 – 19:00



2015/6 Industry Survey

- 2015/6 survey taken as at 31 December 2014/5
 - Comprised of a qualitative and a quantitative survey
 - Insurers surveyed cover >90% of PRA regulated market
- Can be used for benchmarking or observing industry trends in:
 - PPO Market experience
 - PPO Methodology



Thank you to our contributors

We are very grateful to all the contributors, including:

- Ageas (AIL)
- AIG
- Allianz Insurance
- Aviva
- AXA
- Covea
- CFS
- Direct Line Group



- esure
- Liverpool Victoria
- NFU Mutual
- RSA
- Saga
- Tesco Underwriting
- Zurich Insurance



PPOWP
2015/6
Survey

Please note: The above insurers agreed to be acknowledged for their participation in the survey, so this list does not include all contributors.



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PPO reserving methodology

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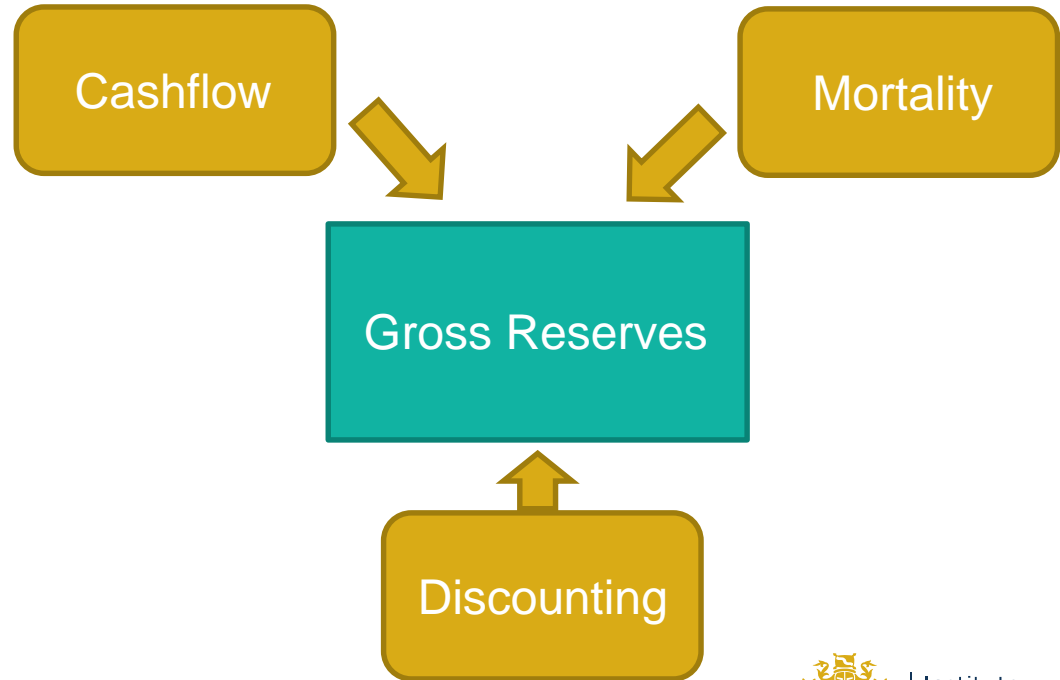
Triangles are inappropriate

- Triangles only work well where the past is a good estimate to the future
 - The whole industry's claims may not have have a reliable pattern for numbers
 - Then there's the question of scanty data in individual firms
- What would be projected in a triangle?
 - Inflation
 - Mortality
 - Steps in payment steams
 - Variation orders being activated



Reserving for known PPOs – cashflows

- Cashflow Approach:
 - Mortality improvements
 - Flexibility
 - Timing of cashflows
 - Reinsurance
 - Stepped payments
 - Solvency II



Reserving for known PPOs – industry results

- 16 Insurers surveyed – for more in depth analysis see 2016 CIGI PPO Workshop

Cashflow

- 100% of those asked use a cashflow approach to reserve for known PPOs
- 25% take an annuity certain approach, 63% a probabilistic approach

Mortality

- All use the Ogden 7 tables or a more recently updated publication of the ONS table series which underlies Ogden 7
- Of those who take a probabilistic approach, a quarter use a multiplicative adjustment to their life table, the rest use an aging adjustment.
 - Multiplicative adjustment: assumed that the claimant had a mortality experience “z” times more than the life tables suggest
 - Aging adjustment: considered the claimant had the mortality experience of someone “y”-years older than them

PPOWP
2016 Survey



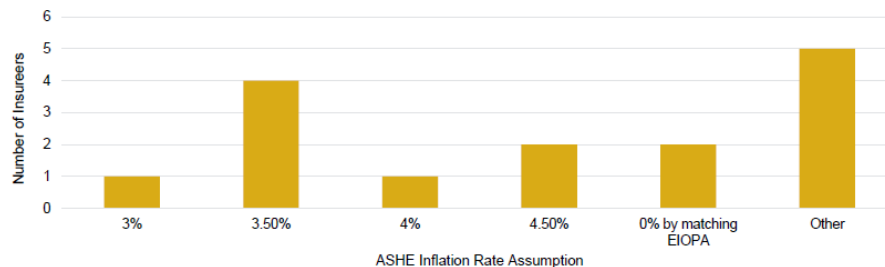
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Reserving for known PPOs – industry results

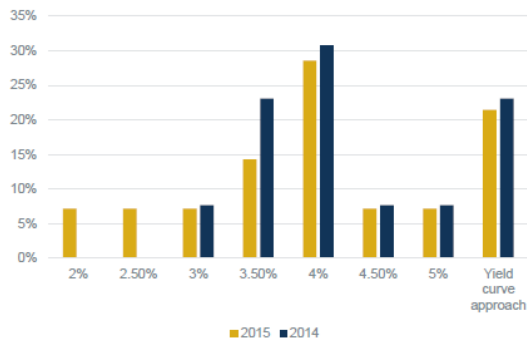
Discounting

- Under IFRS, 57% of those asked now use a 0% Real Discount Rate – 35% last year
- Most contributors stick with their ASHE inflation assumption under SII

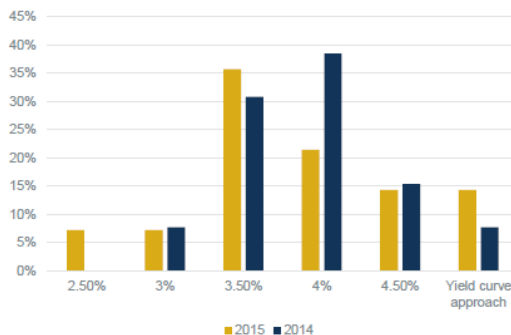
What ASHE inflation rate assumption do you use when discounting PPO reserves under SII?



What investment rate assumption do you use when discounting PPO reserves?



What ASHE inflation rate assumption do you use when discounting PPO reserves?



PPOWP
2016 Survey



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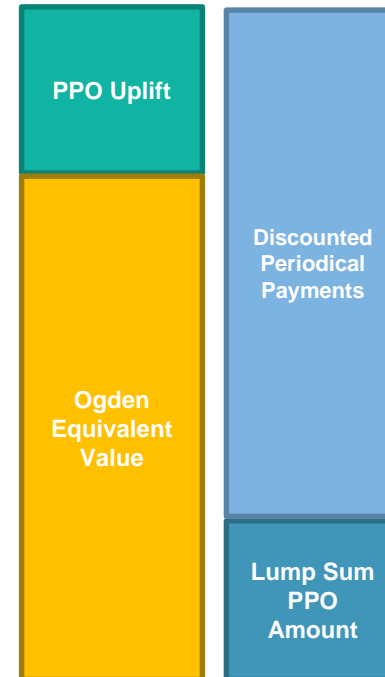
Reserving for IBNR PPOs

- The IBNR reserve will need an allowance for:
 - Current large claims that will settle as PPOs
 - Currently unreported claims that will settle as PPOs
- Methods include:
 - Frequency/ severity approach
 - Identify current large claims which could potentially settle as PPOs
 - Take a proportion of the exposure or reserves



Reserving for IBNR PPOs – frequency/severity

- This severity estimate might be:
 - an uplift above the traditional lump sum reserve
 - the full reserve amount
- It can be derived from:
 - the average reserve for a PPO
 - using a cashflow approach
- Sources include:
 - Known PPOs
 - Potential PPO claims
 - Industry statistics (PPO Working Party survey)



Reserving for IBNR PPOs – current large claims

- Identify large claims which could potentially settle as PPOs
 - Identification of key risk factors
 - Expert opinion
- Various ways to use potential PPOs identified
 - Use these to determine the PPO severity (for the frequency/ severity method)
 - Use these weighted by the assumed probability of these to become PPOs to determine the IBNR allowance for current large claims
- Does not allow for pure IBNR PPOs
 - Need to use an alternative approach (such as frequency/ severity method) for unreported IBNR PPO element
- Difficult to predict likelihood of a large claim to become a PPO



Reserving for IBNR PPOs – proportional method

- Estimate the PPO IBNR reserve by taking a proportion of:
 - Exposure for the class of business
 - A percentage of premiums
 - A factor of the number of policies
- Reserves
 - A proportion of large claims reserves only (e.g. claims above £1m)
 - A proportion of the reserves for all Bodily Injury claims
- Sources to determine the relevant proportions:
 - Industry benchmarks
 - Trended historical experience

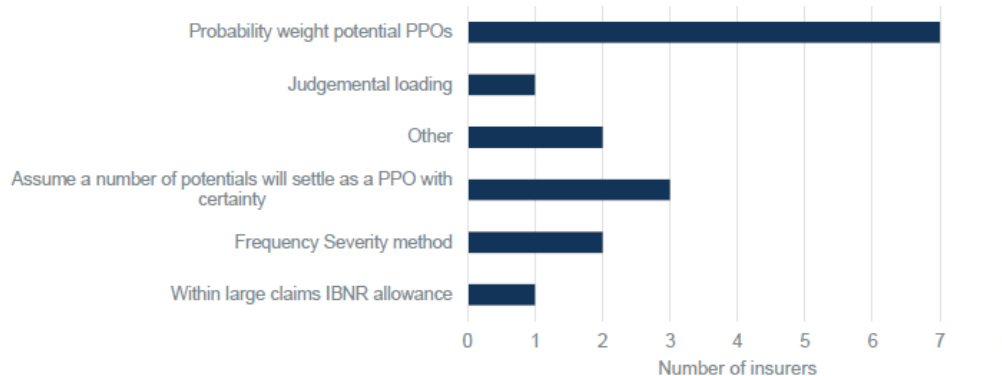


Reserving for IBNR PPOs – industry results

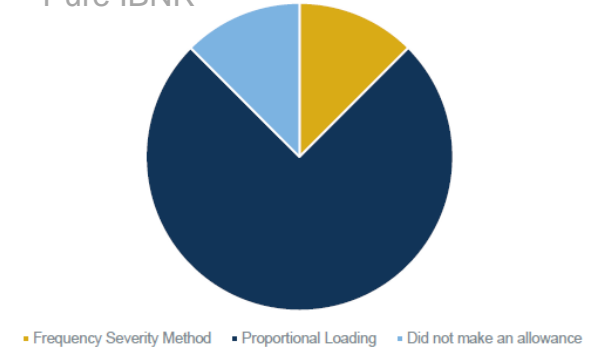
PPOWP
2016 Survey

- All insurers monitor their open large claims, 80% of these go on to assign a probability of this claim becoming a PPO
- Half of the insurers monitor the accuracy of past predictions
- The majority of those who considered pure IBNR PPOs added a proportional loading to the PPO reserves

How do you allow for future (IBNR) PPOs in your reserves?



Pure IBNR



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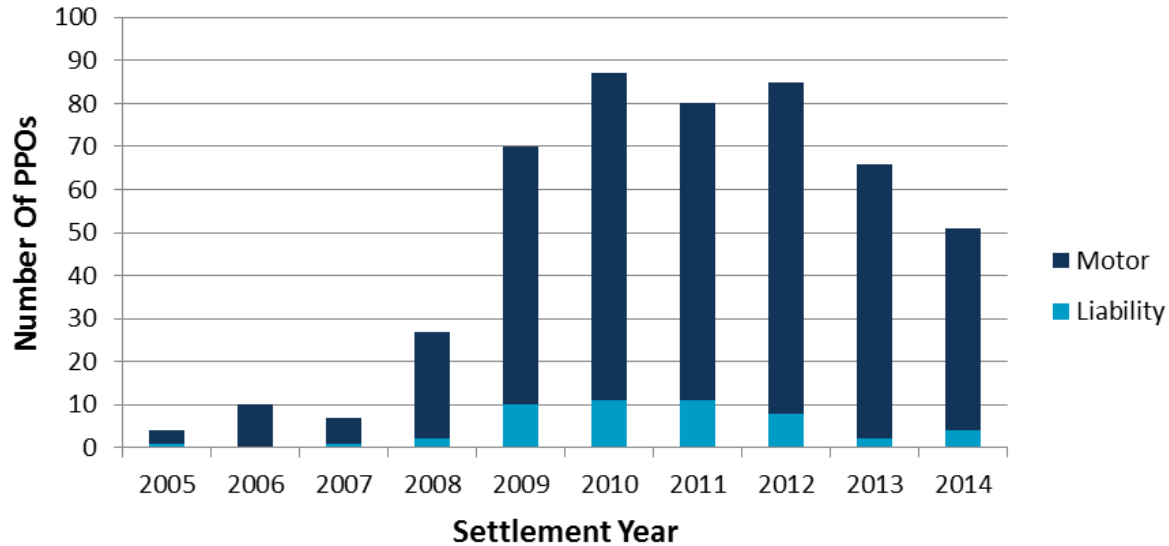
PPO propensity outlook

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Frequency of PPO settlements

Number Of PPOs By Settlement Year



Frequency of PPOs by accident period

CAVEAT!

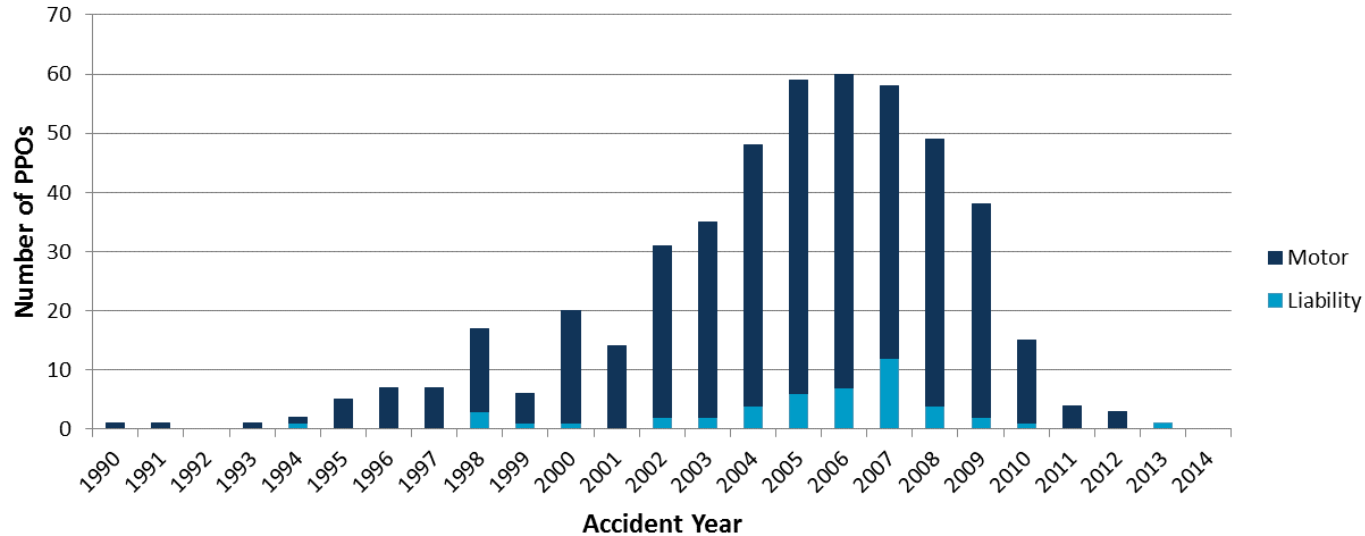
There are **distortions** from looking at settled PPOs on an **accident period** basis:

- Misses the **IBNER** and **IBNR** elements
 - Average delay from accident to settlement is 6 years
- Those claims which take **longer** to settlement are likely to be the **larger** claims, and larger claims have a **higher likelihood** of settling as a PPO



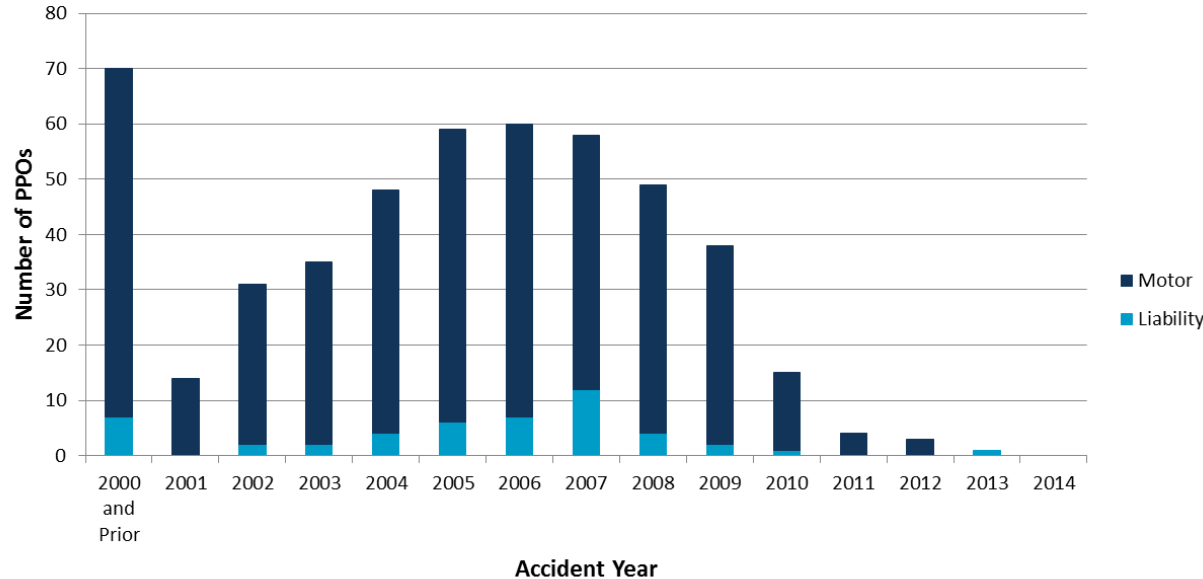
Frequency of PPOs by accident period

Number Of PPOs By Accident Year



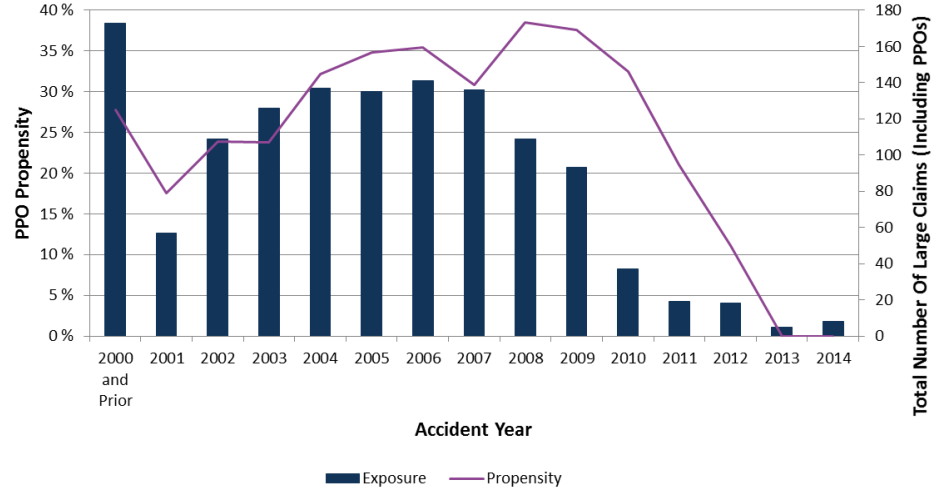
Frequency of PPOs by accident period

Number Of PPOs By Accident Year

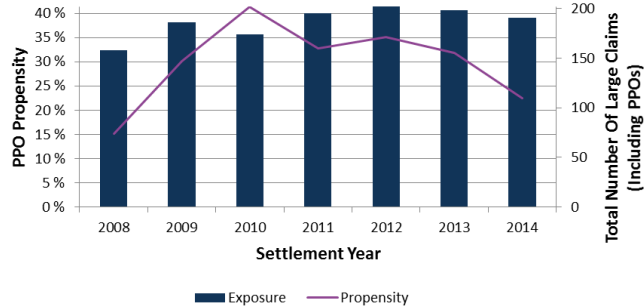


PPO Propensity by accident period

PPO Propensity Of Large Claims - Motor

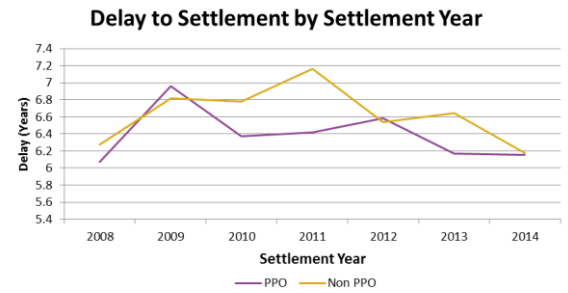
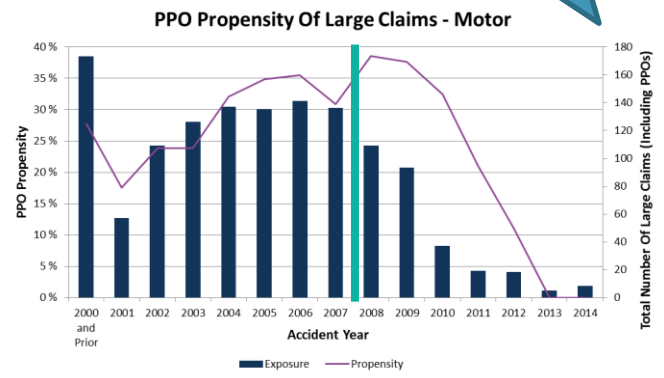
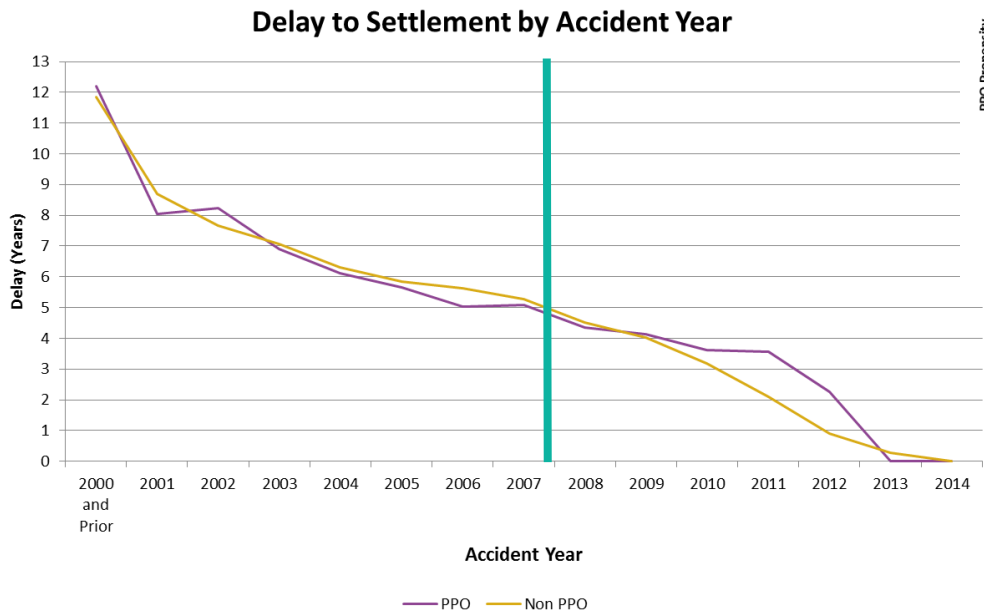


PPO Propensity Of Large Claims - Motor



Delay to settlement

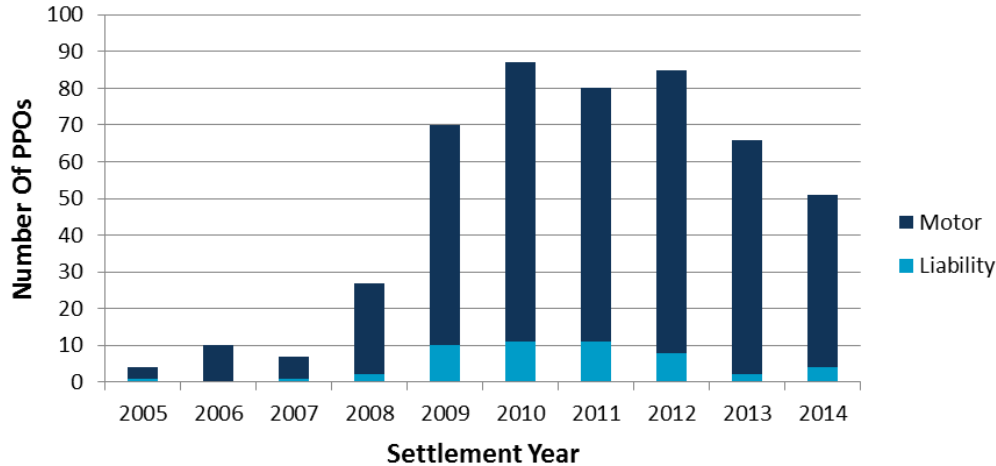
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Recent trends in PPO propensity

Number Of PPOs By Settlement Year



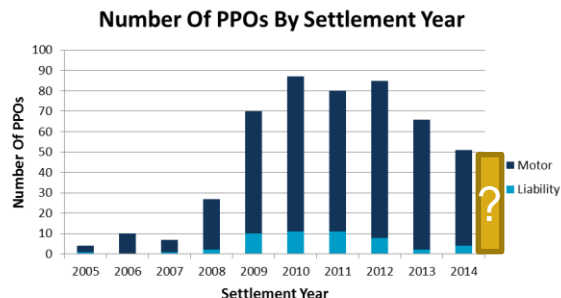
2015

- The number of PPOs dropped by 22% from the previous year in 2013 and by 23% in 2014. **In the 2015 year end data processed so far there appears to be fewer 2015 PPOs than 2014 PPOs**
- **However there is still data to come so this could change**



Current trends in PPO propensity

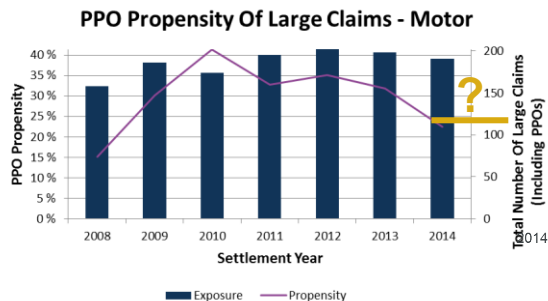
- Still collecting data, but starting to get indication of 2015 level.



Over the halfway point and it appears as if...

... the 2015 settlement year will...

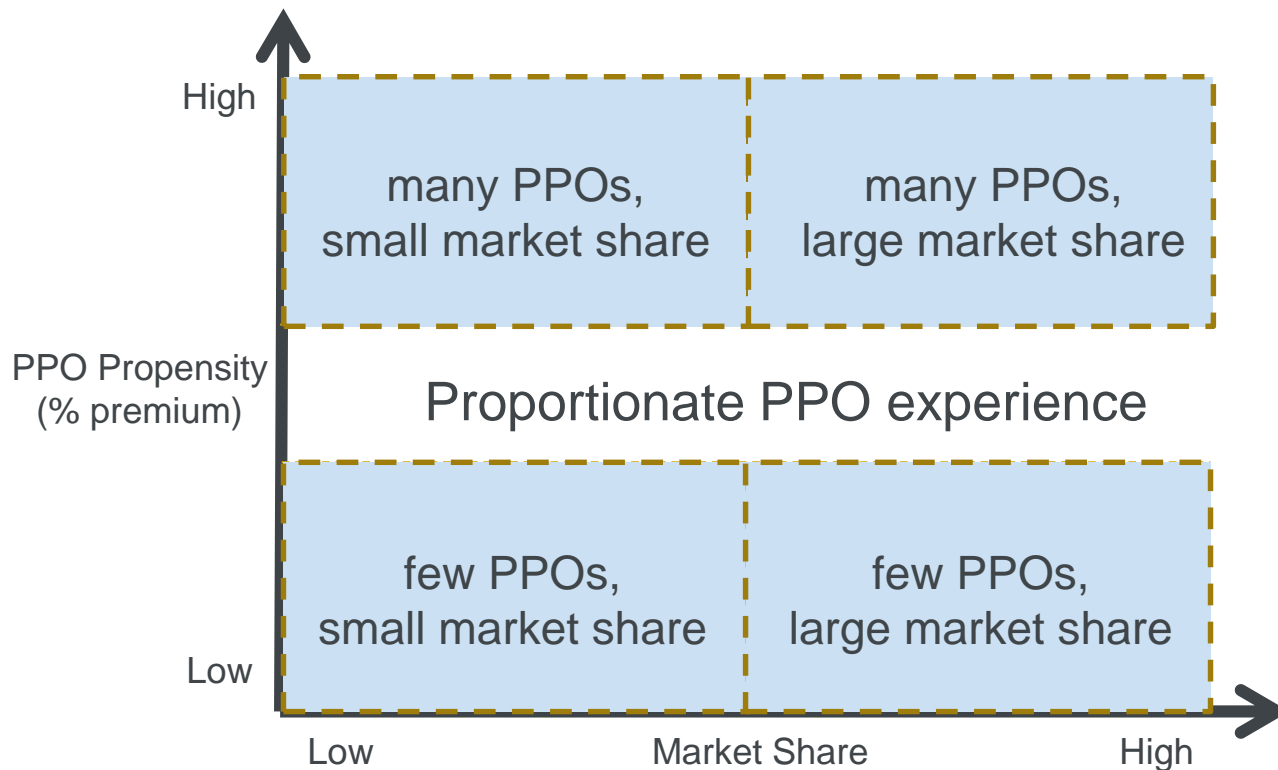
...exhibit a **similar propensity** to 2014.



- Results will be confirmed at GIRO
- Caveat: PPO propensity may be different for remainder of contributors.



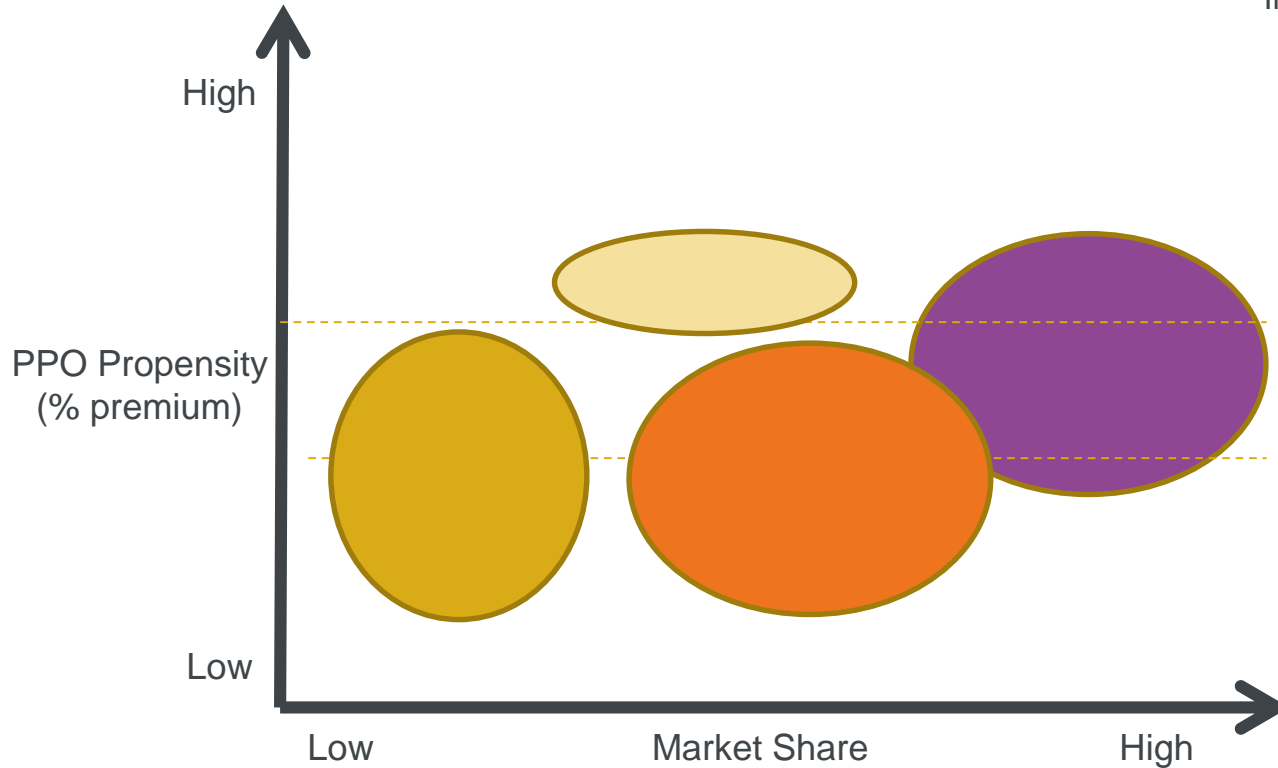
Propensity vs market share



2014 Propensity vs Market share

PPOWP
2014 Survey

* Indicative
diagram



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Motor PPOs

An analysis by age

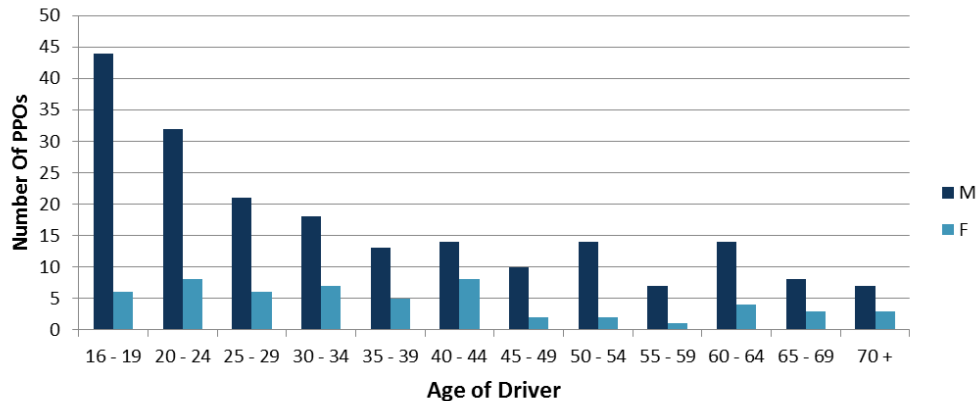
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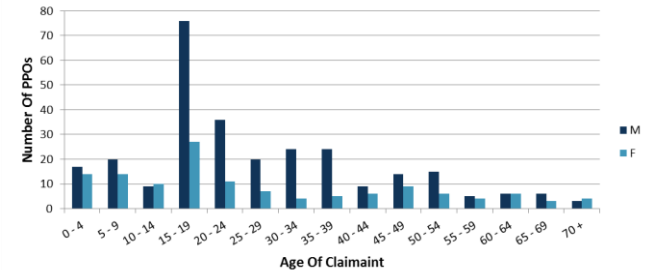
Age of claimant/driver at time of accident

- The 16-19 driver age bracket has around 70% of PPO claimants under 25
 - However it is worth noting that claimants between the ages of 15 and 24, where the drivers are also between these ages, only represent 57 (or 13%) of Motor PPO claims in this survey.
- The PPO propensity for 10-19 year old claimants sits around 55% for large claims settling post 2007

Number Of Motor PPOs By Age Of Driver

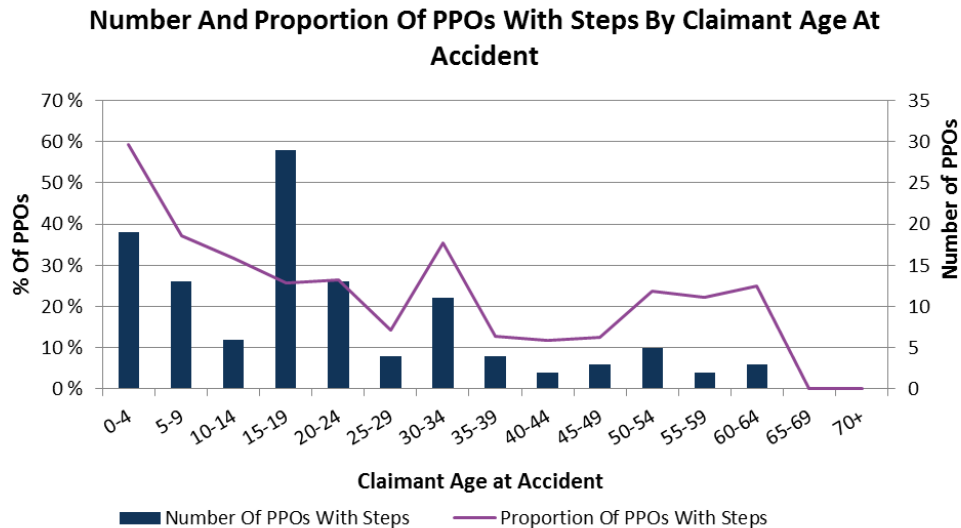


Age Of Claimant At Time Of Accident



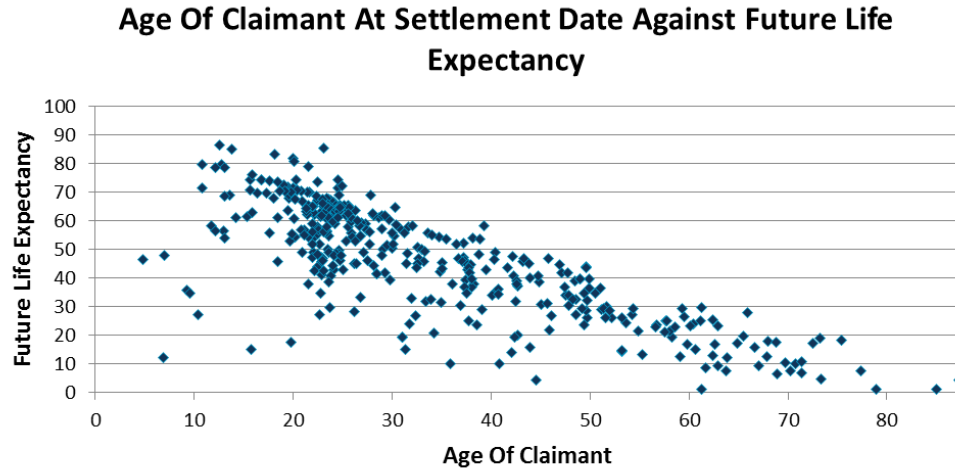
PPOs with stepped payments

- Claimants of younger ages at the accident date are more likely to have stepped payments.
- Younger claimants are more likely to require changes to their care as they grow older which suggests why we see this trend.



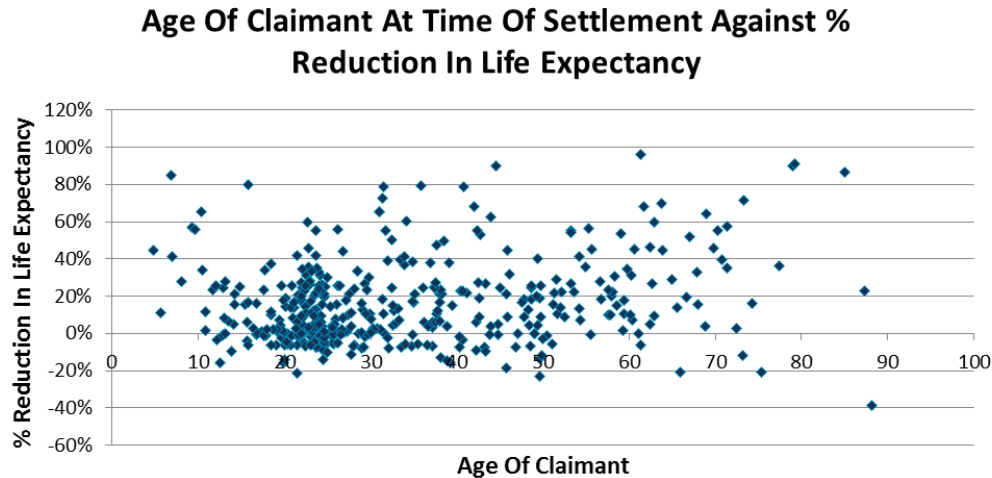
Future life expectancy by age

- Although the overall correlation is strong between future life expectancy and the age of the claimant. There is a significant amount of variation in the life expectancies of those claimants in their early 20s.



% reduction in life expectancy by age

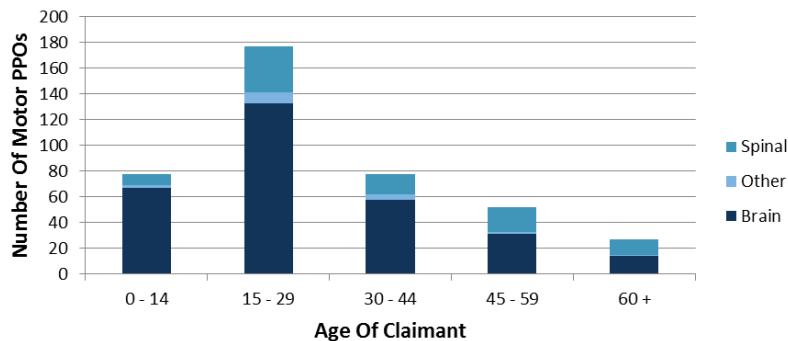
- Significant variation in reduction of life expectancy
- We see a lot of negative reductions – this ties into the fact that some insurers have updated their mortality table whereas we assume that mortality follows the 7th edition of the Ogden tables



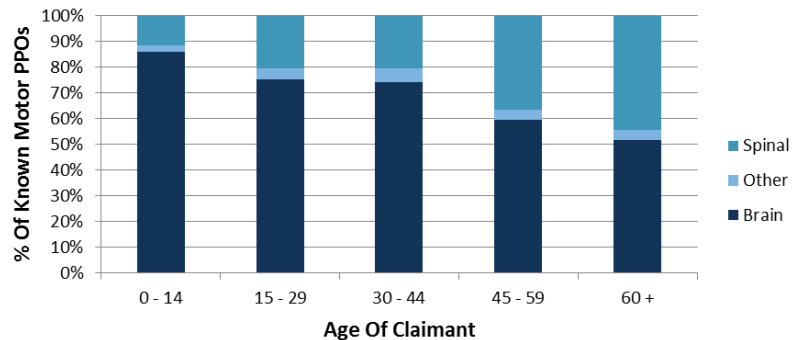
Injury type by age

- The younger the Motor claimant is at the accident date the higher the chance the injury is a brain related one
- PPOs with claimants suffering from spinal injuries are settled quicker than those involving claimants with brain injuries (4.8 years on average as compared to 6.9 years)

Number Of PPOs By Injury Type And Claimant age at Accident

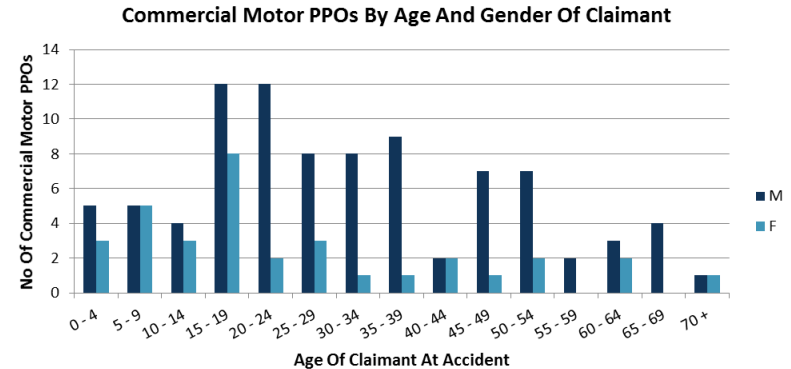
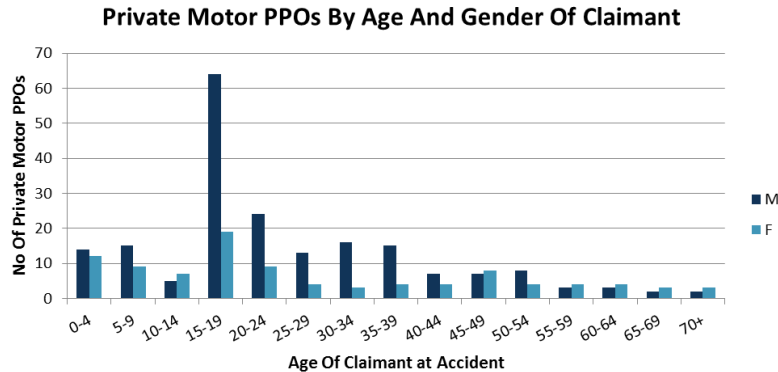


Proportion Of Injury Type By Claimant Age at Accident



Commercial/private split by age

- The correlation between age of driver and age of claimant is still evident under both private and commercial covers. The relatively fewer number of younger claimants for commercial Motor PPOs needs to be borne in mind when interpreting these graphs.
- Could argue that age plays less of a role, especially in males, for commercial PPOs





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Conclusions

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Conclusions

- **PPO Reserving Methodology**
 - Probabilistic cashflow approach seems to be the market standard for reserving for known PPOs, underlined by a recent ONS mortality table
 - The majority of IBNR PPOs reserved for using a proportional loading approach
- **Propensity**
 - Carefully consider results on accident period basis
 - 2015 Propensity revealed at GIRO but appears to have maintained lower level
- **Motor PPOs**
 - Take great care in reserving for PPOs associated with young claimants
 - PPOs associated with spinal injury settle quicker than those associated with brain injury
- *Look out for the information paper, latest survey reports and get involved by helping categorise injuries in a standard way soon*



Questions

Comments

Expressions of individual views by members of the Institute and Faculty of Actuaries and its staff are encouraged.

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



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Questions

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