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PPOs –Pricing and Capital

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Note

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These slides were presented at TIGI 2019. They represent views from the perspective of insurers and reinsurers.

If you have any questions, please contact Sharon Cumberbatch at the IFoA who will be able to put you in touch with the IFoA PPO Working Party members. Alternatively get in touch directly, our details are given at the end of the presentation.



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Contents

- This presentation combines two elements
 - 2017 YE quantitative survey results presented at GIRO 2018
 - 2018 Qualitative survey results



2018 PPO Working Party Qualitative Survey

- Conducted telephone interviews with senior actuaries and claims staff from various insurers and reinsurers regarding their exposure and approach to PPOs
 - Recent view – interview conducted in early 2019
 - All analysis presented relates to these interviews unless otherwise stated
 - 13 insurers and 5 reinsurers.



Agenda

- Level of concern
- PPO experience
- Capital modelling
- Ogden discount rate
- Reinsurance and alternative risk transfer
- Investment
- Conclusions





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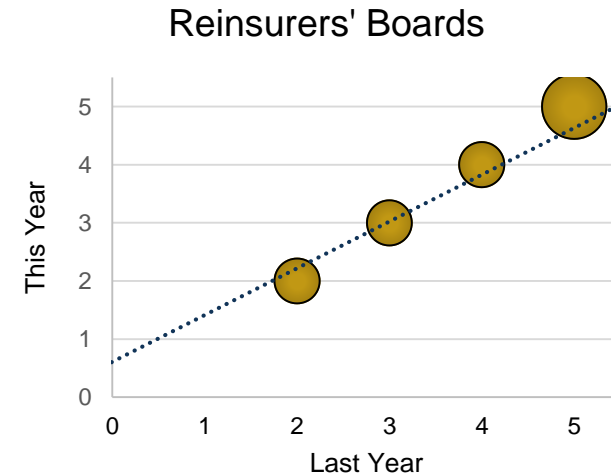
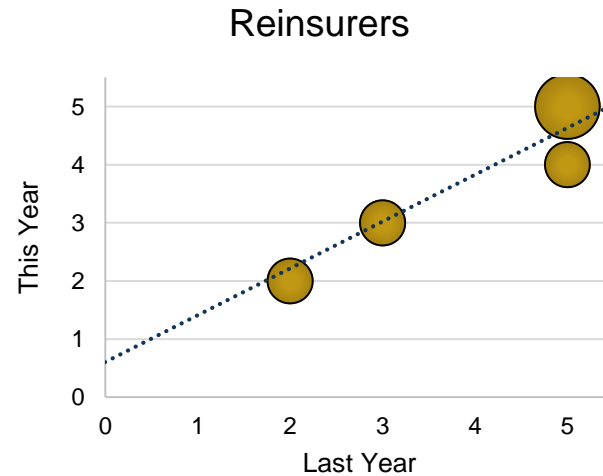
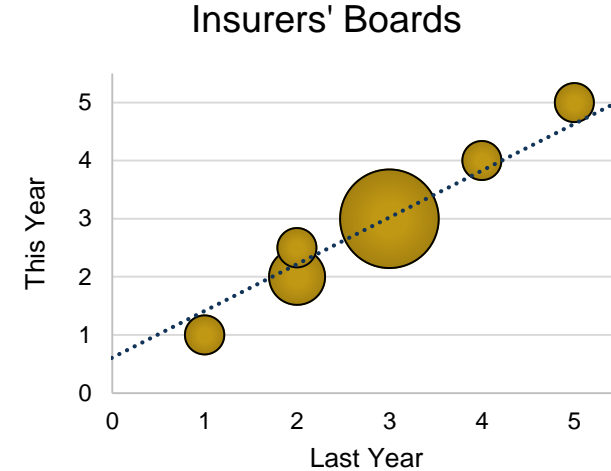
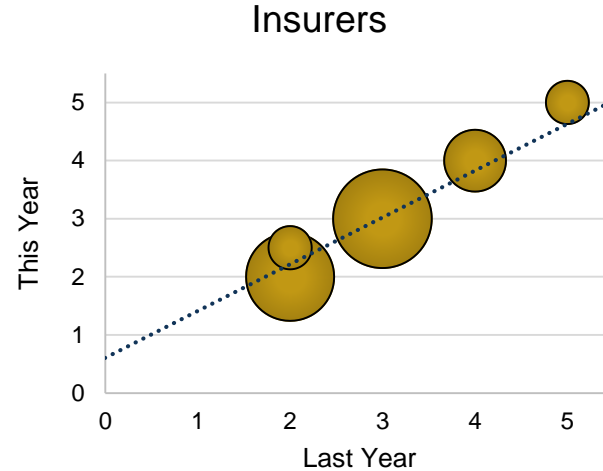
Actuarial methodology

Level of concern

25 April 2019

Level of concern regarding PPOs

- Chart showing concern levels between years
- Scale of 1 to 5, with 5 representing most concerned
- The average score for insurers was 3.0 and 2.8 for their Boards
- The average score for reinsurers was 3.8 and 3.8 for their Boards.



Reasons behind insurer / reinsurer concern

- Why no change (16):
 - Uncertainty with regard to the Ogden discount rate
 - Market propensity continues to fall
 - Concerns around investment and return on assets, but happy with methodology.
- Why increase (1):
 - PPO propensity may increase depending on the decided Ogden discount rate.
- Why decrease (1):
 - Ogden discount rate change reducing PPO propensity.



Reasons behind Board concern

- Why no change (16):
 - Uncertainty around Ogden discount rate has reduced PPO propensity
 - The number of PPOs within the book is small and therefore less of a concern than other issues
 - Growing focus on Solvency II measures; the volatility that PPOs cause in the balance sheet is an issue.
- Increase (1):
 - PPO propensity may increase depending on the decided Ogden discount rate.
- Why decrease (1):
 - PPO propensity fallen due to Ogden discount rate change.



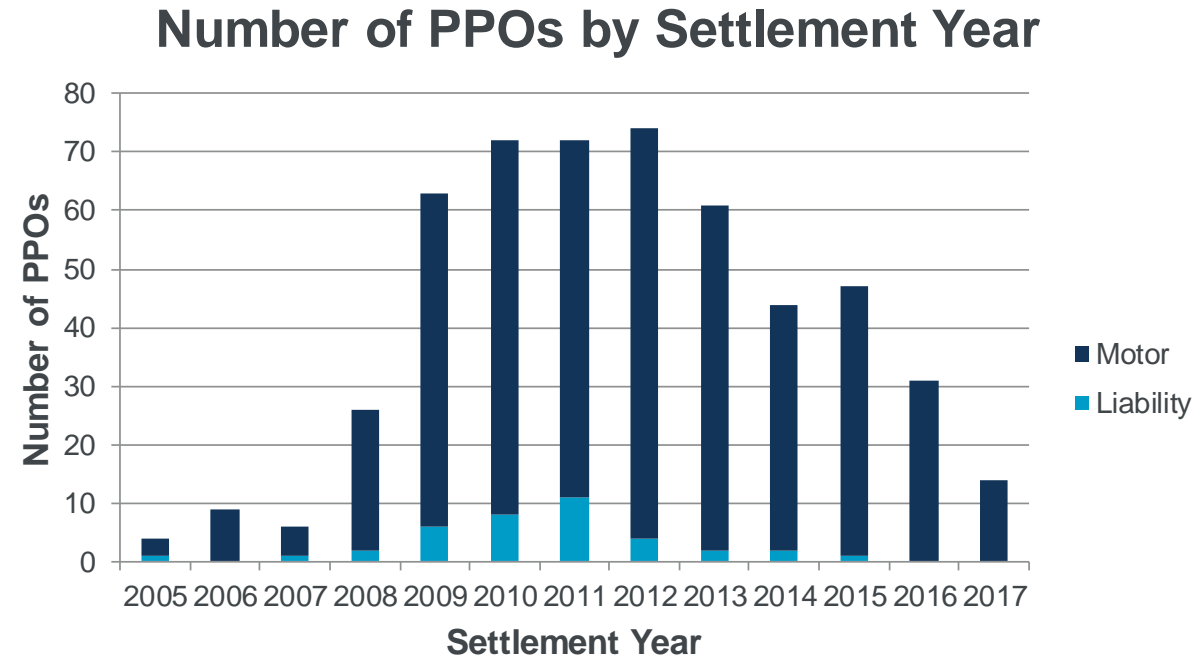


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PPO Propensity

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Number of PPOs



- The number of PPOs settling has fallen steeply in 2017.
 - The number of PPOs settling in 2017 has reduced by 80% from levels seen in years 2009-2013.
 - The number of PPOs settling in 2017 has reduced by 66% from 2014-2016 levels.
 - The number of PPOs settling in 2017 has reduced by 55% from 2016.
 - BUT, there are still PPOs in a -0.75% Ogden Discount Rate world!
 - No Liability PPOs for second year in succession.



PPO Propensity Analysis

- Please note that all of the following propensity graphs involve Motor large claims from 2009 onwards ONLY, unless otherwise stated.
- Please also note that these results are presented as at 31 December 2017 and therefore after the Ogden discount rate change in March 2017.
- Large claims have been included in these graphs if they were > £1 million in 2011, using a 7% inflation rate.
 - For PPOs, we have used the equivalent Ogden value if the claim had settled as a non-PPO.
- We have presented our results on various bases, as explained in the following slides.



PPO Propensity Bases

- Akin to our more recent surveys, we present PPO propensity on a raw basis as well as a standardised basis.
- We standardise the propensity by taking into account the mix in the size of claims experience in each year.
 - This produces a PPO propensity with no bias due to the volatility in the size of large claims by year.
 - Information on how this is done can be found in the appendix of this presentation or in last year's GIRO presentation.



PPO Propensity Bases

- We also present the analysis with and without an adjustment for the change in Ogden discount rate.
 - For the graphs where we have adjusted the large claims post 20 March 2017, we have used the claimant's characteristics, the discount rate used when settling the claim and Ogden multipliers to attempt to display the analysis on a 2.5% Ogden discount rate basis.
 - e.g. If a claim of £3,000,000 came in for a 40 year old male on 1 June 2017, which settled at a discount rate of 0%, this would be scaled down to a 2.5% level using the appropriate Ogden multiplier from the Ogden tables.
 - We have taken Ogden equivalent values for PPOs to best match the large claims basis at that point in time

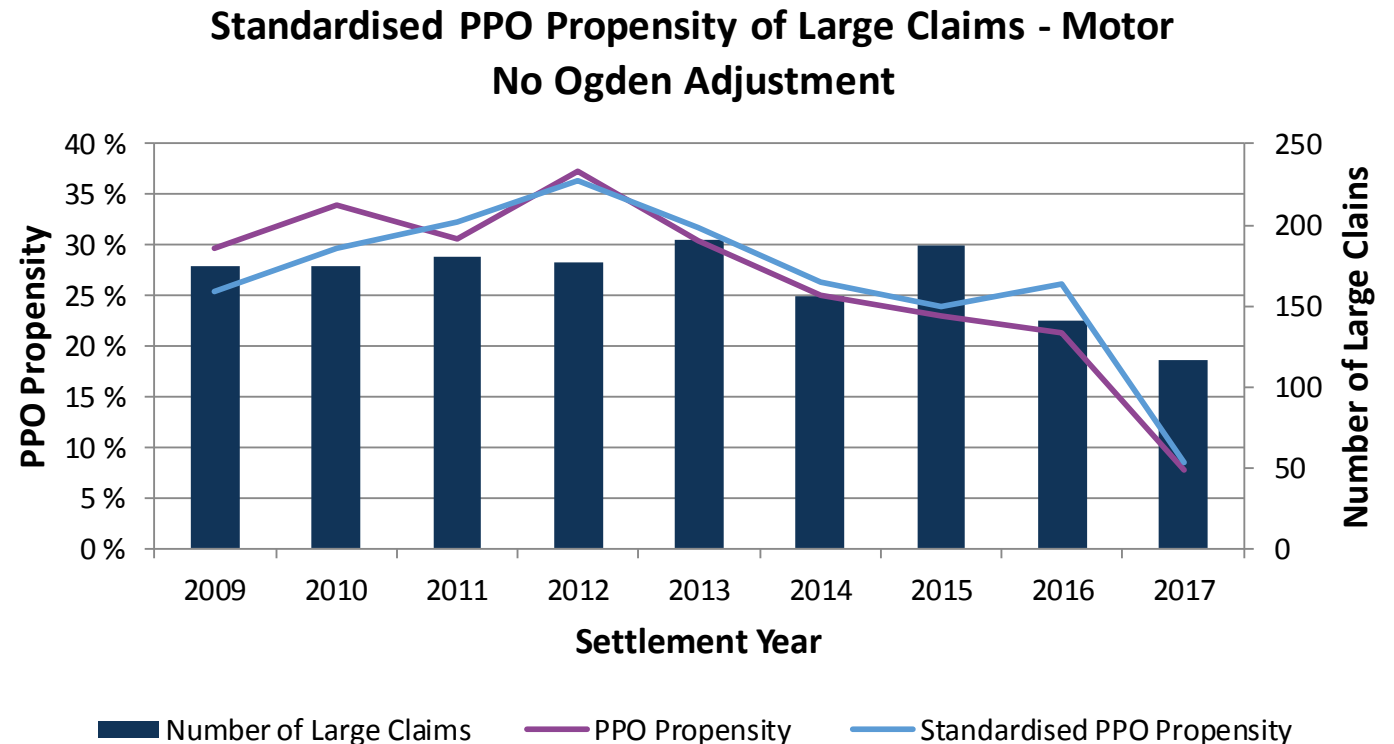
Pre/Post Ogden discount rate change March 2017	Ogden equivalent PPO value discount rate	Large Claim discount rate
Pre	2.5%	2.5%
Post - unadjusted	0.5%	Rate used in settlement
Post - adjusted	2.5%	2.5%



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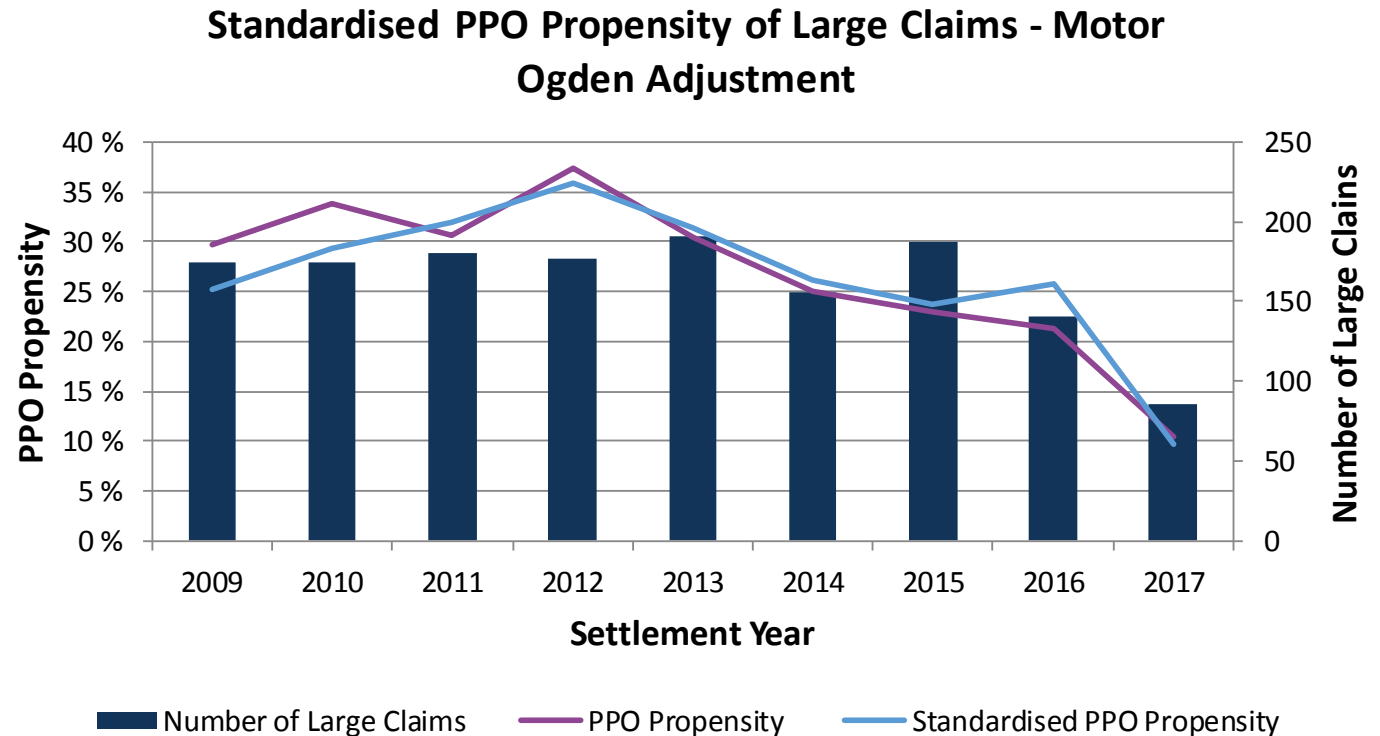
PPO Propensity – No Ogden Adjustment

- Motor PPO propensity has, as expected, decreased substantially for the 2017 settlement year.
- The standardised propensity has dropped by 68% and the raw version by 64% from the 2016 settlement year
- Fewer large claims settling above £1 million in 2017 despite change in discount rate.
 - May be due to decrease in settlement rates.
- The PPO propensity figures for older years may differ (not substantially) from previous surveys due to change in mix of contributors.



PPO Propensity – With Ogden Adjustment

- This graph aims to show the propensity with the pure monetary effect of the Ogden discount rate change taken away, everything on a 2.5% Ogden rate level.
- The standardised propensity has dropped by 63% and the raw version by 51% from the 2016 settlement year.
 - The large difference between these two figures is attributable to uncharacteristically few claims above £4 million settling in 2016 within the current data set.
- Fewer large claims settling above £1 million in 2017.



2017 Propensity

Standardised PPO Propensity	Pre 20 March 2017	Post 20 March 2017		Total 2017	
	No adjustment	No Adjustment	With Adjustment	No Adjustment	With Adjustment
	3.9%	9.7%	12.4%	8.5%	9.6%

- The standardised PPO propensity in the period leading up to the Ogden Discount rate change, i.e. before 20 March 2017, was just under 4%, on the current data set.
- The standardised PPO Propensity in the period following the change from 2.5% to -0.75% was just under 10% without Ogden adjustment and ~ 12% with adjustment, on the current data set.
- This difference between propensities before and after the change is likely due to a reduction in claim settlements leading up to the change in the rate, especially for large claims.
- One may expect the PPO propensity in 2018 to be more aligned to the propensity after the change in discount rate.





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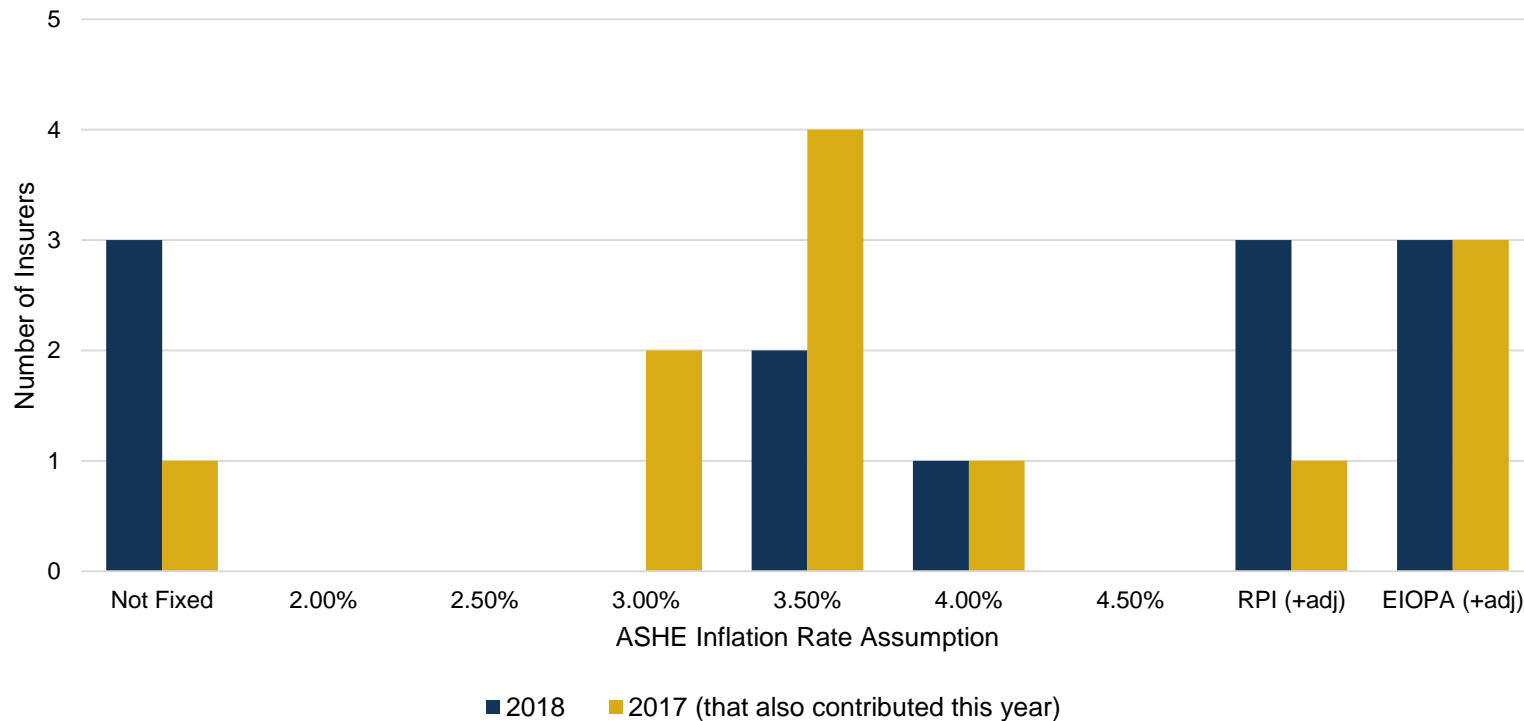
Actuarial methodology

Capital modelling

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Discounting – Solvency II

- As the EIOPA curve is prescribed, the main question revolves around the inflation rate used
 - All reinsurers used the same ASHE rate for both valuations if applicable.
- **The current real discount rate over 20 to 40 years assuming an ASHE of 3% is ~ -1.6%**



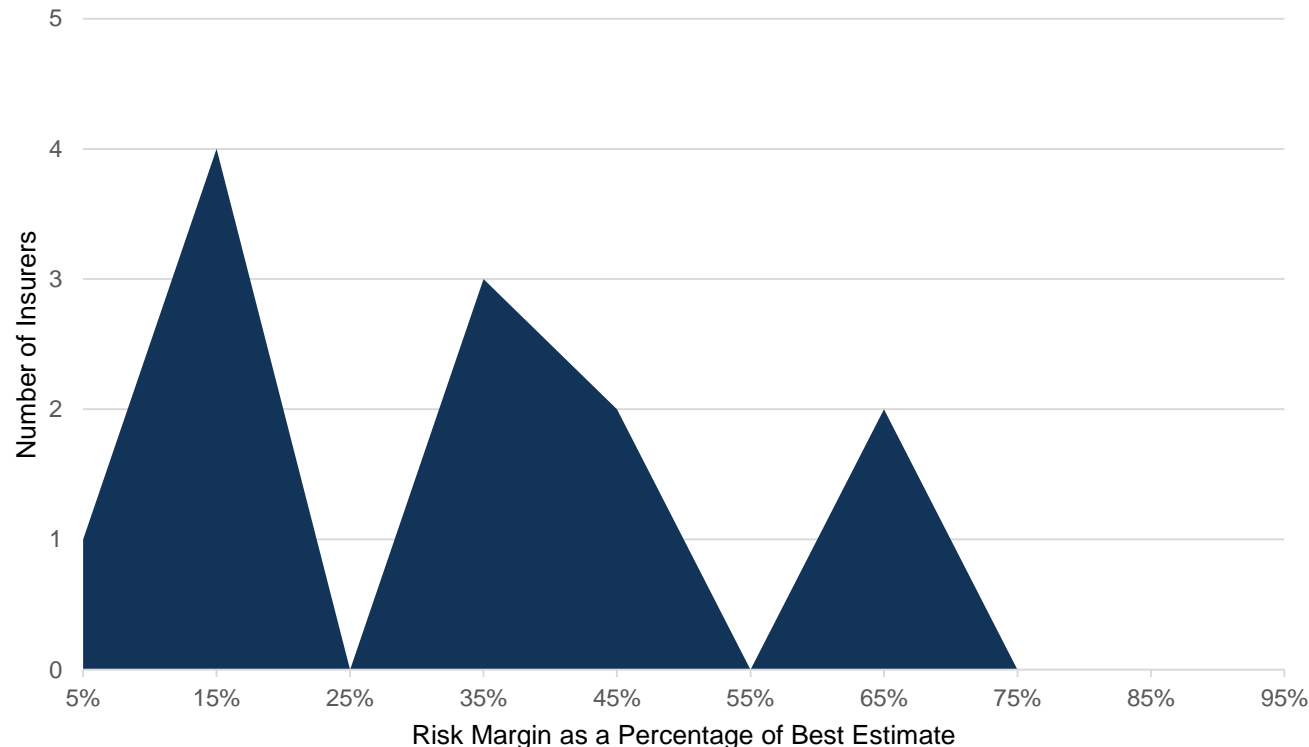
Discounting for Solvency II

- Three of the thirteen insurers asked had changed either their inflation or investment or both assumptions in the last year.
- None of the insurers or reinsurers asked had any transitional arrangements on technical provisions for the change of discount rate.
- Five out of thirteen insurers said they were using a volatility adjustor but none were using a matching adjustment.
- None of the reinsurers used either the volatility adjustor or the matching adjustment.



PPO risk margin

- For those who calculated (or could estimate) a PPO risk margin, the distribution of the (approximate) risk margin as a proportion of best estimate for insurers is displayed below.
- The PPO risk margin was calculated in a variety of ways, both implicitly within reserve risk as well as explicitly.



Variation orders and bad debt

- Although there were a significant number of PPOs with variation orders, and some with indemnity / reverse indemnity guarantees, only four insurers said they allowed explicitly for these when valuing their PPOs.

	Variation Orders	Indemnity Guarantees	Reverse Indemnity Guarantees
Total for Insurers	84	0	14

- Reinsurers that provided this information had 111 variation orders in total and 44 reverse indemnity guarantees, and none of them allowed explicitly for these when valuing their PPOs.
 - N.B. some of the variation orders and guarantees may be in both the insurer and reinsurer totals.
- Two insurers and one reinsurer allowed for bad debt under UK GAAP / IFRS / other, but all must under Solvency II.
 - Those that did allow for bad debt did so using a probability of default * loss given default method



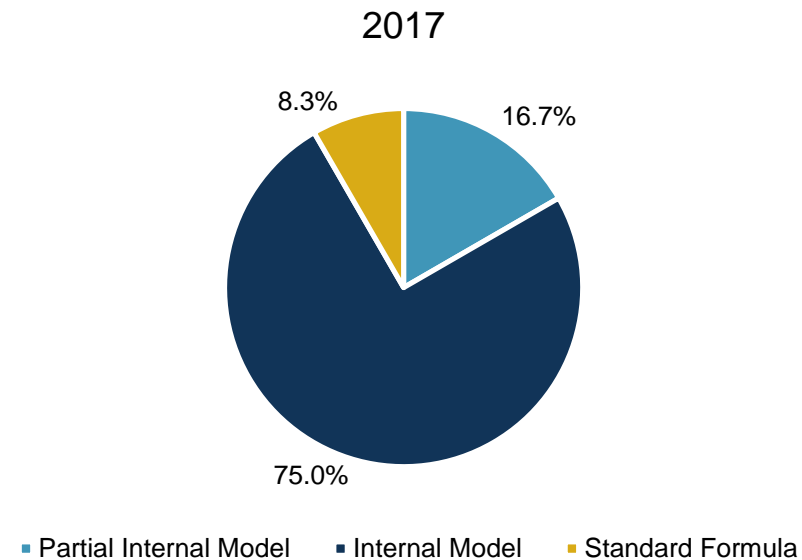
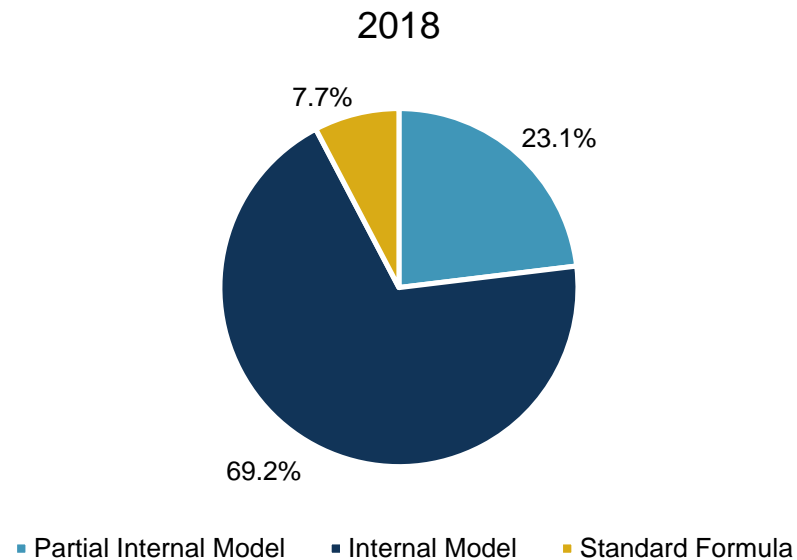
Uncertainty in reserving

- All insurers quantified the reserve uncertainty in PPOs, about half stochastically and the other half using scenario tests.
- Four out of five reinsurers explicitly quantified PPO reserve uncertainty, three using scenario tests and one using a stochastic method.
- A variety of correlations were assumed with other large losses, varying from no explicit correlation to 100% correlation.
- The CVs for the gross PPO uncertainty ranged from 12% to 100%. The CVs for the net PPO uncertainty ranged from 15% to 85%. There was, however, inconsistency between responses in terms of whether it was settled, potential or pure IBNR PPOs being considered, which gives rise to the wide ranges quoted.
- The majority of settled PPO gross / net CVs were between 20% and 35%.



PPOs in SCR

- Nearly all insurers use an internal model or partial internal model when valuing PPOs in their SCR.
- The proportion of participants using the standard formula has decreased from last year.
- All reinsurers used an internal model or partial internal model.



PPOs in capital models

- The majority of insurers have a separate PPO model for capital purposes as part of their internal / partial internal capital model.
- PPO models allowed for uncertainty in mortality, life expectancy, nominal discount rate, the number of large claims, reinsurance recoveries, payment escalation and the PPO propensity.
- None of the reinsurers used separate stochastic models for PPOs.



Differences between one year and ultimate



- Most insurers / reinsurers said that there was a lower capital requirement for the one year vs ultimate view:
 - Three said that the one year measure of risk was between 25% and 50% of the ultimate measure of risk
 - Two said the one year measure of risk was between 50 and 75%
 - Two said there was no difference.
- One insurer said they had different bases for evaluating economic and regulatory capital, using an internal model for economic and standard formula for the SCR.





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Ogden discount rate

25 April 2019

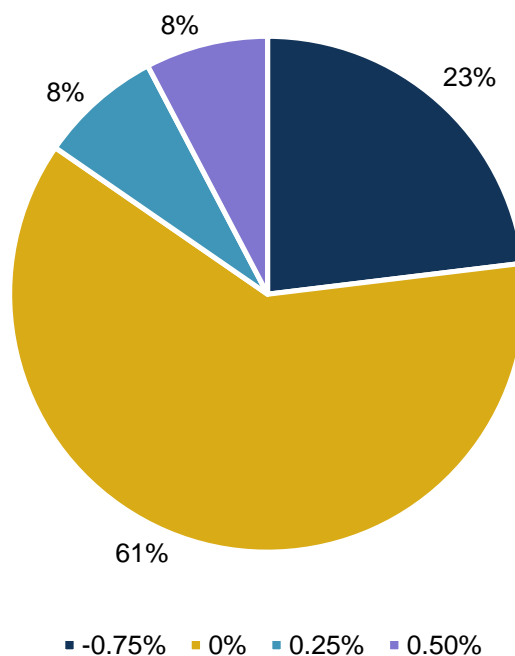
Ogden discount rate update

- The Civil Liability Bill gained Royal Ascent on 20 December 2018
- The Lord Chancellor has confirmed that he has started to review the personal injury discount rate. He will make a determination about the rate on or before the 5 August 2019.
- Consultation between the Government Actuary and the Treasury is currently underway. For which there should be a response by the end of June
- On 7 September 2017, the then Lord Chancellor David Lidlington indicated that the discount rate would be between 0% and 1%
- However there have been announcements of a dual discount rate in Jersey and a forecast rate of -0.25% in Scotland since that statement was made



Actuarial best estimate – discount rate

- Following the change in discount rate a variety of rates are now assumed within Insurers' actuarial best estimates for the non-PPO reserves.

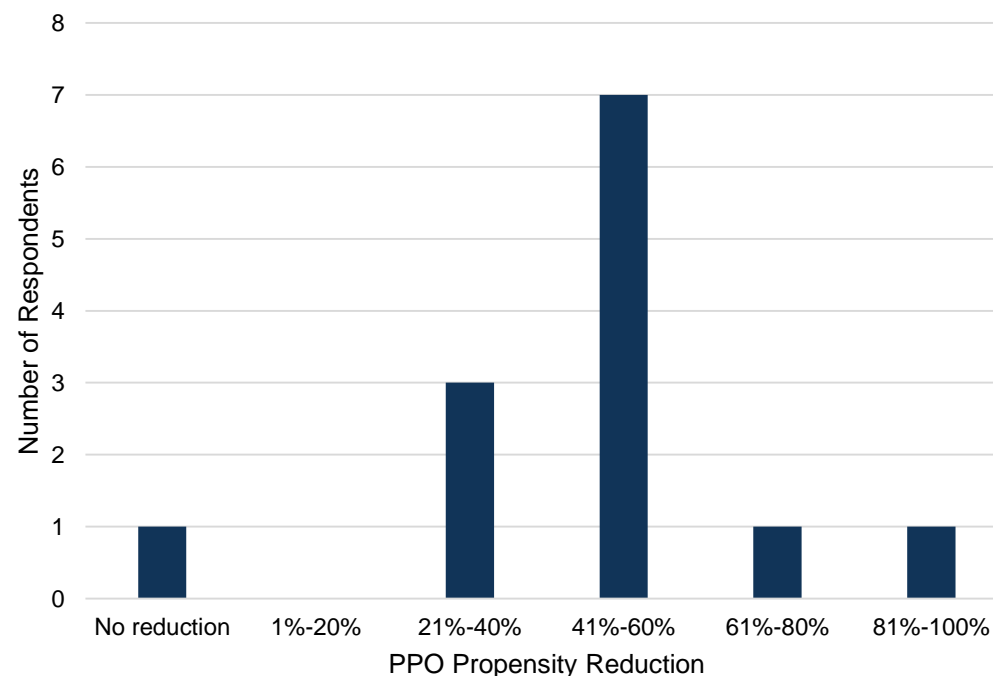


- A few insurers held a margin within booked reserves in respect of a -0.75% discount rate.



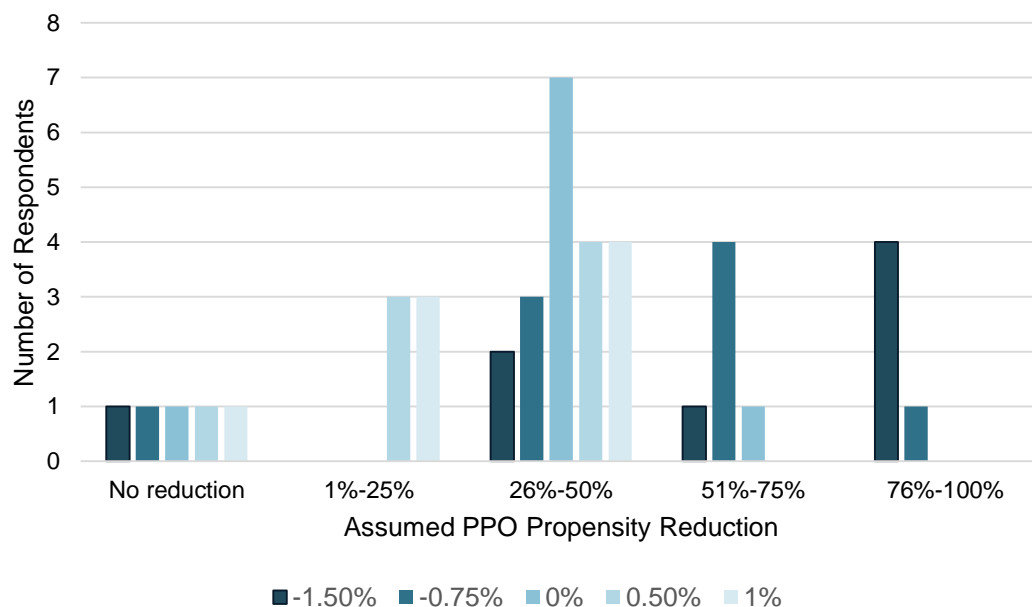
Actuarial best estimate – PPO propensity

- Participants were asked what percentage change in PPO propensity they had assumed as part of their actuarial best estimate calculations, following the Ogden discount rate change
 - One insurer said they had allowed for no change whilst the others all anticipated changes ranging from 30% to 100% reduction in PPO propensity.



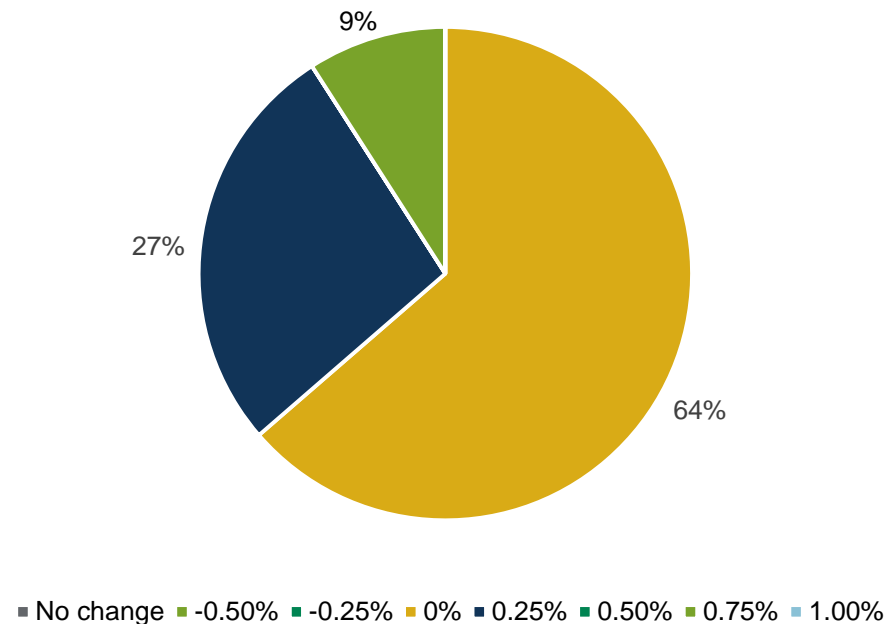
Assumed PPO propensity for different Ogden rates

- Insurers were asked what their assumed reductions in PPO propensity would be, from scenario analyses, had the Ogden discount rate changed from 2.5% to 1%, 0.5%, 0%, -0.75% or -1.5% per annum.
- Generally, the lower the discount rate, the larger the percentage decrease in PPO propensity insurers expected.
- However, some insurers expected the same reduction in propensity in all three scenarios and others expected no change at all.



Future Ogden discount rate

- Insurers were asked what they expected the Ogden discount rate to change to (if any change) following the Royal Ascent of the Civil Liability Bill.
- All insurers expected a change following Royal Ascent, with the majority expecting the Ogden rate to be between 0% and 0.5%.



Claim settlement speed

- The majority of insurers said that they had noticed a slowing down of claim settlements, particularly in the period running up to the rate change announcement on 27 February 2017
 - Although some insurers did say they had seen no difference.
- The expectation of a beneficial Ogden discount rate change for claimants seems to have been driving these delays.
- Insurers also noted that claim settlement speed has started to pick up as those who were delaying are now settling. The majority of insurers noted that they did not have a material backlog of open claims.



Claimant and claimant lawyer behaviour

- Insurers anecdotally noted the following:
 - Some claimant lawyers delayed claims anticipating a favourable movement in Ogden discount rate
 - Some claimant lawyers have been unwilling to settle at an Ogden discount rate other than -0.75%
 - Since the announcement that the rate may change again, and likely in a positive direction, lawyers have been willing to settle on a basis higher than -0.75%.
- Some insurers again said they had seen no change.



Nature of settlements (lump sums vs PPOs)

- Although many insurers said they felt there should now be a shift towards more lump sums being awarded due to their relative attractiveness increasing, the majority of these said there had not been overwhelming evidence in favour of this theory yet due to too few settlements.
- One insurer had seen a reduction in the number of PPO settlements and approaches for PPOs from claimant lawyers



Discount rate large claims are typically settling at

- The majority of insurers said anecdotally that large claims have been settling using a discount rate of between 0% and 1%
 - Although some insurers noted that many of the cases that have progressed to settlement are the ones where settlement was likely to be achieved at higher than -0.75%.



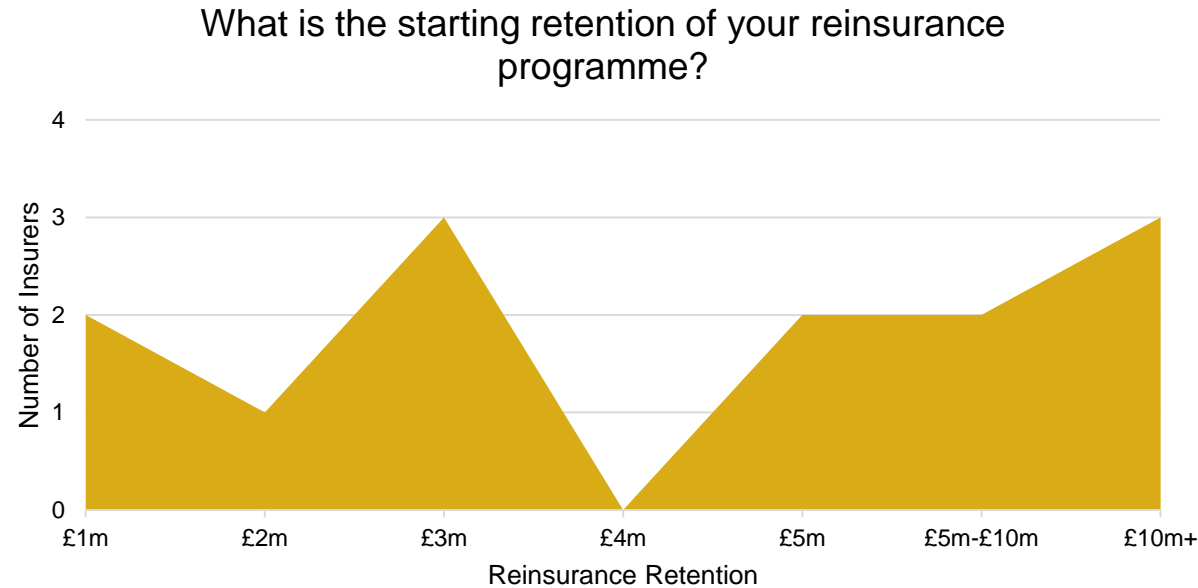


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Reinsurance and alternative risk transfer

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Reinsurance in the market



- Only one of the 13 insurers said that their reinsurance programme had changed as a result of PPOs.
- We also asked insurers whether they took the impact of the cost of capital into account when buying reinsurance – 11 insurers said they did.



Reinsurance availability

- All of the reinsurers asked stated that their reinsurance offerings had changed due to PPOs:
 - They also noted that their reinsurance offering had not changed as a result of the recent Ogden discount rate change.



Capitalisation clauses

Capitalisation clause: allows (or even compels) the reinsurer to settle an individual PPO liability as a lump sum with the insurer, on a pre-agreed bases, once such an award has been made / agreed.

Three main contract types offered are:

- **Uncapitalised:** Traditional "Pay as Paid" basis with inflation-linked deductible, recoveries made throughout the lifetime of the claimant.
- **IUA Capitalisation:** Lump sum capitalisation at time of settlement, allows for life impairment typically by way of medical expert opinion. Full and final settlement.
- **Delayed 20 Capitalisation:** "Follow the fortunes" for 20 years then lump sum capitalisation 20 years after expiry of reinsurance treaty. Typically assume unimpaired mortality for lump sum.



Reinsurers' view on capitalisation clauses

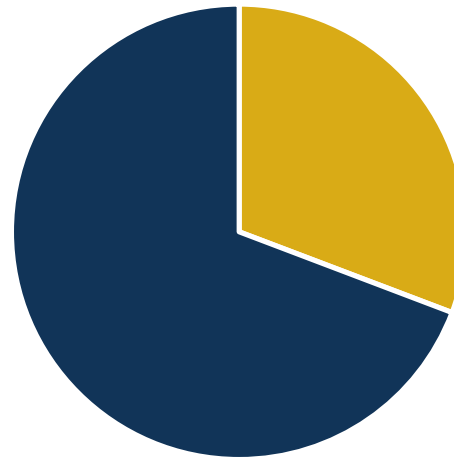
- Two reinsurers insisted on capitalisation clauses while one used them on a case by case basis.
- Reinsurers stated that capitalisation clauses are to improve their profit and loss account.
- Reinsurers stated a few PPOs had been capitalised already.



Insurers' view on capitalisation clauses

- Four of the insurers surveyed said that they had a capitalisation clause on their reinsurance contracts.

Do you have a capitalisation clause in your reinsurance contract?



■ Yes ■ No

- Of those that did not have a capitalisation clause, the clear majority stated that they were keen to avoid them.



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Conclusions



Conclusions

- **There has not been a significant shift in the inflation and discount rates assumed by contributors**
 - The majority still assume a 0% real discount rate on a GAAP / IFRS basis.
- **Most insurers are assuming a reduction in PPO Propensity following the change in Ogden discount rate when calculating their actuarial best estimates**
 - However there is a wide range of assumptions from a 30% reduction to 100%.
- **Most insurers have seen a slowing in claim settlements in the period that led up to the change in Ogden discount rate.**
- **All insurers surveyed expected the new Ogden Discount Rate to be between 0% and 0.5%. A slightly lower forecast than last year.**



Questions

Comments

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Questions

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