Periodical Payment Orders Working Party Update

GIRO 2016 Report (Industry Survey)

by the Periodical Payment Orders Working Party

Public Report

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Industry Survey

Contents

Introduction

Release

The Institute and Faculty of Actuaries' ("IFoA") Periodical Payment Orders ("PPO") Working Party 2016 industry survey consists of a quantitative industry survey, the data for which was taken as at 31 December 2015, and a qualitative industry survey, the responses for which were collected between December 2015 and February 2016 inclusive.

This release of the IFoA PPO Working Party 2016 industry survey supersedes any prior publication.

Similar studies have been published by the IFoA PPO Working Party annually since 2010.

Each year, the participants in the quantitative industry survey have changed, and, each year, the analysis uses a new, full historic snapshot from each of the participating companies. Likewise, each year, the participants in the qualitative industry survey have changed.

The data between surveys will therefore not be directly comparable, as a different mix of companies will have participated in each successive survey. Changes in claims classification by insurers can also lead to differences in results between successive surveys.

Participants

The data we have received for the quantitative industry survey comprises 509 Motor PPO claims and 52 Liability PPO claims and 30 PPO claims for which a categorisation was not provided (591 PPO claims in total). We also received data for 154 PPO claims from the Motor Insurers' Bureau (MIB).

The insurers surveyed account for over 90% of the Prudential Regulation Authority ("PRA") regulated market (based on 2015 gross premium volumes) for Motor, including Personal and Commercial insurance, Comprehensive and Non-Comprehensive covers. In addition, there are further companies which contribute to the survey but do not appear in the 2015 PRA returns.

For the qualitative industry survey, 16 insurers and 4 reinsurers were interviewed.

We are very grateful to all the participants, without whom the industry survey would not be possible.

The following companies are happy to be acknowledged for their participation in the quantitative industry survey (though please note that this list does not include all participants):

- Acromas Insurance Company Limited
- Admiral
- Ageas Insurance
- AIG
- Allianz
- Aviva
- AXA
- Co-Op Insurance
- Covéa Insurance
- DLG
- esure
- LV=
- Motor Insurers' Bureau
- NFU Mutual
- RSA
- Tesco Underwriting

The following companies are happy to be acknowledged for their participation in the qualitative industry survey (though please note that this list does not include all participants):

- Acromas Insurance Company Limited
- Admiral
- Ageas Insurance
- AIG
- Allianz
- Aviva
- AXA
- Co-Op Insurance
- Covéa Insurance
- DLG

- esure
- Liberty Specialty Markets
- LV=
- Markel International
- NFU Mutual
- RSA
- Swiss Re
- Tesco Underwriting
- XL Catlin

Contact

If you have any questions regarding the industry survey, including requests for information or statistics from the data that are not published within this document, please contact Sharon Cumberbatch at the IFoA (Sharon.Cumberbatch@actuaries.org.uk) in the first instance, who will put you in contact with the IFoA PPO Working Party. Alternatively please contact Peter Saunders, Chair of the IFoA PPO Working Party at the time of publication (IFoA_PPO_WP_Chair@outlook.com).

Notes

The material contained in this report and any oral representation of it by the IFoA PPO Working Party is explicitly outside the scope of Technical Actuarial Standard ("TAS") 100 and TAS 200, as issued by the Financial Reporting Council ("FRC").

This report complies with "APS X2: Review of Actuarial Work", as issued by the IFoA, in that the work documented in this report has been subject to a peer review by an appropriately qualified actuary who was otherwise not involved in the analysis undertaken.

This report supports the research effort of the IFoA PPO Working Party and is not written advice directed at the particular facts and circumstances of any given situation and / or data

The views and opinions expressed in this report are those held by the authors (the members of the IFoA PPO Working Party) individually and do not represent the views and opinions of their employers or the IFoA. Although the authors have used their 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 report.

Executive summary

Introduction

The IFoA PPO Working Party has, for a number of years, been collecting quantitative data and qualitative information from insurers and reinsurers on PPO claim settlements, analysing movements and trends in that data and information, and publishing the results of the studies in an annual report. This helps actuaries and other interested parties to better understand this type of claims settlement, and how PPOs affect the reserving, pricing, risk management and capital requirements of insurers and reinsurers.

In this report, the IFoA PPO Working Party 2016 industry survey, we provide an update on the numbers and sizes of claims settling as PPO claims, PPO propensities, claims inflation and claimant mortality experience, together with claims handling information such as delays to settlement, claimant life expectancies and injury classifications. We consider the reserving of PPO claims from both a qualitative and quantitative perspective, and examine the effect of varying assumptions around the rate of return used for assessing the amount of damages in respect of future loss in personal injury cases. We additionally present data on an accident year basis and look at special features of PPO claims, such as stepped payments and variation orders.

It should be noted that all of the data, analysis and exhibits in this report are before the recent change to the Ogden discount rate (see below).

Ogden discount rate

The Lord Chancellor announced on 27 February 2017 that the UK discount rate, the rate of return used for assessing the amount of damages in respect of future loss in personal injury cases, would be reduced from 2.5% per annum to -0.75% per annum, effective from 20 March 2017. On 27 March 2017, effective from 28 March 2017, the same rate was set for Scotland by the Scottish Ministers.

The data for the IFoA PPO Working Party 2016 quantitative industry survey was taken as at 31 December 2015, with the responses for the qualitative industry survey having been collected between December 2015 and February 2016 inclusive.

As such, the analysis and exhibits presented in this report are under the prevailing discount rate at the time, namely 2.5% per annum.

However, as part of the 2017 industry survey (which will be documented in due course), the IFoA PPO Working Party has supplemented the 2017 qualitative survey (conducted in winter 2016-2017 and spring 2017, which considered the 2016 year-end position with respect to the discount rate) with a second round of questions (in spring 2017) specifically in relation to the change in the discount rate.

The IFoA PPO Working Party is also aiming to collate additional statistics as part of the 2017 quantitative survey to assess the PPO propensity immediately before and since the change in the discount rate.

We ask that as many participants provide us with as much information as possible, to enable the most up-to-date information being made available to the market. Once again, we are very grateful to all the participants, without whom the industry survey would not be possible.

The headline results for the IFoA PPO Working Party 2016 industry survey are:

Level of concern about PPO claims (qualitative survey)

For both participating insurers and reinsurers, the level of concern about PPO claims has, for the most part, remained at the same level since the previous year.

The number of claims settling as a PPO claim (quantitative survey)

The number of Motor (non-MIB) claims settling as a PPO claim in 2015 has continued the decreasing trend observed since settlement year 2012, with a 10.2% reduction since 2014 and a 40.5% reduction since 2012. In contrast, the number of large claims settling as a lump sum claim (i.e. a non-PPO claim) has exhibited an increasing trend over the same period, with an 8.4% increase since 2014 and a 43.7% increase since 2012.

The number of Liability claims settling as a PPO claim in 2015 also exhibits a reduction compared with 2014, but with such low numbers of claims it is not possible to comment on whether this is anything other than volatility. However, the average number of claims settling as a PPO claim in settlement years 2013-2015 is 75.8% lower than the average number of claims settling as a PPO claim in settlement years 2009-2012.

The number of Motor (MIB) PPO claims settling as a PPO claim in 2015 is the lowest it has been since settlement year 2006, although the number of claims settling as a PPO claim since 2006 has been quite variable from year-to-year. Considering the period where PPO settlements have been more widespread, say settlement years 2009 and post, the MIB has settled 20.0% of all Motor PPO claims.

PPO propensity (quantitative survey)

The standardised Motor (non-MIB) PPO propensity, adjusting for differences in the mix of large claims by size between years, has fallen from 27.1% in settlement year 2014 to 20.9% in settlement year 2015 (a drop from 22.7% to 19.6% on a non-standardised basis), and from a weighted average of 31.5% in settlement years 2009-2013 to 23.9% in settlement years 2014-2015 (a drop from 32.5% to 21.1% on a non-standardised basis). (See Appendix C to this report for the definition of PPO propensity, and Appendix B to this report for an explanation of the standardisation basis.)

The standardised Liability PPO propensity has fallen from 6.5% in settlement year 2014 to 4.3% in settlement year 2015 (a drop from 6.7% to 2.8% on a non-standardised basis), and from a weighted average of 15.6% in settlement years 2009-2012 to 5.1% in settlement years 2013-2015 (a drop from 15.1% to 4.6% on a non-standardised basis).

Indexation of PPO claims (quantitative survey)

Since the Court of Appeal upheld the ruling in the Thompstone vs Tameside and Glossop Acute Services NHS Trust court case in 2008, the majority of PPO claims have had inflation of the PPO claim regular payments linked to the Annual Survey of Hours and Earnings ("ASHE").

For Motor (non-MIB) PPO claims, 95.2% of those claims settling as a PPO claim linked to ASHE in 2015 were linked to the ASHE 80th percentile. For Motor (MIB) PPO claims, the equivalent figure was 57.1%. For Liability PPO claims, only 1 claim settled as a PPO in 2015, and it too was linked to the ASHE 80th percentile.

Payment components for PPO claims (quantitative survey)

For Motor (non-MIB) claims settling as a PPO claim in 2015, the average lump sum payment was £2.3 million and the average initial annual PPO payment (summed across all heads of damage) was £105.1 thousand. Across all settlement years, the equivalent figures were £1.8 million and £88.2 thousand respectively (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being November 2011).

For Liability claims settling as a PPO claim, only a single claim settled in 2015 and so summary statistics have not been provided for reasons of data protection. Across all settlement years, the average lump sum payment was £1.6 million and the average initial annual PPO payment (summed across all heads of damage) was £72.6 thousand (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being April 2011).

For Motor (MIB) claims settling as a PPO claim in 2015, the average lump sum payment was £1.6 million and the average initial annual PPO payment (summed across all heads of damage) was £52.8 thousand. Across all settlement years, the equivalent figures were £1.3 million and £61.8 thousand respectively (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being December 2010).

Injury type and care regime categorisation (quantitative survey)

The IFoA PPO Working Party, with the help of a number of claims professionals, devised a categorisation of PPO injury types and care regimes, with the intention of this categorisation becoming UK standard practice, to be used by all insurers and reinsurers. This categorisation was presented as part of the output of the IFoA PPO Working Party in 2014.

28% of the Motor (non-MIB) PPO claims and 27% of the Liability PPO claims we received for the 2016 quantitative industry survey, the data for which was taken as at 31 December 2015, had this categorisation attached.

As a consequence, for this survey, we have been able to start to provide more in depth analysis of how the characteristics of PPO claims are affected by the type of injury sustained by the claimant and the type of care they receive. We have restricted this analysis to the Motor (non-MIB) PPO claims only, and the summary statistics are provided in Appendix O to this report.

Mortality of PPO claimants (quantitative survey)

Considering all PPO claims (i.e. Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims combined), in total there have been 37 observed deaths since settlement, against an expected number of 4.2 deaths assuming unimpaired mortality, representing a multiplier of 8.8 (for male and female PPO claimants combined). This result is statistically significant.

However, there remains very limited data on which to base any firm conclusions in relation to the mortality of PPO claimants. There is also an inherent bias in any analysis of the mortality of PPO claimants, in that we will not observe people living much longer than expectations for a very long time to come, which is more likely to overstate mortality than to understate mortality. <u>We therefore stress caution in using the results of the mortality analysis presented here and in the remainder of this report.</u>

Reserving for PPO claims (qualitative survey)

Nearly two-thirds of participating insurers use a probabilistic approach to mortality in reserving for settled PPO claims with a quarter using an annuity certain approach. A wider variety of approaches are used for reserving for future PPO claims, with most insurers considering future pure IBNR PPO claims within the methods used for future PPO claims on existing large claims, and only a small number reserving for future pure IBNR PPO claims explicitly. For future PPO claims, nearly three-quarters of participating insurers discount to valuation date with the remainder discounting to future expected settlement date. In valuing PPO claims for reserving purposes, all participating insurers discounted their PPO cashflows.

For participating insurers, the range of real discount rates (considering both the inflation of payments and discounting in respect of investment returns) for reporting under current UK Generally Accepted Accounting Principles ("GAAP") / International Financial Reporting Standards ("IFRS") was between -1.5% per annum and +1% per annum, with the most commonly used real discount rate being 0% per annum. While the range of real discount rates used by insurers has remained constant since our previous survey, the distribution of the real discount rates used has narrowed with more insurers opting for a 0% per annum real discount rate.

For participating reinsurers that establish their own reserves for PPO claims as opposed to using estimates made by cedant insurers, the range of real discount rates for reporting under current UK GAAP / IFRS was between -1.0% per annum and +3.5% per annum.

Under Solvency II, as the investment return assumption is prescribed by the European Insurance and Occupational Pensions Authority ("EIOPA"), it is the choice of the ASHE (or payment) inflation rate that will determine the real discount rate used. Just under half of participating insurers maintained the ASHE inflation rate used under current UK GAAP / IFRS, with two insurers maintaining a 0% per annum real discount rate by setting the ASHE assumption to equal the EIOPA rate.

Reserves for Motor (non-MIB) PPO claims (quantitative survey)

In order to consider the size of reserves on a consistent basis, we have estimated the total cost and outstanding reserve for each of the Motor (non-MIB) PPO claims in the quantitative industry survey on a cashflow basis. <u>Given the approximations and assumptions inherent in the underlying analysis, the results of the reserve analysis presented here and throughout this report should be treated with caution.</u>

PPO claims in payment may make up between 10% and 28% of Motor case estimates (as presented in the PRA returns), depending on the real discount rate assumed. Allowing for IBNR PPO claims, reserves for PPO claims may make up between 16% and 90% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns), again depending on the real discount rate assumed. At the real discount rate most commonly being used by insurers participating in the qualitative industry survey, namely 0% per annum, PPO claims in payment may make up about 16% of Motor case estimates (as presented in the PRA returns), and reserves for PPO claims, allowing for IBNR PPO claims, may make up between 25% and 51% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns).

Highlights of the 2016 quantitative industry survey

In this section, we provide some of the key highlights of the 2016 quantitative industry survey, the data for which was taken as at 31 December 2015. We provide more detailed results of the analysis carried out as part of the quantitative industry survey in Appendices B to R to this report.

The insurers surveyed account for over 90% of the PRA-regulated market (based on 2015 gross premium volumes) for Motor, including Personal and Commercial insurance, Comprehensive and Non-Comprehensive covers. In addition, there are further companies which contribute to the survey but do not appear in the 2015 PRA returns

The insurers which have agreed to be acknowledged for their participation in this survey are listed in the Introduction to this report, although please note that the list does not include all participants.

It is worth noting that, due to the timing of the 2016 quantitative industry survey, the analysis and exhibits presented in this report are under the prevailing discount rate at the time, namely 2.5% per annum.

PPO propensity and other summary statistics on general characteristics of PPO claims

In Appendix D to this report, we provide summary statistics for all of the PPO claims in the 2016 quantitative survey, for a number of characteristics, both cumulative across all settlement years and also separately for the pre-2015 settlement years and the 2015 settlement year alone.

For example, Figure 1 shows that, for Motor (non-MIB) PPO claims, the average age of the claimant at settlement is 34.1 years, with an average delay of 6.3 years between the accident date and settlement date, an average future life expectancy at settlement date of 45.0 years which represents an average reduction in life expectancy of 10.8 years, and with an average settlement of £1.84 million lump sum and £88.2 thousand annual PPO payment. (See the notes in Appendix D for further detail on the interpretation of these statistics, in particular for the payment components.)

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	34.1	28.8	16.4	0.9	509
Delay until settlement	6.3	5.5	3.3	1.3	502
Future life expectancy at settlement	45.0	47.1	18.4	-0.3	491
Life expectancy reduction	10.8	8.7	11.8	1.6	474
Annual PPO payment (£)	88,189	60,939	73,736	1.5	509
Lump sum (£)	1,844,289	1,644,570	1,149,740	1.6	507
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	33.9	28.4	16.2	0.9	461
Delay until settlement	6.3	5.6	3.3	1.3	455
Future life expectancy at settlement	45.4	47.3	18.0	-0.4	443
Life expectancy reduction	10.8	8.9	11.7	1.6	428
Annual PPO payment (£)	86,458	60,000	72,549	1.5	461
Lump sum (£)	1,796,049	1,621,000	1,125,220	1.7	459
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	35.3	31.0	18.5	0.8	47
Delay until settlement	5.8	4.9	3.5	1.7	46
Future life expectancy at settlement	42.1	44.0	21.7	0.0	47
Life expectancy reduction	11.7	8.2	12.7	1.6	45
Annual PPO payment (£)	105,134	81,452	83,298	1.1	47
Lump sum (£)	2,314,100	2,031,941	1,285,020	0.9	47

Figure 1: Summary statistics for Motor (non-MIB) PPO claims

In Appendices E to K to this report, we provide further summary statistics and analysis of the number, propensity and general characteristics of the Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims in the 2016 quantitative survey.

The key headline figure is the propensity of an injury claim to settle as a PPO claim. Unless stated otherwise, the PPO propensity statistics discussed in this report are defined as the number of PPO claims as a proportion of large claims. The definition of a large claim is a claim that is greater than £1 million in 2011 terms, indexed at 7% per annum. (See the notes in Appendix C to this report for further detail on the definition of large claims.)

Figure 2 shows the number of Motor (non-MIB) PPO claims and Motor (non-MIB) non-PPO large claims underlying the PPO propensity statistics, by settlement year. The number of claims settling as a PPO claim in 2015 has continued the decreasing trend observed since settlement year 2012, with a 10.2% reduction since 2014 and a 40.5% reduction since 2012. In contrast, the number of large claims settling as a lump sum claim (i.e. a non-PPO claim) has exhibited an increasing trend over the same period, with an 8.4% increase since 2014 and a 43.7% increase since 2012.

Figure 2: Number of Motor (non-MIB) PPO claims and Motor (non-MIB) non-PPO large claims underlying the PPO propensity statistics, by settlement year

The data collected for the quantitative industry survey clearly shows that the likelihood of a claim settling as a PPO varies with the size of the claim, with larger claims being more likely to have settled as a PPO (see later).

In our statistics looking at the change in PPO propensity by settlement year, we have therefore considered a standardised PPO propensity which adjusts for (or removes) the volatility in the PPO propensity arising from differences in the mix of large claims by amount between years. In Appendix B to this report, we explain the standardisation basis for Motor (non-MIB) claims and for Liability claims. (The data collected from the MIB does not include non-PPO large claims, and so we are not able to produce PPO propensity statistics or standardised PPO propensity statistics for MIB claims.)

Figure 3 shows the Motor (non-MIB) PPO propensity and the standardised Motor (non-MIB) PPO propensity, by settlement year. The standardised Motor (non-MIB) PPO propensity has fallen from 27.1% in settlement year 2014 to 20.9% in settlement year 2015 (a drop from 22.7% to 19.6% on a non-standardised basis) , and from a weighted average of 31.5% in settlement years 2009-2013 to 23.9% in settlement years 2014-2015 (a drop from 32.5% to 21.1% on a non-standardised basis).
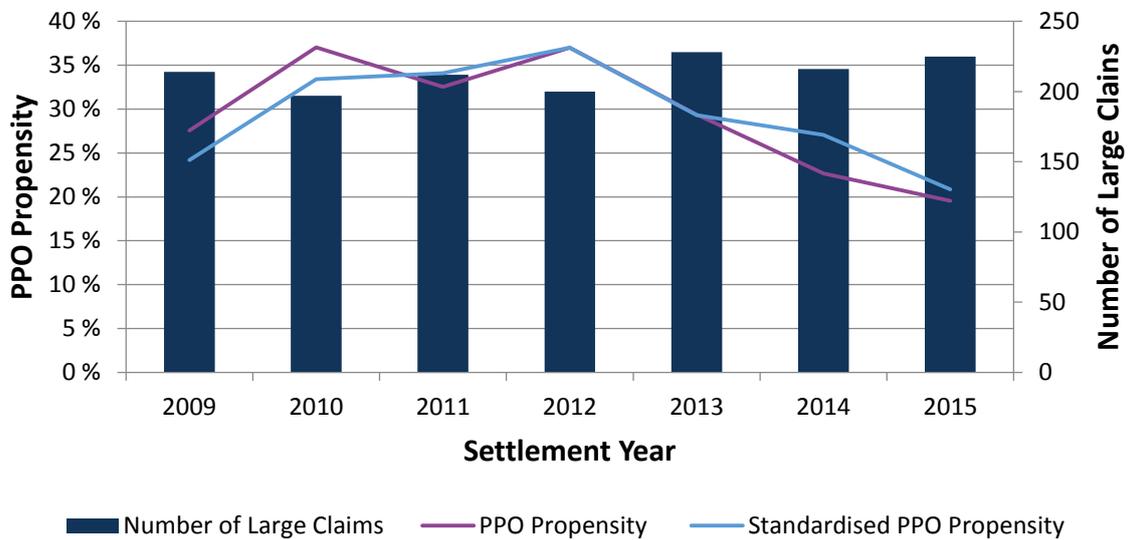
Figure 3: Motor (non-MIB) PPO propensity and
standardised Motor (non-MIB) PPO propensity, by settlement year

Figure 4 shows the distribution of the Motor (non-MIB) PPO propensity for insurers, separately for claims settled between 2009 and 2014 and claims settled in 2015.
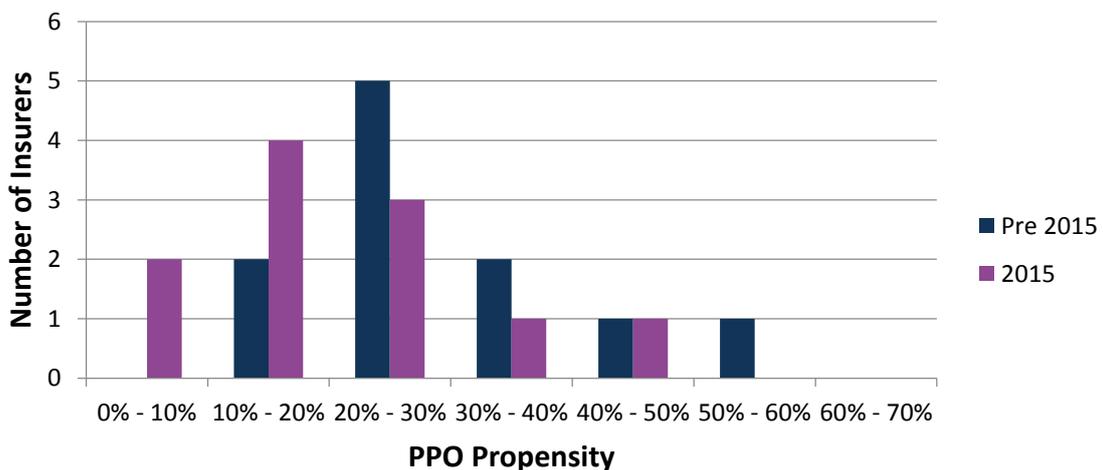
Figure 4: Distribution of Motor (non-MIB) PPO propensity
for insurers that have settled at least 25 large claims (including PPO claims) in the last five years,
separately for claims settled between 2009 and 2014 and claims settled in 2015

The equivalent graphs for Liability PPO claims are shown in Figures 5 to 7. The number of claims settling as a PPO claim in 2015 also exhibits a reduction compared with 2014, but with such low numbers of claims it is not possible to comment on whether this is anything other than volatility. However, the average number of claims settling as a PPO claim in settlement years 2013-2015 is 75.8% lower than the average number of claims settling as a PPO claim in settlement years 2009-2012. The standardised Liability PPO propensity has fallen from 6.5% in settlement year 2014 to 4.3% in settlement year 2015 (a drop from 6.7% to 2.8% on a non-standardised basis), and from a weighted average of 15.6% in settlement years 2009-2012 to 5.1% in settlement years 2013-2015 (a drop from 15.1% to 4.6% on a non-standardised basis).

Figure5: Number of Liability PPO claims and Liability non-PPO large claims underlying the PPO propensity statistics, by settlement year
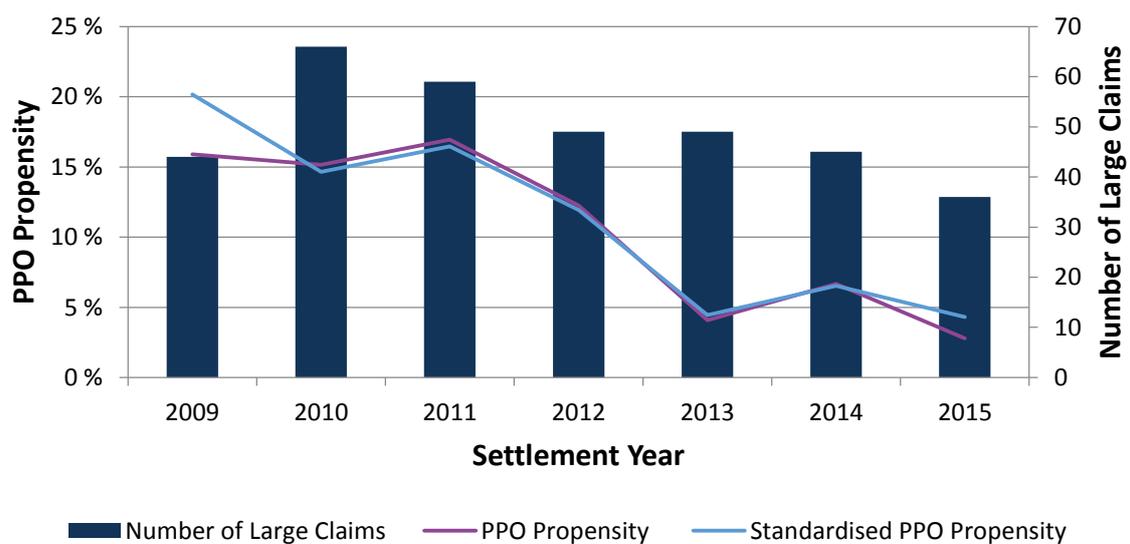
Figure 6: Liability PPO propensity and standardised Liability PPO propensity, by settlement year
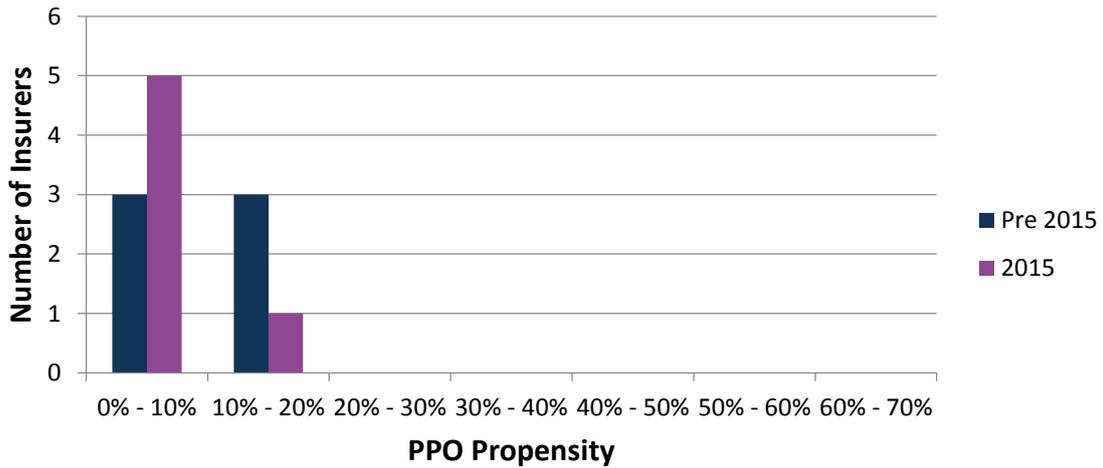
Figure 7: Distribution of Liability PPO propensity for insurers that have settled at least 25 large claims (including PPO claims) in the last five years, separately for claims settled between 2009 and 2014 and claims settled in 2015

Figure 8 shows the number of Motor (MIB) PPO claims, by settlement year. The number of claims settling as a PPO claim in 2015 is the lowest it has been since settlement year 2006, although the number of claims settling as a PPO claim since 2006 has been quite variable from year-to-year.
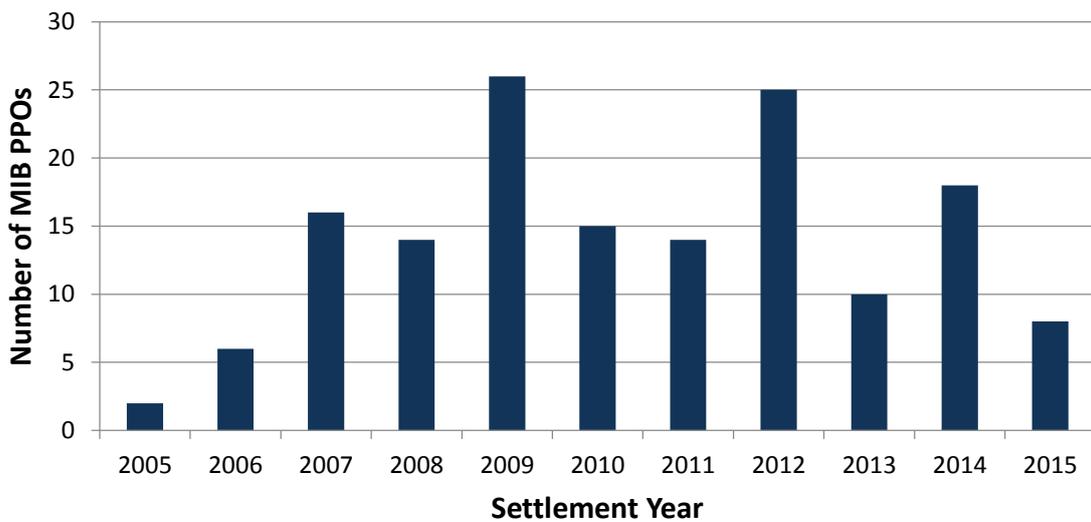
Figure 8: Number of Motor (MIB) PPO claims, by settlement year

Figure 9 shows the proportion of Motor claims settling as a PPO claim that are settled by the MIB. Considering the period where PPO settlements have been more widespread, say settlement years 2009 and post (i.e. following the Court of Appeal upholding the ruling in the Thompstone vs Tameside and Glossop Acute Services NHS Trust court case – see Appendix L to this report for further details), the MIB has settled 20.0% of all Motor PPO claims.
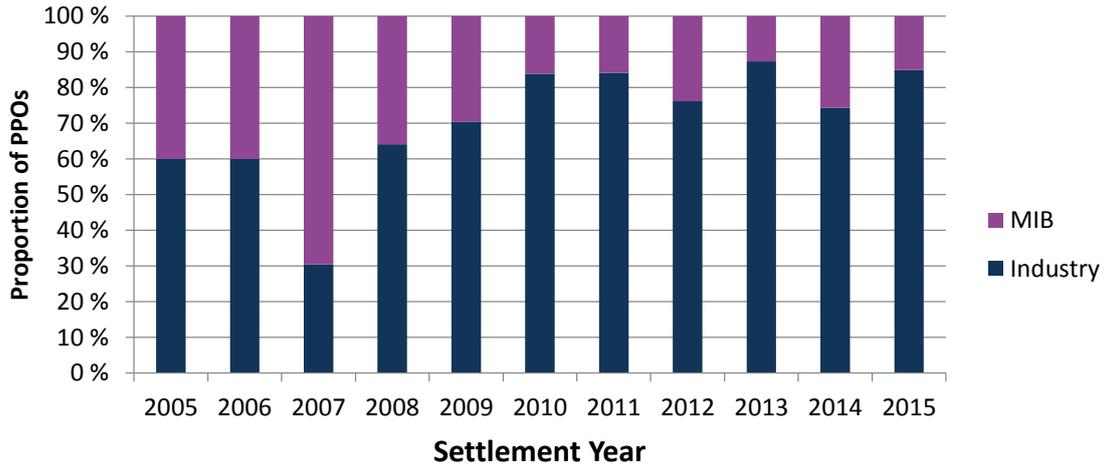
Figure 9: Proportion of PPO claims, by settlement year – MIB and the rest of the industry

In a number of the analyses summarised in this report, we consider claims in various claim size bands. As for the definition of large claims, in each case, the claim size thresholds are also defined in 2011 terms, indexed at 7% per annum. A claim falls in a given band if it is greater than or equal to the lower bound of the band, but less than the upper bound of the band (where there is an upper bound). For PPO claims, the claim size is determined using a real discount rate of 2.5% per annum. (See the notes in Appendix C to this report for further detail on the definition of large claims, and also for an explanation of the distinction between incremental threshold and cumulative threshold.)

Figure 10 shows how the Motor (non-MIB) PPO propensity varies by claim size band, and Figure 11 shows this trend by settlement year.
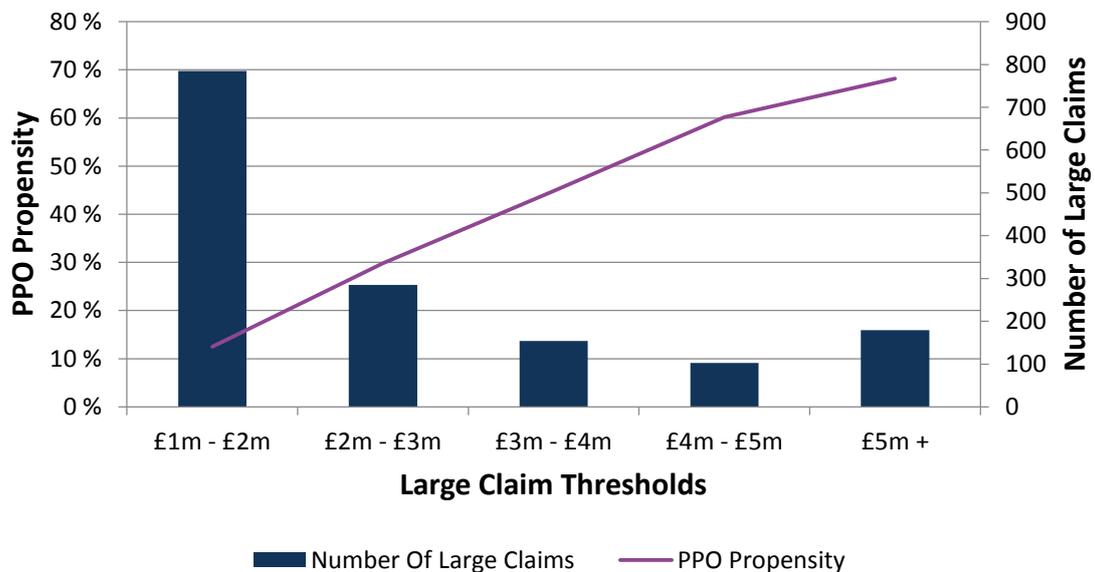
Figure 10: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009
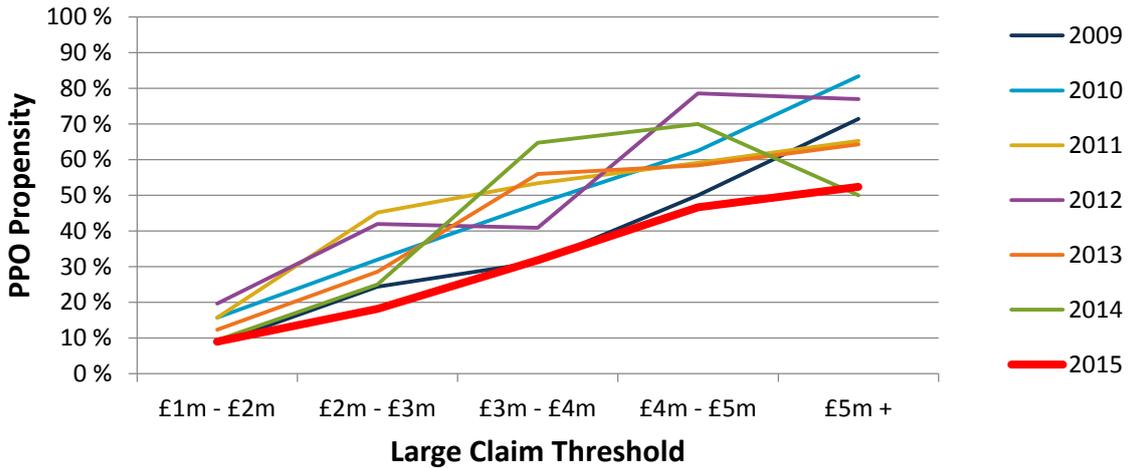
Figure 11: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009

The equivalent graphs for Liability PPO claims are shown in Figure 12 and Figure 13. (Note that, in Figure 13, the claim size bands have been grouped in order to reduce the volatility and to emphasise the underlying trend.)
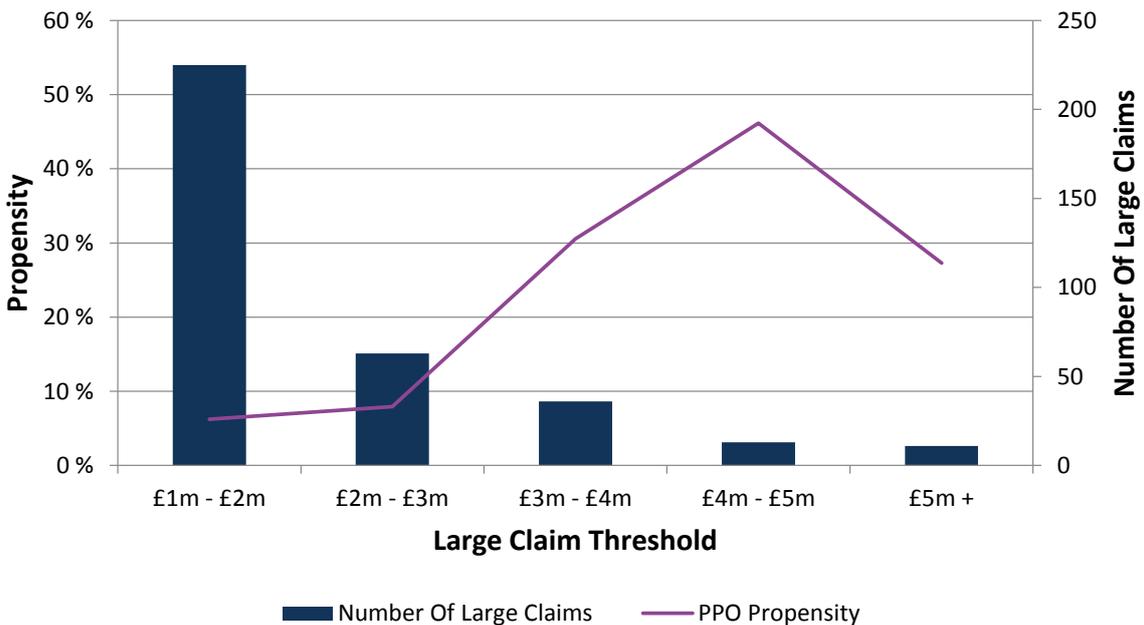
Figure 12: Liability PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009
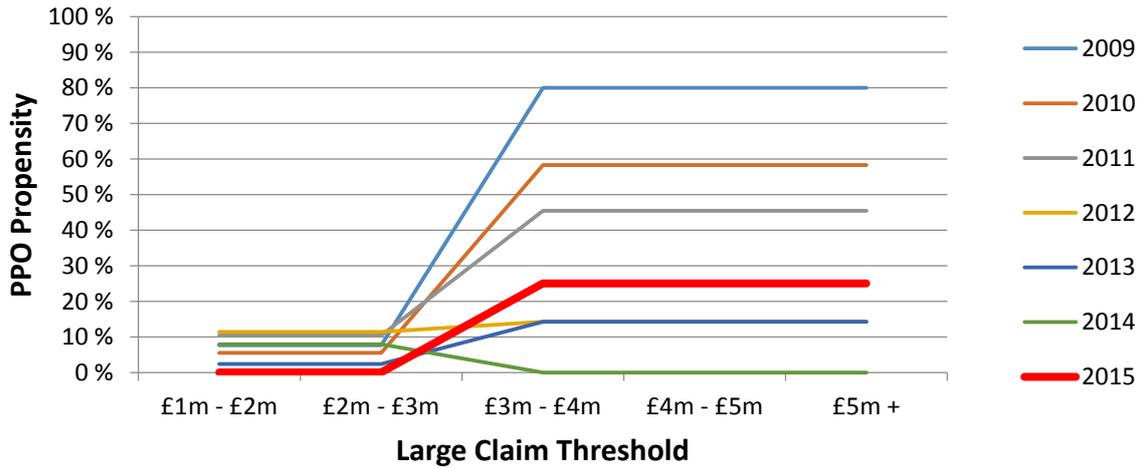
Figure 13: Liability PPO propensity, by grouped (£1m-£3m, £3m+) incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009

We provide a large number of further summary statistics and analysis of the number, propensity and general characteristics of the Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims in the 2016 quantitative survey in Appendices E to K to this report. Examples for Motor (non-MIB) PPO claims include the number of PPO claims by age of driver at accident date and by gender of driver (Figure 14), the number of PPO claims by age of claimant at accident date and by gender of claimant (Figure 15), the delay between the accident date and settlement date (Figure 16 and Figure 17) and the future life expectancy of the claimant at settlement (Figure 18 and Figure 19).
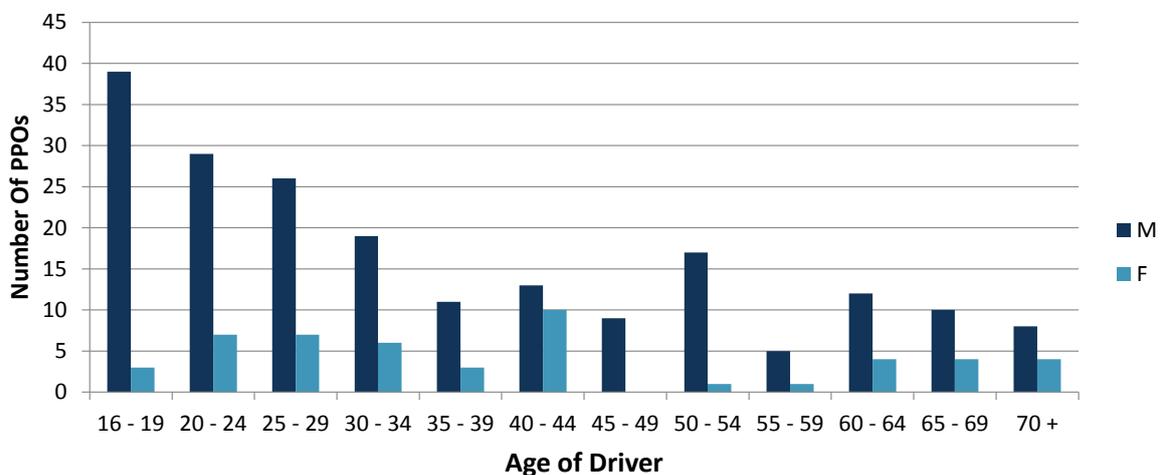
Figure 14: Number of Motor (non-MIB) PPO claims, by age of driver at accident date and by gender of driver
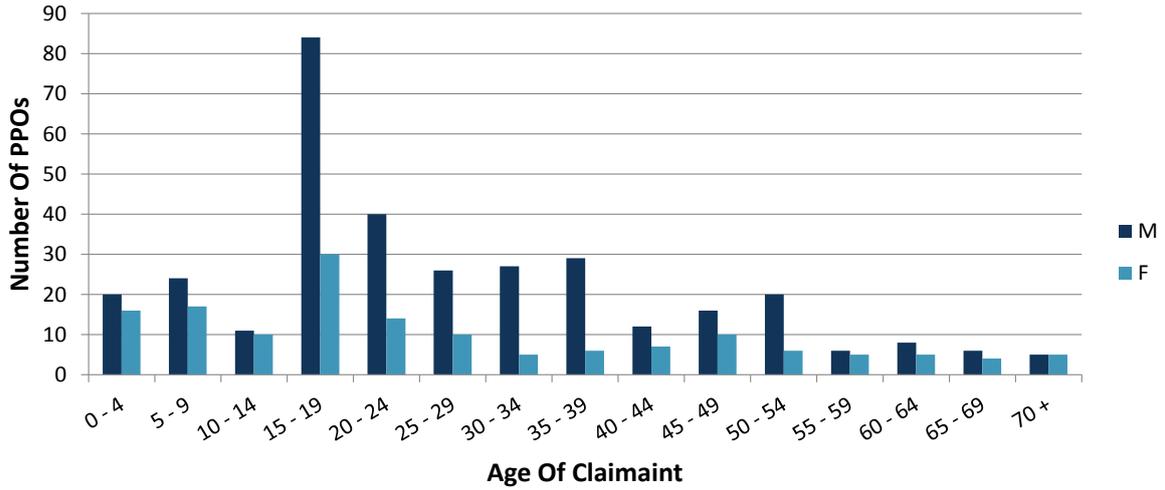
Figure 15: Number of Motor (non-MIB) PPO claims, by age of claimant at accident date and by gender of claimant
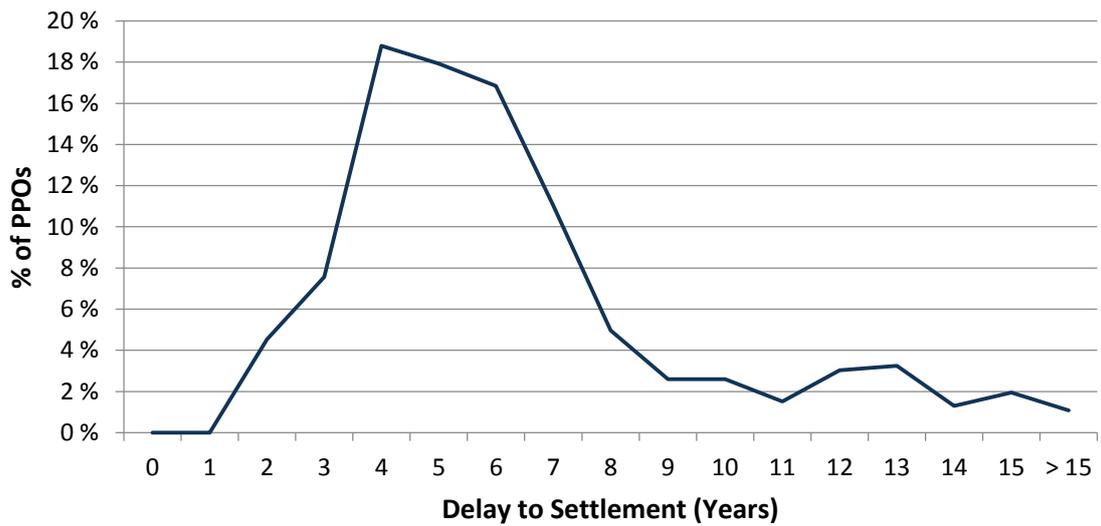
Figure 16: Distribution of the delay to settlement for Motor (non-MIB) PPO claims, for claims settled since 2009
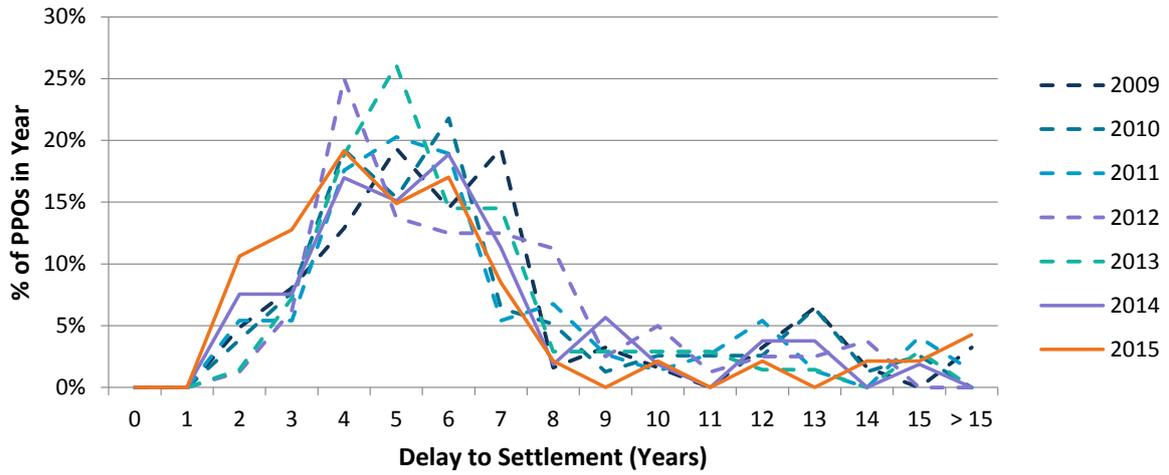
Figure 17: Distribution of the delay to settlement for Motor (non-MIB) PPO claims, by settlement year, for claims settled since 2009
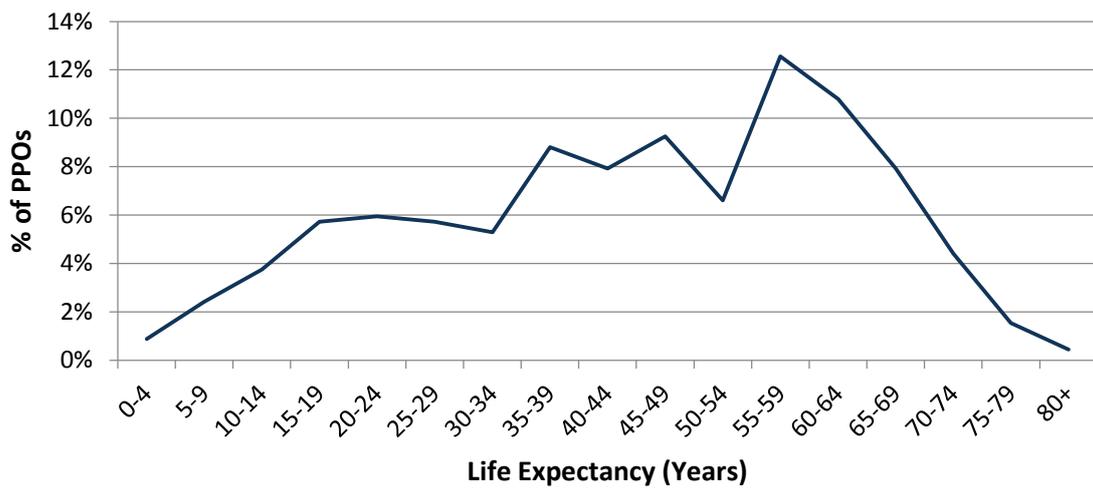
Figure 18: Distribution of the life expectancy of claimant at settlement date, for Motor (non-MIB) PPO claims, for claims settled since 2009
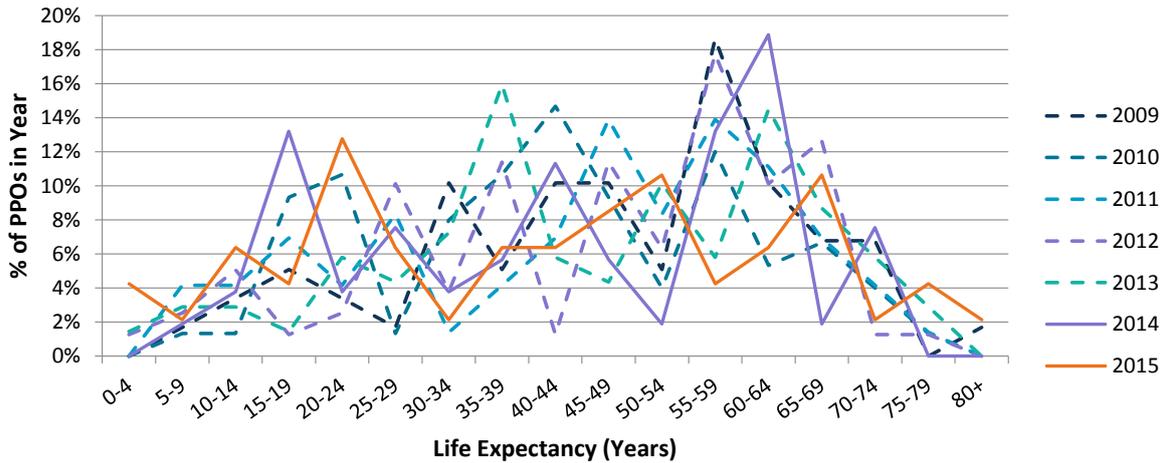
Figure 19: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, by settlement year, for claims settled since 2009

Finally, in Appendix H to this report, we provide triangles of non-PPO large claims, PPO claims and PPO propensity rates for non-MIB Motor claims, which take into account the accident year of a claim as well as its time to settlement. Figure 20 is an example. We have also provided graphs showing the accident year cumulative development of the number of non-MIB Motor PPO claims. It is clear from the data for the older accident years that we can expect some further development of the number of PPO claim settlements, even for these older accident years, although the extent of this development is difficult to quantify.

Accident Year	Years to Settlement															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0	0	0	0	0	0	0	0	6	17	29	37	43	45	47	52
2001	0	0	0	0	0	0	0	1	5	6	7	8	10	11	12	
2002	0	0	0	0	0	0	3	12	15	16	21	25	27	27		
2003	0	0	0	0	0	3	12	18	22	26	28	29	30			
2004	0	0	0	0	4	16	29	35	43	44	44	44				
2005	0	0	0	2	10	24	37	43	46	49	49					
2006	0	0	0	6	21	32	44	53	54	55						
2007	0	0	1	5	20	29	39	47	47							
2008	0	0	3	9	23	36	43	48								
2009	0	0	3	10	27	38	45									
2010	0	0	2	7	13	22										
2011	0	0	1	5	13											
2012	0	0	3	7												
2013	0	0	5													
2014	0	0														
2015	0															

Figure 20: Triangle showing the accident year cumulative development of
the number of Motor (non-MIB) PPO claims

Indexation of PPO claims

In Appendix L to this report, we provide a number of summary statistics for Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims in relation to the index used to inflate PPO claim regular payments.

The index used to inflate PPO claim regular payments was originally automatically linked to the Retail Prices Index ("RPI").

However, in 2006, a court case was brought in the form of Thompstone vs Tameside and Glossop Acute Services NHS Trust which questioned this assumption and suggested that the payments for future cost of care would be better linked to wage inflation. The court agreed and the annual inflation increase was linked to the Annual Survey of Hours and Earnings ("ASHE"). The case was appealed and a number of other cases were put on hold pending the outcome. In 2008, the Court of Appeal upheld the ruling that an index other than RPI can be chosen if thought more appropriate. Since then the majority of PPO claims have had inflation linked to ASHE, as can be seen in Figure 21.
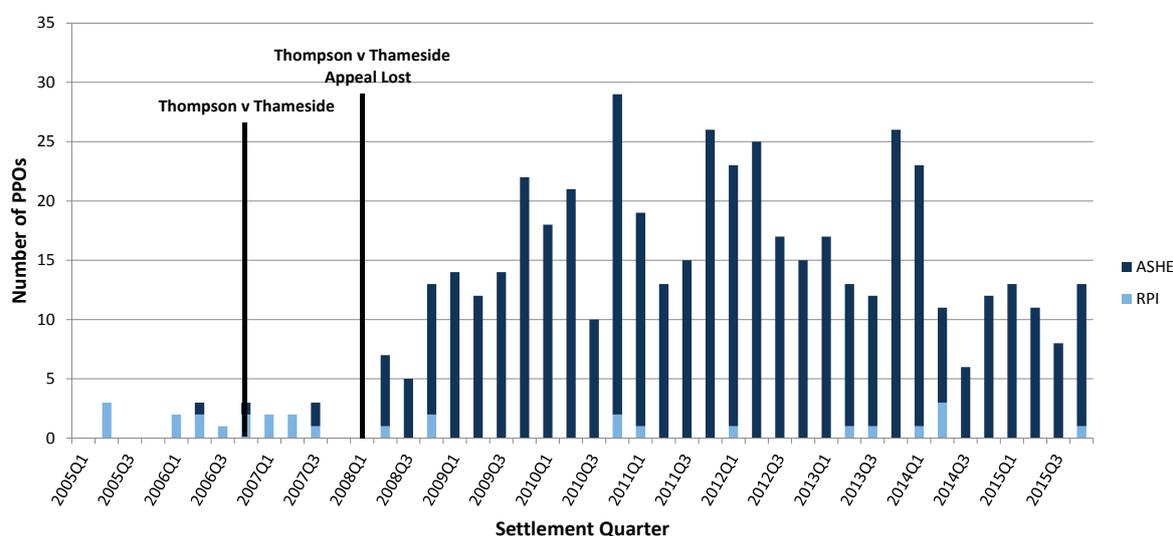
Figure 21: Number of Motor (non-MIB) PPO claims, by settlement quarter
and by the index applicable for the primary head of damage of the regular payments

ASHE is produced by the Office for National Statistics ("ONS") every November, based on data as at April. It covers a wide range of occupations, though the vast majority of PPO claims so far have, in respect of care costs, been linked to sub-category 6115, relating to care assistants and home carers.

Within a particular job category, the ASHE earnings inflation measures are further split into percentiles. A PPO claim will have the annual inflation linked to a specific percentile, for example to those whose earnings are in the top 10% of earners in the category (i.e. the 90th percentile).

Figure 22 shows that, where the applicable index for the primary head of damage is ASHE, the overwhelming majority of Motor (non-MIB) PPO claims for recent settlements are linked to the 80th percentile.
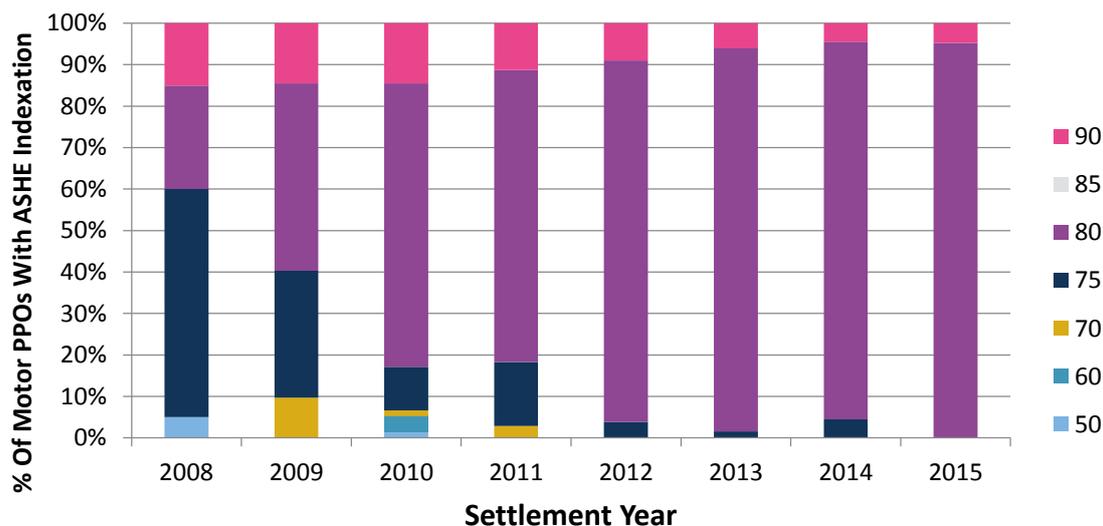
Figure 22: Where the applicable index for the primary head of damage is ASHE,
the proportion of Motor (non-MIB) PPO claims linked to specific percentiles, by settlement year

Figure 23 shows the annual inflation in ASHE 6115 by specific percentile. Of note is that, while annual inflation has been low or even negative for some of the percentiles (including the 80th percentile), the latest data for 2016 shows a significant uptick in annual inflation, particularly at the lower percentiles.

Year	6115 - Care Assistants and Home Carers Inflation Statistics by Percentile									
	10	20	25	30	40	60	70	75	80	90
2008	3.54%	2.44%	2.04%	2.29%	2.71%	2.59%	3.64%	3.80%	3.27%	2.64%
2009	2.56%	2.86%	2.93%	3.13%	3.06%	2.28%	2.41%	2.72%	2.47%	3.68%
2010	1.00%	1.08%	1.80%	1.88%	1.08%	2.11%	1.18%	0.92%	0.77%	0.41%
2011	0.50%	-0.61%	-0.74%	-0.85%	-1.33%	-2.07%	-1.38%	-1.11%	-1.05%	-1.07%
2012	1.97%	0.61%	0.44%	0.29%	0.27%	-0.23%	-1.39%	-1.12%	-0.87%	-0.42%
2013	1.45%	0.92%	0.29%	0.00%	-0.27%	0.00%	0.22%	0.41%	0.49%	0.33%
2014	1.75%	1.97%	2.06%	1.71%	1.76%	0.59%	0.22%	-0.10%	-0.78%	-0.67%
2015	3.59%	3.56%	2.45%	2.53%	2.52%	2.11%	2.38%	1.65%	1.67%	2.26%
2016	8.43%	5.44%	5.49%	5.48%	4.66%	3.32%	3.39%	3.24%	3.66%	2.78%

Figure 23: Annual Inflation in ASHE 6115, by specific percentile and by year
(as at April of that year)

Payment components for PPO claims

The summary statistics in Appendix D to this report indicate that:

- For Motor (non-MIB) claims settling as a PPO claim in 2015, the average lump sum payment was £2.3 million and the average initial annual PPO payment (summed across all heads of damage) was £105.1 thousand. Across all settlement years, the equivalent figures were £1.8 million and £88.2 thousand respectively (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being November 2011).

- For Liability claims settling as a PPO claim, only a single claim settled in 2015 and so summary statistics have not been provided for reasons of data protection. Across all settlement years, the average lump sum payment was £1.6 million and the average initial annual PPO payment (summed across all heads of damage) was £72.6 thousand (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being April 2011).

- For Motor (MIB) claims settling as a PPO claim in 2015, the average lump sum payment was £1.6 million and the average initial annual PPO payment (summed across all heads of damage) was £52.8 thousand. Across all settlement years, the equivalent figures were £1.3 million and £61.8 thousand respectively (although note that these figures are in nominal terms and have not been adjusted for inflation, the average settlement date being December 2010).

In Appendix M to this report, we provide a number of further summary statistics for the lump sum element of PPO claims and for the initial regular payment amount of PPO claims, separately for Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims.

For the purposes of comparison, we also provide some of the equivalent summary statistics for Motor (non-MIB) non-PPO claims, and it is interesting to note that, while the average size of the lump sum element of Motor (non-MIB) claims has been increasing for both PPO claims and non-PPO claims (more so for PPO claims), when stripping out the effect of inflation, the average size of the lump sum element of Motor (non-MIB) PPO claims has been relatively flat whereas the average size of Motor (non-MIB) non-PPO claims has fallen markedly (see Figure 24 and Figure 25).
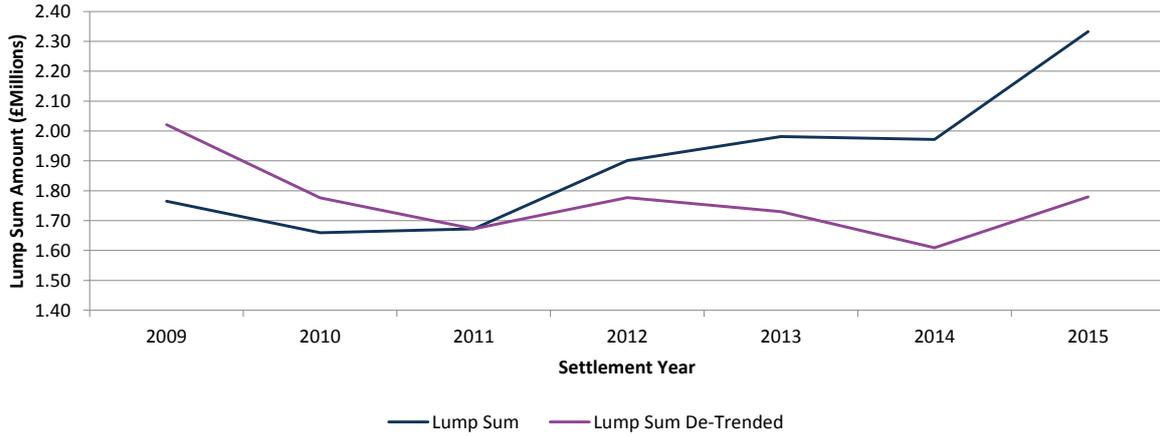
Figure 24: Average size of the lump sum element of Motor (non-MIB) PPO claims, nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year
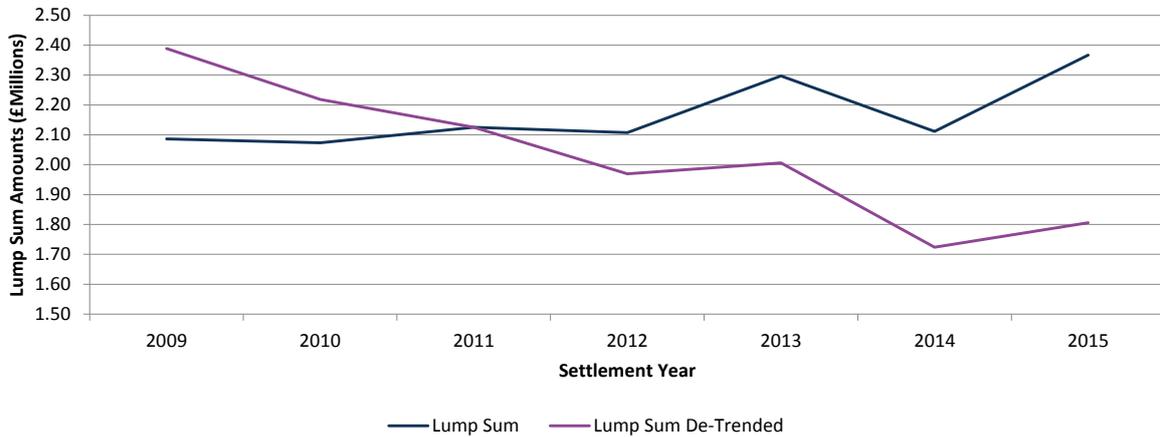
Figure 25: Average size of Motor (non-MIB) non-PPO claims, nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year

Special features of Motor (non-MIB) PPO claims and other statistics

In Appendix N to this report, we provide a number of summary statistics in relation to stepped payments, variation orders and indemnity / reverse indemnity guarantees for Motor (non-MIB) PPO claims, together with a small number of other statistics for these PPO claims. Definitions for these special features are also provided in Appendix N to this report.

Figure 26 shows the proportion of Motor (non-MIB) PPO claims with special features.

Feature	Proportion of PPOs	Number of Responses
Stepped Payments	30%	509
Variation Orders	15%	485
Indemnity Guarantees	3%	442
Reverse Indemnity Guarantees	5%	388
Contributory Negligence	26%	259

Figure 26: Proportion of Motor (non-MIB) PPO claims with special features,
together with the number of Motor (non-MIB) PPO claims in the survey
with responses received on those special features

In terms of injury type:

- 25% of Motor (non-MIB) PPO claims relating to brain injury have a stepped payment.
- 46% of Motor (non-MIB) PPO claims relating to spinal injury have a stepped payment.

This compares with a general Motor (non-MIB) PPO claim population average of 30%, as shown in Figure 26.

Again in terms of injury type:

- 10% of Motor (non-MIB) PPO claims relating to brain injury have a variation order.
- 34% of Motor (non-MIB) PPO claims relating to spinal injury have a variation order.

This compares with a general Motor (non-MIB) PPO claim population average of 15%, as shown in Figure 26.

Injury type and care regime categorisation

The IFoA PPO Working Party, with the help of a number of claims professionals, devised a categorisation of PPO injury types and care regimes, with the intention of this categorisation becoming UK standard practice, to be used by all insurers and reinsurers. This categorisation was presented as part of the output of the IFoA PPO Working Party in 2014, and is reproduced in Appendix O to this report.

28% of the Motor (non-MIB) PPO claims and 27% of the Liability PPO claims we received for the 2016 quantitative industry survey, the data for which was taken as at 31 December 2015, had this categorisation attached.

As a consequence, for this survey, we have been able to start to provide more in depth analysis of how the characteristics of PPO claims are affected by the type of injury sustained by the claimant and the type of care they receive. We have restricted this analysis to the Motor (non-MIB) PPO claims only, and the summary statistics are provided in Appendix O to this report.

We note, however, that the summary statistics provided here and in Appendix O to this report are based on only a small subset of data, and this is likely to have contributed to the volatility in experience in the summary statistics provided.

Figure 27 shows the distribution of Motor (non-MIB) PPO claims by injury type categorisation and Figure 28 shows the distribution of Motor (non-MIB) PPO claims by care regime categorisation.
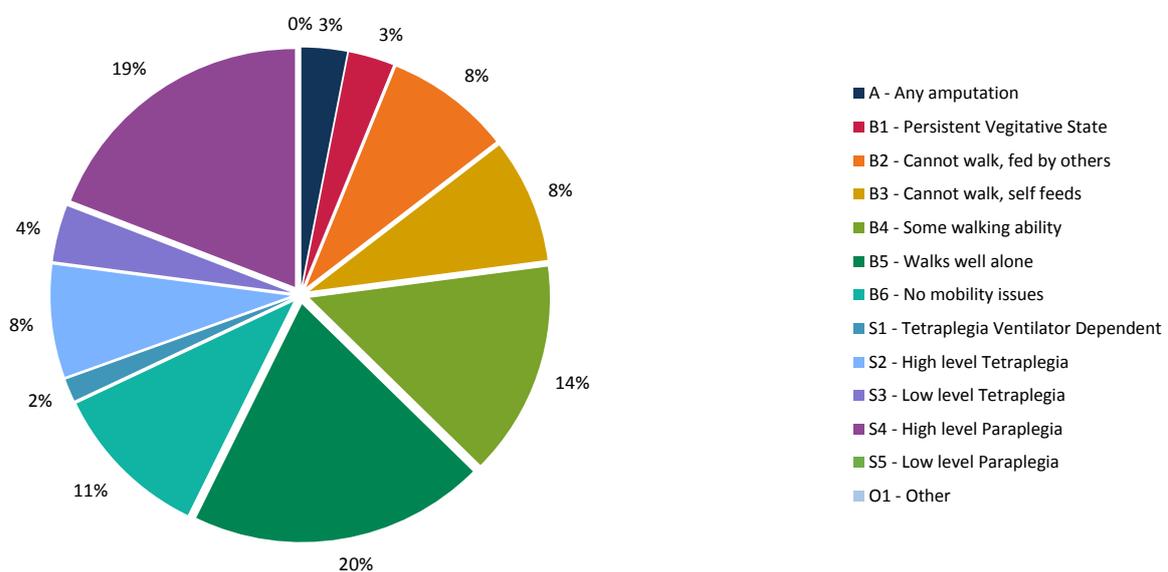
Figure 27: Detailed split of the number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party injury type categorisation
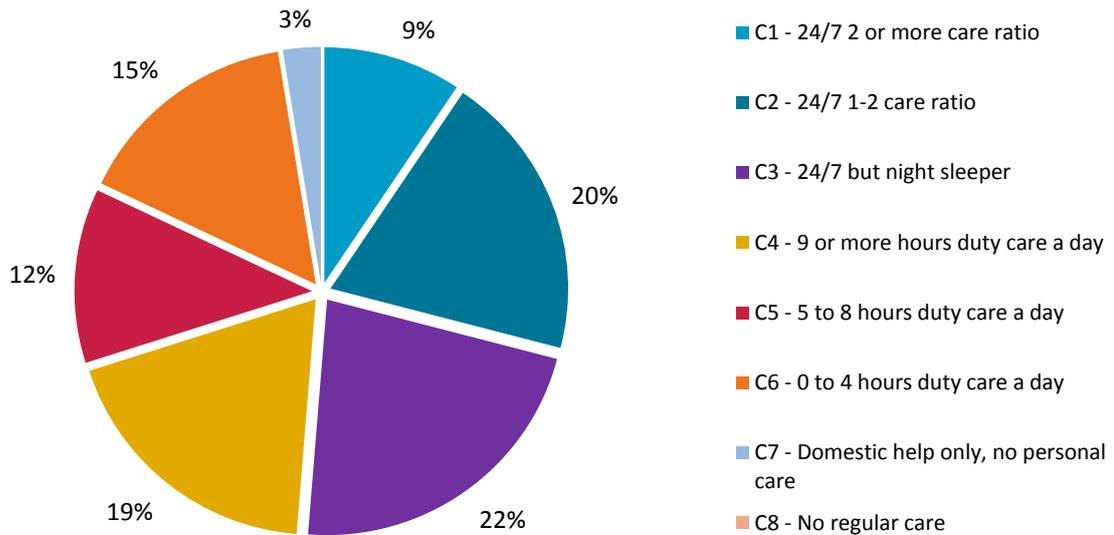
Figure 28: Detailed split of the number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party care regime categorisation

Nature of injury

In Appendix P to this report, we provide a number of summary statistics in relation to the nature of injury for PPO claims.

We note that 75% of Motor (non-MIB) PPO claims involve brain injury as the primary injury type, with that proportion varying significantly by the age of claimant as shown in Figure 29.
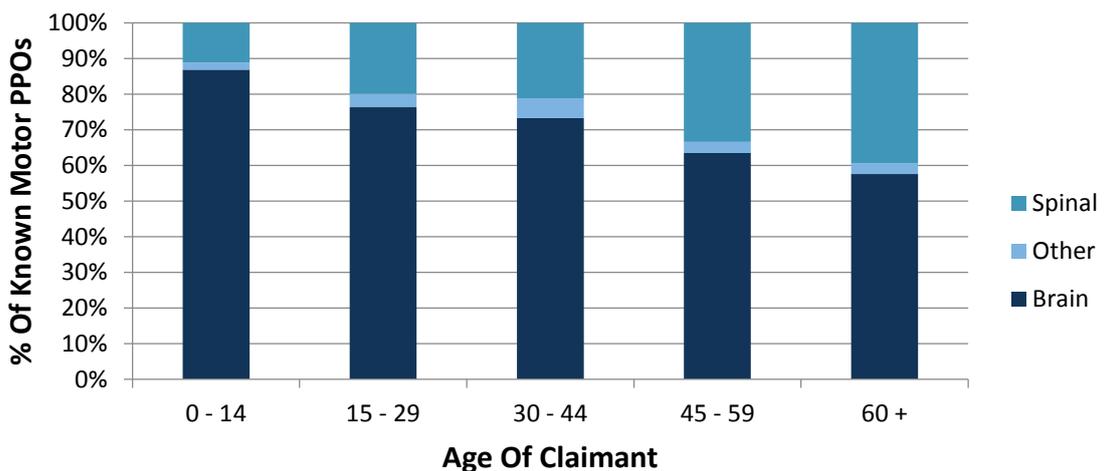
Figure 29: Proportion of Motor (non-MIB) PPO claims,
by age of claimant at accident date and by nature of injury

Mortality of PPO claimants

In Appendix Q to this report, we provide a number of summary statistics in relation to the mortality of PPO claimants.

To increase the sample size, we have considered all PPO claims in this analysis, i.e. Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims combined. We note, however, that there remains very limited data on which to base any firm conclusions. We also note that there is an inherent bias in any such analysis, in that we will not observe people living much longer than expectations for a very long time to come, which is more likely to overstate mortality than to understate mortality. Furthermore, a number of simplifying assumptions have been made in the underlying analysis, as discussed in Appendix Q to this report. We therefore stress caution in using the results of the analysis presented here and in Appendix Q to this report.

Figure 30 and Figure 31 show the "initial exposure" and number of deaths by age group for male and female claimants respectively, the "initial exposure" being a measure of the total number of years of exposure for PPO claims in the quantitative industry survey, taken as the number of years from settlement date to 31 December 2015 or date of death if applicable.
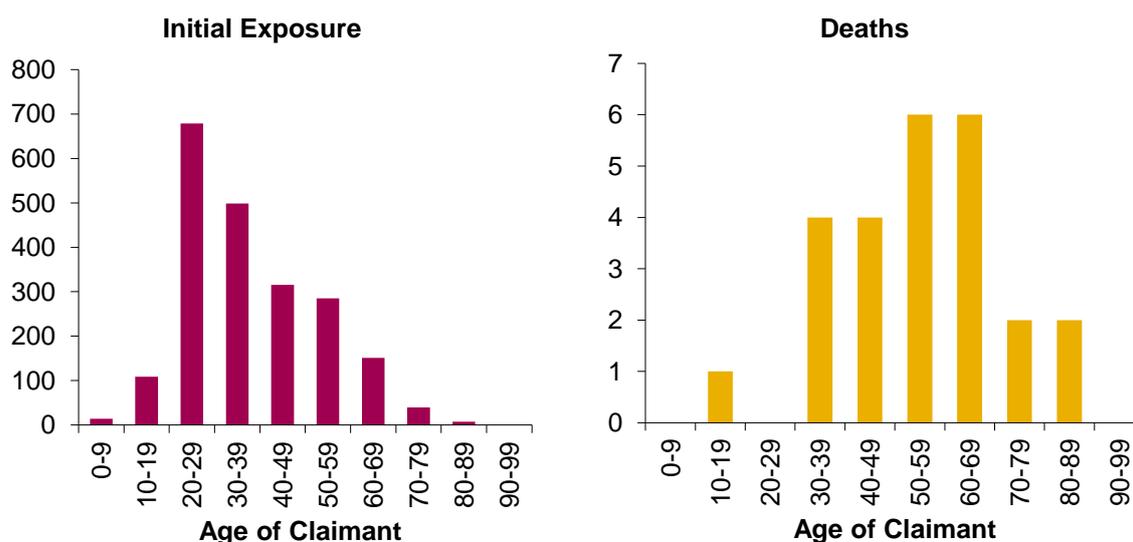
Figure 30: Number of years of exposure for PPO claims and number of deaths, for male PPO claimants, by age of claimant at settlement date
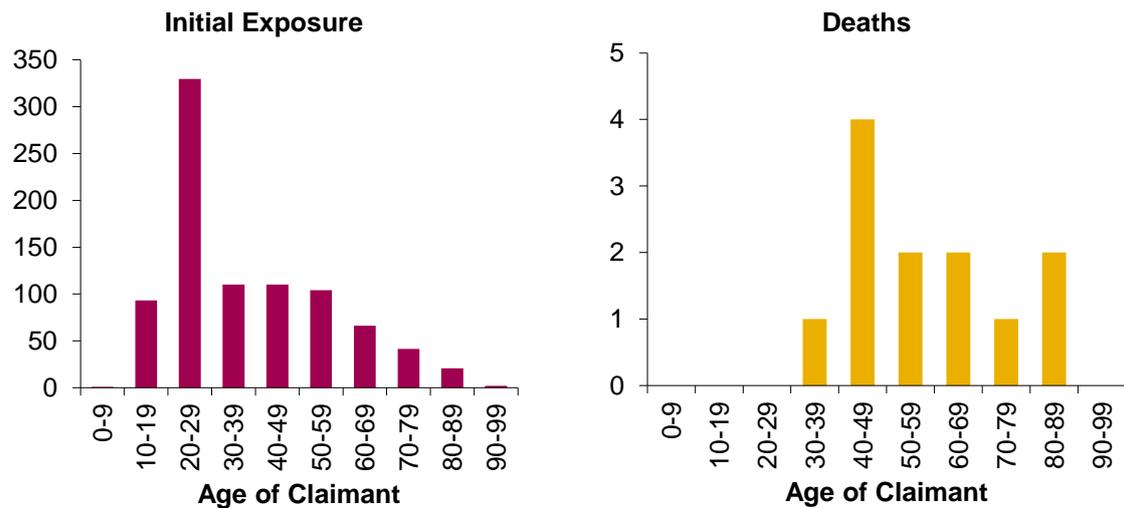
*Figure 31: Number of years of exposure for PPO claims and number of deaths,
for female PPO claimants, by age of claimant at settlement date*

Figure 32 shows the observed (i.e. actual) number of deaths by claimant age band (at settlement date) against those that would have been expected for the survey sample using unimpaired mortality rates based on the ONS mortality rates (its most recent forecast projections, as detailed in Appendix Q to this report).
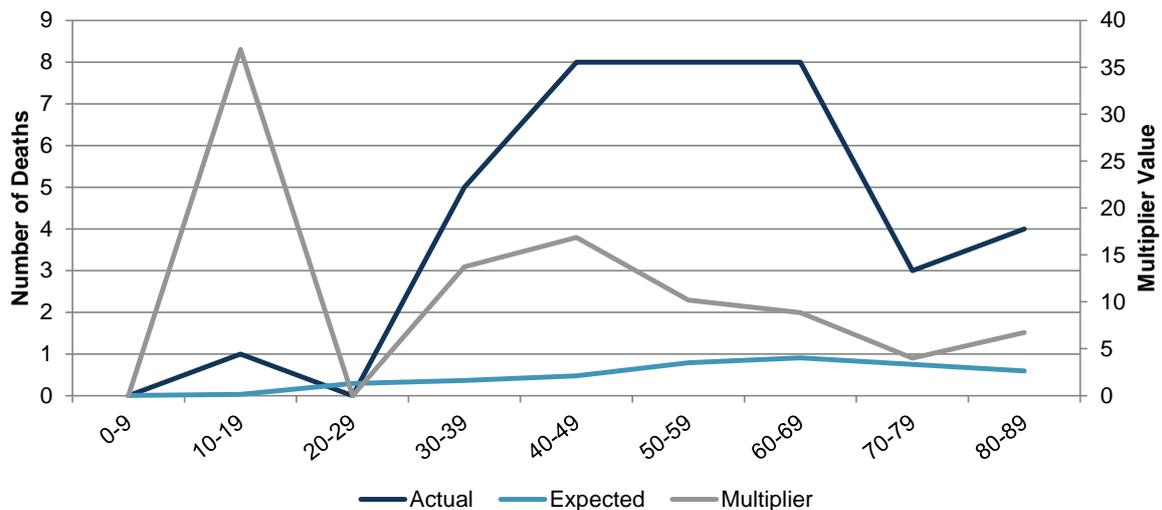
*Figure 32: Actual number of PPO claimant deaths, expected number of PPO claimant deaths
assuming unimpaired mortality, and the multiplier (actual / expected),
by age of claimant at settlement date*

In total there have been 37 observed deaths since settlement, against an expected number of 4.2 deaths assuming unimpaired mortality, representing a multiplier of 8.8 (for male and female PPO claimants combined). This result is statistically significant. We note, once again, the inherent bias in this analysis (and other analyses in Appendix Q to this report), in that we will not observe people living much longer than expectations for a very long time to come, which is more likely to overstate mortality than to understate mortality.

Reserves for Motor (non-MIB) PPO claims

In Appendix R to this report, we provide a number of summary statistics in relation to the size of reserves for Motor (non-MIB) PPO claims.

In order to consider the size of reserves on a consistent basis, we have estimated the total cost and outstanding reserve for each of the Motor (non-MIB) PPO claims in the quantitative industry survey on a cashflow basis. Given the approximations and assumptions inherent in the underlying analysis, the results here and in Appendix R to this report should be treated with caution.

Figure 33 is intended to give a broad indication only of the proportion of the reserves for PPO claims within published Motor reserves, and is discussed in more detail in Appendix R to this report (in Section R.1) together with the full definitions of the two measures shown in Figure 33, namely "known PPO reserve only" and "range including IBNR reserve element".
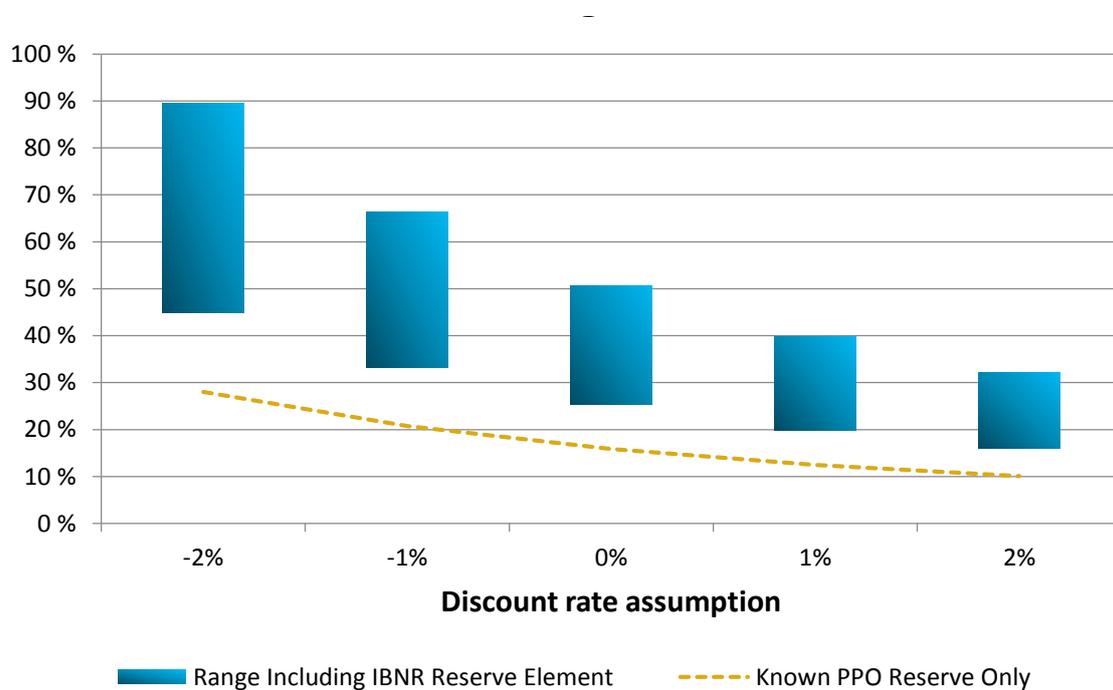
Figure 33: Reserves for Motor (non-MIB) PPO claims, estimated by the IFoA PPO Working Party, as a proportion of total Motor reserves, as presented in the PRA returns

Figure 33 suggests that PPO claims in payment may make up between 10% and 28% of Motor case estimates (as presented in the PRA returns), depending on the real discount rate assumed. Allowing for IBNR PPO claims, reserves for PPO claims may make up between 16% and 90% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns), again depending on the real discount rate assumed. At the real discount rate most commonly being used by insurers participating in the qualitative industry survey, namely 0% per annum, PPO claims in payment may make up about 16% of Motor case estimates (as presented in the PRA returns), and reserves for PPO claims, allowing for IBNR PPO claims, may make up between 25% and 51% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns).

Figure 34 compares our estimate of outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment), as at 31 December 2015, using discount rate assumptions ranging from -2% per annum to +2% per annum, to an estimate at the prevailing Ogden discount rate of +2.5% per annum.

Real Discount Rate	Reserve Multiple
-2.0%	3.05
-1.0%	2.26
0.0%	1.73
1.0%	1.36
2.0%	1.10
2.5%	1.00

Figure 34: Reserves for Motor (non-MIB) PPO claims, as at 31 December 2015,
at various real discount rates, estimated by the IFoA PPO Working Party,
expressed as a multiple of the reserve estimated at a +2.5% per annum real discount rate

We discuss the Ogden discount rate further in a later section of this report, including the impact of a reduction in the Ogden discount rate from 2.5% per annum to -0.75% per annum (as announced by the Lord Chancellor on 27 February 2017, effective from 20 March 2017 in England, Wales and Northern Ireland; and as announced by the Scottish Ministers on 27 March 2017, effective from 28 March 2017 in Scotland).

Highlights of the 2016 qualitative industry survey

In this section, we provide some of the key highlights of the responses to the 2016 qualitative industry survey. We provide more detail around the responses to the qualitative industry survey in Appendix S to this report.

16 insurers and 4 reinsurers were interviewed for the qualitative industry survey, the responses having been collected between December 2015 and February 2016 inclusive. The companies which have agreed to be acknowledged for their participation in this survey are listed in the Introduction to this report, although please note that the list does not include all participants.

It is worth noting that, very occasionally, some of the survey questions were unanswered by some participants. This was occasionally through choice, but more commonly as the interviewee did not know the answer or could not readily obtain the information.

It is also worth noting that, due to the timing of the 2016 qualitative industry survey, the responses were given prior to the change in the Ogden discount rate and are therefore representative of the situation under the prevailing discount rate at the time, namely 2.5% per annum.

Level of concern about PPO claims

For both participating insurers and reinsurers, the level of concern about PPO claims has, for the most part, remained at the same level since the previous year.

Reserving for PPO claims

Nearly two-thirds of participating insurers use a probabilistic approach to mortality in reserving for settled PPO claims with a quarter using an annuity certain approach. A wider variety of approaches are used for reserving for future PPO claims, with most insurers considering future pure IBNR PPO claims within the methods used for future PPO claims on existing large claims, and only a small number reserving for future pure IBNR PPO claims explicitly. For future PPO claims, nearly three-quarters of participating insurers discount to valuation date with the remainder discounting to future expected settlement date.

In valuing PPO claims for reserving purposes, all participating insurers discounted their PPO cashflows.

For participating insurers, the range of real discount rates (considering both the inflation of payments and discounting in respect of investment returns) for reporting under current UK Generally Accepted Accounting Principles ("GAAP") / International Financial Reporting Standards ("IFRS") was between -1.5% per annum and +1% per annum, with the most commonly used real discount rate being 0% per annum. While the range of real discount rates used by insurers has remained constant since our previous survey, the distribution of the real discount rates used has narrowed with more insurers opting for a 0% per annum real discount rate.

For participating reinsurers that establish their own reserves for PPO claims as opposed to using estimates made by cedant insurers, the range of real discount rates for reporting under current UK GAAP / IFRS was between -1.0% per annum and +3.5% per annum.

For those participating insurers using a fixed assumption, the range of ASHE inflation rates used was between +2.5% per annum and +4.5% per annum, with the distribution shifting downwards compared with last year. For those participating insurers using a fixed assumption, the range of investment returns used was between +2.0% per annum and +5.0% per annum, with the distribution once again shifting downwards compared with last year.

Under Solvency II, as the investment return assumption is prescribed by the European Insurance and Occupational Pensions Authority ("EIOPA"), it is the choice of the ASHE (or payment) inflation rate that will determine the real discount rate used. Just under half of participating insurers maintained the ASHE inflation rate used under current UK GAAP / IFRS, with two insurers maintaining a 0% per annum real discount rate by setting the ASHE assumption to equal the EIOPA rate.

The majority of participating insurers and reinsurers did not make an allowance within their reserves for the impact of variation orders or indemnity / reverse indemnity guarantees coming into force, and instead valued PPO claims based on the current payment schedule alone. This finding is unsurprising, given that very few variation orders or indemnity / reverse indemnity guarantees have been triggered to date.

Most participating insurers did not include a bad debt provision for PPO claims under current UK GAAP / IFRS but did include a bad debt provision under Solvency II.

The majority of participating insurers and reinsurers held non-PPO reserves based on the prevailing Ogden discount rate of +2.5% per annum, and held a margin for the possibility of the Ogden discount rate decreasing from that rate.

Treatment of PPO claims within capital modelling

The majority of participating insurers and half of participating reinsurers used an internal model or partial internal model to allow for PPO claims in the Solvency Capital Requirement ("SCR") calculation, with the remainder using the Standard Formula.

Of those participating insurers using an internal model, half had an explicit stochastic PPO model. All participating reinsurers using an internal model also had an explicit stochastic PPO model.

In terms of the allowance for PPO claims under Pillar I (which considers the 1/200 level over a one year time horizon) and for the Own Risk and Solvency Assessment ("ORSA") under Pillar III (which considers the volatility of the run off to ultimate), almost all participating insurers for which this work has been finalised for PPO claims noted a lower capital requirement for Pillar I vs Pillar III. Some noted, however, that they had not seen a difference between the two or that they were assuming they were the same.

Treatment of PPO claims within pricing

All participating insurers allow for the cost of PPO claims within their pricing, although just over 80% only do so implicitly. All participating insurers allow for the cost of capital for PPO claims when pricing, albeit only implicitly in all cases. Half of participating reinsurers explicitly allow for PPO claims in the pricing of their contracts.

The impact of PPO claims on reinsurance purchase and availability

Only one participating insurer had explicitly changed its reinsurance programme as a result of PPO claims, with another participating insurer having tried to change its reinsurance programme but unable to as PPO claims would have made the cost too high. In contrast, three quarters of participating reinsurers had changed their reinsurance offerings as a result of PPO claims.

Of those participating reinsurers continuing to write Motor Excess of Loss ("XoL") business, there was either a strong preference for or a requirement for capitalisation clauses. However, only a quarter of participating insurers had a capitalisation clause on their reinsurance contracts.

Alternative risk transfer for PPO claims

Of the participating insurers, all but one respondent would consider transferring the risk associated with PPO claims if the right option arose. The most significant hurdles in constructing a transaction were a prohibitively high price of such risk transfer solutions, and the lack of a solution that matched to ASHE inflation.

Investment strategy in relation to PPO exposures

About half of the participating insurers and reinsurers had changed their investment strategy as a result of PPO claims, although none of these changes had occurred within the last year. Most did not hold ring-fenced assets specifically for PPO liabilities. Among the investment issues highlighted were finding assets to match the long durations associated with PPO claims and finding assets that track a similar index to ASHE.

Ogden discount rate

Background

The Damages Act 1996 provided for the Lord Chancellor (and his / her counterparts in Scotland), after consulting the Government Actuary and HM Treasury, to prescribe the rate of return to be used for assessing the amount of damages in respect of future loss in personal injury cases. The higher the discount rate, the lower the required lump sum award.

The most important conclusion in the Wells vs Wells judgement ([1999] 1AC 345) of the House of Lords was that the damages in respect of future pecuniary loss should be based on the real yields available on index-linked gilts ("ILGs"). The Wells vs Wells judgement specified a discount rate of 3.0% per annum to be used in such cases.

In July 2001, following a consultation exercise, the Lord Chancellor set the discount rate to be used in such cases to be 2.5% per annum for England, Wales and Northern Ireland. In February 2002, the same rate was set for Scotland by the Scottish Ministers.

Since that time, claimants' representatives have long been arguing that the rate is too high and judicial review proceedings have been brought in this regard, including Helmot vs Simon (2010), Love vs Dewsbury (2010), Harries vs Stevenson (2012), Tortolano vs Ogilvie Construction Ltd (2013) and Russell vs Health Service Executive (2014).

The UK Ministry of Justice ("MoJ") issued a consultation paper on 31 July 2012 on the subject of the determination of the discount rate underlying the future care and future loss of earnings components of damage awards ("Damages Act 1996: The Discount Rate. How should it be set?").

The MoJ then issued a second consultation paper on 12 February 2013 ("Damages Act 1996: The Discount Rate. Review of the Legal Framework"). The MoJ identified two broad methodologies that might be adopted to set the discount rate: (a) To use an ILGs-based methodology applied to current data (option 1); (b) To move from an ILGs-based calculation to one based on a mixed portfolio of appropriate investments (option 2). However, the MoJ has not established any principles for how the rate would be obtained using the second approach, and how it would be adjusted for risk.

The MoJ announced in 2014 its intention to establish a panel of three experts "to provide advice about the investments that claimants in personal injury cases should be assumed to make with their lump sum damages for future pecuniary loss and the expected yields from those investments". A panel of independent experts was established, and their report was published this year.

The Lord Chancellor announced on 27 February 2017 that the UK discount rate would be reduced from 2.5% per annum to -0.75% per annum, effective from 20 March 2017. On 27 March 2017, effective from 28 March 2017, the same rate was set for Scotland by the Scottish Ministers.

The Lord Chancellor's statement explained that the specified discount rate was obtained by taking the three year simple average gross real redemption yield on ILGs as at 31 December 2016 excluding those ILGs with less than 5 years to maturity. This real yield of -0.83% per annum was then rounded to the nearest 0.25% points to acknowledge the inherent uncertainties and imprecisions involved in setting a representative discount rate, thereby leading to a discount rate of -0.75% per annum.

It is worth noting that the real yield on ILGs has fallen substantially over a number of years (see Figure 35), and has continued to remain at a low level since 31 December 2016, and so the same calculation with no change in methodology would be expected to produce a lower discount rate today and in the near future.
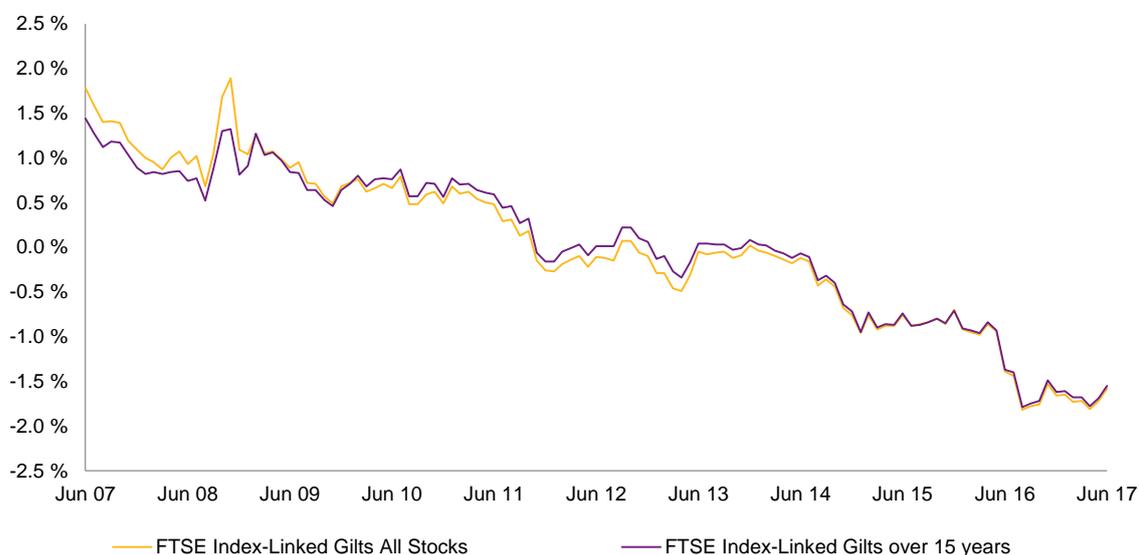
Source: FTSE (semi-annual gross redemption yield at 3% inflation assumption), Willis Towers Watson investment practice

Figure 35: Historical real yield on index-linked gilts
(all stocks and those with a term to maturity of over 15 years)

The MoJ issued a further consultation paper on 30 March 2017 entitled "The Personal Injury Discount Rate – How it should be set in future", the consultation closing on 11 May 2017. The core issues examined in the consultation paper were: (a) What principles should guide how the rate is set? (Are the present principles still fit for purpose? What should the principles be? What investment returns should be taken into account in setting the rate? Should the possibility of a PPO affect the decision as to the relevant investments?); (b) How often should the rate be set? (Should this be left open, as now, or would a set pattern of review be better? Would an annual, three year or five year system be better? Should reviews be triggered by degrees of change in investment returns?); (c) Who should set the discount rate? (Should the power to do so remain with the Lord Chancellor and his / her counterparts in Scotland, or would it be better for someone else, possibly an expert panel, to set the rate?). The consultation paper also considered whether sufficient use was being made of PPOs.

On 7 September 2017, the Lord Chancellor announced the results of the review, saying that there would be a change in the methodology underlying the determination of the discount rate for personal injury claims, and noting that the new discount rate may lie within the range of 0% per annum to 1% per annum when this new methodology has been implemented.

Impact of a reduction in the discount rate to -0.75% per annum

The reduction in the discount rate from 2.5% per annum to -0.75% per annum has a significant impact on the value of individual claim settlements.

Figure 36 and Figure 37 illustrate the percentage increases in the whole of life and loss of earnings multipliers by age at trial and gender, taken from the Ogden tables.

Age at Date of Trial	Males			Females		
	2.50% Real Yield (1)	-0.75% Real Yield (2)	Percentage Increase ((2) - (1)) / (1)	2.50% Real Yield (1)	-0.75% Real Yield (2)	Percentage Increase ((2) - (1)) / (1)
5	34.90	118.67	240%	35.47	125.20	253%
10	34.08	108.31	218%	34.75	114.70	230%
20	32.10	88.96	177%	32.97	94.99	188%
30	29.60	71.43	141%	30.68	76.95	151%
40	26.52	55.66	110%	27.76	60.52	118%
50	22.69	41.44	83%	24.14	45.71	89%
60	18.30	29.19	60%	19.83	32.68	65%

Figure 36: Multipliers for pecuniary loss for life from the Ogden tables
(males Table 1 and females Table 2) assuming no impairment,
for discount rates of 2.5% per annum and -0.75% per annum

Age at Date of Trial	Males			Females		
	2.50% Real Yield (1)	-0.75% Real Yield (2)	Percentage Increase ((2) - (1)) / (1)	2.50% Real Yield (1)	-0.75% Real Yield (2)	Percentage Increase ((2) - (1)) / (1)
20	26.64	52.02	95%	26.88	52.71	96%
30	22.84	38.71	69%	23.09	39.27	70%
40	18.09	26.52	47%	18.30	26.88	47%
50	12.11	15.29	26%	12.26	15.50	26%
60	4.60	4.98	8%	4.64	5.02	8%

Figure 37: Multipliers for loss of earnings to pension age 65 from the Ogden tables
(males Table 9 and females Table 10) assuming no impairment,
for discount rates of 2.5% per annum and -0.75% per annum

Following the Lord Chancellor's announcement on 27 February 2017, a claim was settled as a PPO claim with damages totalling £28 million, reported to be the highest settlement that has been approved in respect of a personal injury claim. The lump sum element of the PPO claim was revised from an initial agreed figure of £4.9 million in January 2017 to a revised figure of £9.1 million in March 2017.

In terms of industry impact, estimates vary considerably, but figures of £4 billion to £6 billion one-off reserve charges for insurers and reinsurers have been discussed in the insurance press. Insurance premiums have increased and look set to continue to increase, with Motor Comprehensive premiums increasing by 8.4% in the second quarter of 2017 (largely attributable to the reduction in the discount rate and an increase in Insurance Premium Tax) and by 18.5% in the year to 30 June 2017, according to the Confused.com Car Insurance Price Index in association with Willis Towers Watson. Prior to the 1 July reinsurance renewal, reports were circulating that Motor reinsurers were seeking to double rates.

A big unknown at this stage is the likely impact on PPO propensity. Will insurers and reinsurers now prefer a PPO to a lump sum? Will lump sums now be seen as relatively more attractive than PPOs for claimants?

IFoA PPO Working Party output

The data for the IFoA PPO Working Party 2016 quantitative industry survey was taken as at 31 December 2015, with the responses for the qualitative industry survey having been collected between December 2015 and February 2016 inclusive.

As such, the analysis and exhibits presented in this report are under the prevailing discount rate at the time, namely 2.5% per annum.

However, as part of the 2017 industry survey (which will be documented in due course), the IFoA PPO Working Party has supplemented the 2017 qualitative survey (conducted in winter 2016-2017 and spring 2017, which considered the 2016 year-end position with respect to the discount rate) with a second round of questions (in spring 2017) specifically in relation to the change in the discount rate.

The IFoA PPO Working Party is also aiming to collate additional statistics as part of the 2017 quantitative survey to assess the PPO propensity immediately before and since the change in the discount rate.

We ask that as many participants provide us with as much information as possible, to enable the most up-to-date information being made available to the market. Once again, we are very grateful to all the participants, without whom the industry survey would not be possible.

IFoA PPO Working Party output

Appendix A   Glossary of terms

ASHE   Annual Survey of Hours and Earnings

AWE   Average Weekly Earnings

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

EIOPA   European Insurance and Occupational Pensions Authority

FRC   Financial Reporting Council

GAAP   Generally Accepted Accounting Principles

IFoA   Institute and Faculty of Actuaries

IFRS   International Financial Reporting Standards

ILG(s)   Index-linked gilt(s)

MoJ   Ministry of Justice

Ogden tables   Government Actuary's Department's "Actuarial Tables with explanatory notes for use in Personal Injury and Fatal Accident Cases" published by The Stationery Office

ONS   Office for National Statistics

ORSA   Own Risk and Solvency Assessment

PPO(s)   Periodical Payment Order(s)

PRA   Prudential Regulation Authority

RPI   Retail Prices Index

SCR   Solvency Capital Requirement (under the Solvency II regime)

TAS   Technical Actuarial Standard

XoL   Excess of Loss (reinsurance programme)

Appendix B   Standardisation for PPO propensity statistics

The data collected for the quantitative industry survey clearly shows that the likelihood of a claim settling as a PPO varies with the size of the claim, with larger claims being more likely to have settled as a PPO (see Figure F.12 and Figure G.8, for example).

In our statistics looking at the change in PPO propensity by settlement year, we have therefore considered a standardised PPO propensity which adjusts for (or removes) the volatility in the PPO propensity arising from differences in the mix of large claims by amount between years.

In this appendix, we explain the standardisation basis for Motor (non-MIB) claims and for Liability claims. The data collected from the MIB does not include non-PPO large claims, and so we are not able to produce PPO propensity statistics or standardised PPO propensity statistics for MIB claims.

B.1   Standardisation for Motor (non-MIB) claims

Figure B.1 shows the proportion of Motor (non-MIB) large claims in each claim size band, for each settlement year. The claim size thresholds are defined in 2011 terms, indexed at 7% per annum.
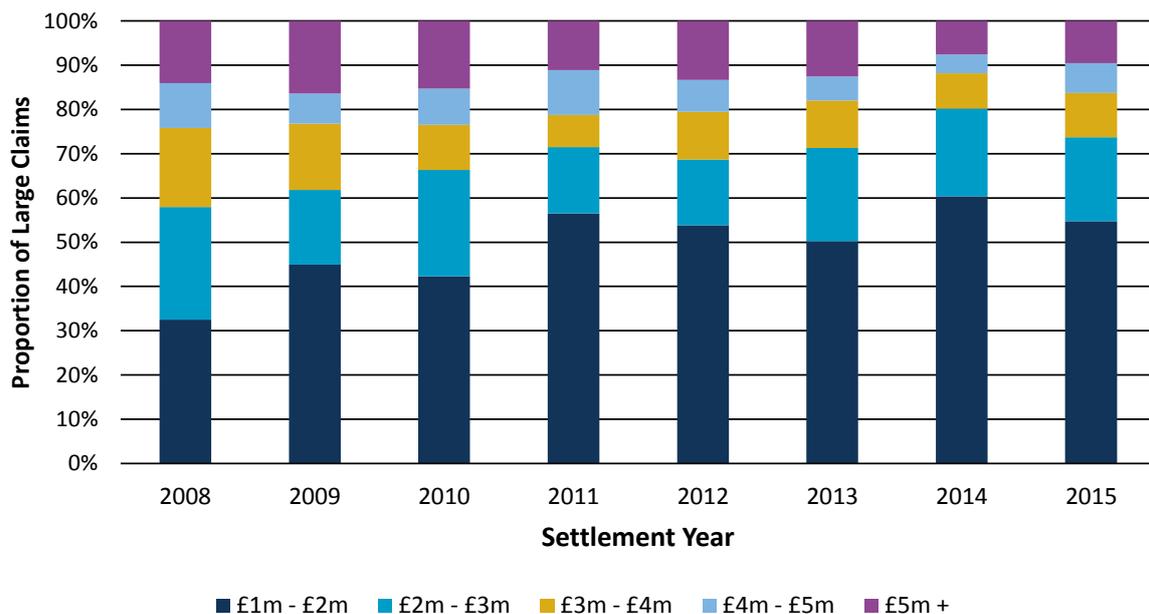
Figure B.1: Proportion of Motor (non-MIB) large claims in each claim size band,
by settlement year

Averaging across settlement years 2009 to 2015 gives the proportion of large claims in each claim size band shown in Figure B.2, and this is the large claim distribution that underlies the standardised Motor (non-MIB) PPO propensity figures discussed in this report. (Settlement year 2008 appears to have fewer of the smaller large claims, and so has been excluded from the averaging.)
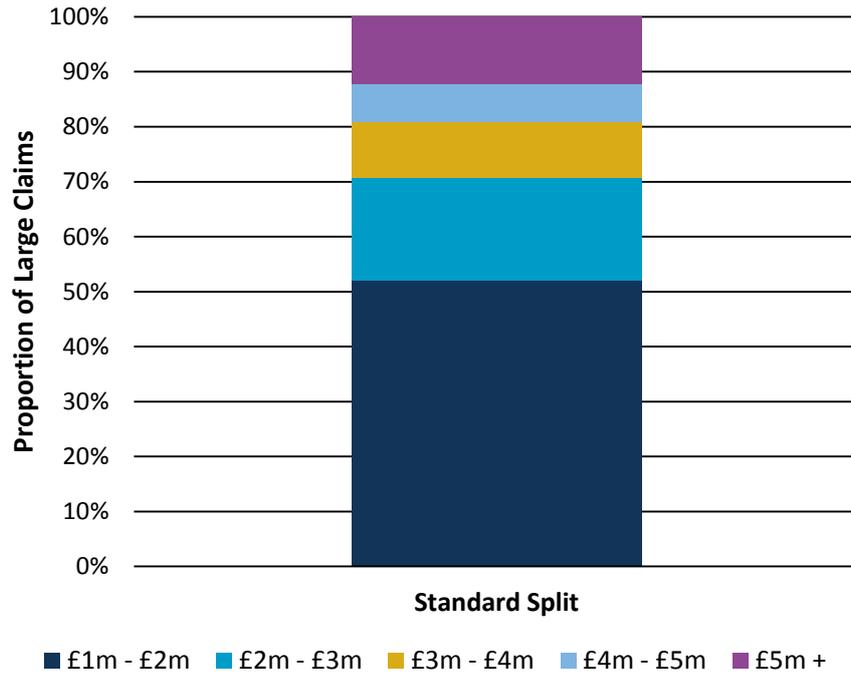
Figure B.2: Proportion of Motor (non-MIB) large claims in each claim size band,
averaged across settlement years 2009 to 2015 inclusive, used for standardisation

The standardised Motor (non-MIB) PPO propensity for a given year is estimated by combining the Motor (non-MIB) PPO propensities for each claim size band for that settlement year, as shown in Figure F.13, with the proportion of large claims in each claim size band shown in Figure B.2.

B.2   Standardisation for Liability claims

Figure B.3 shows the proportion of Liability large claims in each claim size band, for each settlement year. The claim size thresholds are defined in 2011 terms, indexed at 7% per annum. Averaging across settlement years 2009 to 2015 (for consistency with the Motor analysis) gives the proportion of large claims in each claim size band shown in Figure B.4, and this is the large claim distribution that underlies the standardised Liability PPO propensity figures discussed in this report. The standardised Liability propensity for a given year is estimated by combining the Liability PPO propensities for each claim size band for that settlement year, as shown in Figure G.10, with the proportion of large claims in each claim size band shown in Figure B.4.
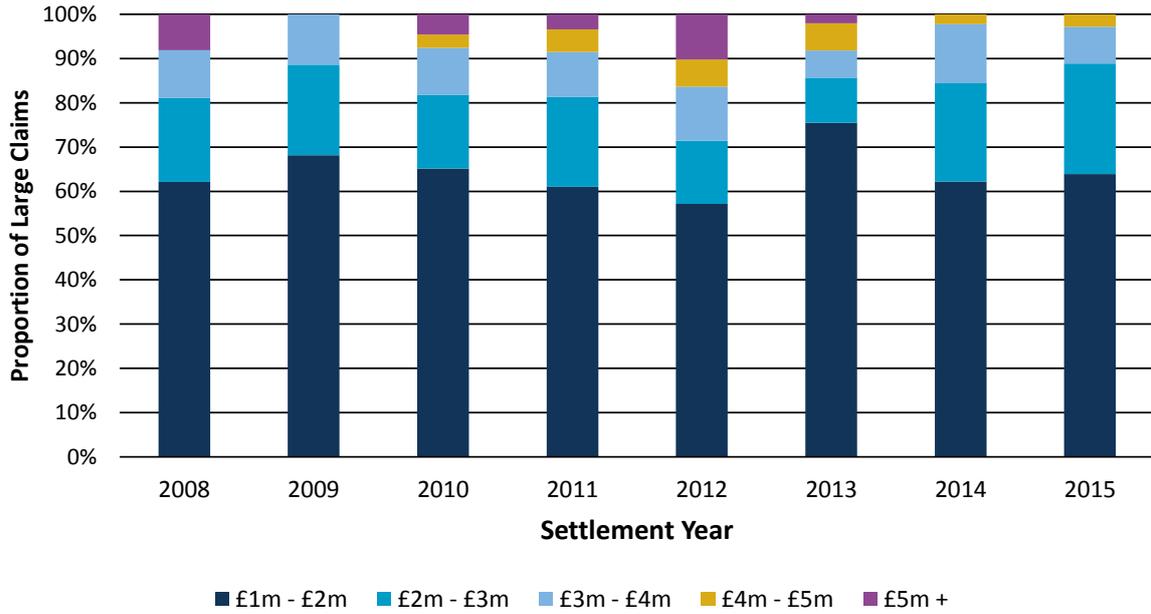
Figure B.3: Proportion of Liability large claims in each claim size band,
by settlement year
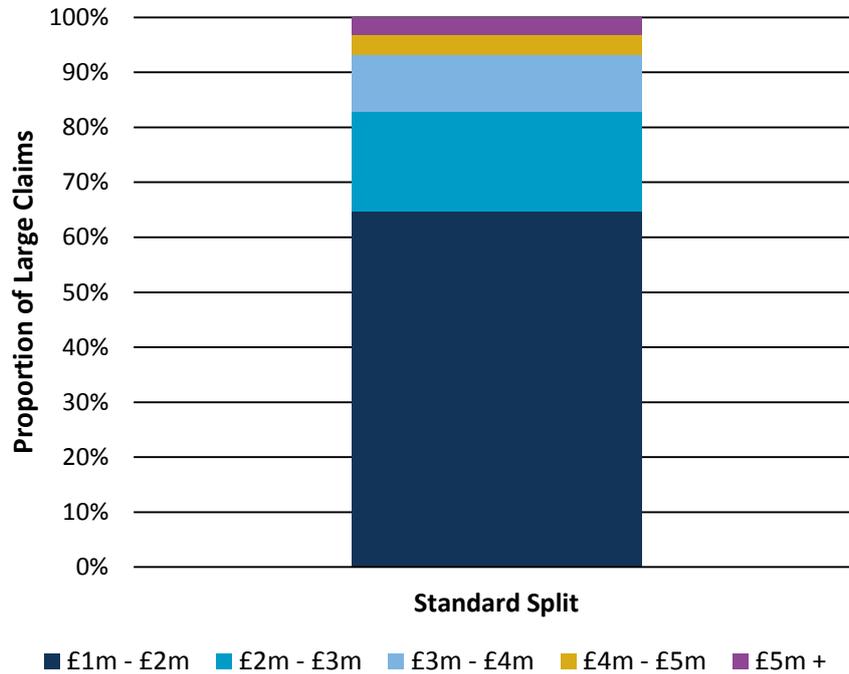
Figure B.4: Proportion of Liability large claims in each claim size band,
averaged across settlement years 2009 to 2015 inclusive, used for standardisation

Appendix C — Definitions of large claims, and incremental and cumulative thresholds

C.1   Large claims

The PPO propensity statistics discussed in this report are defined as the number of PPO claims as a proportion of large claims.

The definition of a large claim is a claim that is greater than £1 million in 2011 terms, indexed at 7% per annum. So, if considering settlement year, a claim settling in 2008 is deemed large if it is greater than £816,298 ($£1,000,000 \times 1.07^{-3}$), and a claim settling in 2015 is deemed large if it is greater than £1,310,796 ($£1,000,000 \times 1.07^{4}$).

In a number of the analyses summarised in this report, we consider claims in various claim size bands. In each case, the claim size thresholds are also defined in 2011 terms, indexed at 7% per annum. A claim falls in a given band if it is greater than or equal to the lower bound of the band, but less than the upper bound of the band (where there is an upper bound). For PPO claims, the claim size is determined using a real discount rate of 2.5% per annum.

C.2   Incremental threshold and cumulative threshold

A number of the analyses are described as using incremental thresholds and cumulative thresholds.

In an incremental threshold analysis, a claim will only fall in a single claim size band. In a cumulative threshold analysis, a claim may fall in multiple claim size bands.

For example, considering the two Motor (non-MIB) PPO propensity figures below, a £3.25 million claim (in 2011 terms) will fall in the £3m-£4m band in Figure C.1, and it will fall in each of the £1m+, £1.5m+, £2m+, £2.5m+ and £3m+ bands in Figure C.2.
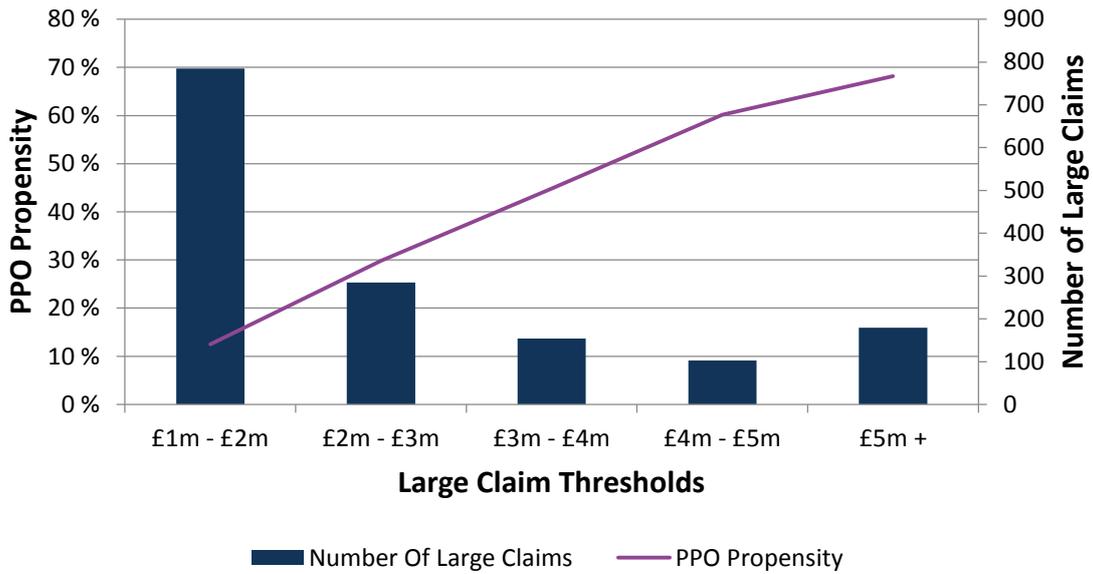
Figure C.1: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009
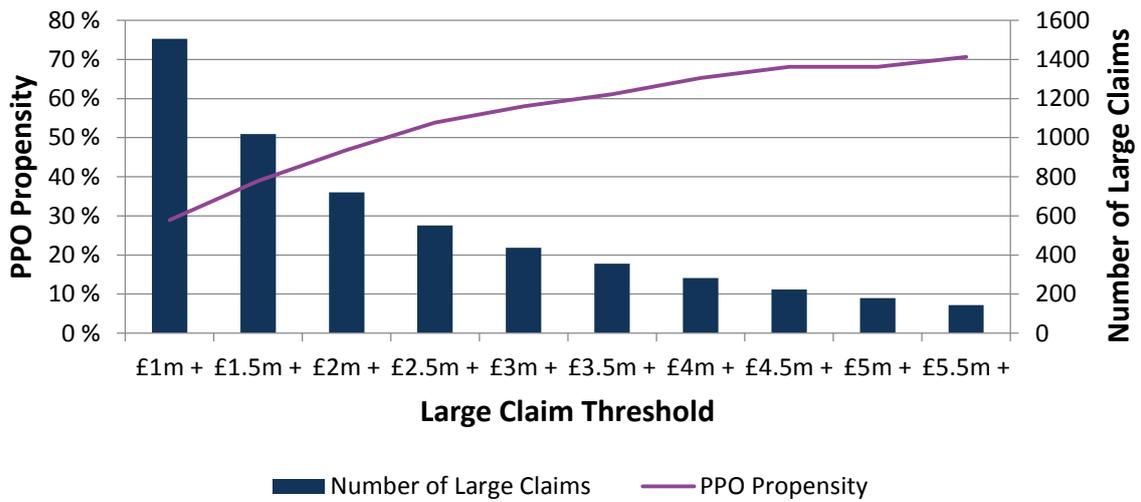
Figure C.2: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), for claims settled since 2009

Appendix D   Summary statistics for all PPO claims

In this appendix, we provide summary statistics for all of the PPO claims in the quantitative industry survey, for the following characteristics:

- Age of claimant at settlement (years)
- Delay from accident date until settlement date (years)
- Future life expectancy at settlement date (years)
- Life expectancy reduction (years)
- Initial annual PPO payment (summed across all heads of damage) (£ nominal)
- Lump sum payment (£ nominal).

The figures are shown cumulative across all settlement years, and also separately for the pre-2015 settlement years and the 2015 settlement year alone.

Where only a single claim is available in a given cohort (i.e. a sample size of 1), summary statistics are not provided for reasons of data protection.

The figures have not been adjusted for inflation and so may under-estimate the size profile of future PPO claims. It is worth noting that the average settlement date of a PPO claim contained within the quantitative industry survey is as follows:

- The average settlement date of a non-MIB Motor PPO claim is November 2011.
- The average settlement date of a MIB Motor PPO claim is December 2010.
- The average settlement date of a Liability PPO claim is April 2011.

D.1   Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	34.1	28.8	16.4	0.9	509
Delay until settlement	6.3	5.5	3.3	1.3	502
Future life expectancy at settlement	45.0	47.1	18.4	-0.3	491
Life expectancy reduction	10.8	8.7	11.8	1.6	474
Annual PPO payment (£)	88,189	60,939	73,736	1.5	509
Lump sum (£)	1,844,289	1,644,570	1,149,740	1.6	507
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	33.9	28.4	16.2	0.9	461
Delay until settlement	6.3	5.6	3.3	1.3	455
Future life expectancy at settlement	45.4	47.3	18.0	-0.4	443
Life expectancy reduction	10.8	8.9	11.7	1.6	428
Annual PPO payment (£)	86,458	60,000	72,549	1.5	461
Lump sum (£)	1,796,049	1,621,000	1,125,220	1.7	459
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	35.3	31.0	18.5	0.8	47
Delay until settlement	5.8	4.9	3.5	1.7	46
Future life expectancy at settlement	42.1	44.0	21.7	0.0	47
Life expectancy reduction	11.7	8.2	12.7	1.6	45
Annual PPO payment (£)	105,134	81,452	83,298	1.1	47
Lump sum (£)	2,314,100	2,031,941	1,285,020	0.9	47

Figure D.1: Summary statistics for Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	33.1	26.2	16.2	1.0	371
Delay until settlement	6.2	5.4	3.3	1.4	369
Future life expectancy at settlement	45.9	47.8	17.4	-0.4	360
Life expectancy reduction	11.1	9.1	11.9	1.7	344
Annual PPO payment (£)	87,567	60,000	75,846	1.6	371
Lump sum (£)	1,846,771	1,641,748	1,169,495	1.7	370
Pre 2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	32.8	26.1	15.8	1.0	336
Delay until settlement	6.2	5.5	3.3	1.4	334
Future life expectancy at settlement	46.2	47.8	16.7	-0.4	325
Life expectancy reduction	11.1	9.5	11.8	1.7	311
Annual PPO payment (£)	85,562	60,000	74,270	1.7	336
Lump sum (£)	1,807,592	1,625,000	1,143,523	1.7	335
2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	35.9	30.3	19.6	0.8	34
Delay until settlement	5.9	4.8	3.6	1.8	34
Future life expectancy at settlement	42.6	47.0	23.4	-0.1	34
Life expectancy reduction	10.7	7.6	12.2	1.7	32
Annual PPO payment (£)	107,315	68,342	88,492	1.1	34
Lump sum (£)	2,231,086	1,880,034	1,355,335	1.2	34

Figure D.2: Summary statistics for Private Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	36.8	32.3	16.7	0.7	138
Delay until settlement	6.6	5.8	3.3	1.2	133
Future life expectancy at settlement	42.8	43.8	20.5	-0.2	131
Life expectancy reduction	10.2	8.1	11.8	1.3	130
Annual PPO payment (£)	89,861	75,000	67,709	1.0	138
Lump sum (£)	1,837,585	1,670,800	1,094,578	1.2	137
Pre 2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	37.1	33.2	16.9	0.7	125
Delay until settlement	6.7	5.9	3.3	1.2	121
Future life expectancy at settlement	43.0	45.0	20.9	-0.2	118
Life expectancy reduction	9.8	7.5	11.4	1.2	117
Annual PPO payment (£)	88,867	70,000	67,650	1.1	125
Lump sum (£)	1,764,866	1,610,500	1,073,592	1.4	124
2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	33.6	31.7	14.9	0.2	13
Delay until settlement	5.5	4.9	3.3	1.8	12
Future life expectancy at settlement	40.9	37.6	16.3	0.4	13
Life expectancy reduction	14.2	11.9	13.6	1.4	13
Annual PPO payment (£)	99,428	86,250	67,530	1.0	13
Lump sum (£)	2,531,213	2,626,435	1,049,072	-0.4	13

Figure D.3: Summary statistics for Commercial Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	34.4	29.5	16.9	0.8	230
Delay until settlement	5.9	5.1	3.0	1.1	230
Future life expectancy at settlement	42.6	43.6	17.5	-0.2	223
Life expectancy reduction	12.6	11.1	12.4	1.7	215
Annual PPO payment (£)	92,530	61,000	79,896	1.5	230
Lump sum (£)	1,819,766	1,632,709	1,088,691	0.9	230
Pre 2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	33.8	28.8	16.6	0.8	208
Delay until settlement	5.9	5.2	3.0	1.0	208
Future life expectancy at settlement	43.2	44.0	17.0	-0.2	201
Life expectancy reduction	12.7	11.1	12.7	1.7	194
Annual PPO payment (£)	90,513	60,013	79,407	1.6	208
Lump sum (£)	1,779,825	1,602,500	1,039,475	0.7	208
2015	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	40.0	31.7	18.9	0.8	21
Delay until settlement	5.7	4.7	3.3	1.9	21
Future life expectancy at settlement	36.9	42.8	21.3	0.0	21
Life expectancy reduction	12.0	11.9	9.4	0.9	20
Annual PPO payment (£)	112,620	81,452	83,750	0.5	21
Lump sum (£)	2,211,313	1,757,000	1,452,463	1.3	21

Figure D.4: Summary statistics for Private Comprehensive Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	29.9	24.8	13.2	1.5	59
Delay until settlement	7.5	6.3	3.8	1.3	59
Future life expectancy at settlement	50.5	54.7	14.5	-0.7	57
Life expectancy reduction	10.7	9.1	10.3	1.5	49
Annual PPO payment (£)	81,528	63,922	64,551	2.0	59
Lump sum (£)	1,602,379	1,450,000	788,343	0.6	59
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	30.4	24.9	13.4	1.5	56
Delay until settlement	7.4	6.4	3.7	1.4	56
Future life expectancy at settlement	50.7	53.9	13.7	-0.6	54
Life expectancy reduction	9.8	9.1	8.3	0.2	47
Annual PPO payment (£)	77,584	67,461	52,737	1.0	56
Lump sum (£)	1,592,274	1,446,875	794,718	0.6	56
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	20.0	19.8	2.3	0.3	3
Delay until settlement	8.1	5.9	4.2	1.6	3
Future life expectancy at settlement	46.5	60.0	24.1	-1.6	3
Life expectancy reduction	30.9	30.9	23.6	-	2
Annual PPO payment (£)	155,151	60,454	155,953	1.7	3
Lump sum (£)	1,791,000	1,450,000	628,990	1.6	3

Figure D.5: Summary statistics for Private Non-Comprehensive Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	32.7	26.9	15.9	1.1	377
Delay until settlement	6.7	5.9	3.4	1.2	377
Future life expectancy at settlement	47.6	51.8	18.2	-0.5	365
Life expectancy reduction	9.5	6.2	12.3	1.9	350
Annual PPO payment (£)	83,753	60,000	68,706	1.5	377
Lump sum (£)	1,732,614	1,574,185	1,108,934	1.7	376
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	32.6	26.8	15.6	1.1	338
Delay until settlement	6.8	5.9	3.4	1.2	338
Future life expectancy at settlement	48.1	53.0	17.7	-0.5	326
Life expectancy reduction	9.2	6.1	12.1	2.0	313
Annual PPO payment (£)	81,612	60,000	66,488	1.5	338
Lump sum (£)	1,669,658	1,500,000	1,066,428	1.8	337
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	33.5	30.3	18.4	0.8	40
Delay until settlement	6.5	5.1	3.7	1.4	39
Future life expectancy at settlement	44.1	44.6	22.3	-0.1	40
Life expectancy reduction	11.5	7.2	13.6	1.6	38
Annual PPO payment (£)	98,876	60,227	83,832	1.4	40
Lump sum (£)	2,287,772	2,129,821	1,285,665	1.0	40

Figure D.6: Summary statistics for Brain injury Motor (non-MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	38.0	33.4	17.8	0.5	107
Delay until settlement	4.7	4.4	2.3	1.7	107
Future life expectancy at settlement	37.1	39.4	15.8	-0.2	102
Life expectancy reduction	15.0	13.9	8.3	0.4	100
Annual PPO payment (£)	111,146	85,000	88,629	1.1	107
Lump sum (£)	2,305,836	2,145,349	1,222,137	1.5	106
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	37.7	33.4	17.7	0.5	101
Delay until settlement	4.8	4.5	2.2	1.7	101
Future life expectancy at settlement	37.4	39.4	15.6	-0.2	96
Life expectancy reduction	15.0	13.9	8.6	0.3	94
Annual PPO payment (£)	108,825	80,000	88,997	1.2	101
Lump sum (£)	2,272,962	2,095,000	1,217,940	1.7	100
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	42.6	37.5	18.9	0.9	6
Delay until settlement	4.0	2.5	2.9	1.9	6
Future life expectancy at settlement	32.6	34.8	17.6	-0.4	6
Life expectancy reduction	14.5	14.9	2.9	-0.2	6
Annual PPO payment (£)	150,208	167,500	71,692	-0.5	6
Lump sum (£)	2,853,749	2,652,057	1,160,211	-0.4	6

Figure D.7: Summary statistics for Spinal injury Motor (non-MIB) PPO claims

D.2 Liability PPO claims

For Figure D.8, only a single claim is present in the 2015 settlement year cohort, and so summary statistics are not provided separately for the pre-2015 settlement years and the 2015 settlement year alone for reasons of data protection. Likewise, for reasons of data protection, summary statistics are not provided separately for Figure D.9 and Figure D.10.

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	45.8	50.5	16.3	-0.4	52
Delay until settlement	6.3	4.5	6.7	5.3	50
Future life expectancy at settlement	30.7	28.2	15.8	0.9	52
Life expectancy reduction	12.7	9.5	13.7	2.2	52
Annual PPO payment (£)	72,570	50,000	68,178	1.4	52
Lump sum (£)	1,577,220	1,209,459	1,180,005	1.5	50

Figure D.8: Summary statistics for Liability PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	45.5	50.5	18.1	-0.5	30
Delay until settlement	6.3	5.1	3.2	1.2	30
Future life expectancy at settlement	32.9	29.8	17.5	0.8	30
Life expectancy reduction	10.9	4.0	16.1	2.4	30
Annual PPO payment (£)	69,256	50,000	69,810	1.8	30
Lump sum (£)	1,370,264	1,021,317	1,254,584	1.8	29

Figure D.9: Summary statistics for Brain injury Liability PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	46.7	47.0	12.9	-0.1	17
Delay until settlement	4.2	4.4	1.1	-0.6	17
Future life expectancy at settlement	25.8	23.0	11.4	0.8	17
Life expectancy reduction	16.6	14.8	8.7	2.1	17
Annual PPO payment (£)	76,044	50,000	62,624	1.1	17
Lump sum (£)	1,817,697	1,680,000	715,721	0.7	16

Figure D.10: Summary statistics for Spinal injury Liability PPO claims

D.3 Motor (MIB) PPO claims

For Figure D.13, only a single claim is present in the 2015 settlement year cohort, and so summary statistics are not provided separately for the pre-2015 settlement years and the 2015 settlement year alone for reasons of data protection.

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	33.9	30.5	12.9	0.6	154
Delay until settlement	7.3	6.5	3.4	1.3	152
Future life expectancy at settlement	42.0	43.0	16.7	-0.3	154
Life expectancy reduction	12.7	10.8	11.2	1.2	154
Annual PPO payment (£)	61,771	42,703	61,726	2.5	154
Lump sum (£)	1,260,279	1,000,000	864,586	2.2	154
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	34.4	31.1	12.7	0.6	146
Delay until settlement	7.2	6.4	3.3	1.3	144
Future life expectancy at settlement	41.8	42.0	16.5	-0.2	146
Life expectancy reduction	12.5	10.8	10.5	0.8	146
Annual PPO payment (£)	62,261	43,328	62,766	2.5	146
Lump sum (£)	1,241,447	1,000,000	866,145	2.3	146
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	26.0	23.0	14.4	1.7	8
Delay until settlement	9.0	8.2	3.5	0.7	8
Future life expectancy at settlement	46.3	54.5	20.2	-1.1	8
Life expectancy reduction	16.8	13.1	19.6	2.1	8
Annual PPO payment (£)	52,822	37,385	36,936	1.5	8
Lump sum (£)	1,603,972	1,668,388	757,424	-0.1	8

Figure D.11: Summary statistics for Motor (MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	32.5	28.3	12.6	0.7	117
Delay until settlement	7.5	6.7	3.5	1.3	115
Future life expectancy at settlement	43.3	44.0	16.9	-0.4	117
Life expectancy reduction	13.0	11.0	12.1	1.2	117
Annual PPO payment (£)	68,180	45,000	64,699	2.5	117
Lump sum (£)	1,268,658	952,052	919,782	2.4	117
Pre 2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	32.8	28.3	12.3	0.7	111
Delay until settlement	7.3	6.6	3.5	1.4	109
Future life expectancy at settlement	43.4	44.0	16.6	-0.4	111
Life expectancy reduction	12.6	10.6	11.2	0.9	111
Annual PPO payment (£)	68,624	45,000	65,753	2.5	111
Lump sum (£)	1,254,966	952,052	925,091	2.5	111
2015	**Mean**	**Median**	**Standard Deviation**	**Skewness**	**Sample Size**
Age at settlement	26.7	22.3	16.6	1.5	6
Delay until settlement	10.0	8.7	3.2	1.0	6
Future life expectancy at settlement	41.2	47.0	20.9	-0.6	6
Life expectancy reduction	21.3	16.3	20.8	1.8	6
Annual PPO payment (£)	59,971	48,510	39,642	1.1	6
Lump sum (£)	1,521,963	1,540,888	772,778	-0.1	6

Figure D.12: Summary statistics for Brain injury Motor (MIB) PPO claims

All	Mean	Median	Standard Deviation	Skewness	Sample Size
Age at settlement	38.0	39.0	14.5	0.3	15
Delay until settlement	7.9	7.8	3.6	0.3	15
Future life expectancy at settlement	37.1	40.0	13.6	0.2	15
Life expectancy reduction	13.3	14.7	5.5	-0.5	15
Annual PPO payment (£)	49,317	32,000	51,516	2.8	15
Lump sum (£)	1,565,450	1,590,000	586,778	0.4	15

Figure D.13: Summary statistics for Spinal injury Motor (MIB) PPO claims

Appendix E   Number of PPO claim settlements

In this appendix, we provide summary statistics for the number of PPO claims in the quantitative industry survey, by settlement quarter and by settlement year.

E.1   Motor (non-MIB) PPO claims and Liability PPO claims combined
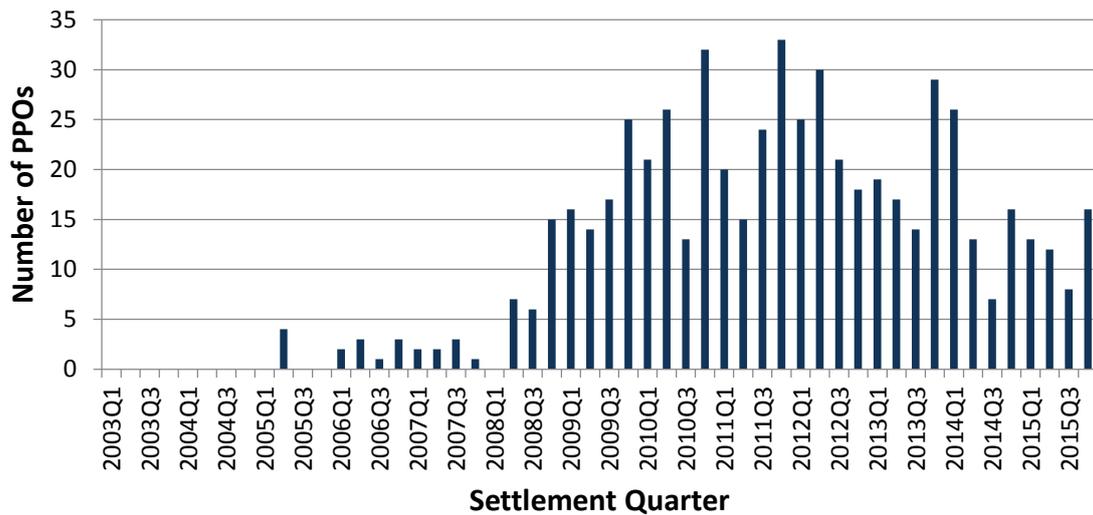
Figure E.1: Number of (non-MIB) PPO claims, by settlement quarter
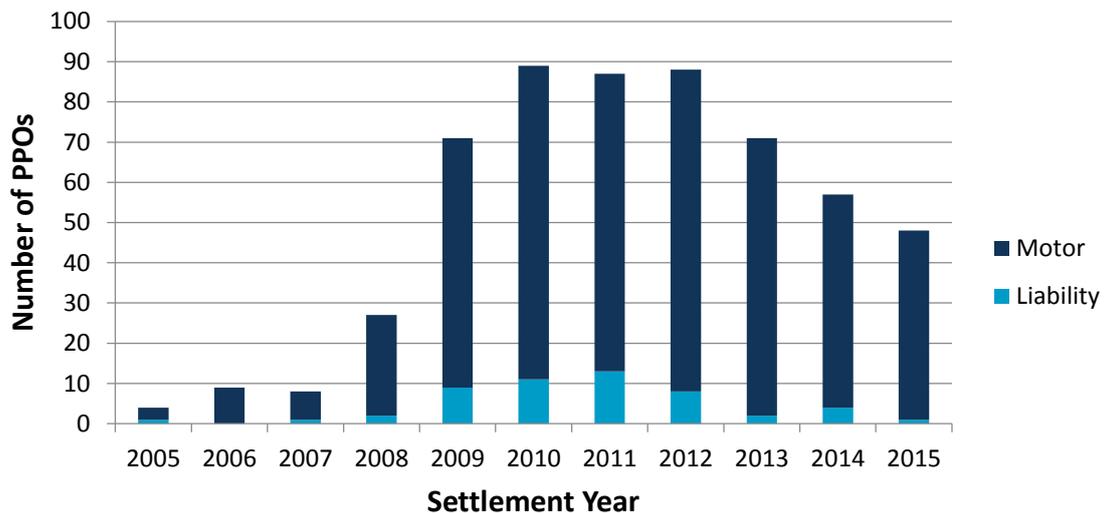
Figure E.2: Number of (non-MIB) PPO claims, by settlement year – Motor and Liability
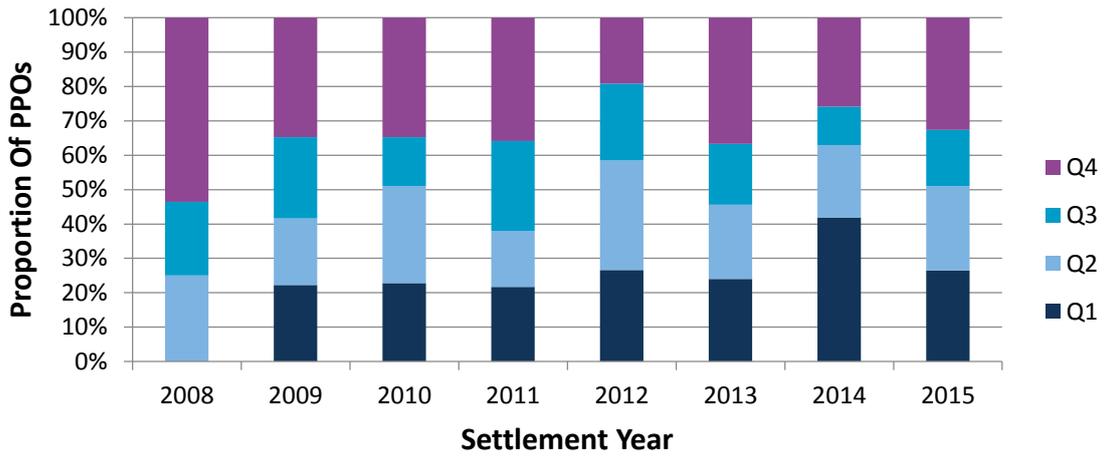
Figure E.3: Proportion of (non-MIB) PPO claims that settle in each quarter, by settlement year
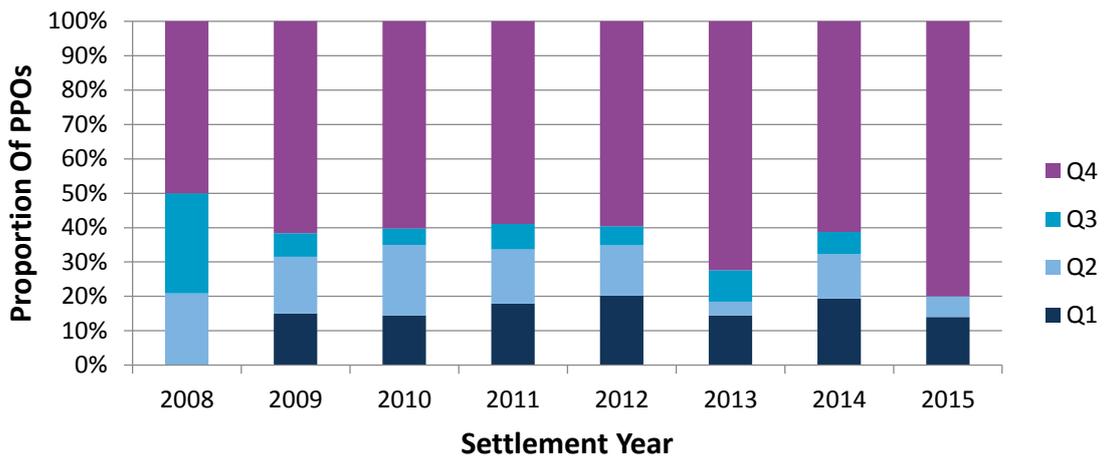
Figure E.4: Proportion of (non-MIB) PPO claims that are paid (i.e. start) in each quarter, by settlement year

E.2   Motor (non-MIB) PPO claims
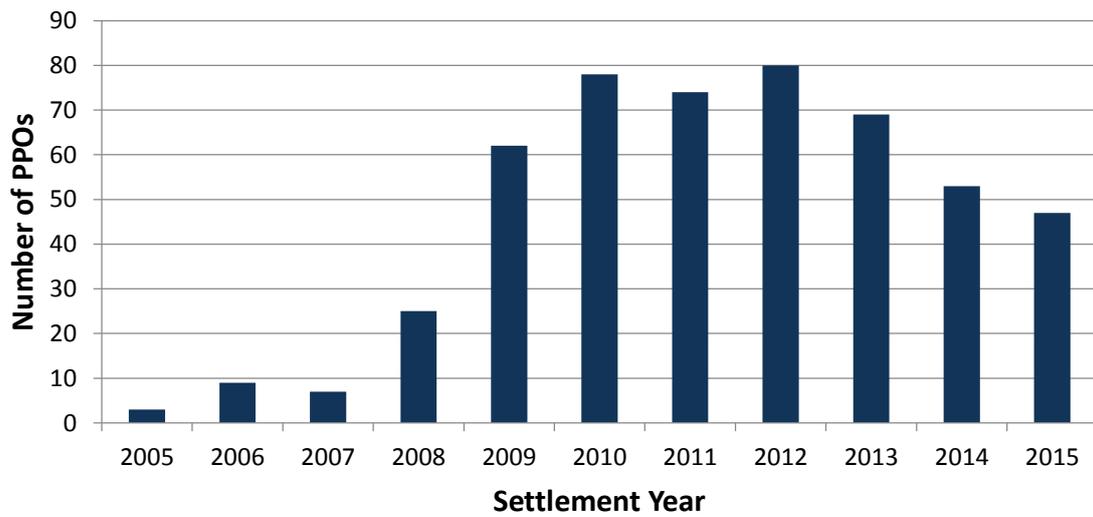
Figure E.5: Number of Motor (non-MIB) PPO claims, by settlement year
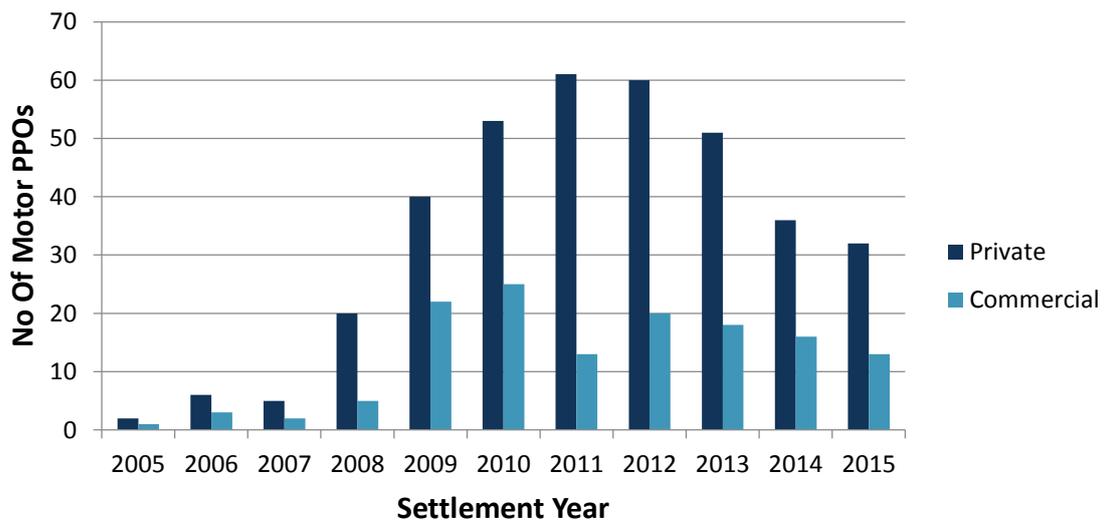
Figure E.6: Number of Motor (non-MIB) PPO claims,
for Private and Commercial Motor, by settlement year
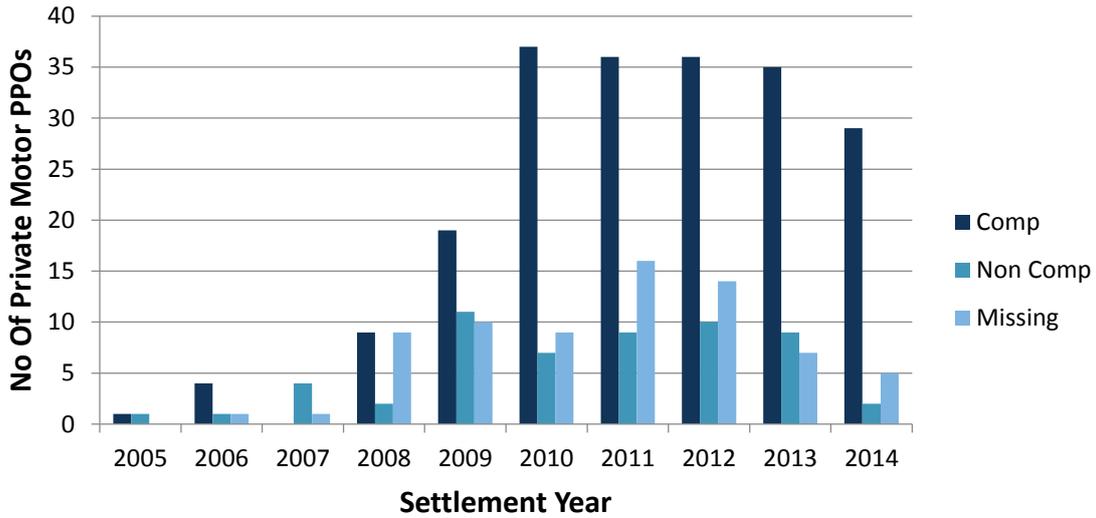
Figure E.7: Number of Motor (non-MIB) PPO claims,
for Private Motor, by settlement year and by cover type

E.3 Liability PPO claims
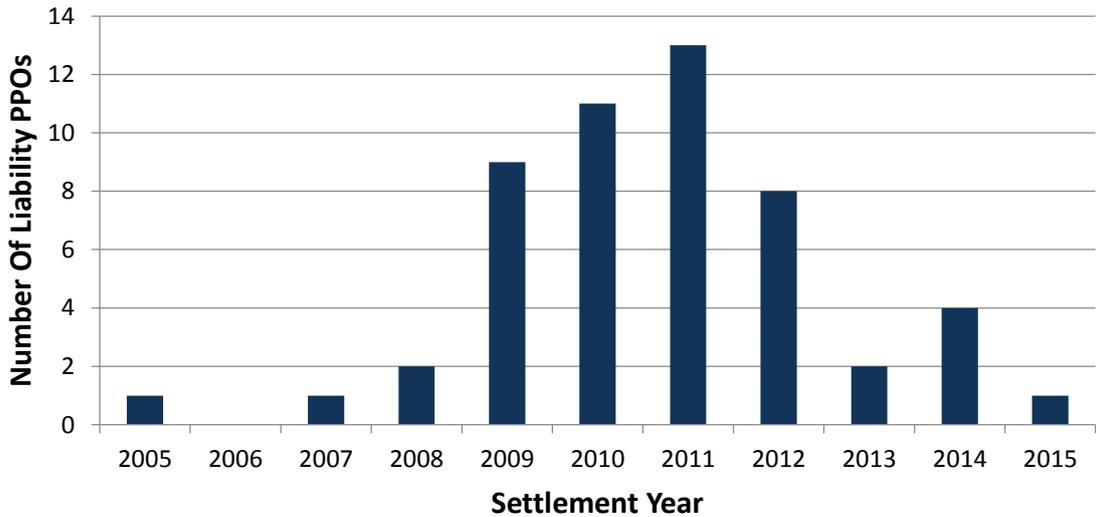
Figure E.8: Number of Liability PPO claims, by settlement year

E.4   Motor (MIB) PPO claims
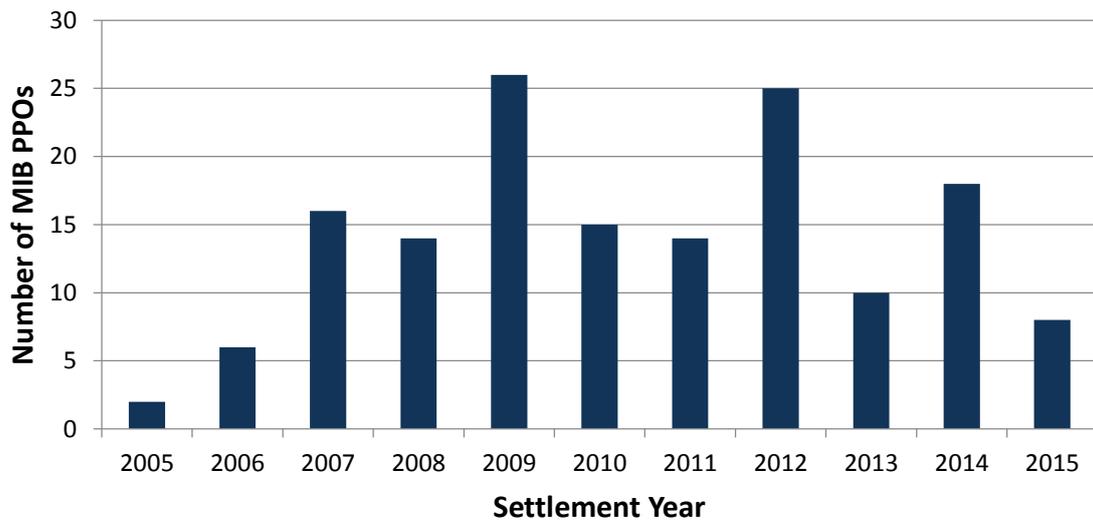
Figure E.9: Number of Motor (MIB) PPO claims, by settlement year

E.5   Motor (MIB) PPO claims versus the rest of the industry (i.e. Motor (non-MIB)) PPO claims
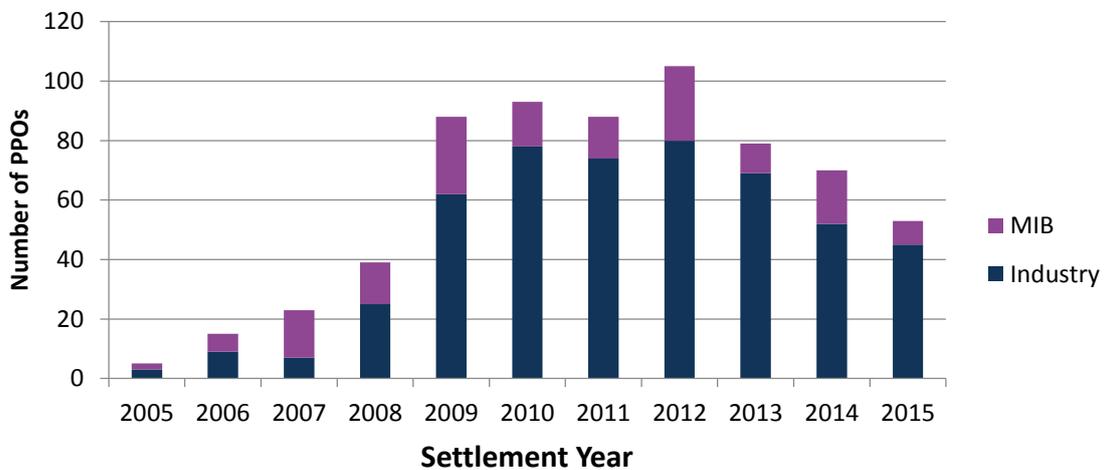
Figure E.10: Number of PPO claims, by settlement year – MIB and the rest of the industry
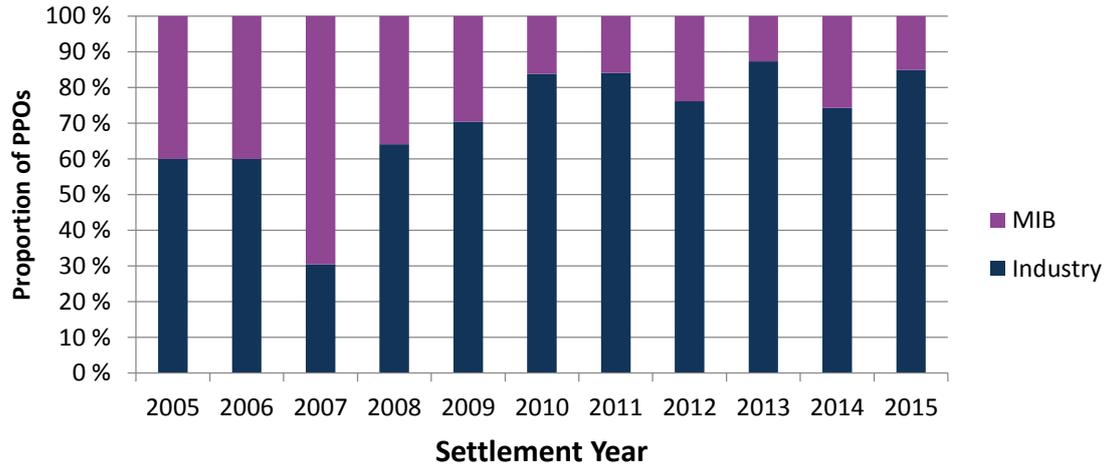
Figure E.11: Proportion of PPO claims, by settlement year – MIB and the rest of the industry

Appendix F   Propensity of Motor (non-MIB) PPO claims

In this appendix, we provide summary statistics for the propensity of Motor (non-MIB) PPO claims by:

- Settlement year
- Insurer
- Cover type and class of business
- Incremental large claim threshold band (two different sets of bandings)
- Cumulative large claim threshold band (two different sets of bandings)
- Type of injury
- Claimant characteristics (age at accident and gender)
- Driver characteristics (age at accident and gender).

Unless otherwise specified, the propensity is expressed as the number of PPO claims as a proportion of the number of large claims.

The PPO propensity for settlement year 2008 (at 13.4% using the above definition) is considerably lower than that for subsequent years (at a weighted average of 29.8% for 2009-2015 inclusive), and so the data underlying the summary statistics within this appendix have been restricted to settlement years 2009 and post to reduce the potential for distortion.

See Appendix C for the definition of a large claim, and an explanation of the incremental threshold analysis and the cumulative threshold analysis. See Appendix B for an explanation of the standardisation basis used for Motor (non-MIB) claims.

F.1   Propensity by settlement year
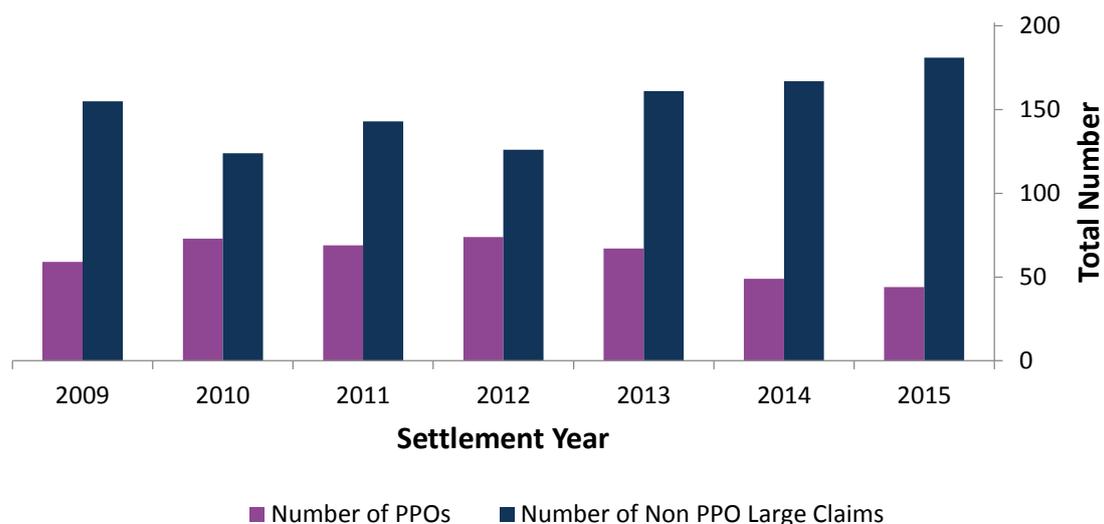
Figure F.1: Number of Motor (non-MIB) PPO claims and Motor (non-MIB) non-PPO large claims underlying the PPO propensity statistics, by settlement year
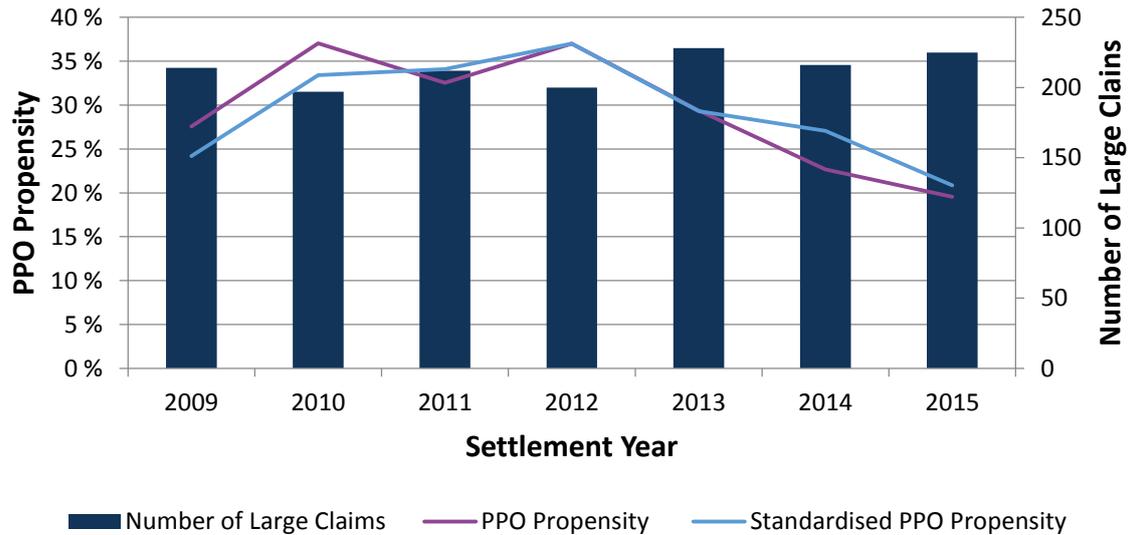
Figure F.2: Motor (non-MIB) PPO propensity and standardised Motor (non-MIB) PPO propensity, by settlement year

Figure F.3 uses a different measure of PPO propensity, expressing the number of PPO claims as a proportion of the average gross earned premium. The number of PPO claims settled in a given year is divided by an average gross earned premium based on the premium earned over a six year period starting seven years earlier (i.e. the number of PPO claims settled in 2012 is divided by the average annual amount of gross premium earned during the period 2006 to 2011 inclusive). These PPO propensity figures include all PPO claims and not just those over £1 million, and are in terms of the number of PPO claims per £1,000 million of gross earned premium.

Figure F.3: Motor (non-MIB) PPO propensity, expressed as the number of PPO claims as a proportion of the average gross earned premium, by settlement year

Figure F.4 also uses a different measure of PPO propensity, expressing the number of PPO claims as a proportion of the average earned vehicle years. The number of PPO claims settled in a given year is divided by an average earned vehicle years based on the vehicle years earned over a six year period

starting seven years earlier (i.e. the number of PPO claims settled in 2012 is divided by the average annual vehicle years earned during the period 2006 to 2011 inclusive). These PPO propensity figures include all PPO claims and not just those over £1 million, and are in terms of the number of PPO claims per million earned vehicle years.
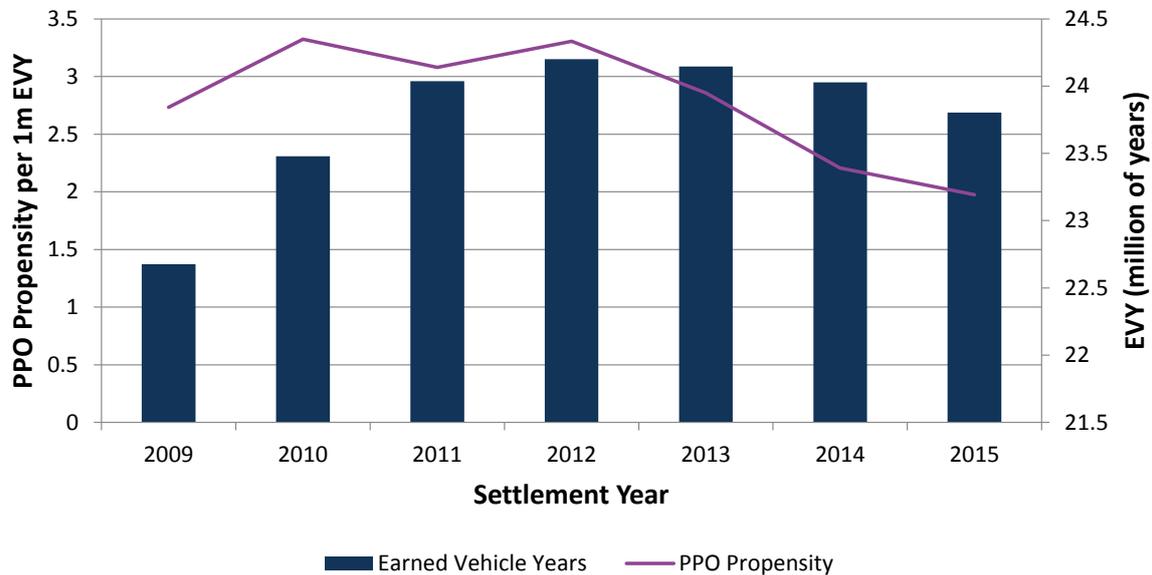
Figure F.4: Motor (non-MIB) PPO propensity, expressed as the number of PPO claims as a proportion of the average earned vehicle years, by settlement year

F.2   Propensity by insurer
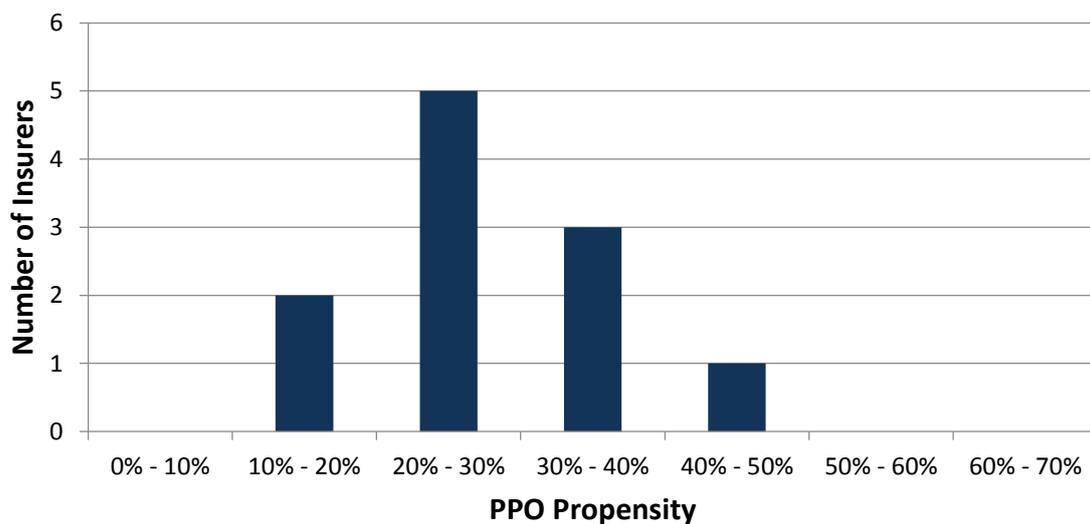
Figure F.5: Distribution of Motor (non-MIB) PPO propensity
for insurers that have settled at least 25 large claims (including PPO claims) in the last five years,
for claims settled since 2009
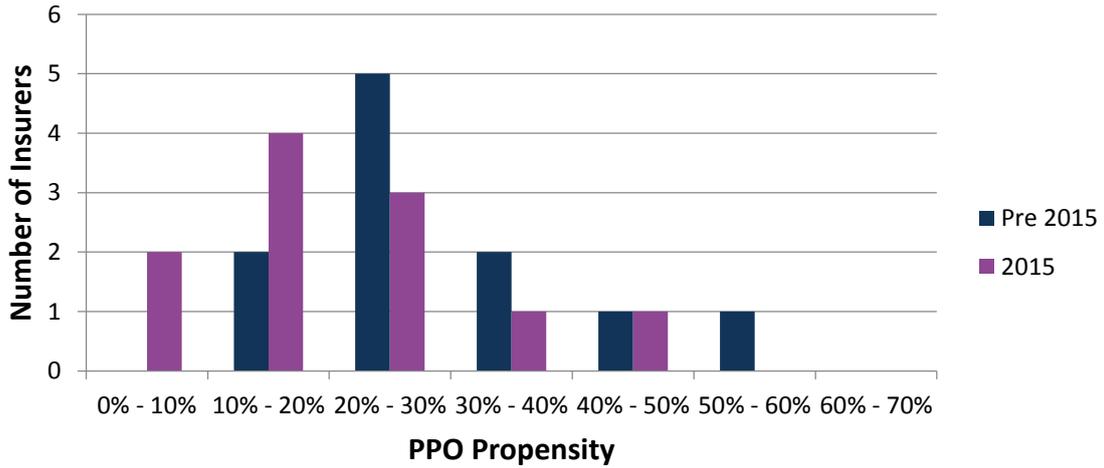
Figure F.6: Distribution of Motor (non-MIB) PPO propensity
for insurers that have settled at least 25 large claims (including PPO claims) in the last five years,
separately for claims settled between 2009 and 2014 and claims settled in 2015

In Figure F.7, the size of the bubble (the area) represents the number of insurers in a given propensity band.
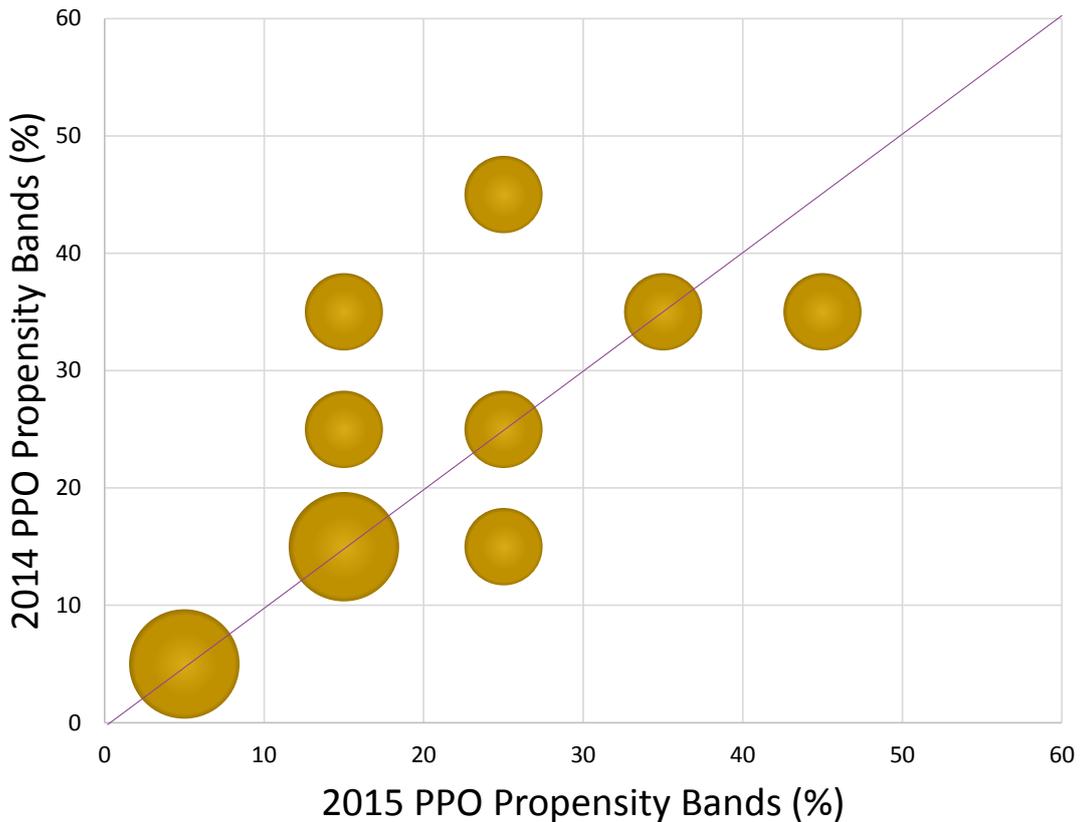
Figure F.7: Distribution of Motor (non-MIB) PPO propensity
for insurers that have settled at least 25 large claims (including PPO claims) in the last five years,
comparing the PPO propensity of claim settlements in 2014 with those in 2015

F.3 Propensity by cover type and class of business
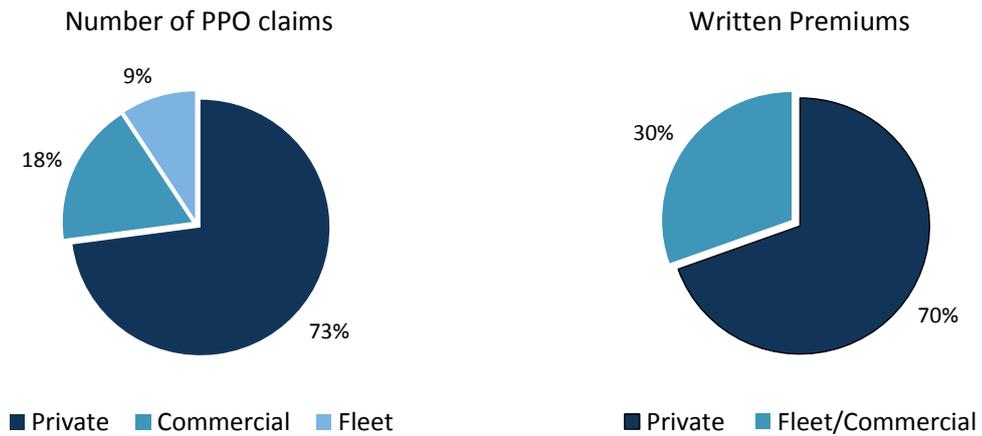
Number of PPO claims

Private: 73%
Commercial: 18%
Fleet: 9%

Written Premiums

Private: 70%
Fleet/Commercial: 30%

Figure F.8: Private / Commercial split of the number of Motor (non-MIB) PPO claims and Motor written premiums

Number of PPO claims

Comp: 80%
Non Comp: 20%

Written Premiums

Comp: 90%
Non Comp: 10%

Exposed Vehicle Years

Comp: 92%
Non Comp: 8%
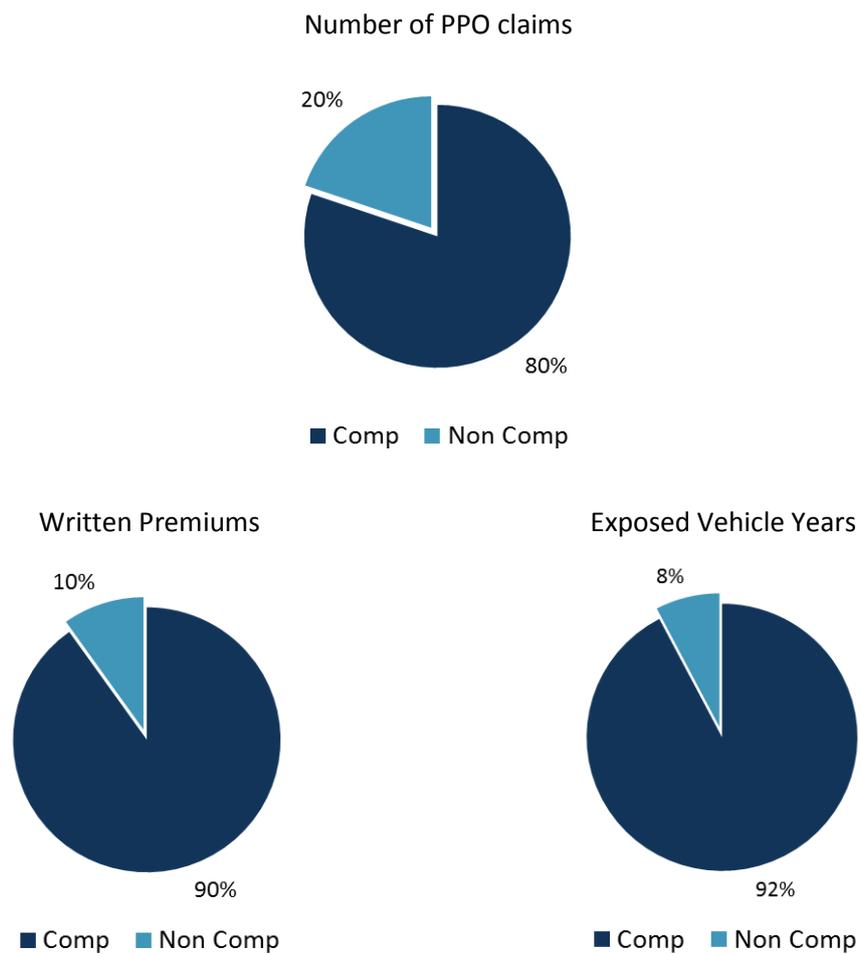
Figure F.9: Private Motor Comprehensive/ Non-Comprehensive split of the number of Motor (non-MIB) PPO claims, Motor written premiums and Motor vehicle years exposed
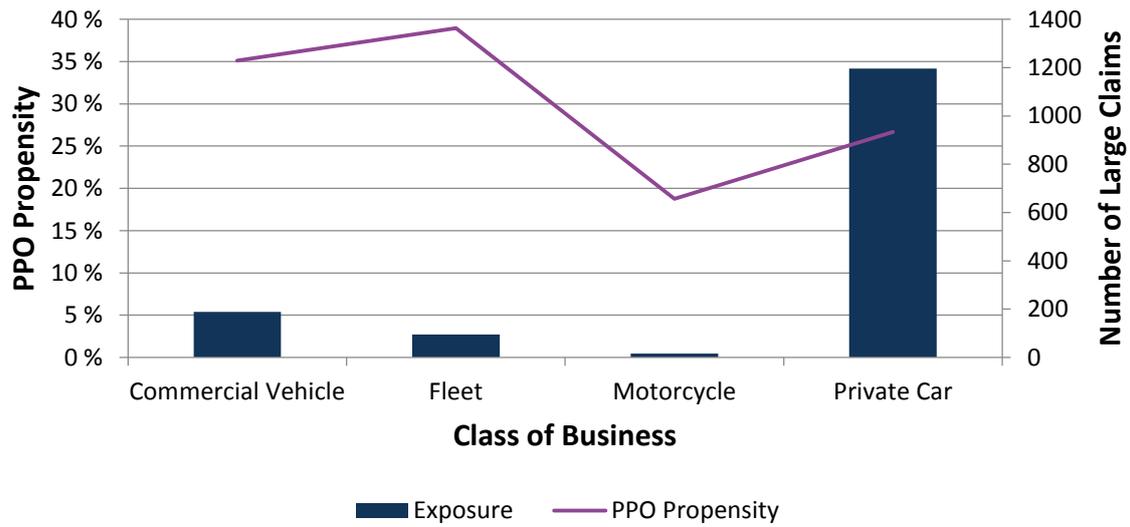
Figure F.10: Motor (non-MIB) PPO propensity, by class of business, for claims settled since 2009

Figure F.11: Motor (non-MIB) PPO propensity, for Private and Commercial Motor, by settlement year

F.4   Propensity by incremental large claim threshold band
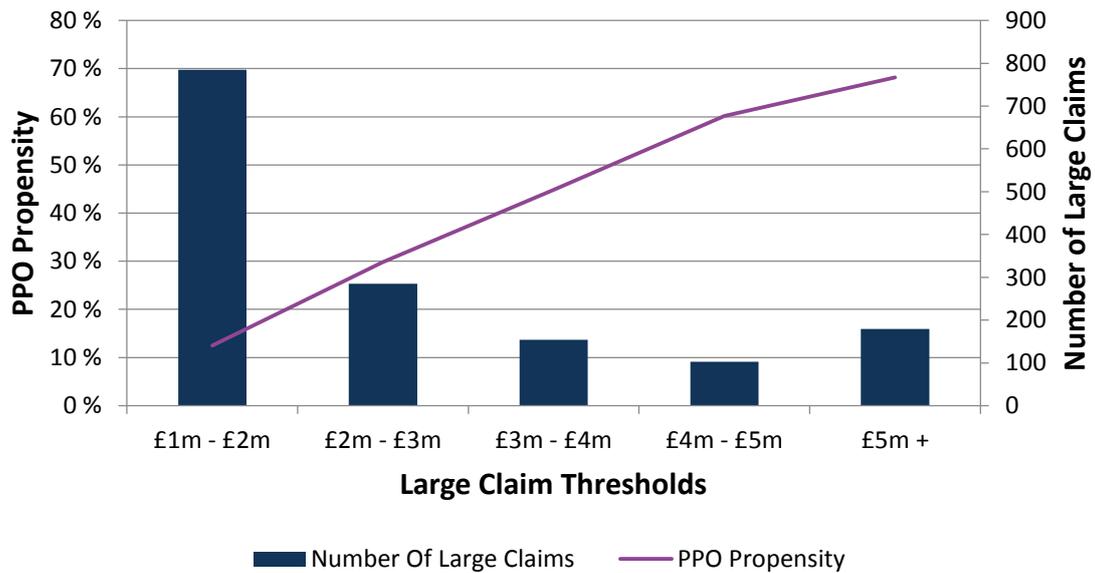
Figure F.12: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009

Figure F.13: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009
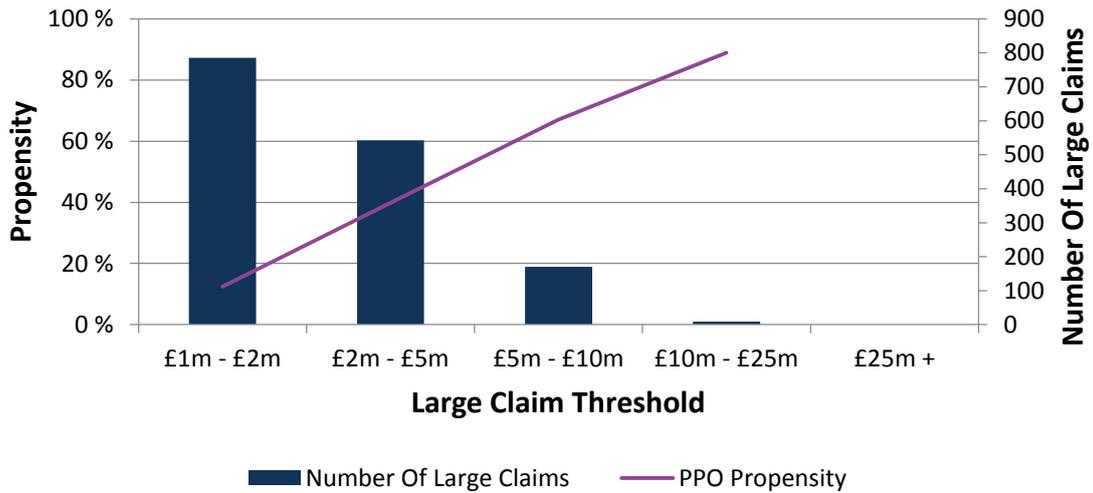
Figure F.14: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009

Figure F.15: Motor (non-MIB) PPO propensity, by incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009

F.5   Propensity by cumulative large claim threshold band
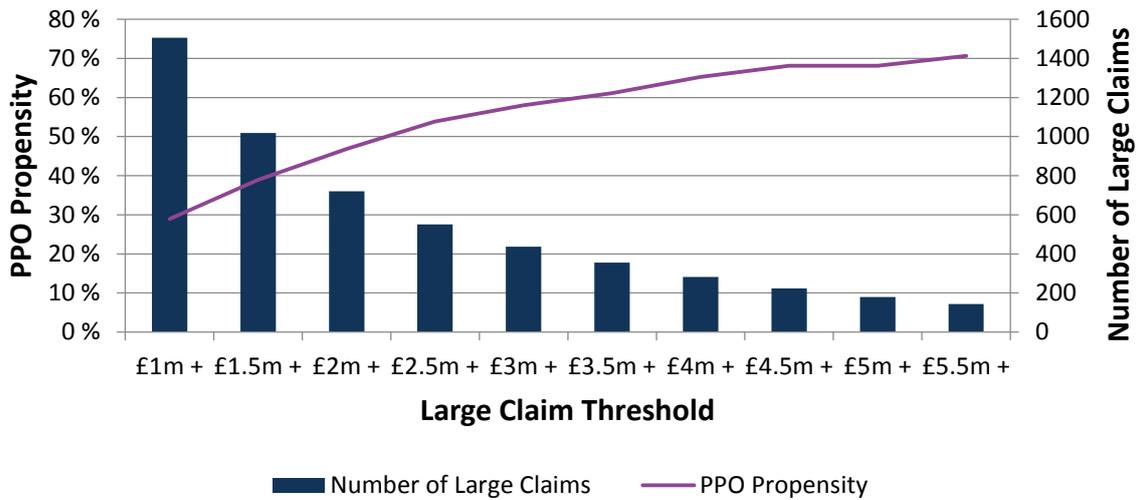
Figure F.16: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), for claims settled since 2009
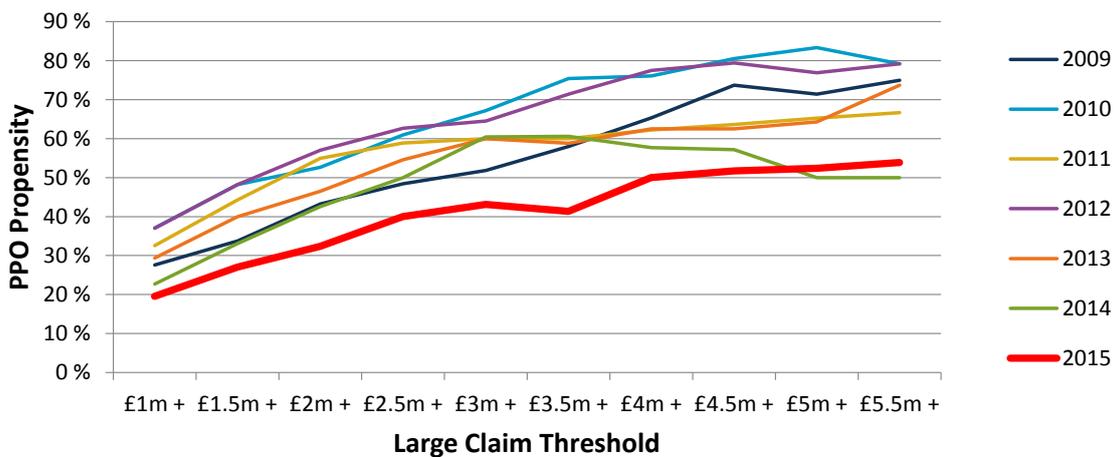
Figure F.17: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009
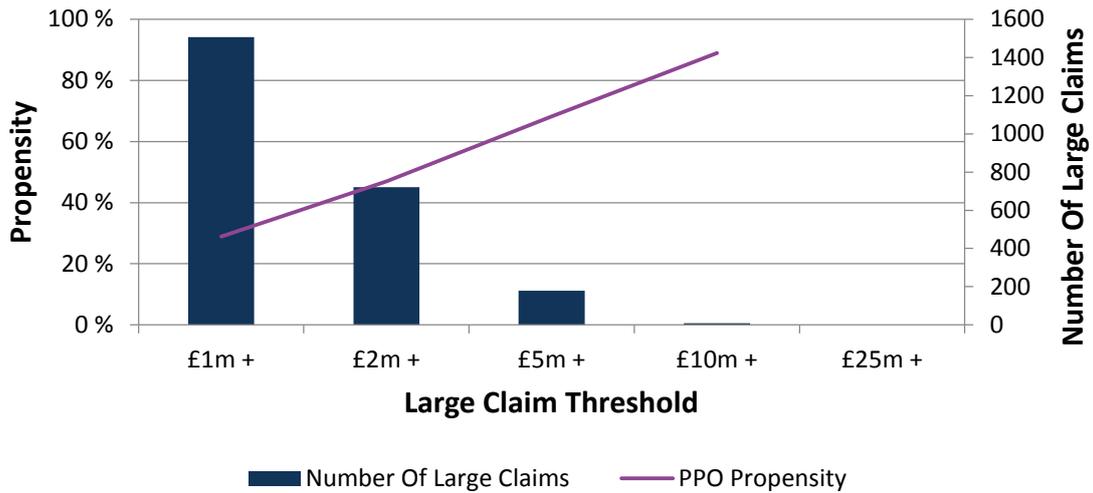
Figure F.18: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), for claims settled since 2009
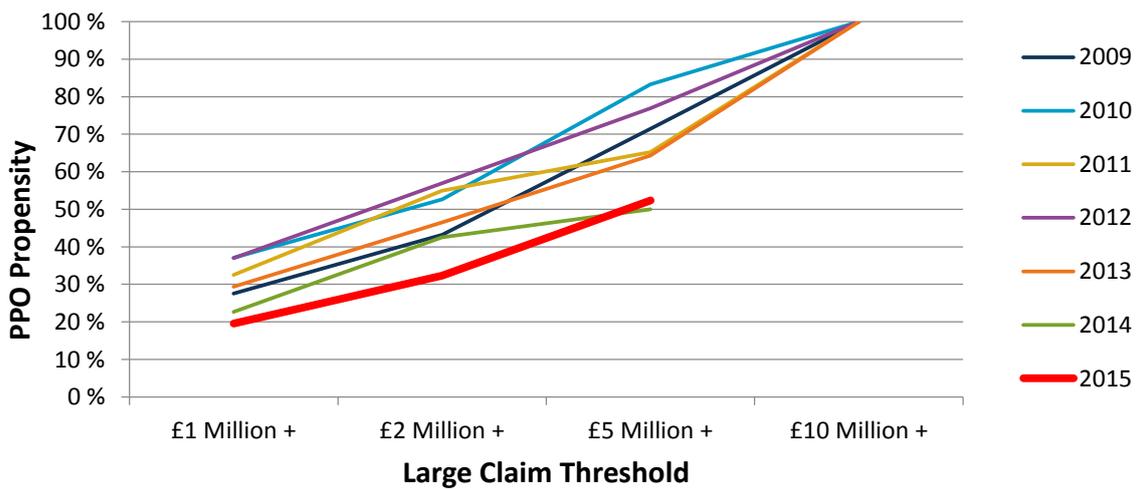
Figure F.19: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009
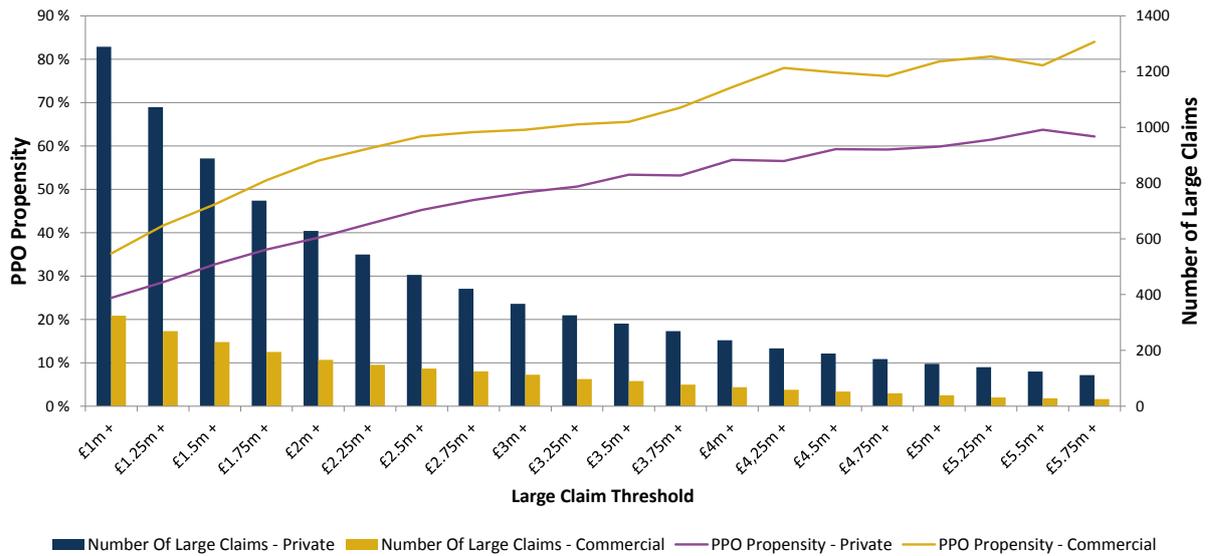
Figure F.20: Motor (non-MIB) PPO propensity, by cumulative large claim threshold band (2011 terms), for Private and Commercial Motor, for claims settled since 2009

F.6   Propensity by type of injury

Figure F.21 uses data from those insurers that provided the nature of injury for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (196 large claims in total).
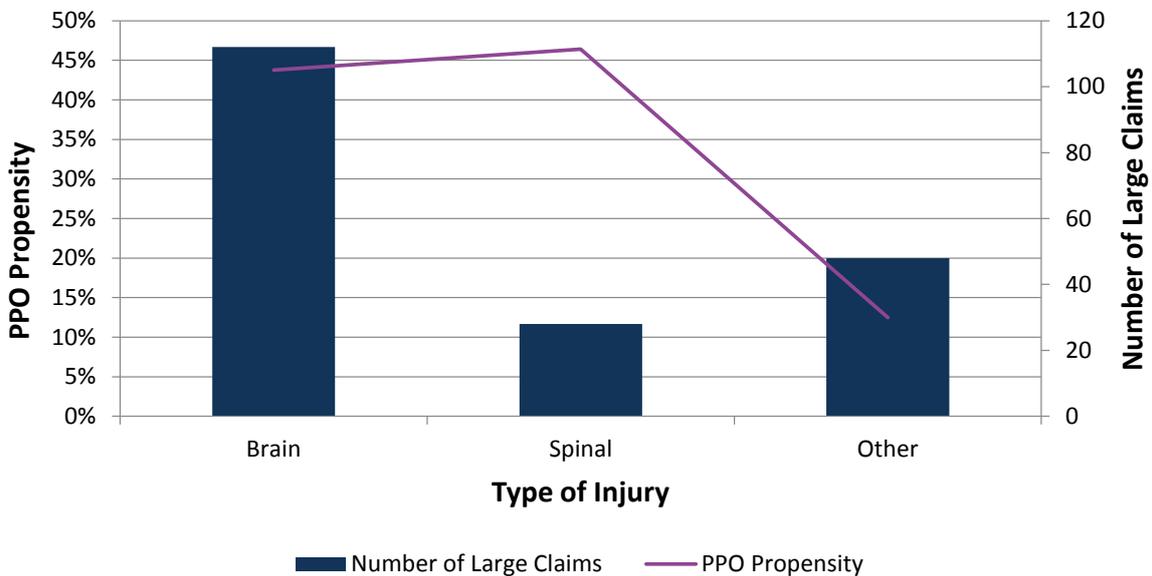
Figure F.21: Motor (non-MIB) PPO propensity, by type of injury, for claims settled since 2009

F.7   Propensity by claimant characteristics

Figure F.22 uses data from those insurers that provided the claimant age at accident for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (383 large claims in total).
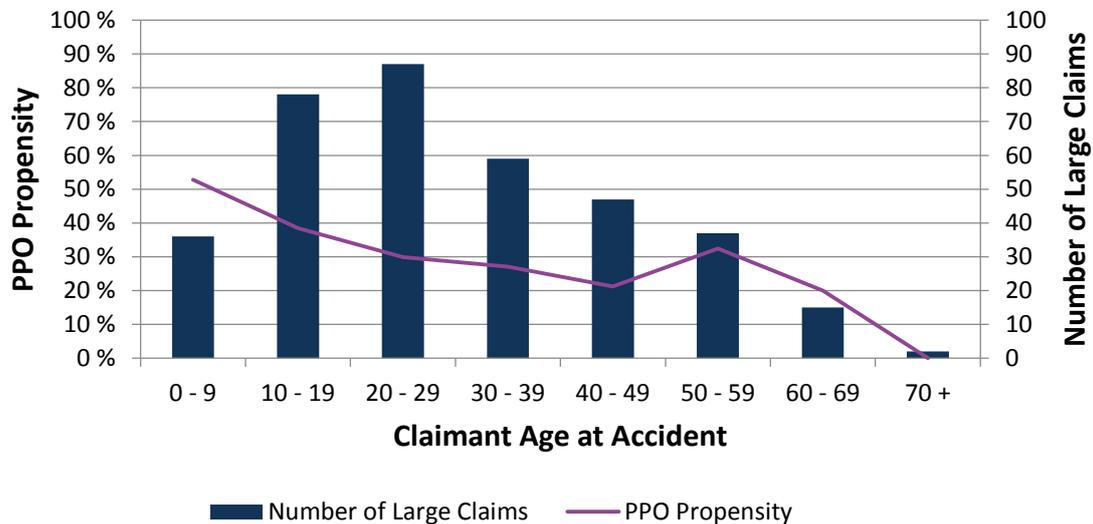
Figure F.22: Motor (non-MIB) PPO propensity, by claimant age at accident, for claims settled since 2009

Figure F.23 uses data from those insurers that provided the claimant gender for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (371 large claims in total).
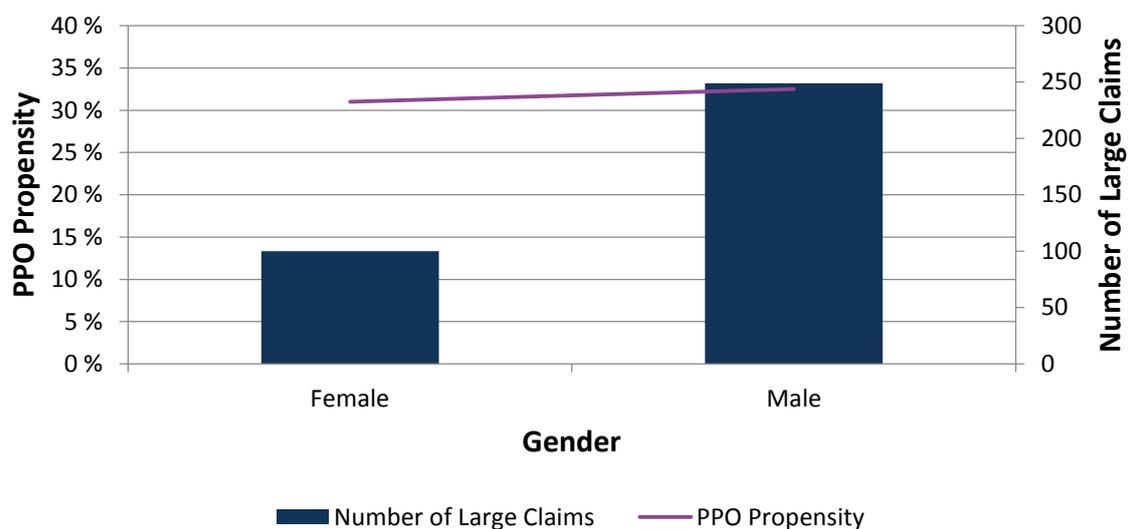
Figure F.23: Motor (non-MIB) PPO propensity, by claimant gender, for claims settled since 2009

F.8 Propensity by driver characteristics

Figure F.24 uses data from those insurers that provided the age of driver at accident for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (267 large claims in total).
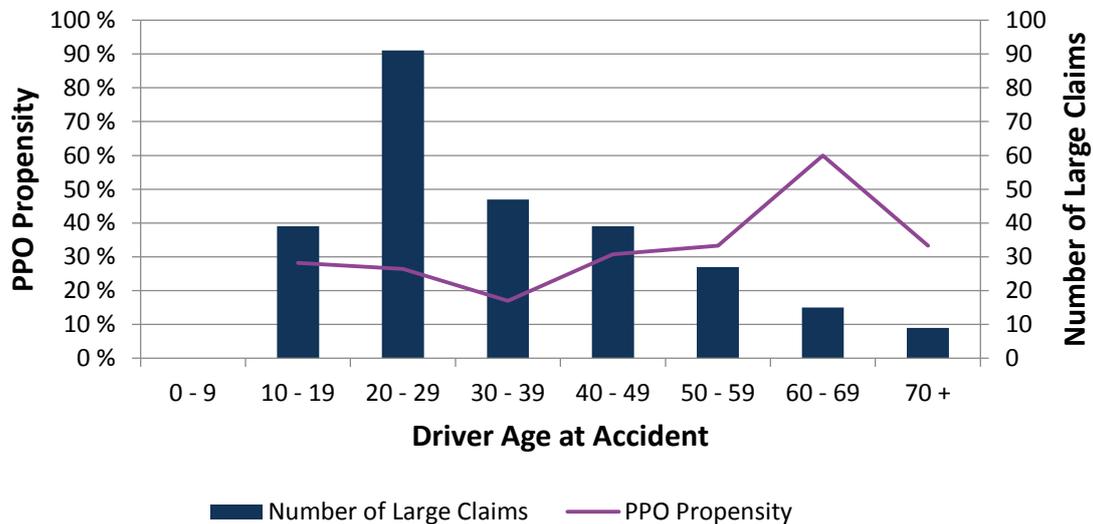
Figure F.24: Motor (non-MIB) PPO propensity, by age of driver at accident, for claims settled since 2009

Figure F.25 uses data from those insurers that provided the gender of the driver for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (271 large claims in total).
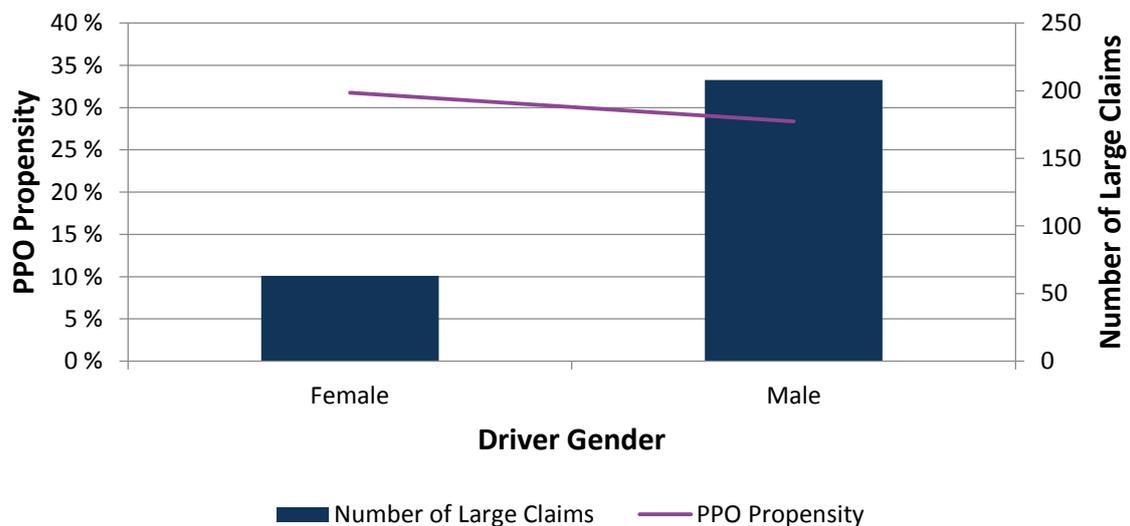
Figure F.25: Motor (non-MIB) PPO propensity, by driver gender, for claims settled since 2009

Appendix G   Propensity of Liability PPO claims

In this appendix, we provide summary statistics for the propensity of Liability PPO claims by:

- Settlement year
- Insurer
- Class of business
- Incremental large claim threshold band
- Cumulative large claim threshold band
- Type of injury
- Claimant characteristics (age at accident and gender).

Unless otherwise specified, the propensity is expressed as the number of PPO claims as a proportion of the number of large claims.

The PPO propensity for settlement year 2008 (at 2.5% using the above definition) is considerably lower than that for subsequent years (at a weighted average of 10.3% for 2009-2015 inclusive), and so the data underlying the summary statistics within this appendix have been restricted to settlement years 2009 and post to reduce the potential for distortion.

See Appendix C for the definition of a large claim, and an explanation of the incremental threshold analysis and the cumulative threshold analysis. See Appendix B for an explanation of the standardisation basis used for Liability claims.

The number of Liability claims settled in each year, and also the number of Liability PPO claims, in the data we have received for the quantitative industry survey is small, especially when considered relative to the equivalent Motor claims data received. The small number of Liability claims is likely to have contributed to the volatility in experience in the summary statistics provided in this appendix.

G.1 Propensity by settlement year
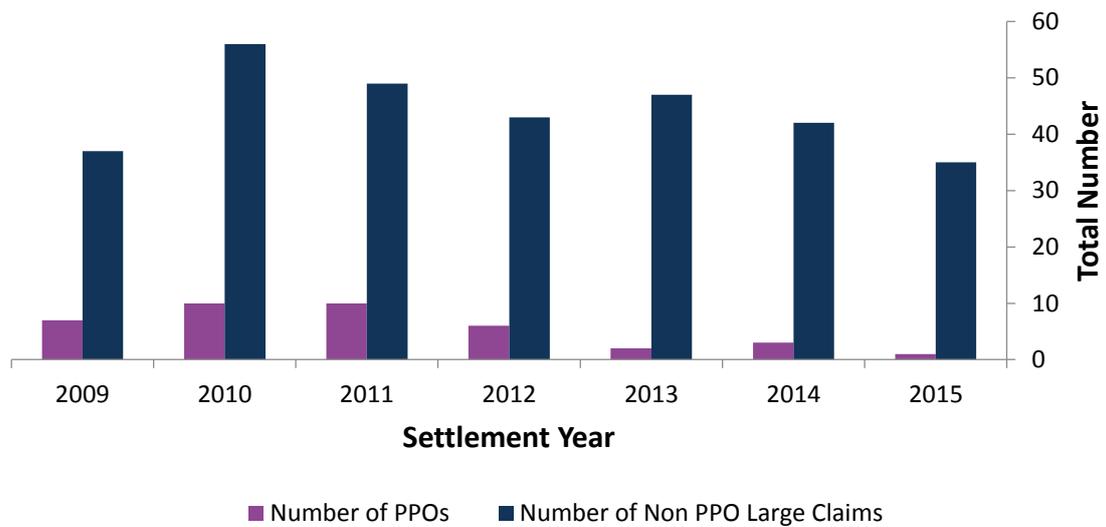
Figure G.1: Number of Liability PPO claims and Liability non-PPO large claims underlying the PPO propensity statistics, by settlement year
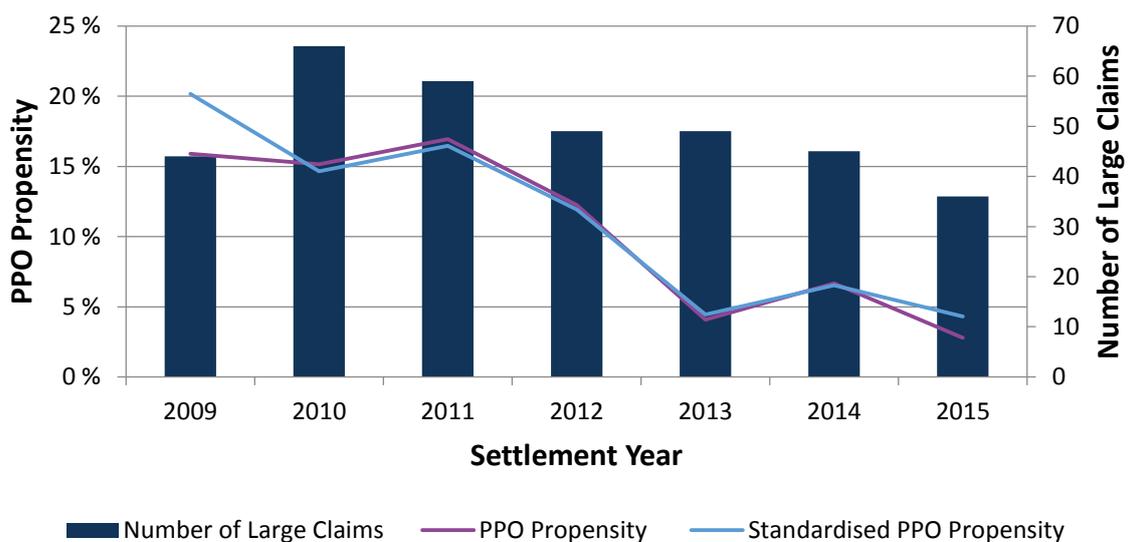
Figure G.2: Liability PPO propensity and standardised Liability PPO propensity, by settlement year

Figure G.3 uses a different measure of PPO propensity, expressing the number of PPO claims as a proportion of the average gross earned premium. The number of PPO claims settled in a given year is divided by an average gross earned premium based on the premium earned over a six year period starting seven years earlier (i.e. the number of PPO claims settled in 2012 is divided by the average annual amount of gross premium earned during the period 2006 to 2011 inclusive). These PPO propensity figures include all PPO claims and not just those over £1 million, and are in terms of the number of PPO claims per £1,000 million of gross earned premium.
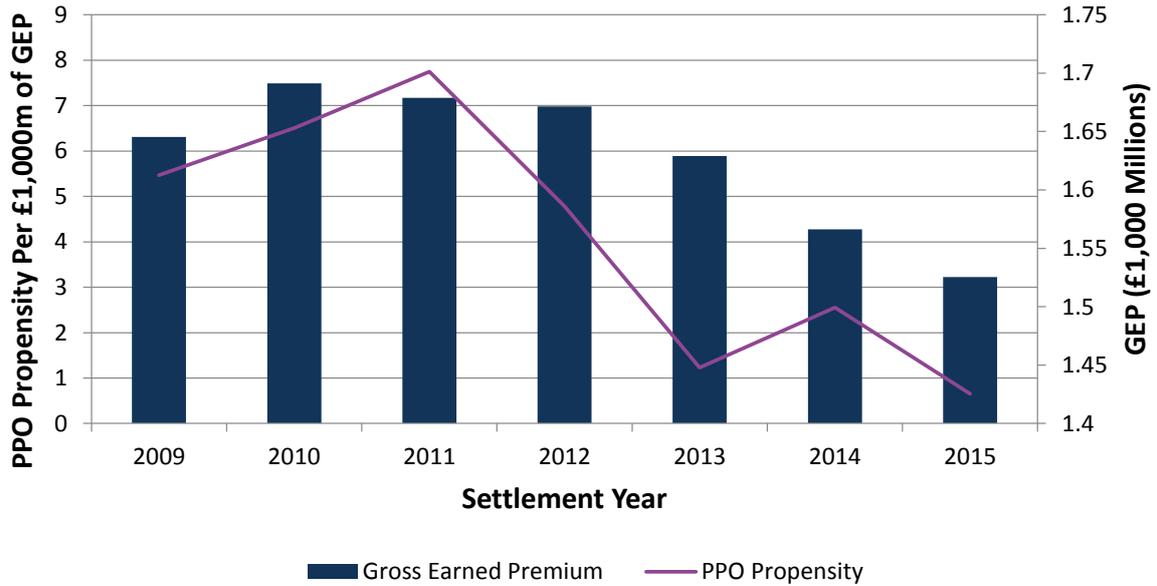
Figure G.3: Liability PPO propensity, expressed as the number of PPO claims as a proportion of the average gross earned premium, by settlement year

G.2 Propensity by insurer
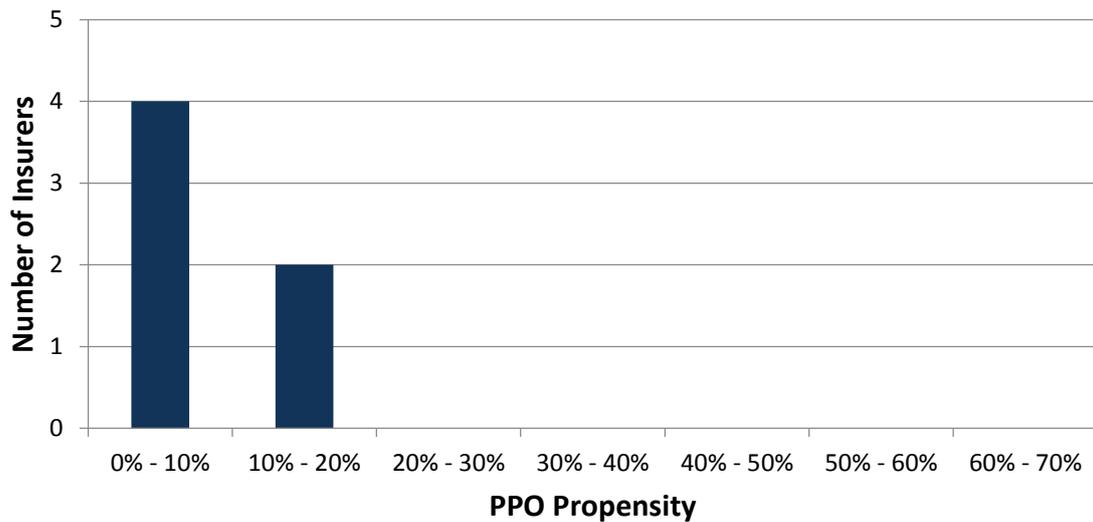
Figure G.4: Distribution of Liability PPO propensity for insurers that have settled at least 25 large claims (including PPO claims) in the last five years, for claims settled since 2009
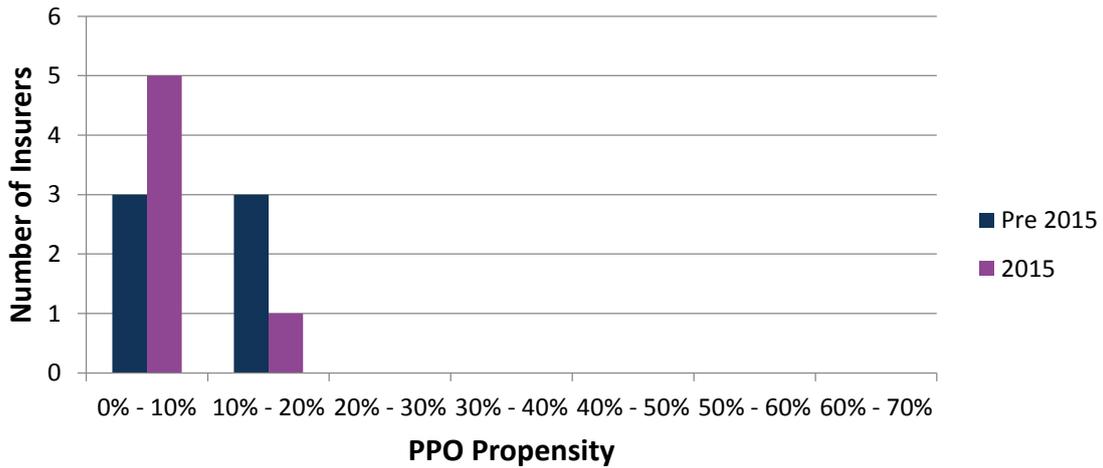
Figure G.5: Distribution of Liability PPO propensity for insurers that have settled at least 25 large claims (including PPO claims) in the last five years, separately for claims settled between 2009 and 2014 and claims settled in 2015

An equivalent to Figure F.7 for Motor (non-MIB) PPO propensity has not been included in this appendix for Liability claims, as the PPO propensity band by insurer for Liability claim settlements in 2015 is the same as that for 2009-2014 inclusive.

G.3   Propensity by class of business
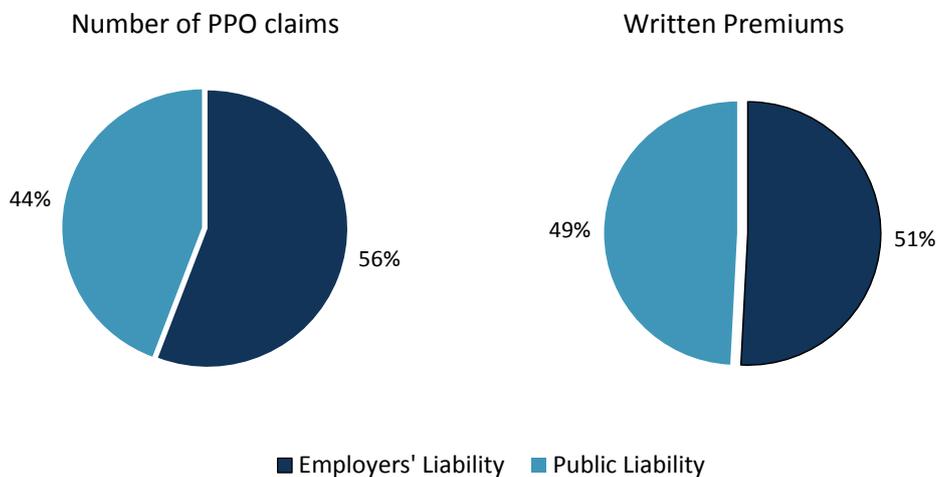
Figure G.6: Employers' Liability / Public Liability split of the number of Liability PPO claims and Liability written premiums
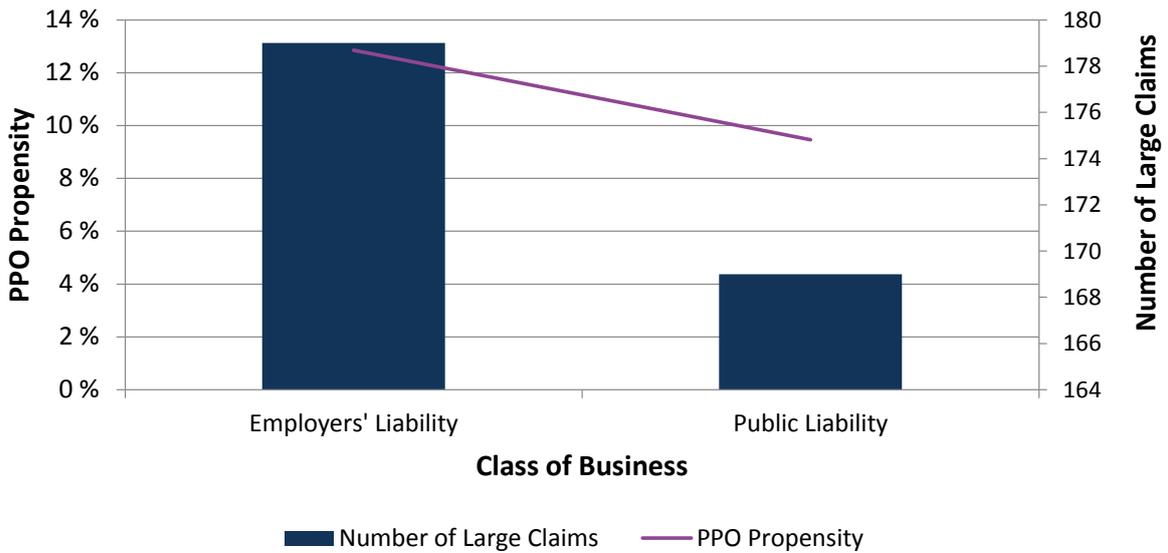
Figure G.7: Liability PPO propensity, by class of business, for claims settled since 2009

G.4 Propensity by incremental large claim threshold band
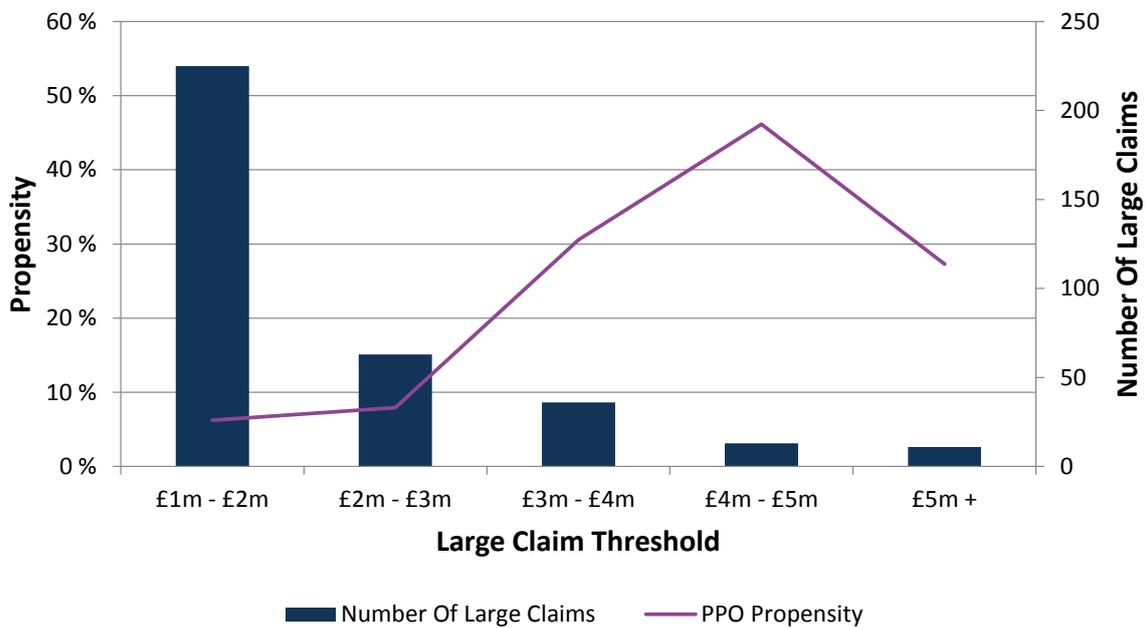
Figure G.8: Liability PPO propensity, by incremental large claim threshold band (2011 terms), for claims settled since 2009
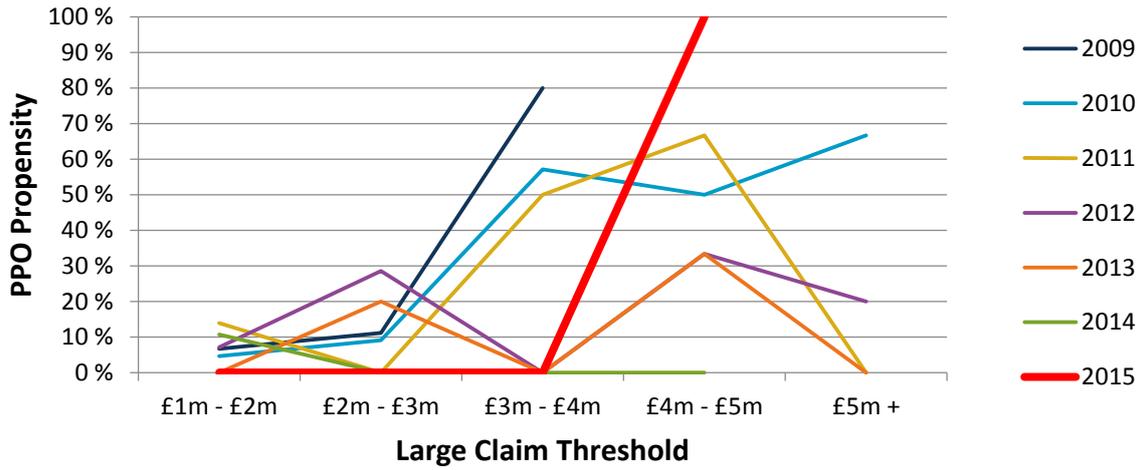
Figure G.9: Liability PPO propensity, by incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009
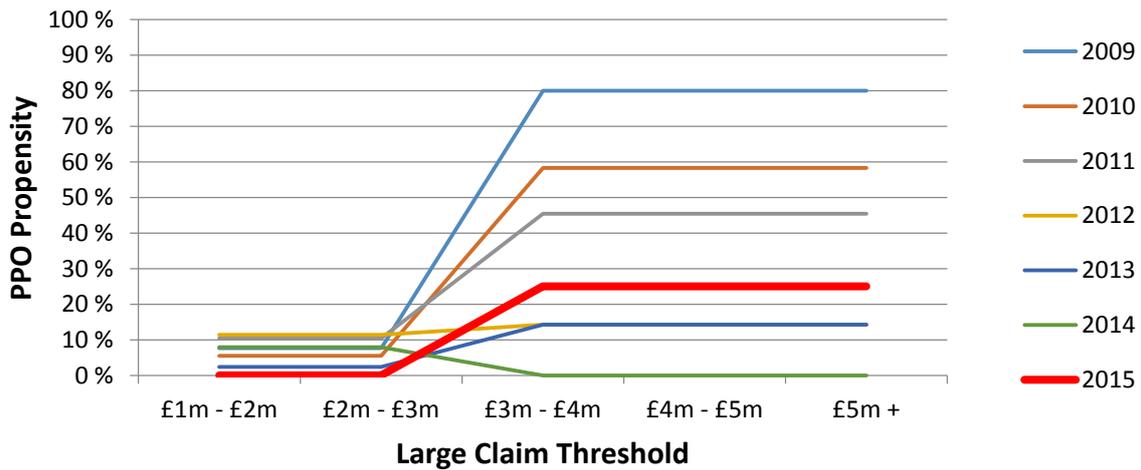
Figure G.10: Liability PPO propensity, by grouped (£1m-£3m, £3m+) incremental large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009

G.5 Propensity by cumulative large claim threshold band
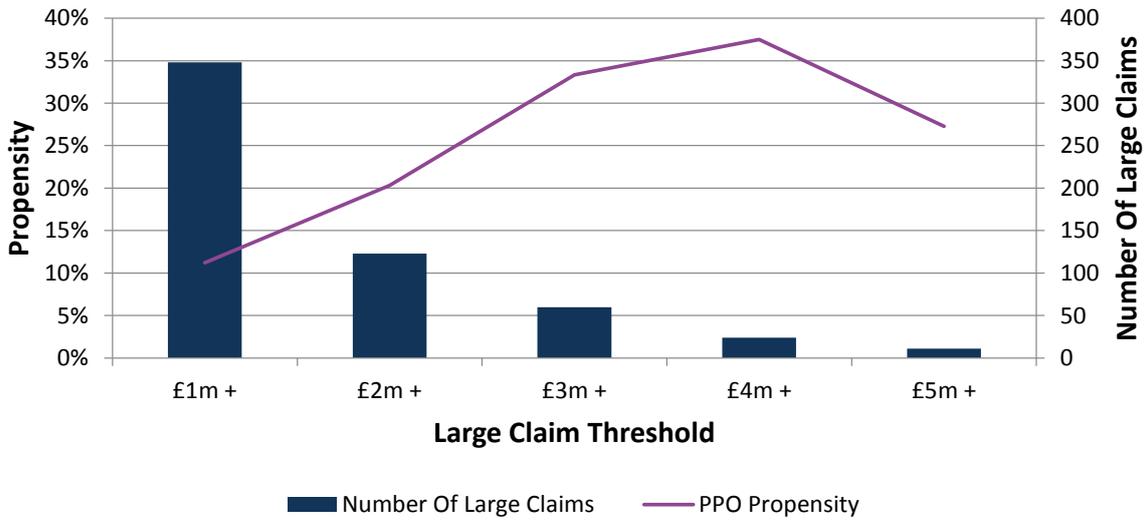
Figure G.11: Liability PPO propensity, by cumulative large claim threshold band (2011 terms), for claims settled since 2009
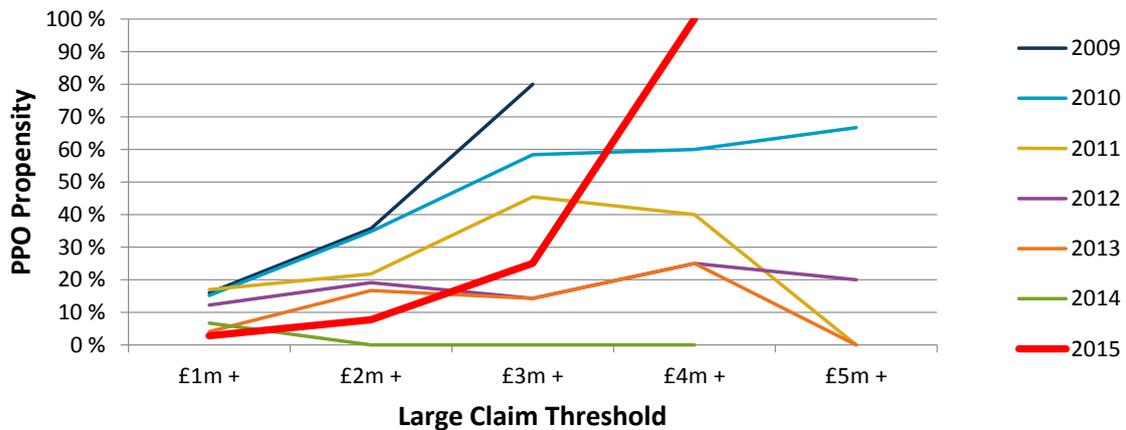
Figure G.12: Liability PPO propensity, by cumulative large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009
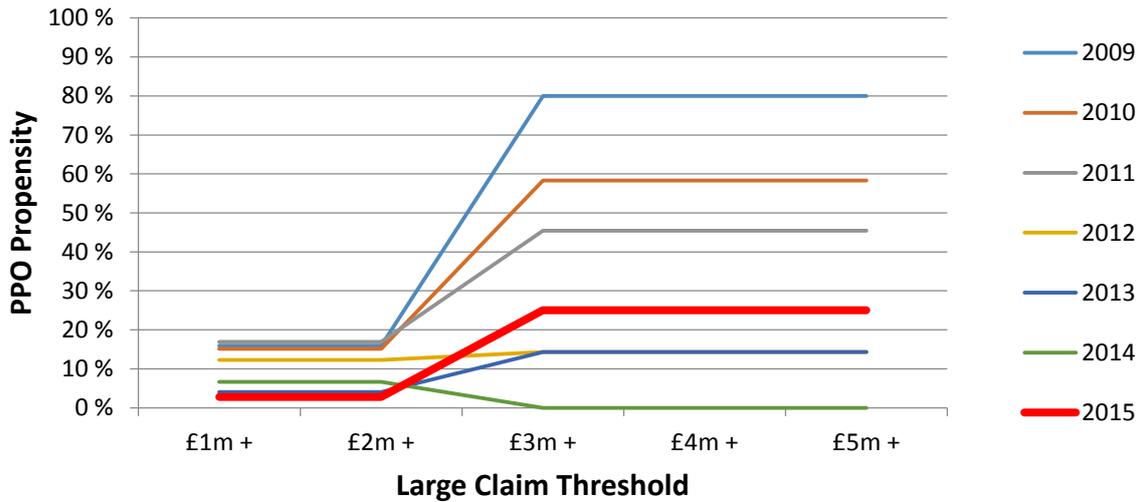
Figure G.13: Liability PPO propensity, by grouped (£1m+ to £2m+, £3m+ to £5m+) cumulative large claim threshold band (2011 terms), and by settlement year, for claims settled since 2009

G.6   Propensity by type of injury

Figure G.14 uses data from those insurers that provided the nature of injury for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (34 large claims in total).
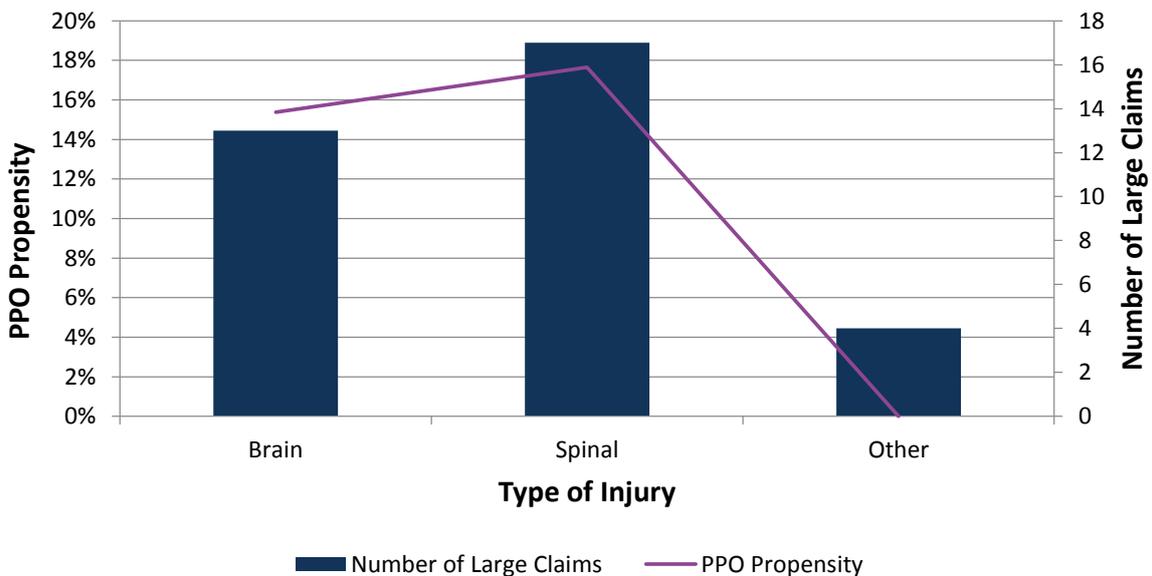
Figure G.14: Liability propensity, by type of injury, for claims settled since 2009

G.7 Propensity by claimant characteristics

Figure G.15 uses data from those insurers that provided the claimant age at accident for their non-PPO large claims as well as for their PPO claims. This is only a very small subset of data, as can be seen from the right vertical axis (64 large claims in total).
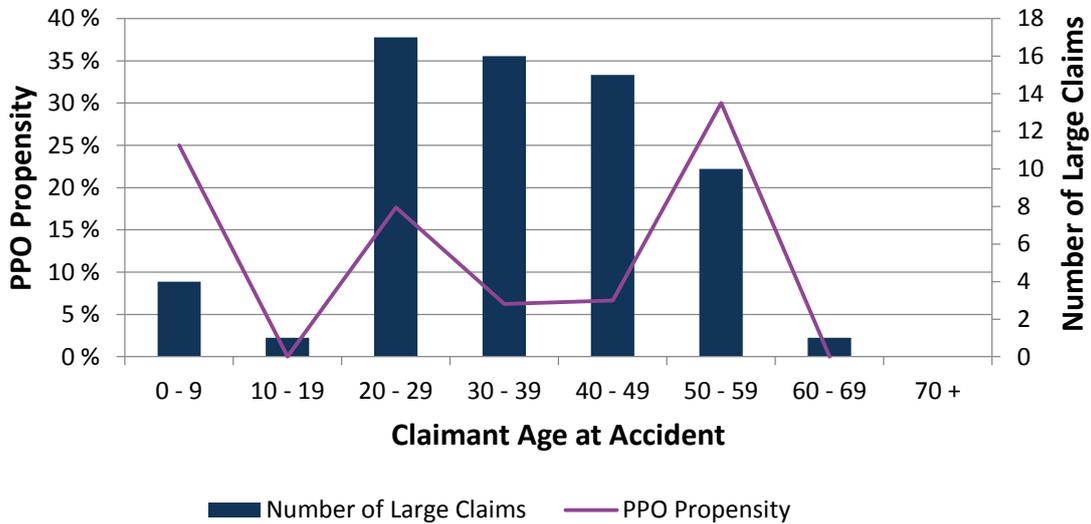
Figure G.15: Liability PPO propensity, by claimant age at accident, for claims settled since 2009

Figure G.16 uses data from those insurers that provided the claimant gender for their non-PPO large claims as well as for their PPO claims. This is only a small subset of data, as can be seen from the right vertical axis (50 large claims in total).
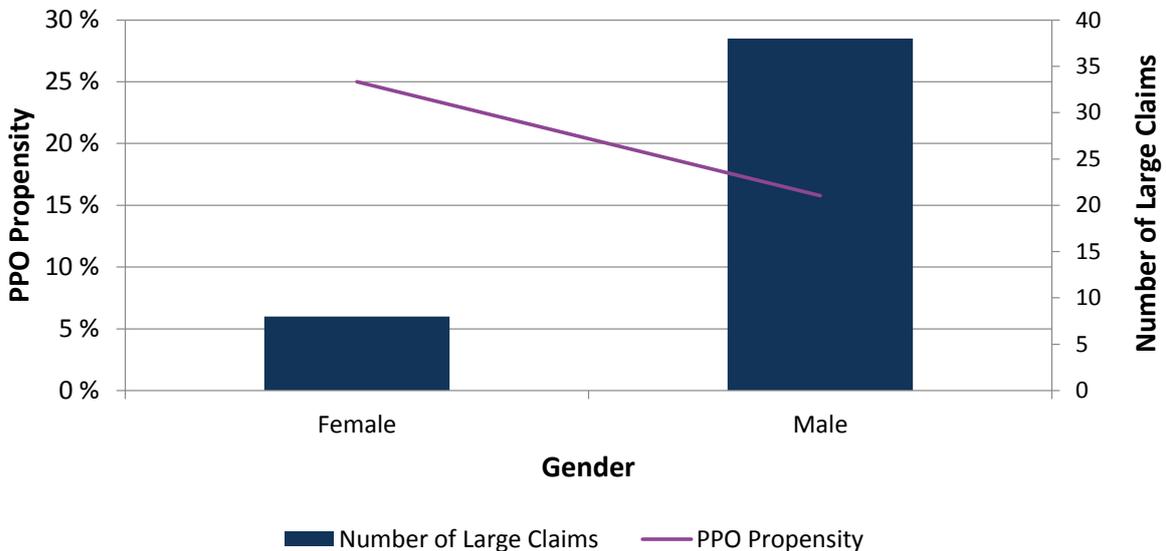
Figure G.16: Liability PPO propensity, by claimant gender, for claims settled since 2009

Appendix H   Accident year triangles for Motor (non-MIB) non-PPO and PPO claims

In this appendix, we provide triangles of non-PPO large claims, PPO claims and PPO propensity rates for non-MIB Motor claims, which take into account the accident year of a claim as well as its time to settlement.

As we have only collected data on large claims settled since 2008, the top left hand side of each triangle is incomplete. The cells shaded in blue in the cumulative triangles should therefore be treated with caution, as these are missing settlements prior to 2008.

We have also provided graphs showing the accident year cumulative development of the number of non-MIB Motor PPO claims, separately for the years for which PPO settlements were less commonplace (i.e. prior to 2008) and for the years for which PPO settlements have been more widespread (i.e. 2008 and post). It is clear from the data for the older accident years that we can expect some further development of the number of PPO claim settlements, even for these older years, although the extent of this development is difficult to quantify.

We have combined accident years prior to 2001, and the oldest accident year included is 1997.

H.1 Incremental triangles

Accident Year	Years to Settlement 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0	0	0	0	0	0	0	0	48	40	21	17	12	6	6	6
2001	0	0	0	0	0	0	0	19	8	6	5	6	6	0	0	
2002	0	0	0	0	0	0	27	19	17	13	3	9	3	3		
2003	0	0	0	0	0	21	30	16	17	10	9	5	2			
2004	0	0	0	0	10	25	19	22	9	12	6	3				
2005	0	0	0	9	18	20	23	16	10	8	5					
2006	0	0	4	9	16	20	19	20	18	7						
2007	0	1	3	6	19	24	37	25	12							
2008	0	0	2	5	16	17	26	21								
2009	3	1	2	7	22	32	31									
2010	0	0	1	6	21	37										
2011	0	1	5	12	32											
2012	2	2	3	16												
2013	0	1	4													
2014	0	1														
2015	1															

Figure H.1: Triangle showing the accident year incremental development of the number of Motor (non-MIB) non-PPO large claims

Accident Year	Years to Settlement 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0	0	0	0	0	0	0	0	6	11	12	8	6	2	2	5
2001	0	0	0	0	0	0	0	1	4	1	1	1	2	1	1	
2002	0	0	0	0	0	0	3	9	3	1	5	4	2	0		
2003	0	0	0	0	0	3	9	6	4	4	2	1	1			
2004	0	0	0	0	4	12	13	6	8	1	0	0				
2005	0	0	0	2	8	14	13	6	3	3	0					
2006	0	0	0	6	15	11	12	9	1	1						
2007	0	0	1	4	15	9	10	8	0							
2008	0	0	3	6	14	13	7	5								
2009	0	0	3	7	17	11	7									
2010	0	0	2	5	6	9										
2011	0	0	1	4	8											
2012	0	0	3	4												
2013	0	0	5													
2014	0	0														
2015	0															

Figure H.2: Triangle showing the accident year incremental development of the number of Motor (non-MIB) PPO claims

Accident Year	Years to Settlement															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0%	0%	0%	0%	0%	0%	0%	0%	11%	22%	36%	32%	33%	25%	25%	45%
2001	0%	0%	0%	0%	0%	0%	0%	5%	33%	14%	17%	14%	25%	100%	1	
2002	0%	0%	0%	0%	0%	0%	10%	32%	15%	7%	63%	31%	40%	0		
2003	0%	0%	0%	0%	0%	13%	23%	27%	19%	29%	18%	17%	33%			
2004	0%	0%	0%	0%	29%	32%	41%	21%	47%	8%	0%	0%				
2005	0%	0%	0%	18%	31%	41%	36%	27%	23%	27%	0%					
2006	0%	0%	0%	40%	48%	35%	39%	31%	5%	13%						
2007	0%	0%	25%	40%	44%	27%	21%	24%	0%							
2008	0%	0%	60%	55%	47%	43%	21%	19%								
2009	0%	0%	60%	50%	44%	26%	18%									
2010	0%	0%	67%	45%	22%	20%										
2011	0%	0%	17%	25%	20%											
2012	0%	0%	50%	20%												
2013	0%	0%	56%													
2014	0%	0%														
2015	0%															

Figure H.3: Triangle showing the incremental accident year Motor (non-MIB) PPO propensity rates

H.2   Cumulative triangles

Accident Year	Years to Settlement															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0	0	0	0	0	0	0	0	48	88	109	126	138	144	150	156
2001	0	0	0	0	0	0	0	19	27	33	38	44	50	50	50	
2002	0	0	0	0	0	0	27	46	63	76	79	88	91	94		
2003	0	0	0	0	0	21	51	67	84	94	103	108	110			
2004	0	0	0	0	10	35	54	76	85	97	103	106				
2005	0	0	0	9	27	47	70	86	96	104	109					
2006	0	0	4	13	29	49	68	88	106	113						
2007	0	1	4	10	29	53	90	115	127							
2008	0	0	2	7	23	40	66	87								
2009	3	4	6	13	35	67	98									
2010	0	0	1	7	28	65										
2011	0	1	6	18	50											
2012	2	4	7	23												
2013	0	1	5													
2014	0	1														
2015	1															

Figure H.4: Triangle showing the accident year cumulative development of the number of Motor (non-MIB) non-PPO large claims

Accident Year	Years to Settlement															
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0	0	0	0	0	0	0	0	6	17	29	37	43	45	47	52
2001	0	0	0	0	0	0	0	1	5	6	7	8	10	11	12	
2002	0	0	0	0	0	0	3	12	15	16	21	25	27	27		
2003	0	0	0	0	0	3	12	18	22	26	28	29	30			
2004	0	0	0	0	4	16	29	35	43	44	44	44				
2005	0	0	0	2	10	24	37	43	46	49	49					
2006	0	0	0	6	21	32	44	53	54	55						
2007	0	0	1	5	20	29	39	47	47							
2008	0	0	3	9	23	36	43	48								
2009	0	0	3	10	27	38	45									
2010	0	0	2	7	13	22										
2011	0	0	1	5	13											
2012	0	0	3	7												
2013	0	0	5													
2014	0	0														
2015	0															

Figure H.5: Triangle showing the accident year cumulative development of the number of Motor (non-MIB) PPO claims

Accident Year	Years to Settlement 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2000 and prior	0%	0%	0%	0%	0%	0%	0%	0%	11%	16%	21%	23%	24%	24%	24%	25%
2001	0%	0%	0%	0%	0%	0%	0%	5%	16%	15%	16%	15%	17%	18%	19%	
2002	0%	0%	0%	0%	0%	0%	10%	21%	19%	17%	21%	22%	23%	22%		
2003	0%	0%	0%	0%	0%	13%	19%	21%	21%	22%	21%	21%	21%			
2004	0%	0%	0%	0%	29%	31%	35%	32%	34%	31%	30%	29%				
2005	0%	0%	0%	18%	27%	34%	35%	33%	32%	32%	31%					
2006	0%	0%	0%	32%	42%	40%	39%	38%	34%	33%						
2007	0%	0%	20%	33%	41%	35%	30%	29%	27%							
2008	0%	0%	60%	56%	50%	47%	39%	36%								
2009	0%	0%	33%	43%	44%	36%	31%									
2010	0%	0%	67%	50%	32%	25%										
2011	0%	0%	14%	22%	21%											
2012	0%	0%	30%	23%												
2013	0%	0%	50%													
2014	0%	0%														
2015	0%															

Figure H.6: Triangle showing the accident year cumulative Motor (non-MIB) PPO propensity rates

H.3 Cumulative development graphs
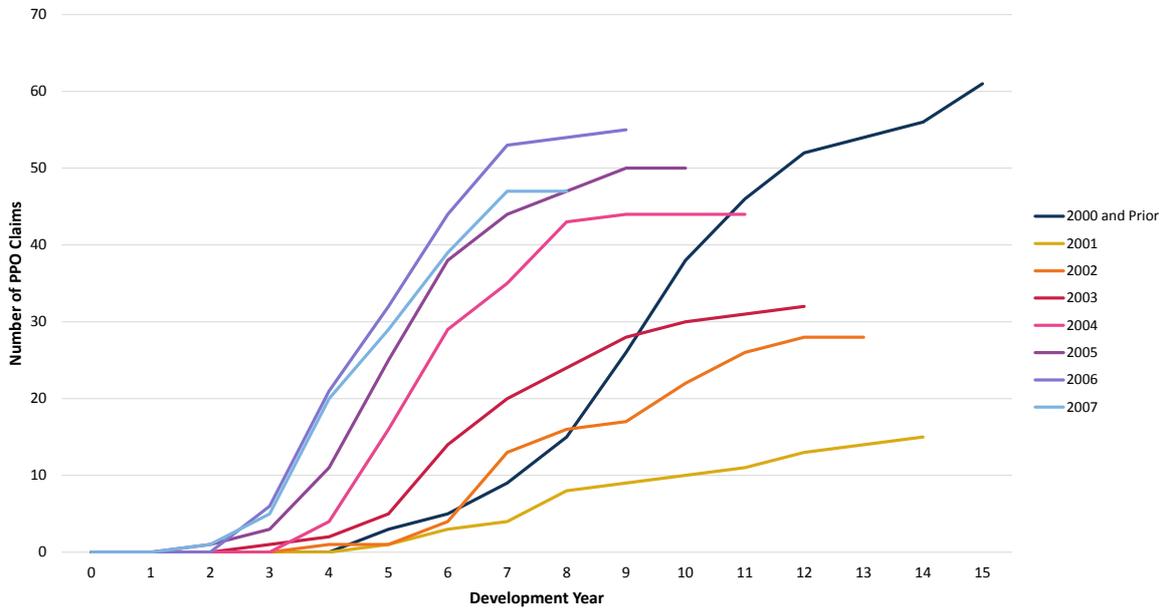
Figure H.7: Graph showing the accident year cumulative development of the number of Motor (non-MIB) PPO claims – years for which PPO settlements were less commonplace
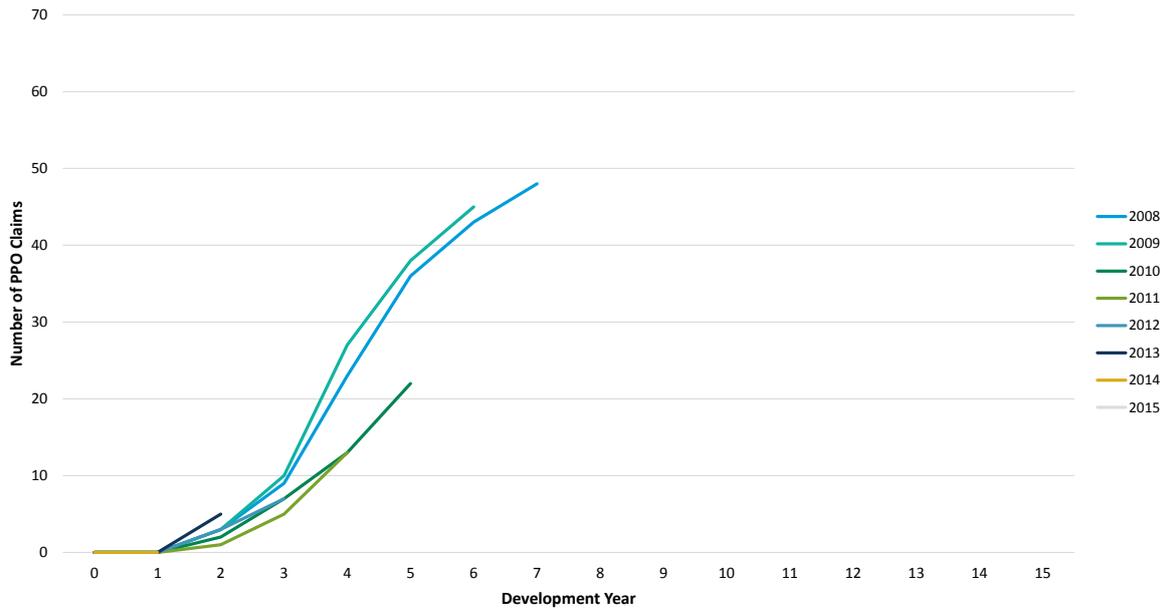
Figure H.8: Graph showing the accident year cumulative development of the number of Motor (non-MIB) PPO claims – years for which PPO settlements have been more widespread

Appendix I   General characteristics of Motor (non-MIB) PPO claims

In this appendix, we provide summary statistics for Motor (non-MIB) PPO claims by the following characteristics:

- Age of driver at accident date and gender of driver (including class of business and cover type)
- Age of claimant at accident date and gender of claimant (including class of business and cover type)
- Age of claimant at settlement date and gender of claimant
- Age of driver and age of claimant at accident date
- Delay to settlement
- Life expectancy of claimant at settlement date
- Reduction in life expectancy of the claimant.

I.1   Age of driver at accident date and gender of driver
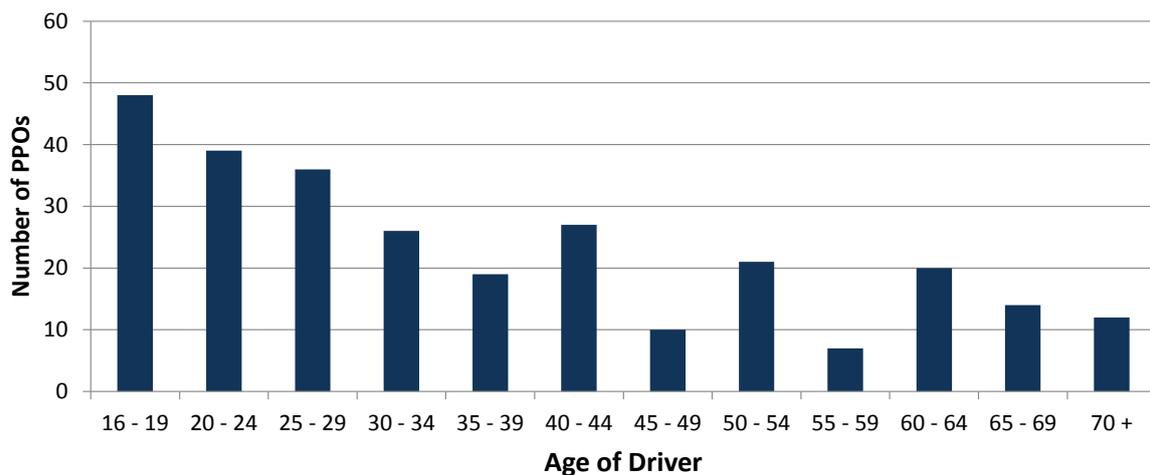
Figure I.1: Number of Motor (non-MIB) PPO claims, by age of driver at accident date
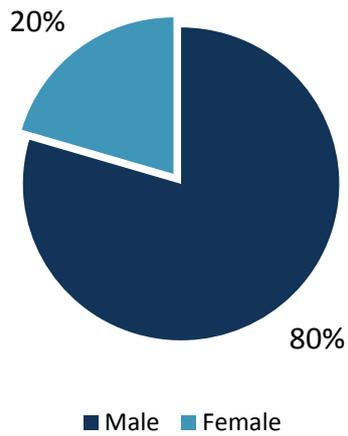
Figure I.2: Split of the number of Motor (non-MIB) PPO claims, by gender of driver
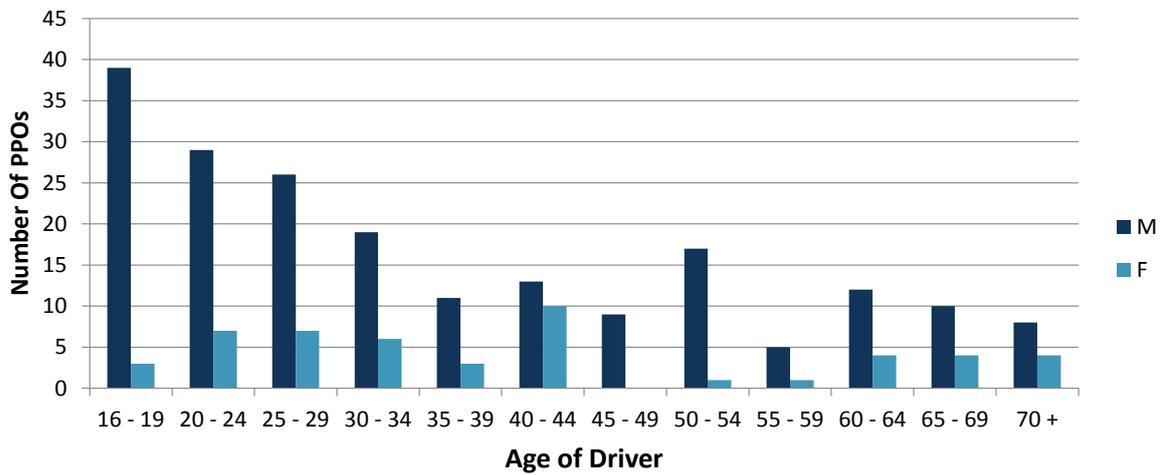
Figure I.3: Number of Motor (non-MIB) PPO claims, by age of driver at accident date and by gender of driver
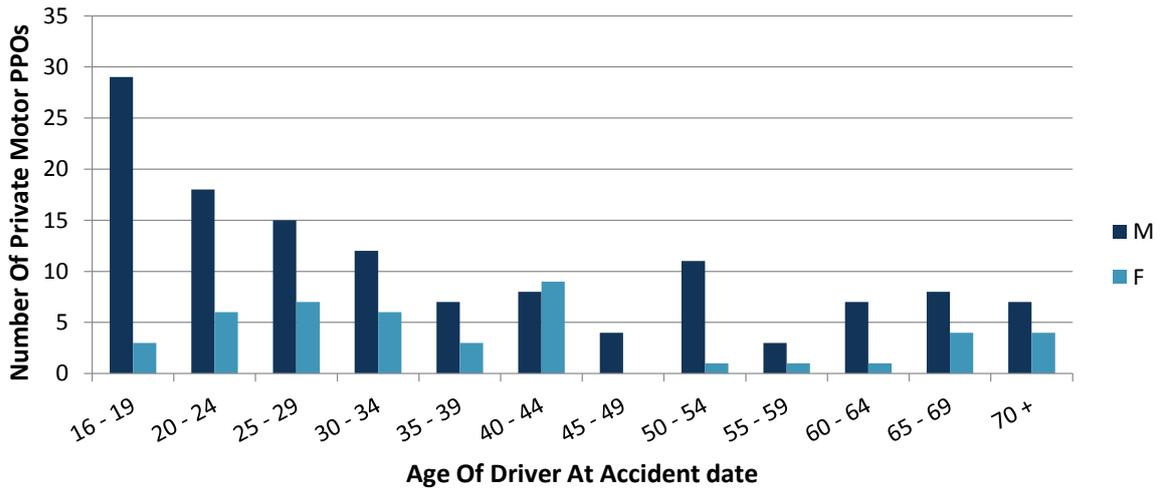
Figure I.4: Number of Motor (non-MIB) PPO claims, for Private Motor,
by age of driver at accident date and by gender of driver
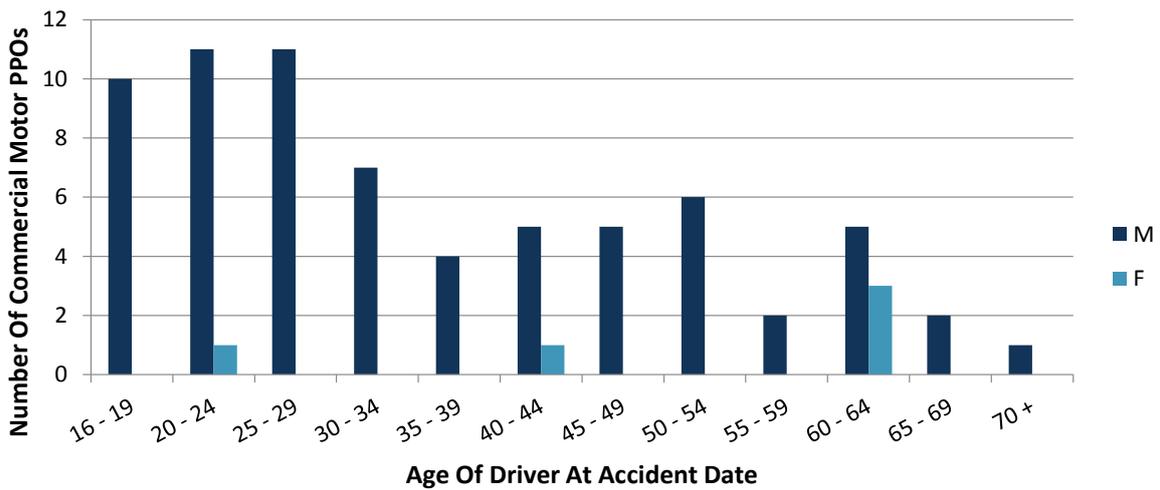
Figure I.5: Number of Motor (non-MIB) PPO claims, for Commercial Motor,
by age of driver at accident date and by gender of driver
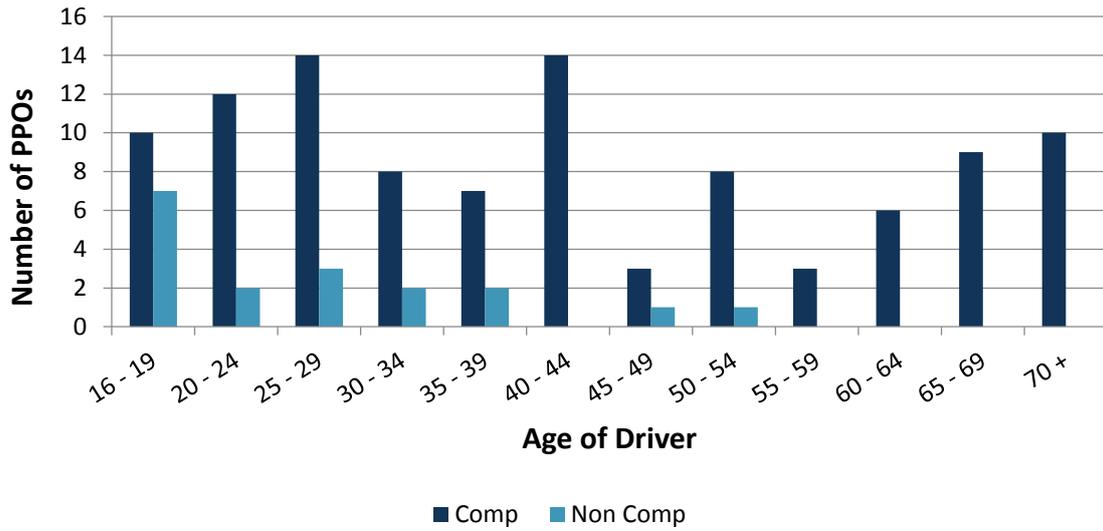
Figure I.6: Number of Motor (non-MIB) PPO claims, for Private Motor,
by age of driver at accident date and by cover type
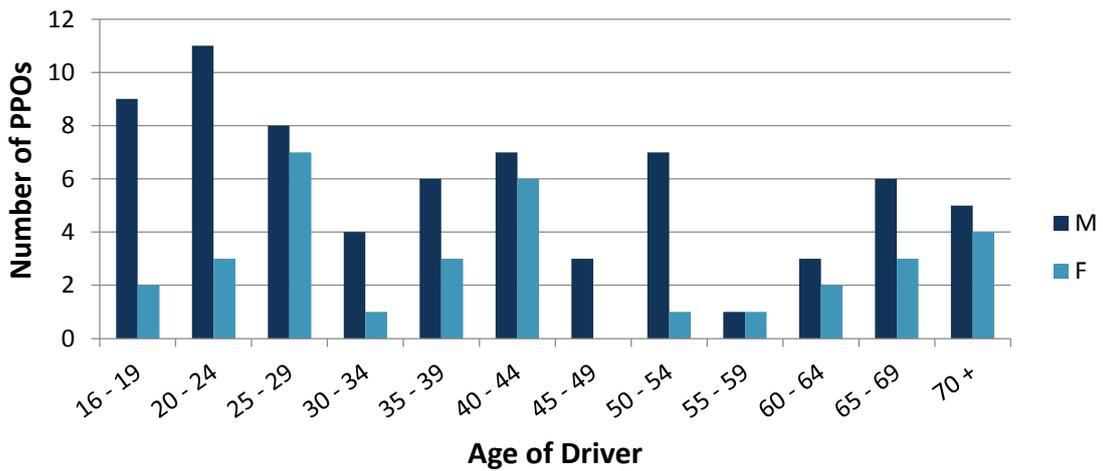
Figure I.7: Number of Motor (non-MIB) PPO claims, for Private Motor Comprehensive,
by age of driver at accident date and by gender of driver
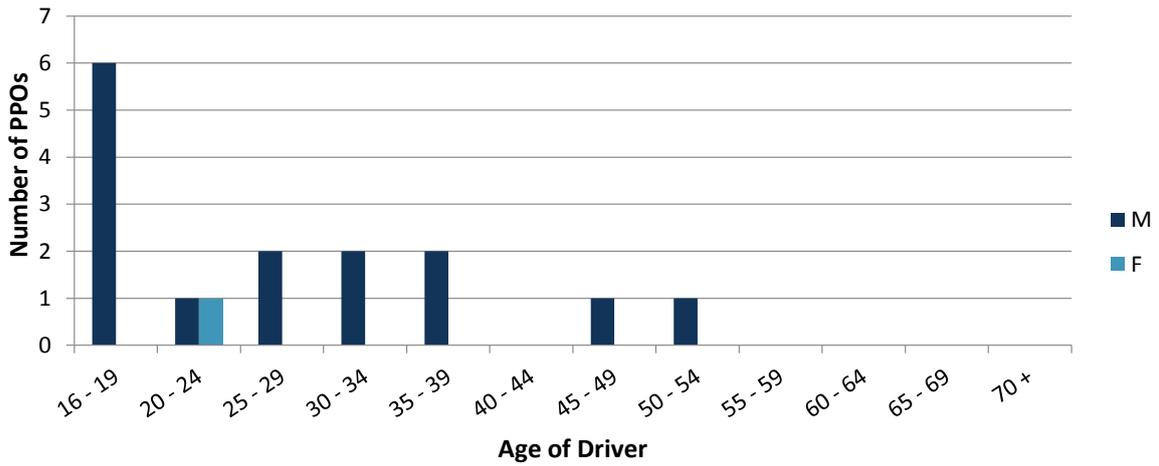
Figure I.8: Number of Motor (non-MIB) PPO claims, for Private Motor Non-Comprehensive, by age of driver at accident date and by gender of driver

I.2   Age of claimant at accident date and gender of claimant
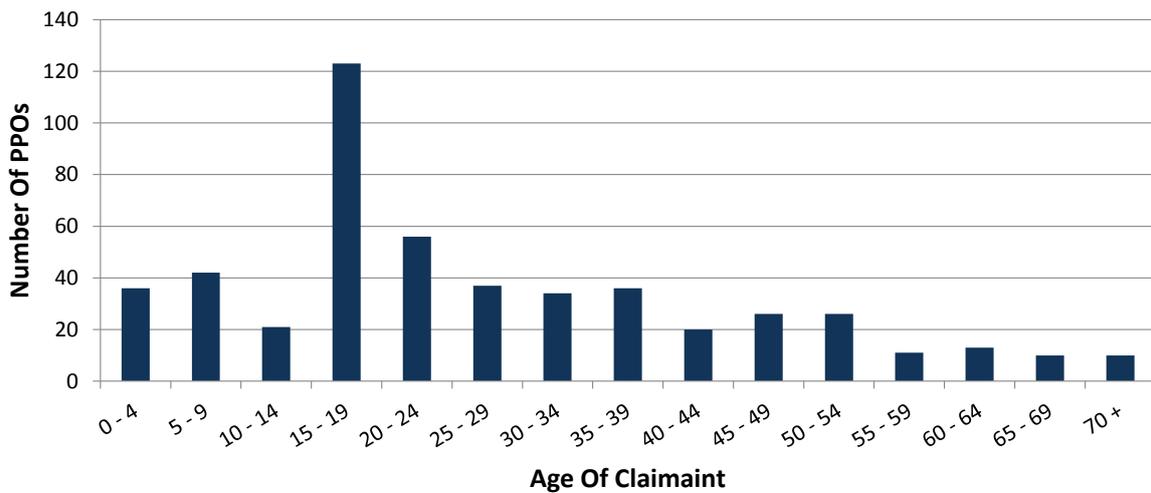
Figure I.9: Number of Motor (non-MIB) PPO claims, by age of claimant at accident date
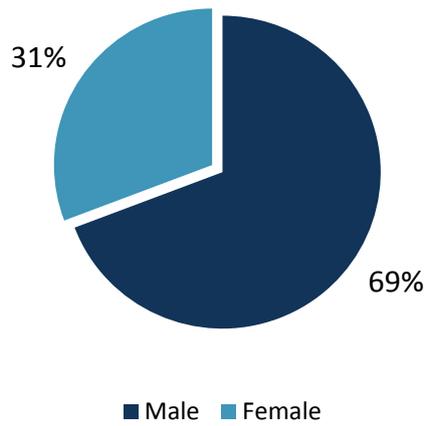
Figure I.10: Split of the number of Motor (non-MIB) PPO claims, by gender of claimant
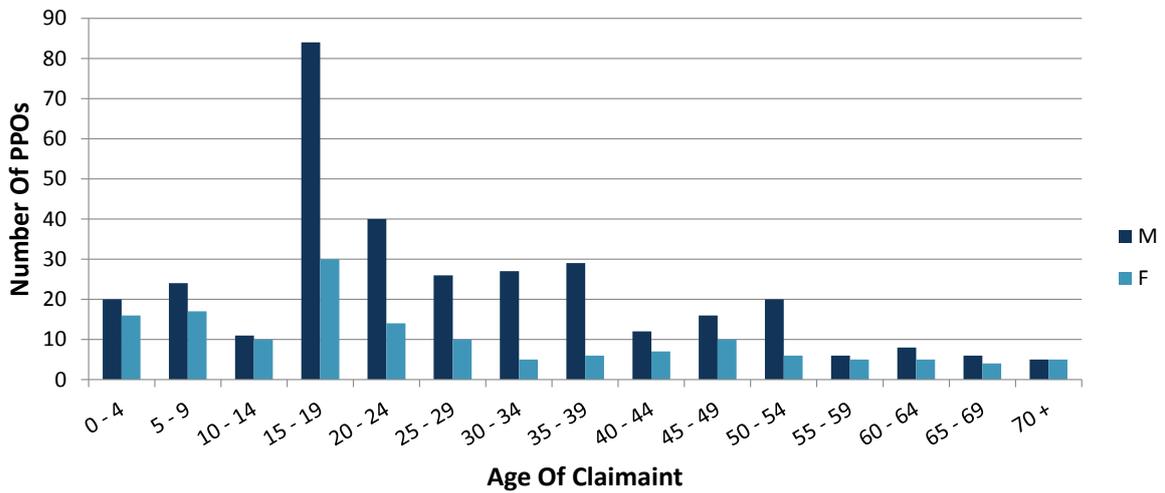
Figure I.11: Number of Motor (non-MIB) PPO claims, by age of claimant at accident date and by gender of claimant
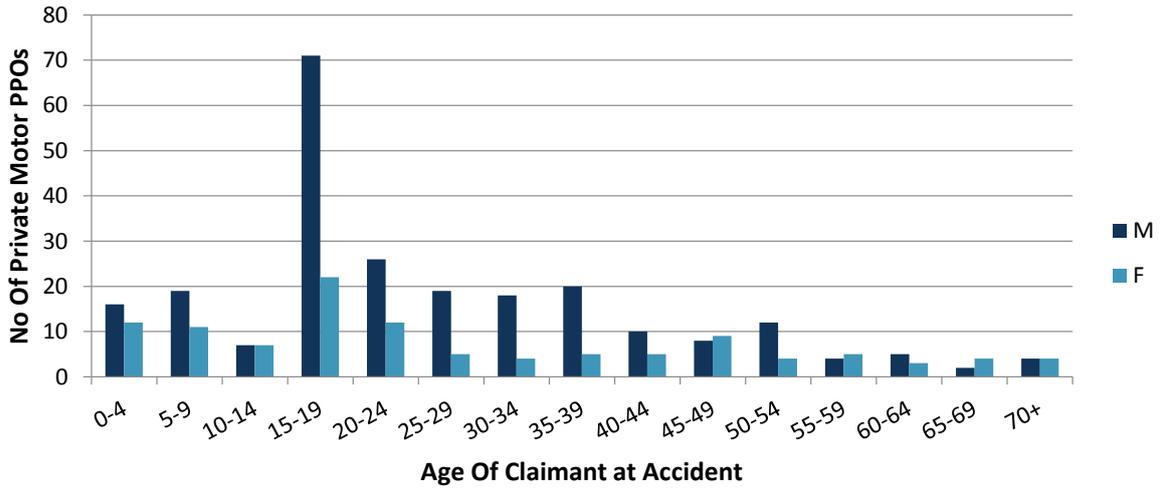
*Figure I.12: Number of Motor (non-MIB) PPO claims, for Private Motor,
by age of claimant at accident date and by gender of claimant*
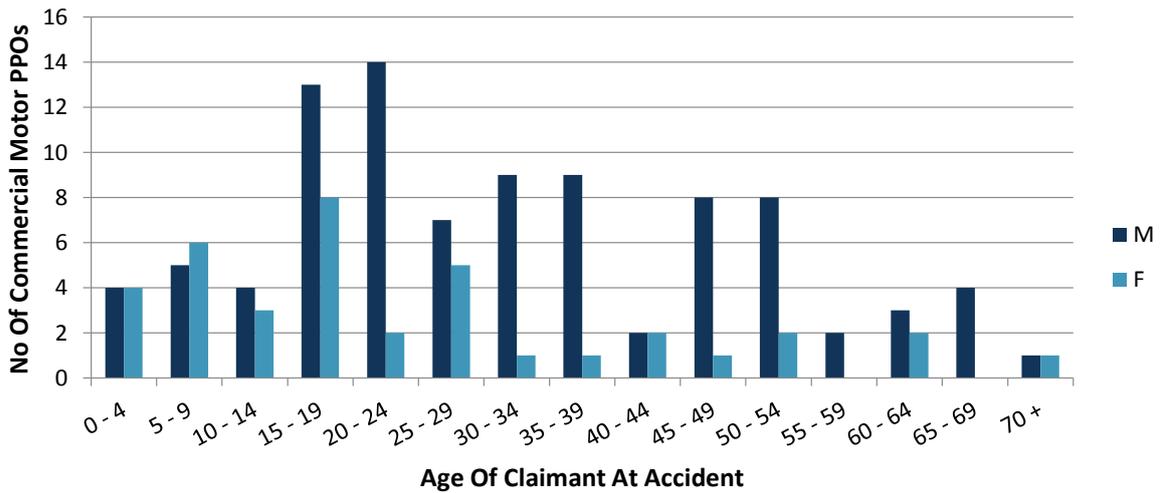
*Figure I.13: Number of Motor (non-MIB) PPO claims, for Commercial Motor,
by age of claimant at accident date and by gender of claimant*
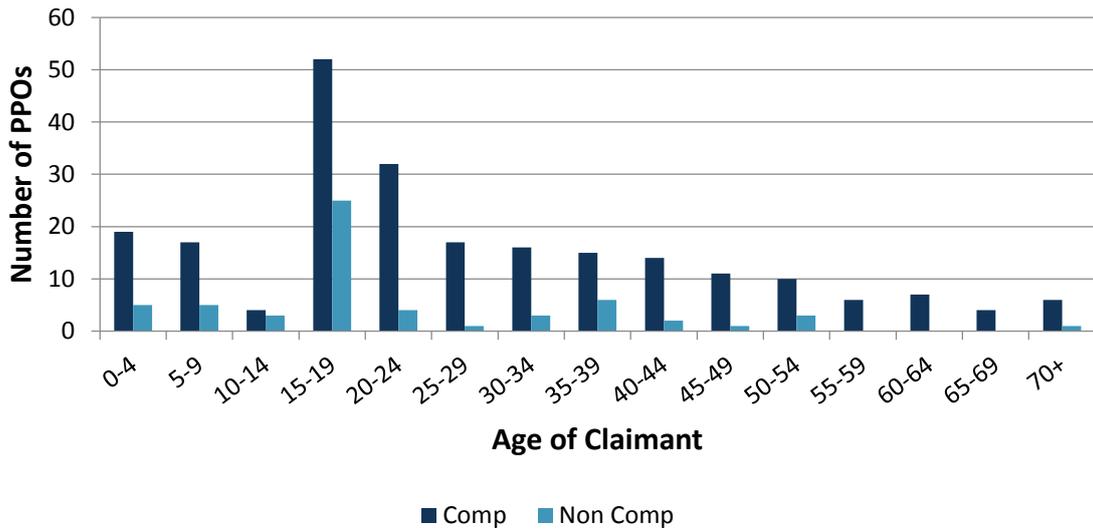
Figure I.14: Number of Motor (non-MIB) PPO claims, for Private Motor,
by age of claimant at accident date and by cover type
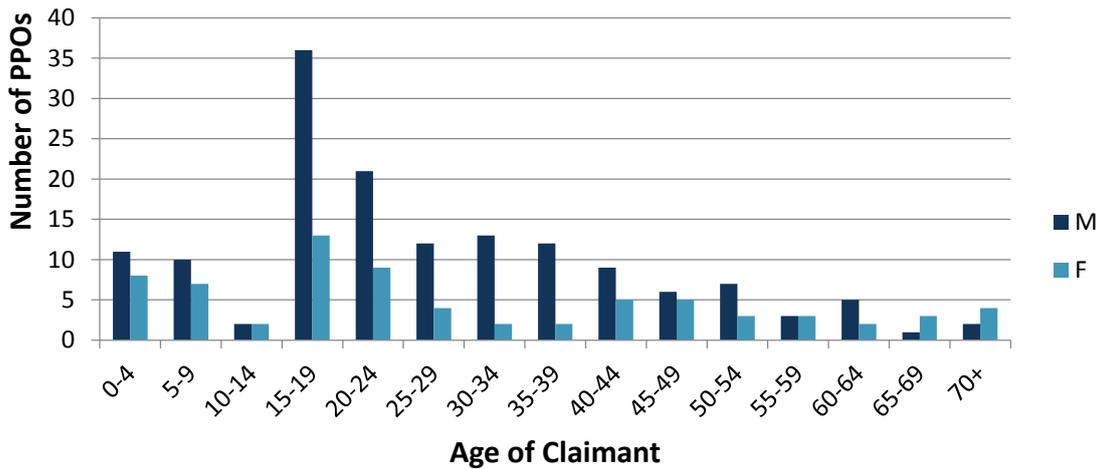
Figure I.15: Number of Motor (non-MIB) PPO claims, for Private Motor Comprehensive,
by age of claimant at accident date and by gender of claimant
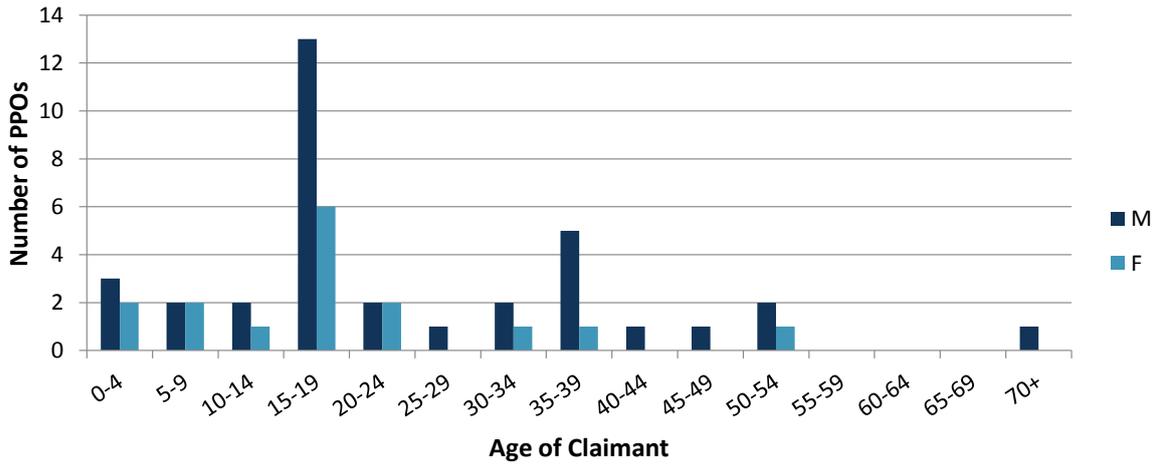
Figure I.16: Number of Motor (non-MIB) PPO claims, for Private Motor Non-Comprehensive, by age of claimant at accident date and by gender of claimant

I.3 Age of claimant at settlement date and gender of claimant
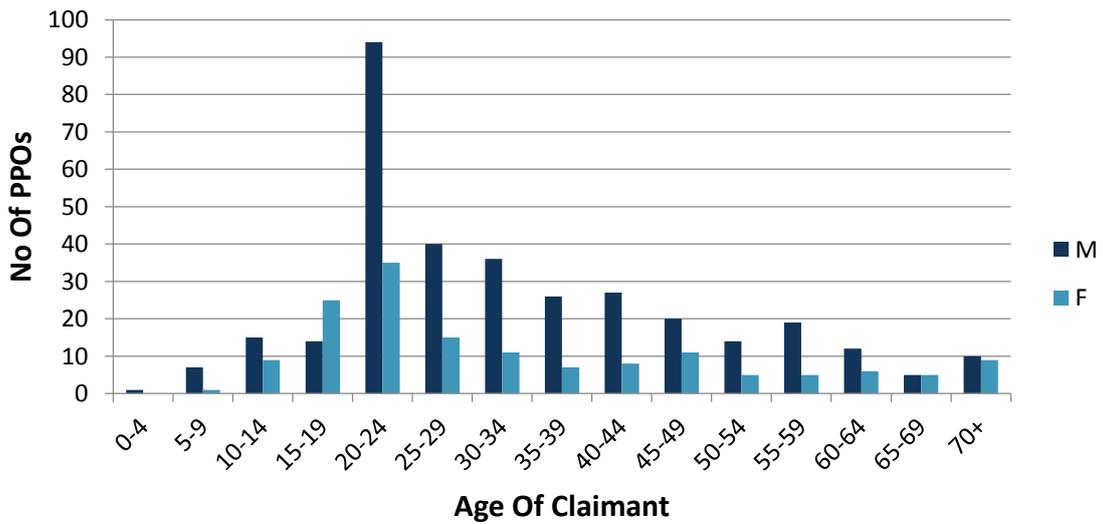
Figure I.17: Number of Motor (non-MIB) PPO claims, by age of claimant at settlement date and by gender of claimant

I.4 Age of driver and age of claimant at accident date
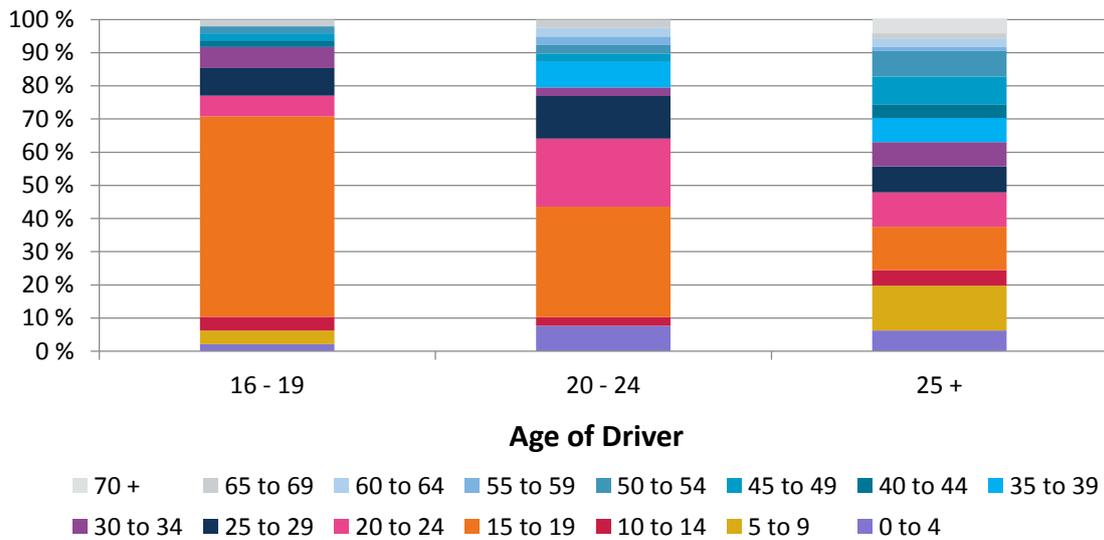
Figure I.18: Proportion of Motor (non-MIB) PPO claims,
by age of claimant at accident date and by age of driver at accident date
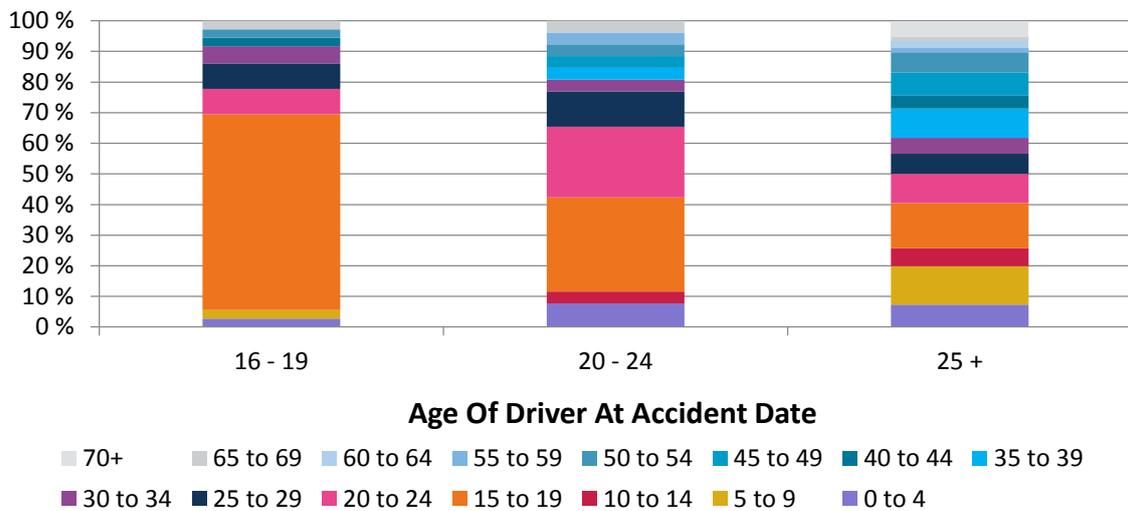
Figure I.19: Proportion of Motor (non-MIB) PPO claims, for Private Motor,
by age of claimant at accident date and by age of driver at accident date

Age Of Driver At Accident Date

Legend:
- 70+
- 65 to 69
- 60 to 64
- 55 to 59
- 50 to 54
- 45 to 49
- 40 to 44
- 35 to 39
- 30 to 34
- 25 to 29
- 20 to 24
- 15 to 19
- 10 to 14
- 5 to 9
- 0 to 4
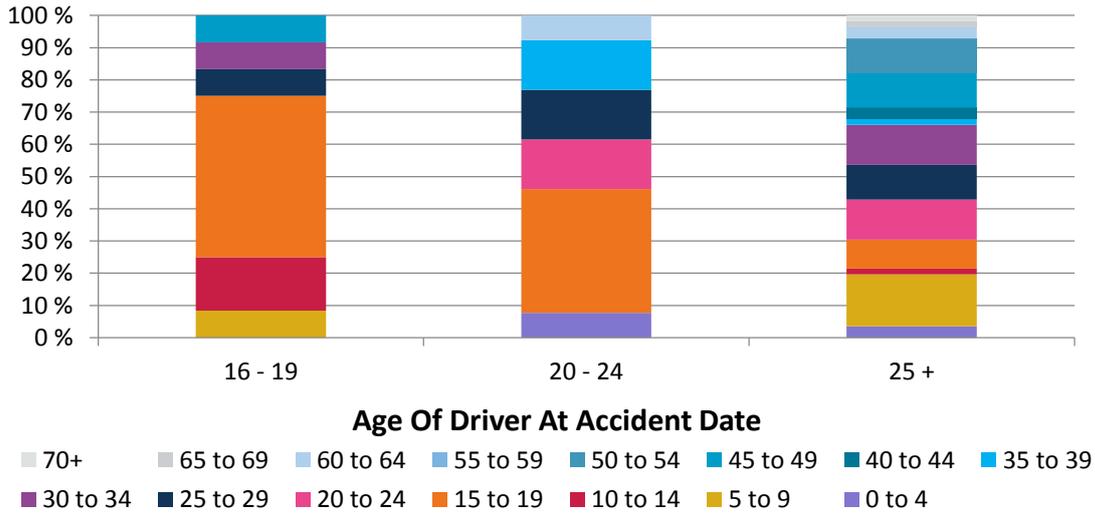
Figure I.20: Proportion of Motor (non-MIB) PPO claims, for Commercial Motor, by age of claimant at accident date and by age of driver at accident date

I.5   Delay to settlement

The delay to settlement is calculated as the time elapsed between the accident date and PPO settlement date, rounded to the nearest whole year.
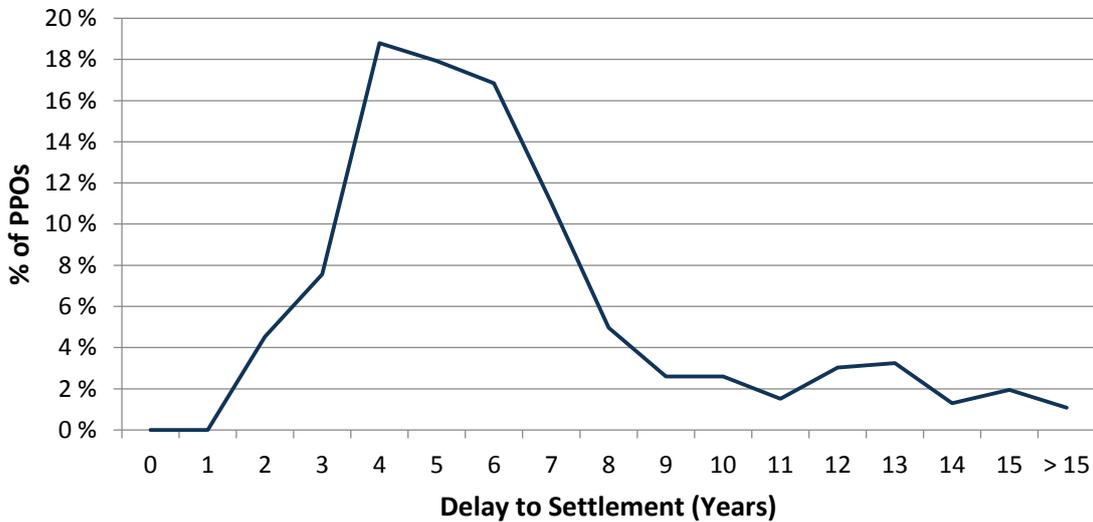
Figure I.21: Distribution of the delay to settlement for Motor (non-MIB) PPO claims, for claims settled since 2009
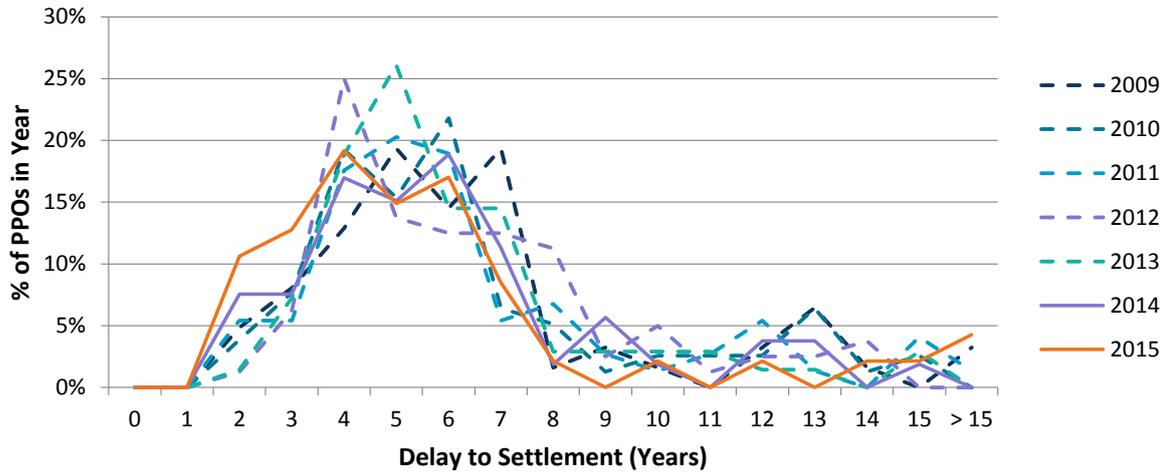
Figure I.22: Distribution of the delay to settlement for Motor (non-MIB) PPO claims, by settlement year, for claims settled since 2009
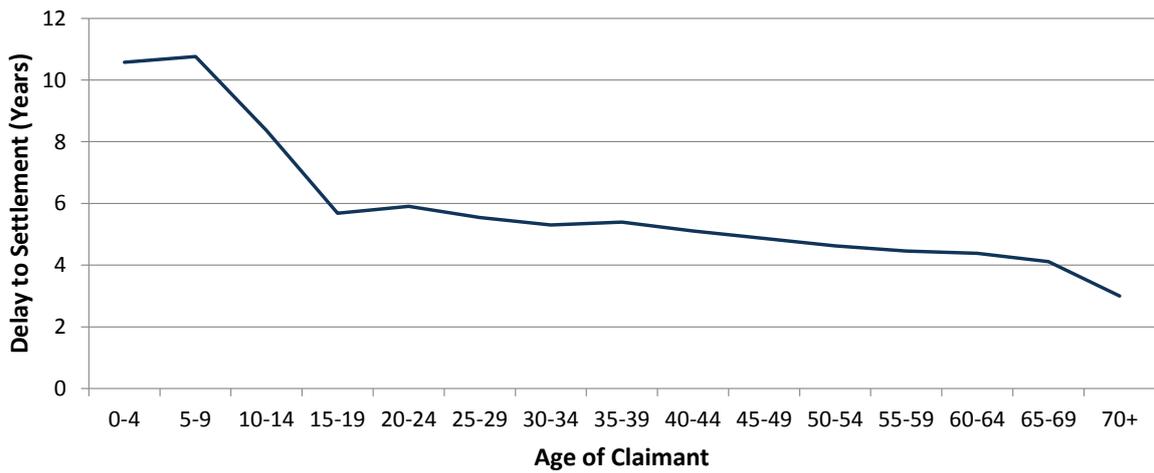
Figure I.23: Average delay to settlement for Motor (non-MIB) PPO claims, by age of claimant at accident date, for claims settled since 2009
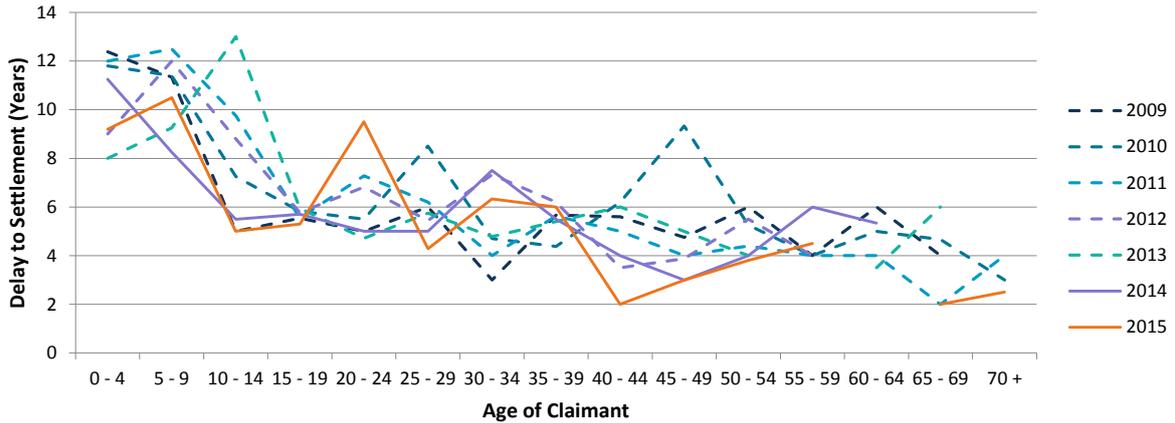
Figure I.24: Average delay to settlement for Motor (non-MIB) PPO claims,
by age of claimant at accident date, by settlement year, for claims settled since 2009
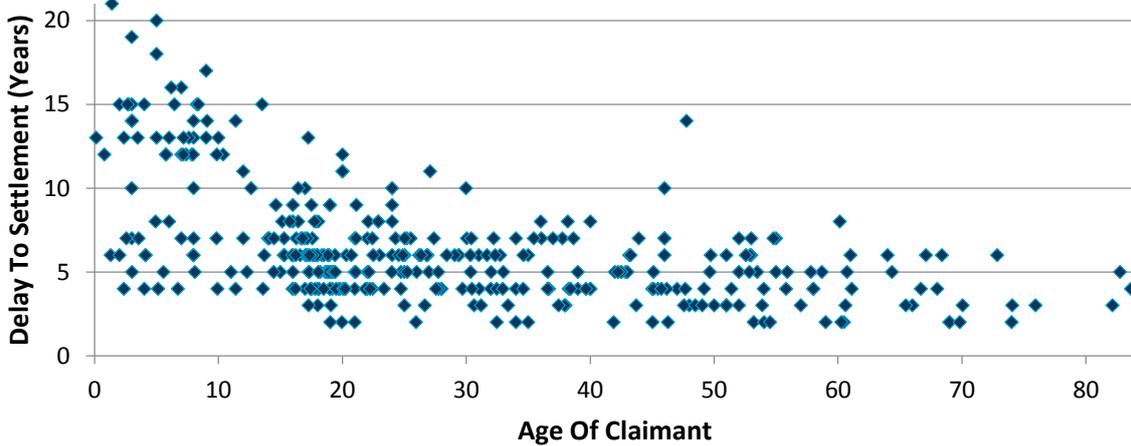
Figure I.25: Scatter graph of the delay to settlement for Motor (non-MIB) PPO claims
and the age of claimant at accident date

For the scatter graph in Figure I.25, the correlation coefficients are:

- Pearson correlation coefficient: -0.49
- Spearman correlation coefficient: -0.47

The coefficients represent the strength and direction of the correlation between the two variables, ranging between -1.00 and +1.00. A larger absolute value represents a stronger relationship in the data, the sign indicating the direction.
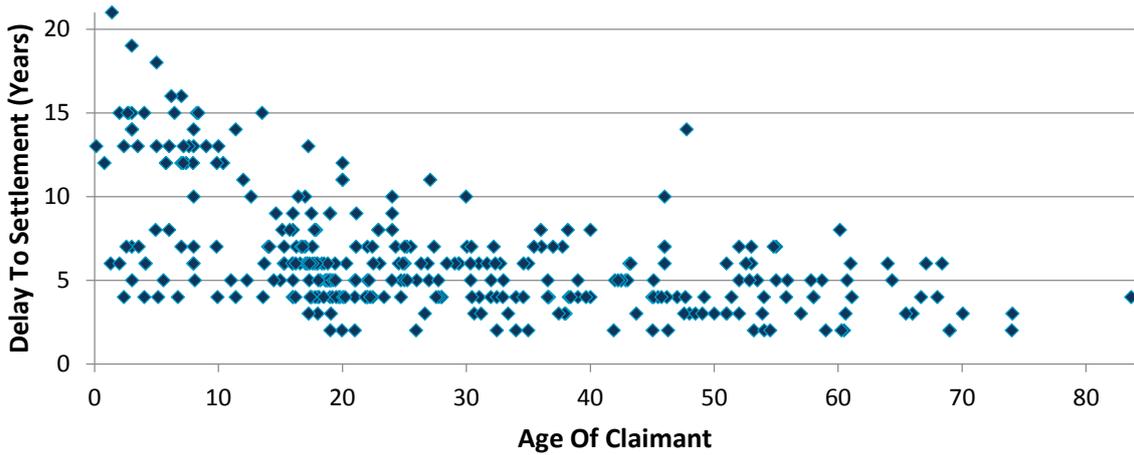
Figure I.26: Scatter graph of the delay to settlement for Motor (non-MIB) PPO claims
and the age of claimant at accident date, for claims settled since 2009

For the scatter graph in Figure I.26, the correlation coefficients are:

- Pearson correlation coefficient: -0.49
- Spearman correlation coefficient: -0.47

I.6   Life expectancy of claimant at settlement date

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.
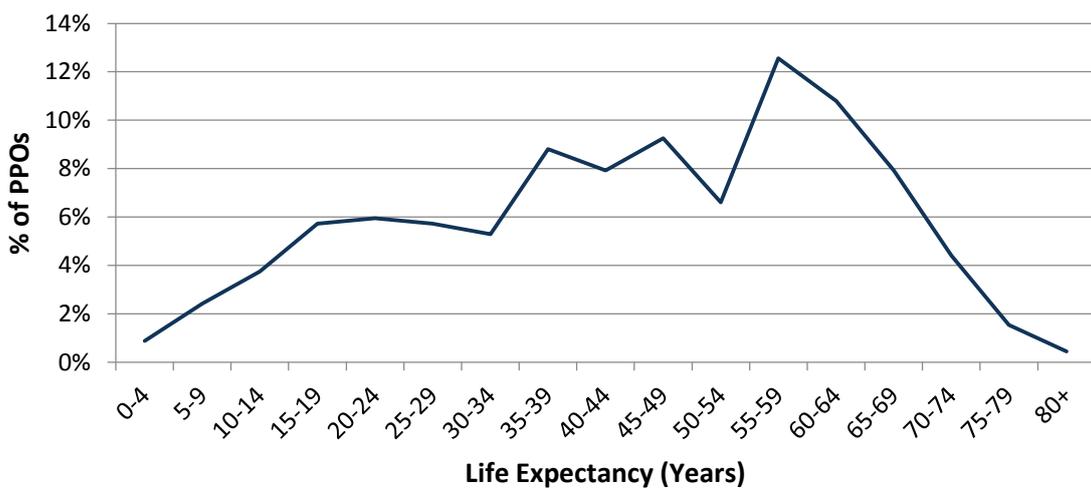
Figure I.27: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, for claims settled since 2009
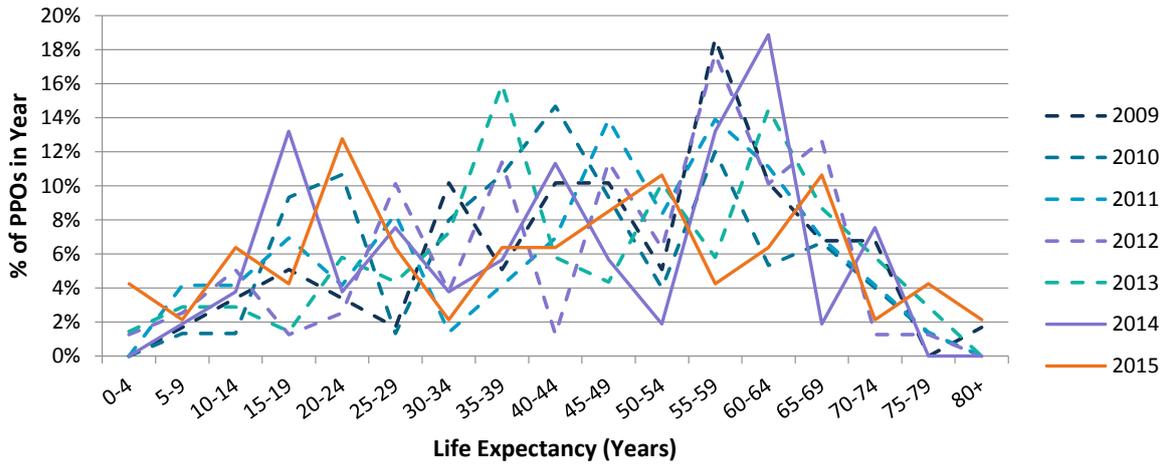
*Figure I.28: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, by settlement year, for claims settled since 2009*
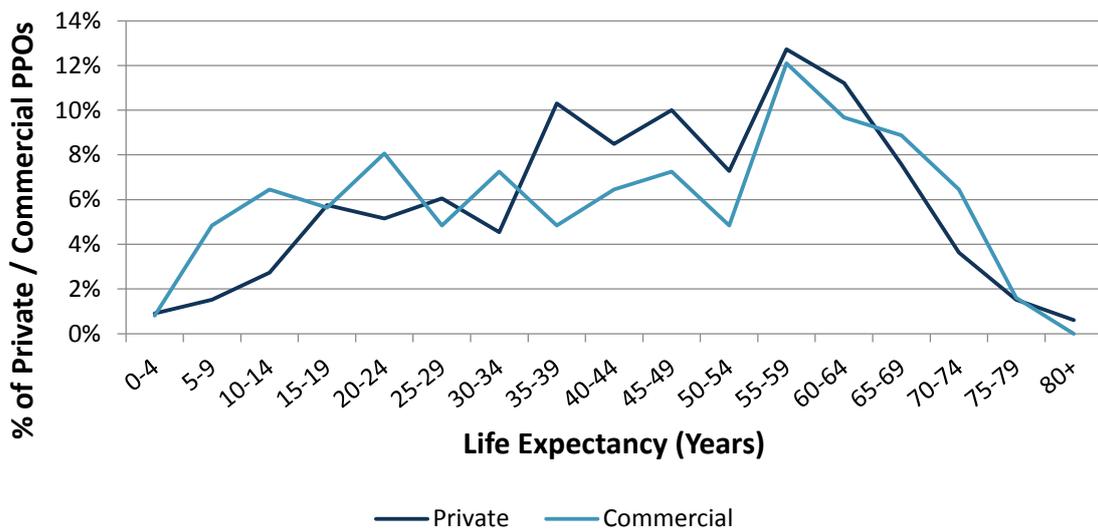
*Figure I.29: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, for Private and Commercial Motor,
for claims settled since 2009*
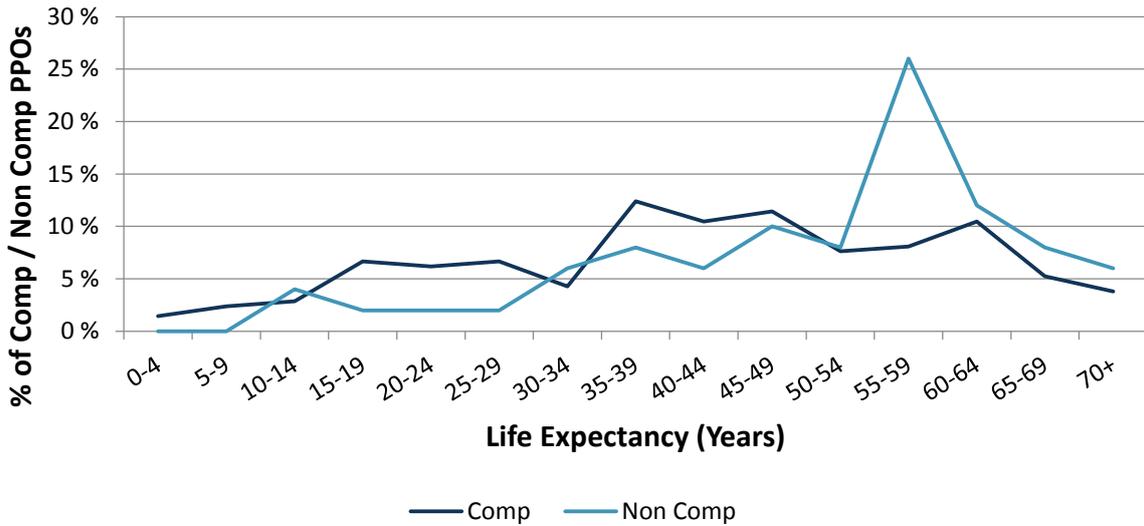
Figure I.30: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, for Private Motor,
by cover type, for claims settled since 2009
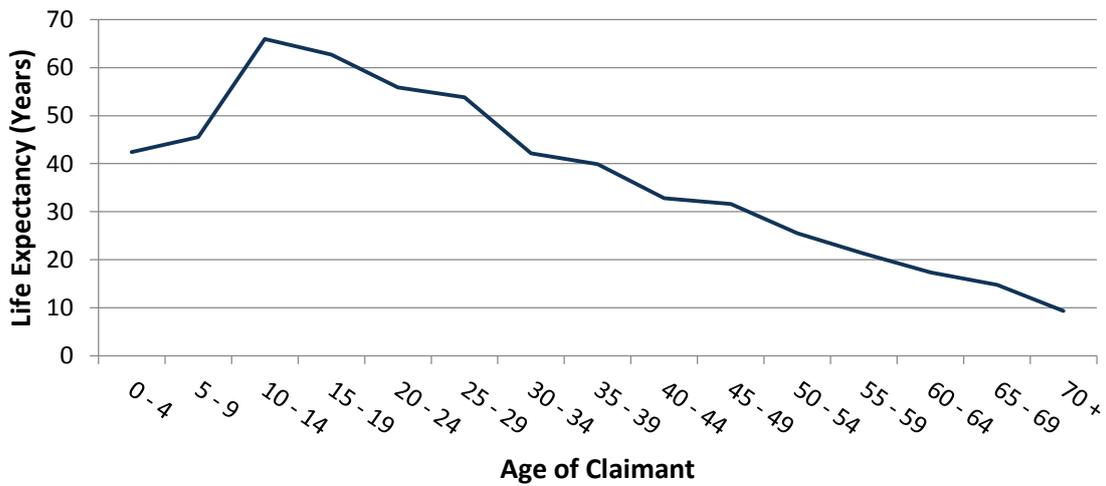
Figure I.31: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, by age of claimant at settlement date,
for claims settled since 2009
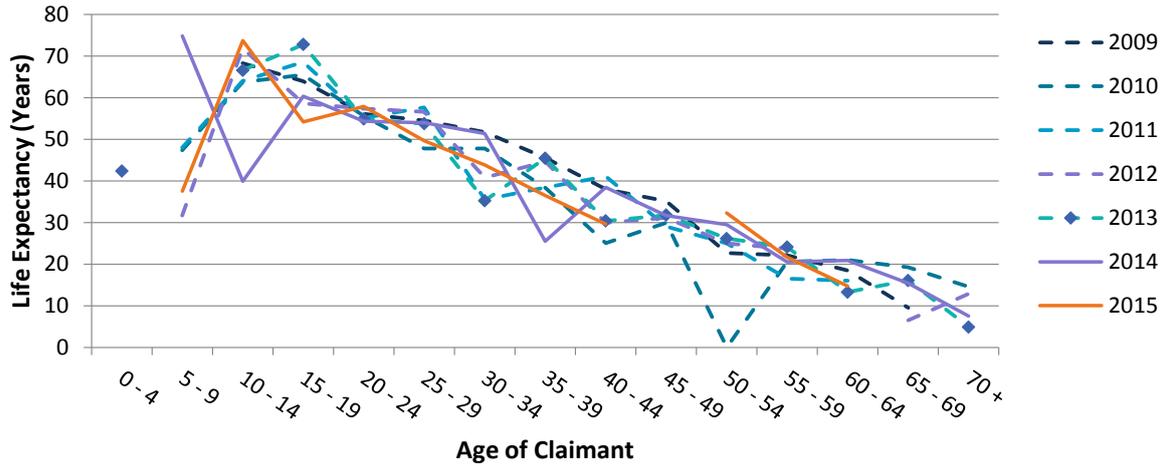
Figure I.32: Distribution of the life expectancy of claimant at settlement date,
for Motor (non-MIB) PPO claims, by age of claimant at settlement date,
by settlement year, for claims settled since 2009
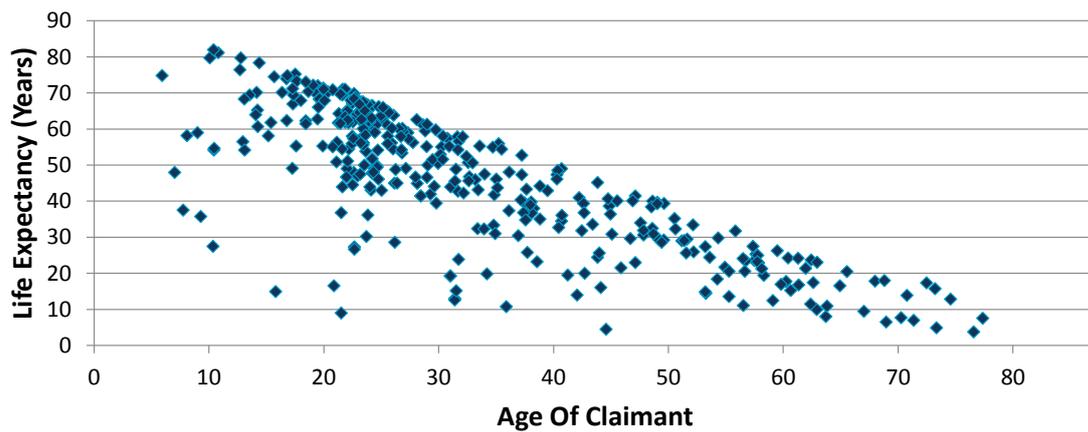
Figure I.33: Scatter graph of the life expectancy of claimant at settlement date
for Motor (non-MIB) PPO claims and the age of claimant at settlement date

For the scatter graph in Figure I.33, the correlation coefficients are:

- Pearson correlation coefficient: -0.79
- Spearman correlation coefficient: -0.75
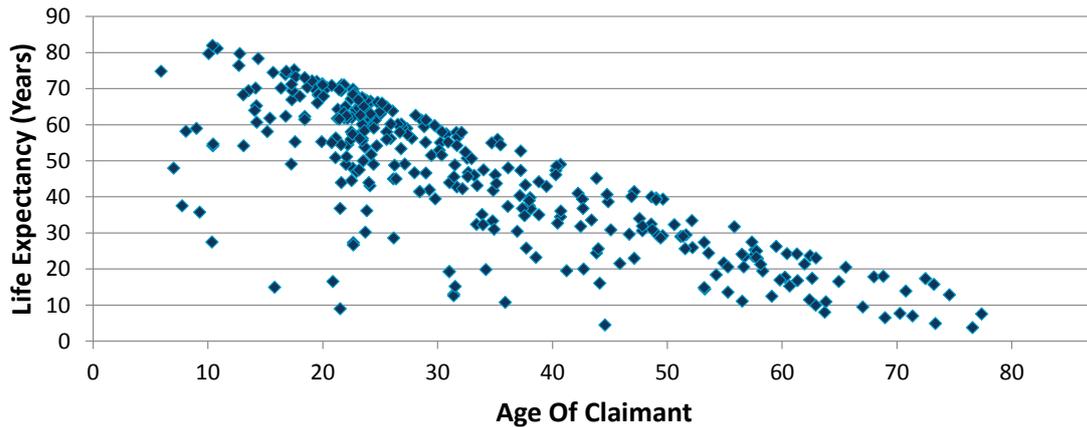
Figure I.34: Scatter graph of the life expectancy of claimant at settlement date for Motor (non-MIB) PPO claims and the age of claimant at settlement date, for claims settled since 2009

For the scatter graph in Figure I.34, the correlation coefficients are:

- Pearson correlation coefficient: -0.79
- Spearman correlation coefficient: -0.74

I.7   Reduction in life expectancy of the claimant

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement.
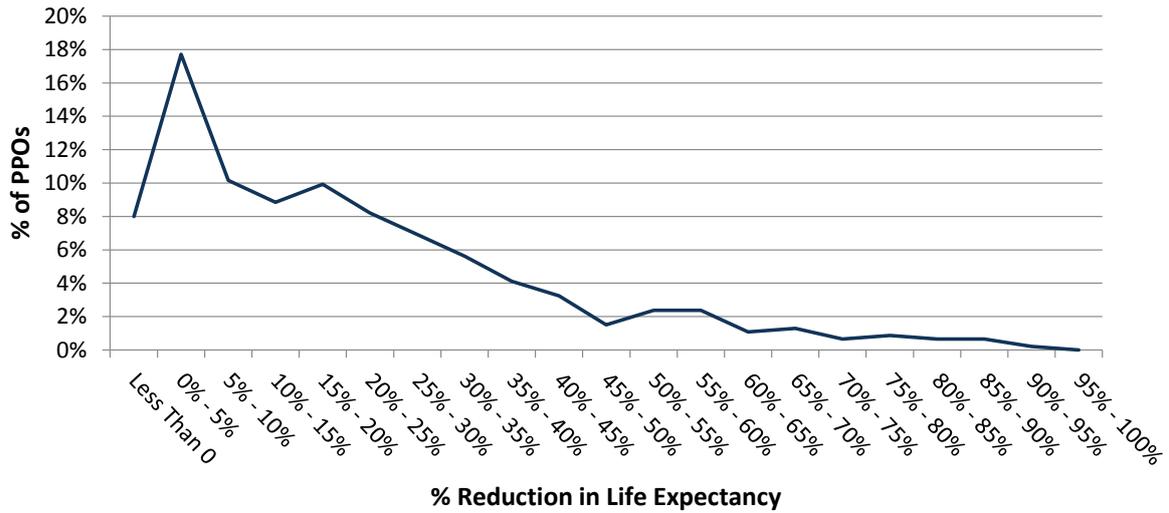
Figure I.35: Distribution of the percentage reduction in life expectancy of a claimant, for Motor (non-MIB) PPO claims, for claims settled since 2009
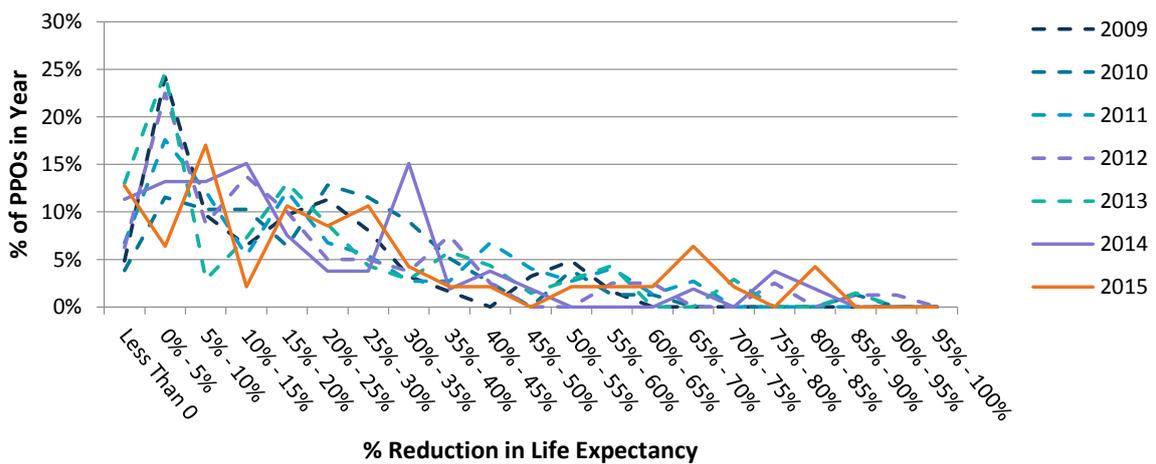
Figure I.36: Distribution of the percentage reduction in life expectancy of a claimant, for Motor (non-MIB) PPO claims, by settlement year, for claims settled since 2009

Figure I.37: Distribution of the percentage reduction in life expectancy of a claimant,
for Motor (non-MIB) PPO claims, by age of claimant at accident date,
for claims settled since 2009
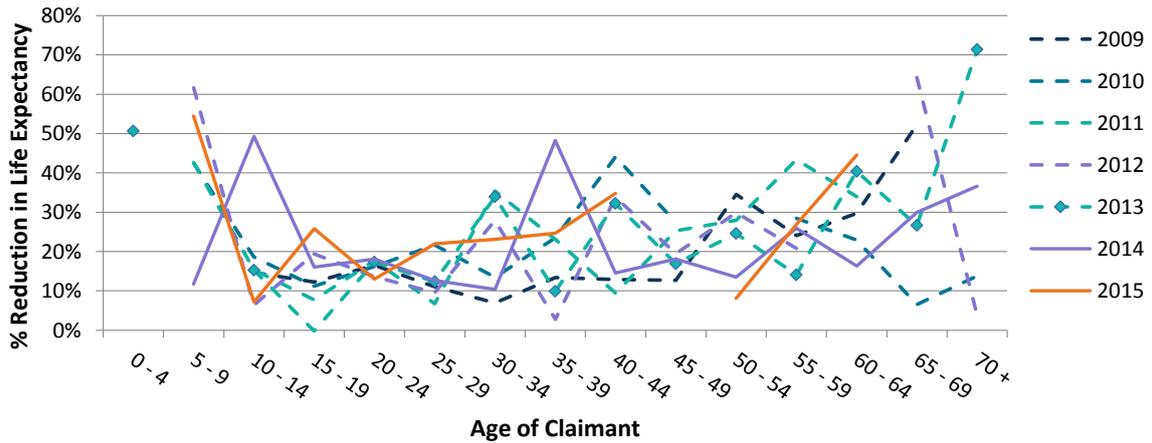
Figure I.38: Distribution of the percentage reduction in life expectancy of a claimant,
for Motor (non-MIB) PPO claims, by age of claimant at accident date,
by settlement year, for claims settled since 2009
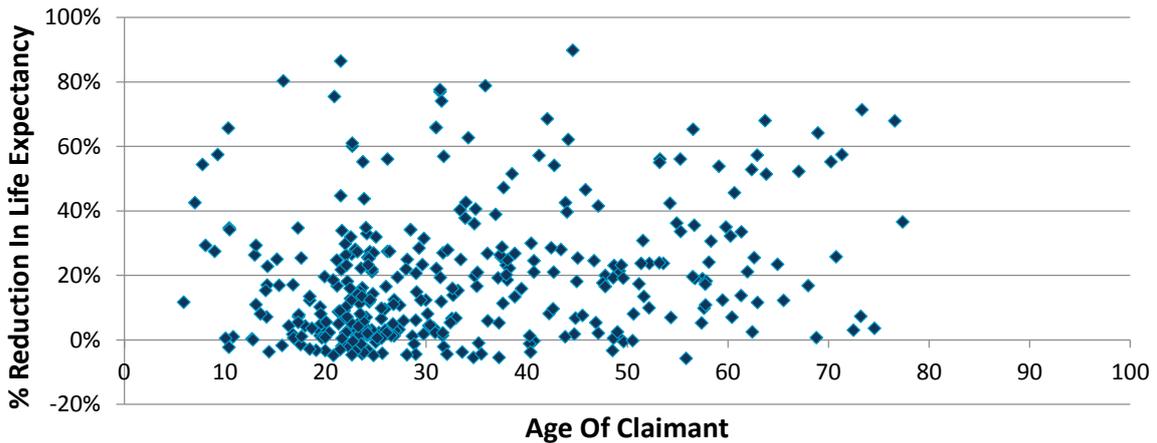
Figure I.39: Scatter graph of the percentage reduction in life expectancy of a claimant at settlement date, for Motor (non-MIB) PPO claims, and the age of claimant at settlement date

For the scatter graph in Figure I.39, the correlation coefficients are:

- Pearson correlation coefficient: 0.19
- Spearman correlation coefficient: 0.21
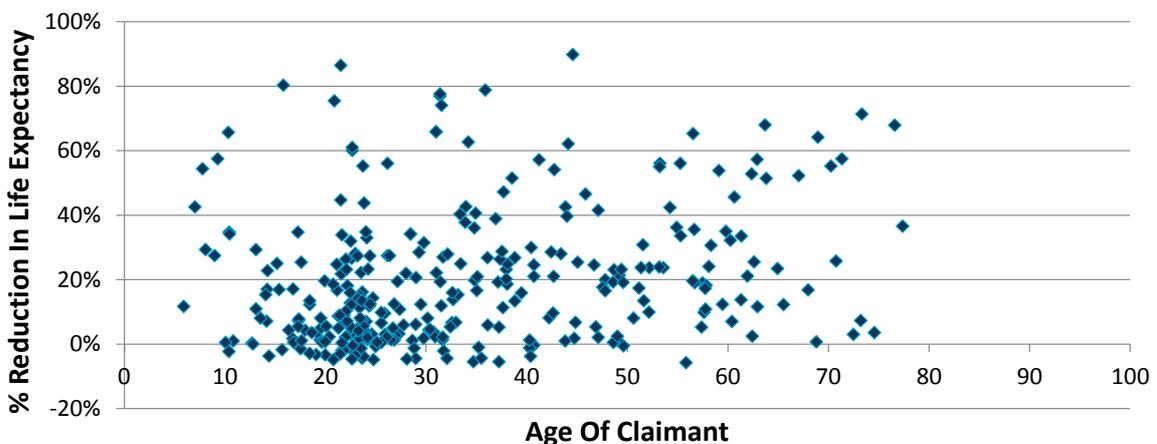
Figure I.40: Scatter graph of the percentage reduction in life expectancy of a claimant at settlement date, for Motor (non-MIB) PPO claims, and the age of claimant at settlement date, for claims settled since 2009

For the scatter graph in Figure I.40, the correlation coefficients are:

- Pearson correlation coefficient: 0.19
- Spearman correlation coefficient: 0.21

Appendix J   General characteristics of Liability claims

In this appendix, we provide summary statistics for Liability PPO claims by the following characteristics:

- Age of claimant at accident date and gender of claimant (including class of business)
- Age of claimant at settlement date and gender of claimant
- Delay to settlement
- Life expectancy of claimant at settlement date
- Reduction in life expectancy of the claimant.

For ease of comparison between the summary statistics, a number of the figures in this appendix summarise the data for both Liability PPO claims and Motor (non-MIB) PPO claims.

J.1   Age of claimant at accident date and gender of claimant
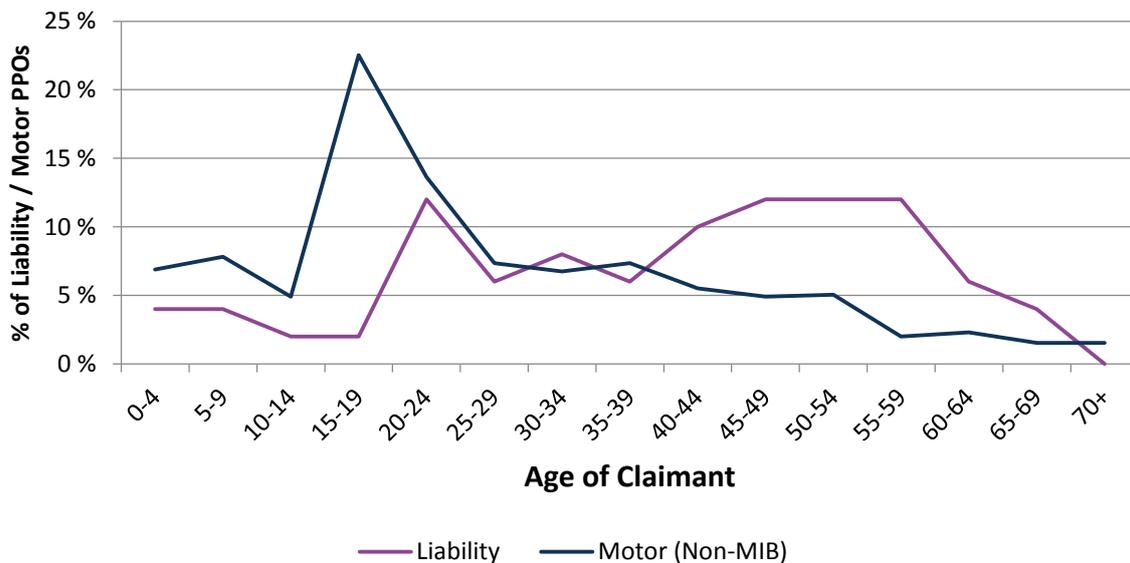
Figure J.1: Distribution of the number of Liability PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date

Liability

10%

90%

■ Male ■ Female

Employers' Liability

3%

97%

■ Male ■ Female

Public Liability

17%

83%

■ Male ■ Female
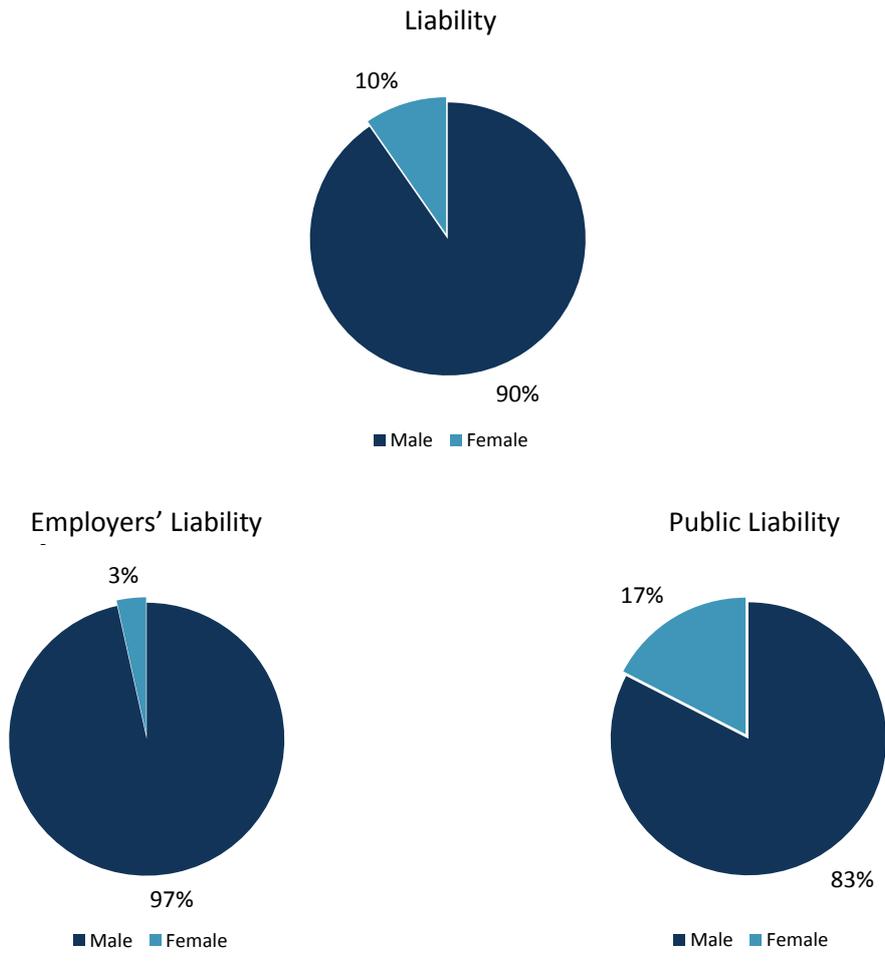
Figure J.2: Split of the number of Liability PPO claims, by gender of claimant
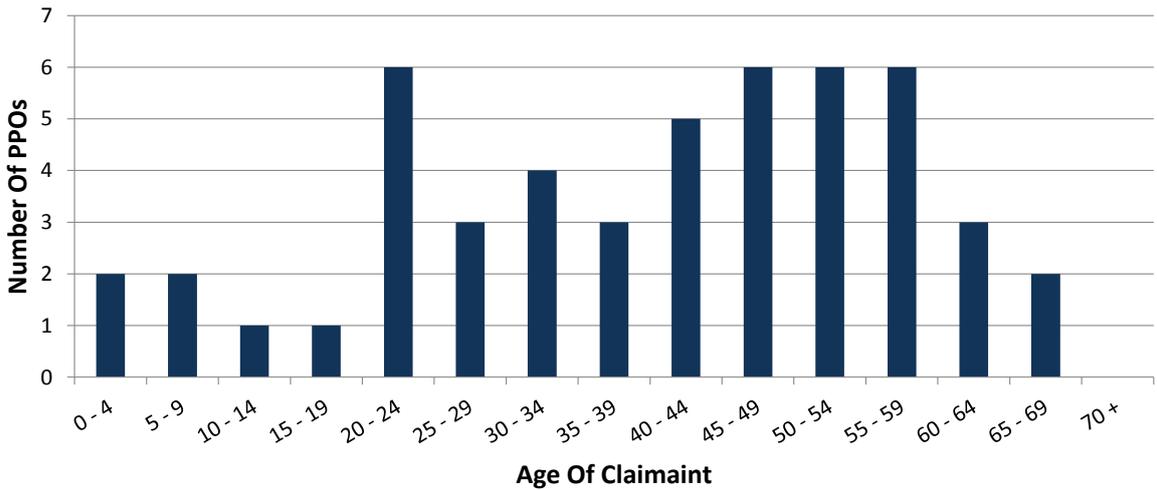
Figure J.3: Number of Liability PPO claims, by age of claimant at accident date
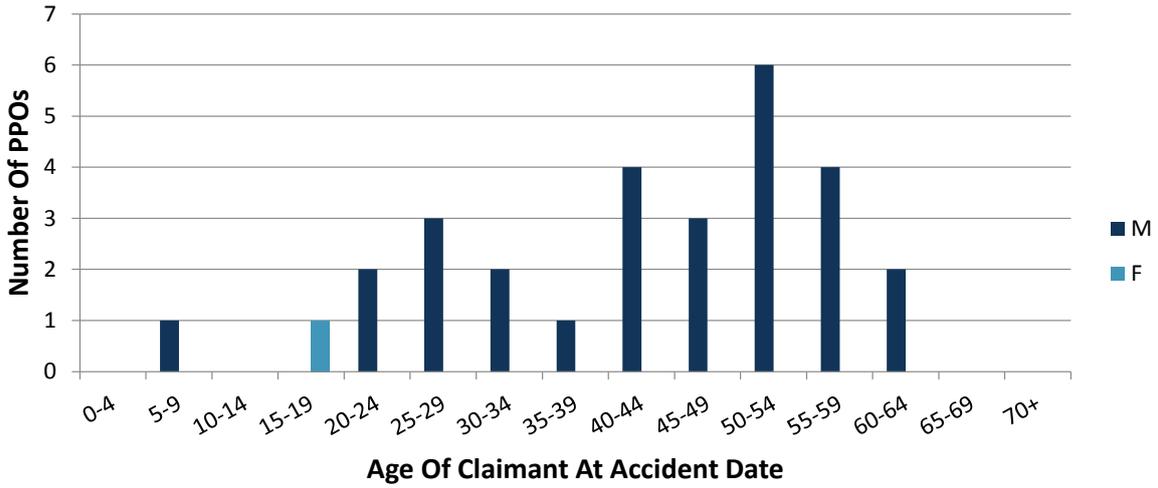
Figure J.4: Number of Liability PPO claims, for Employers' Liability,
by age of claimant at accident date and by gender of claimant
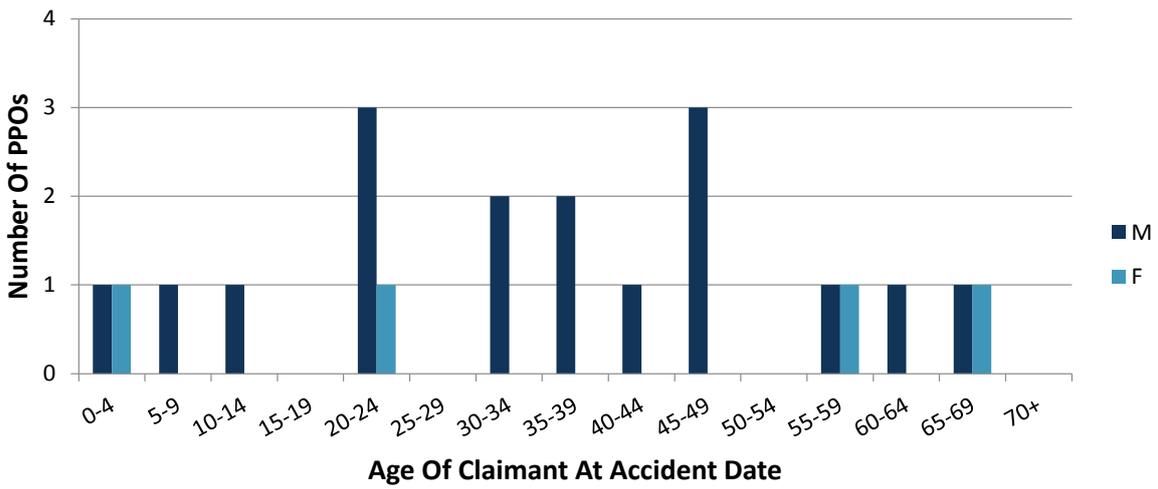
Figure J.5: Number of Liability PPO claims, for Public Liability,
by age of claimant at accident date and by gender of claimant

J.2   Age of claimant at settlement date and gender of claimant
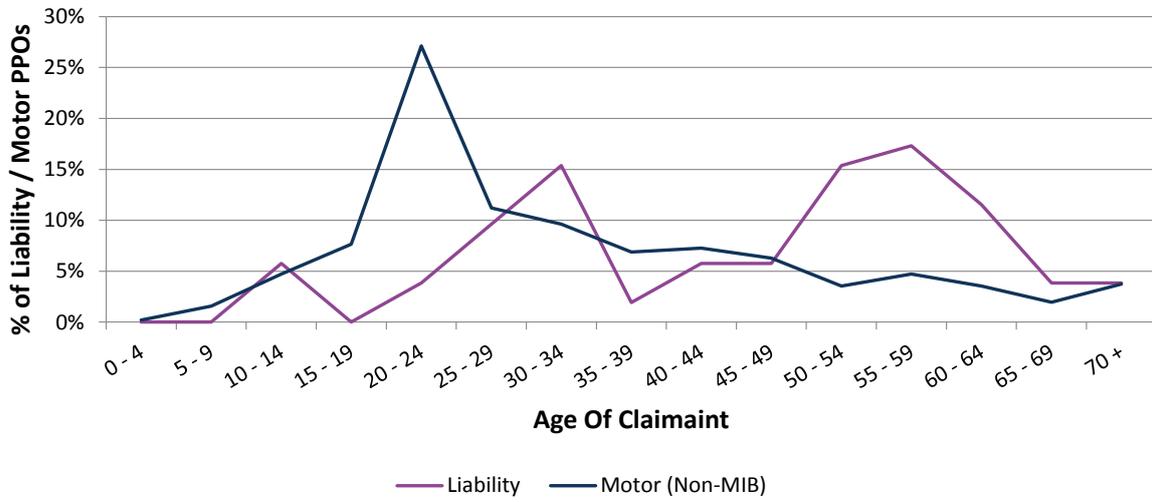
Figure J.6: Distribution of the number of Liability PPO claims and Motor (non-MIB) PPO claims, by age of claimant at settlement date
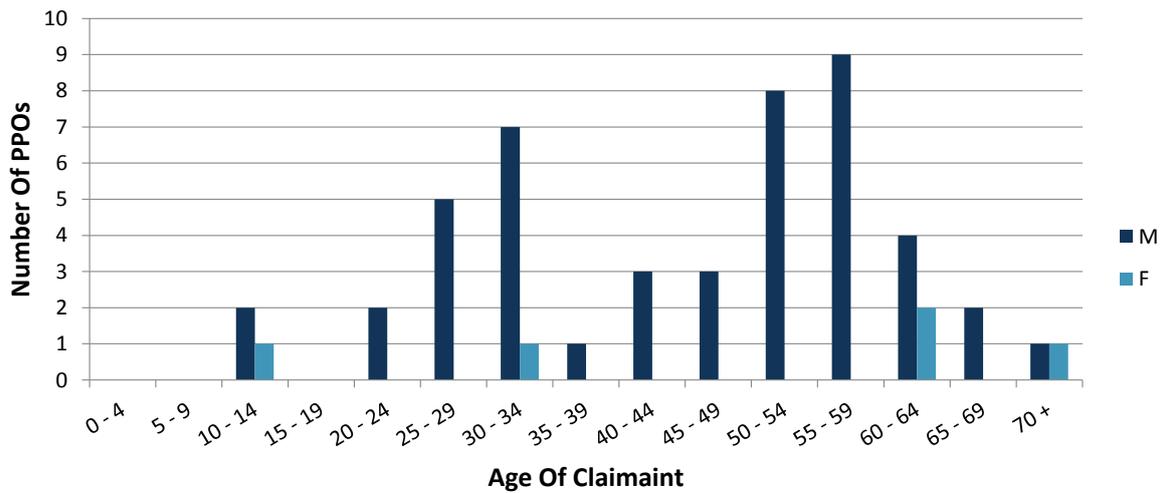
Figure J.7: Number of Liability PPO claims, by age of claimant at settlement date and by gender of claimant

J.3 Delay to settlement

The delay to settlement is calculated as the time elapsed between the accident date and PPO settlement date, rounded to the nearest whole year.
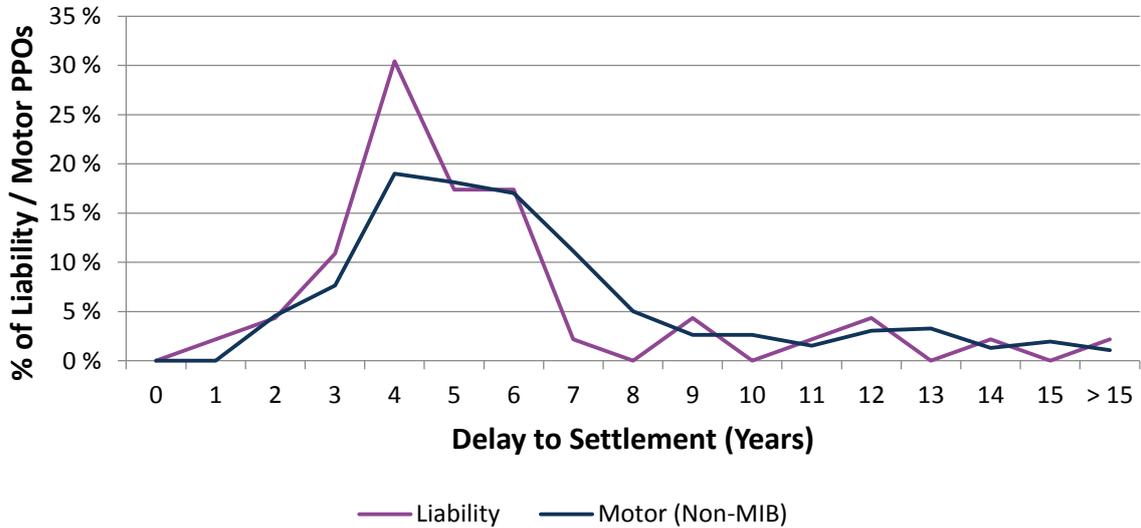
Figure J.8: Distribution of the delay to settlement for Liability PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
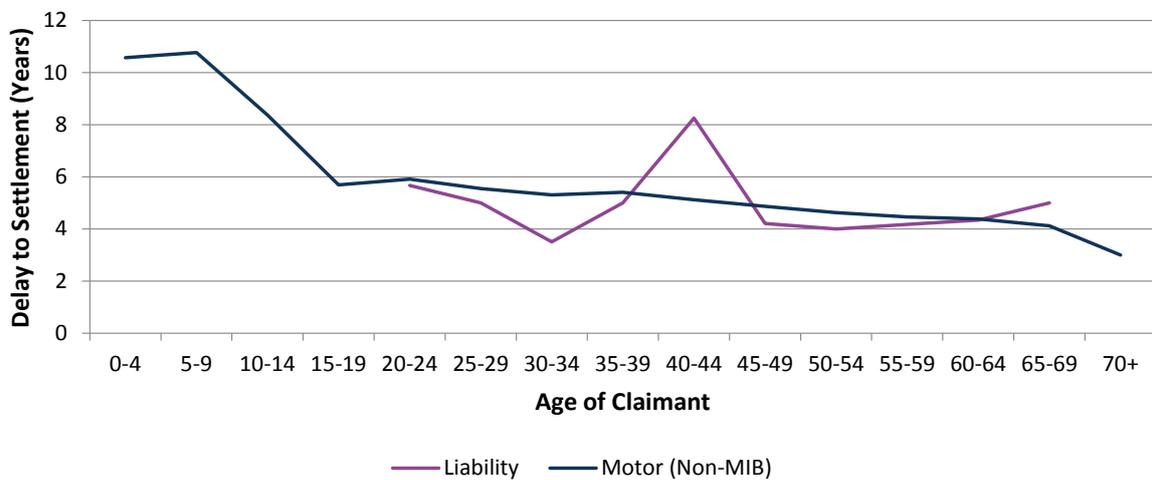
Figure J.9: Distribution of the delay to settlement for Liability PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date, for claims settled since 2009

J.4   Life expectancy of claimant at settlement date

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.
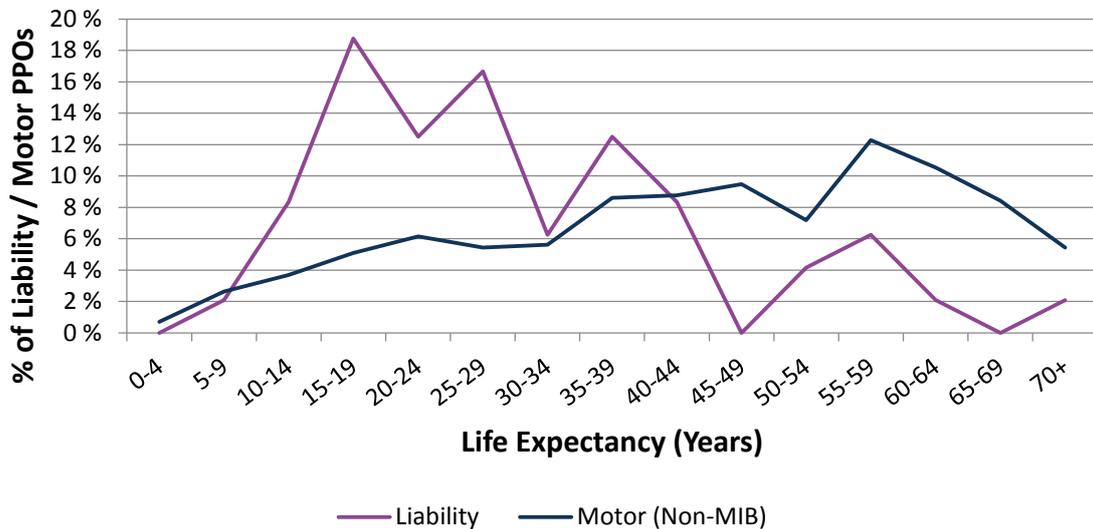
Figure J.10: Distribution of the life expectancy of claimant at settlement date,
for Liability PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
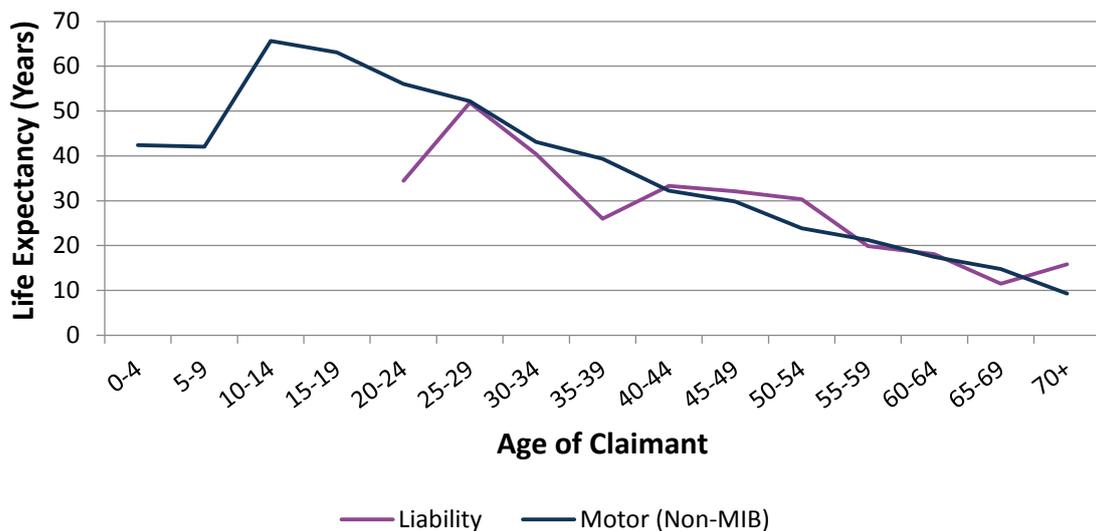
Figure J.11: Distribution of the life expectancy of claimant at settlement date,
for Liability PPO claims and Motor (non-MIB) PPO claims, by age of claimant at settlement date,
for claims settled since 2009

J.5   Reduction in life expectancy of the claimant

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement.
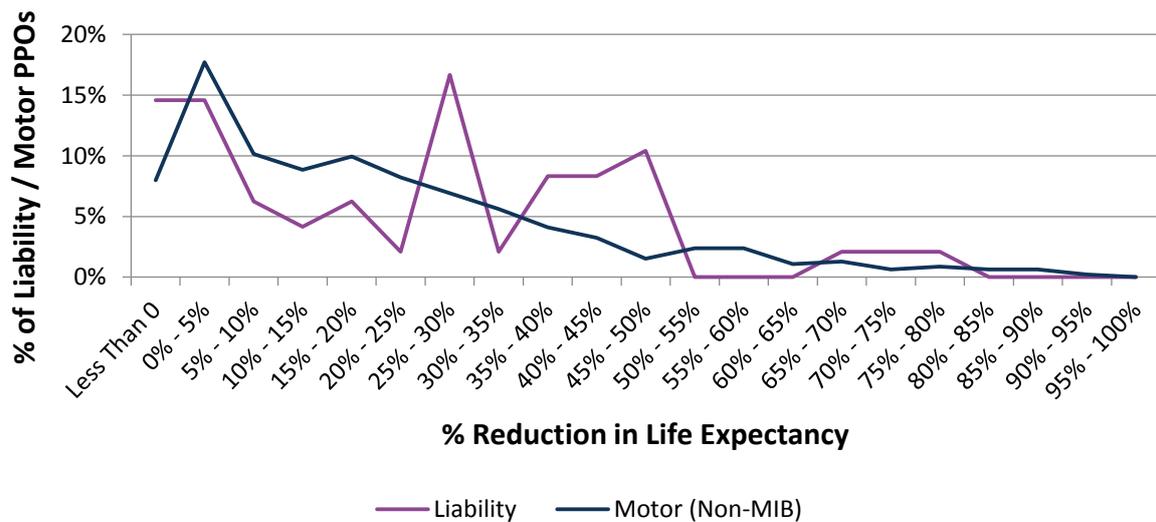
Figure J.12: Distribution of the percentage reduction in life expectancy of a claimant,
for Liability PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
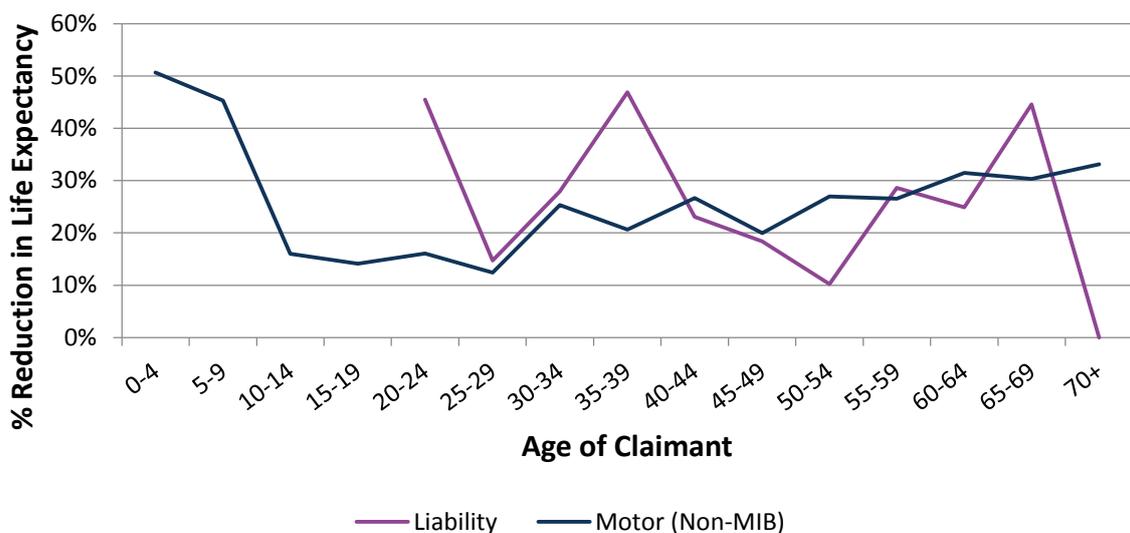
Figure J.13: Distribution of the percentage reduction in life expectancy of a claimant,
for Liability PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date,
for claims settled since 2009

Appendix K   General characteristics of Motor (MIB) PPO claims

In this appendix, we provide summary statistics for Motor (MIB) PPO claims by the following characteristics:

- Age of claimant at accident date and gender of claimant (including class of business and cover type)
- Age of claimant at settlement date and gender of claimant
- Delay to settlement
- Life expectancy of claimant at settlement date
- Reduction in life expectancy of the claimant.

For ease of comparison between the summary statistics, a number of the figures in this appendix summarise the data for both Motor (MIB) PPO claims and Motor (non-MIB) PPO claims.

K.1   Age of claimant at accident date and gender of claimant
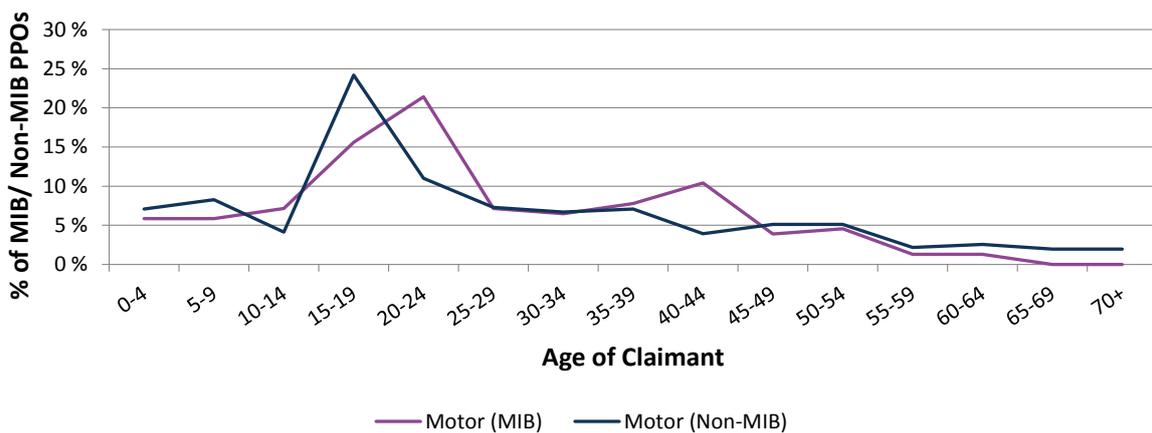
Figure K.1: Distribution of the number of Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date
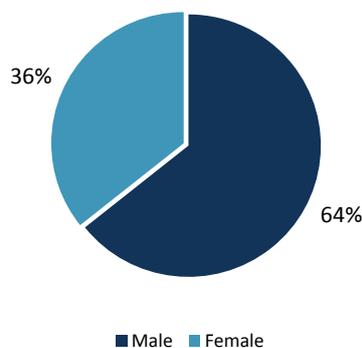
Figure K.2: Split of the number of Motor (MIB) PPO claims, by gender of claimant
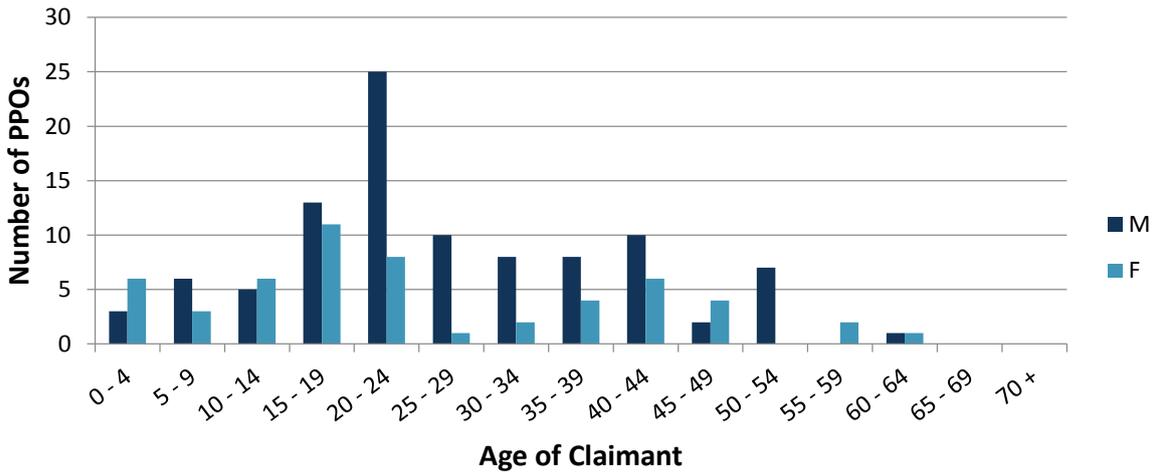
Figure K.3: Number of Motor (MIB) PPO claims, by age of claimant at accident date and by gender of claimant

K.2 Age of claimant at settlement date and gender of claimant
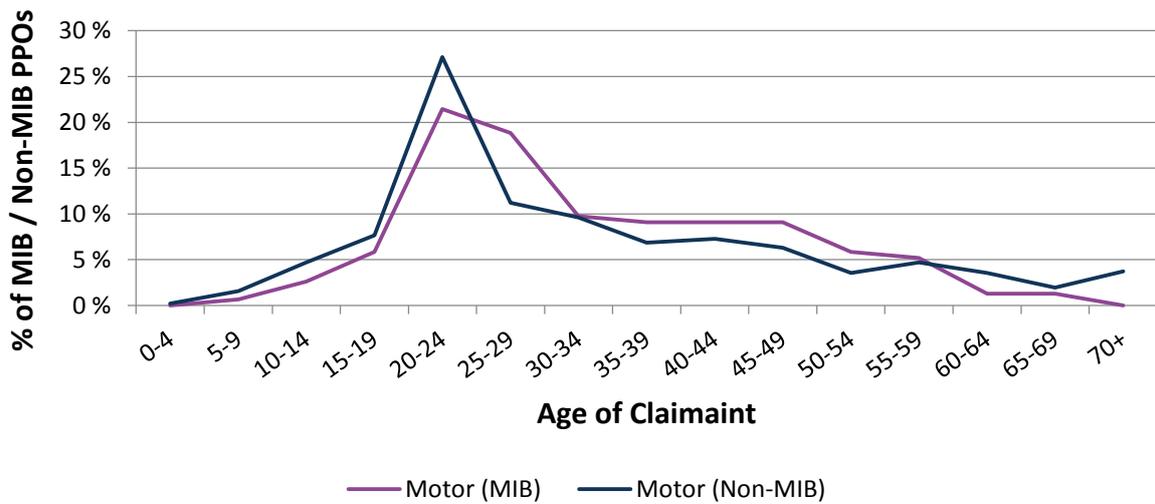
Figure K.4: Distribution of the number of Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, by age of claimant at settlement date
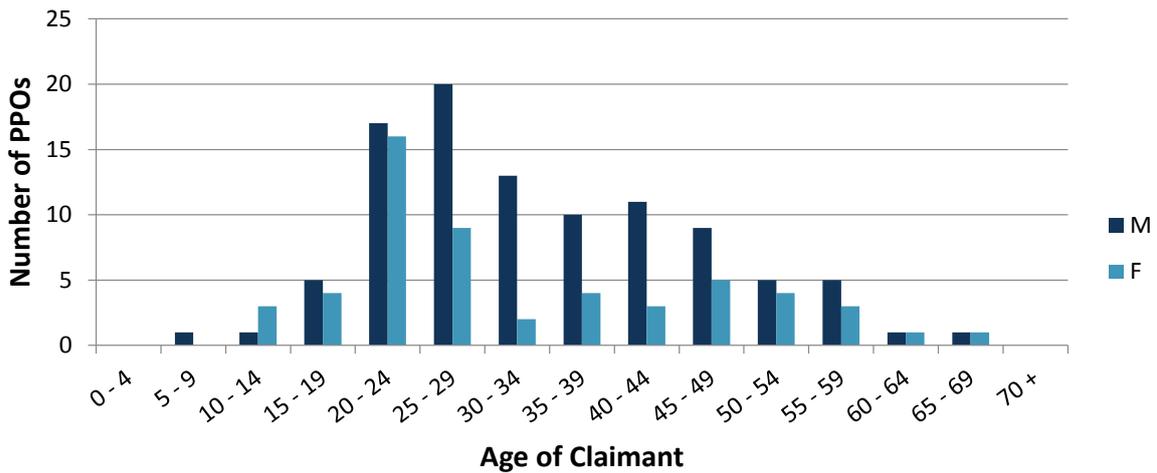
Figure K.5: Number of Motor (MIB) PPO claims, by age of claimant at settlement date and by gender of claimant

K.3 Delay to settlement

The delay to settlement is calculated as the time elapsed between the accident date and PPO settlement date, rounded to the nearest whole year.
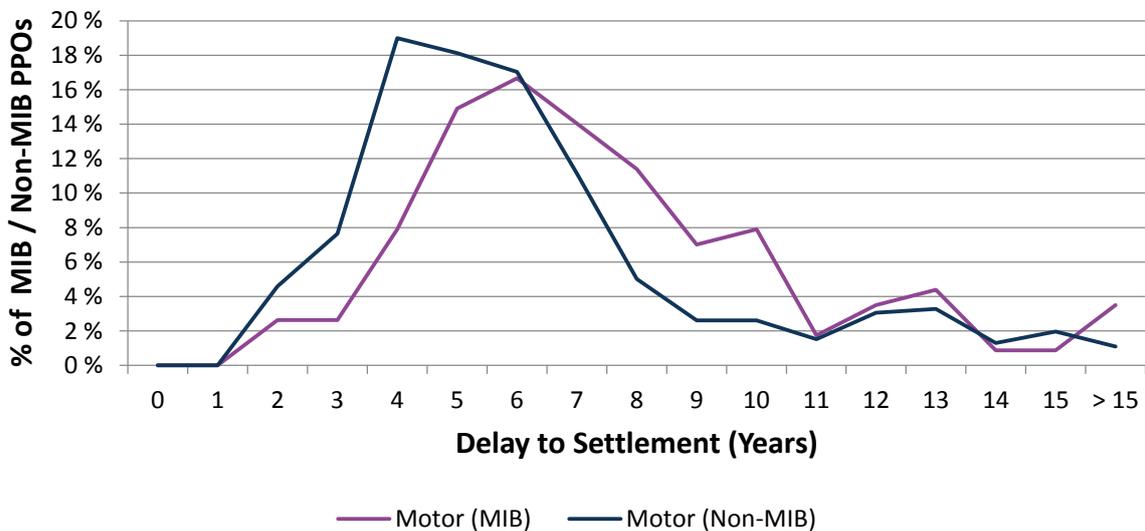
Figure K.6: Distribution of the delay to settlement for Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
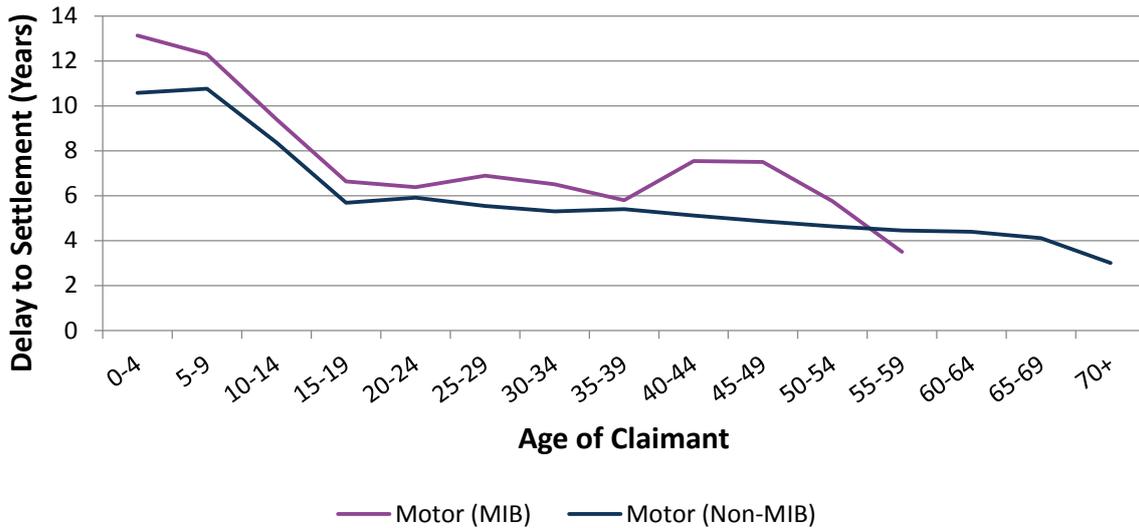
*Figure K.7: Distribution of the delay to settlement for Motor (non-MIB) PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date, for claims settled since 2009*

K.4 Life expectancy of claimant at settlement date

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.
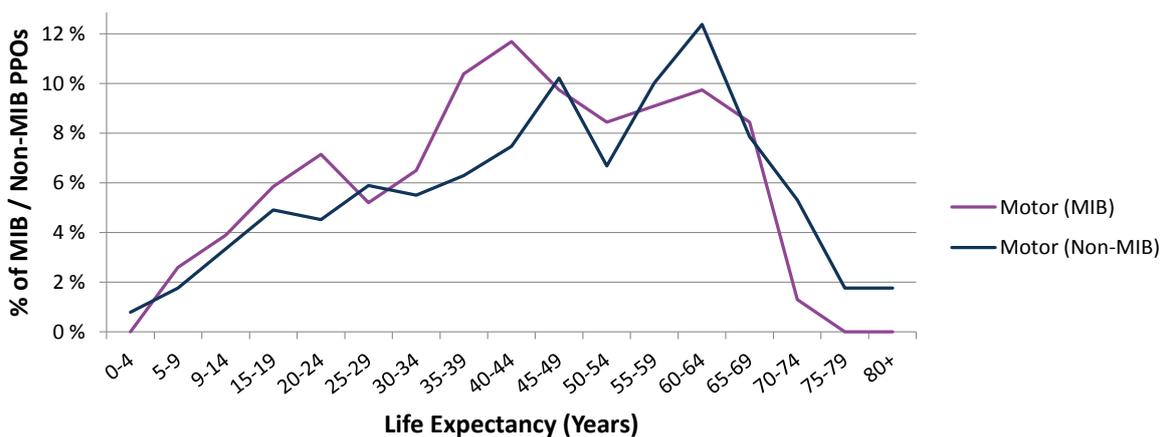
Figure K.8: Distribution of the life expectancy of claimant at settlement date, for Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
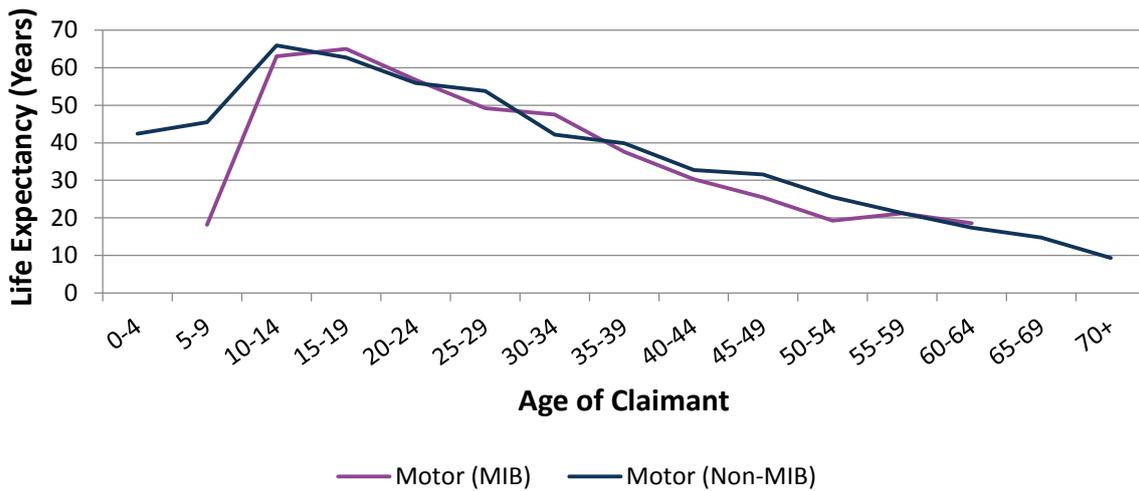
Figure K.9: Distribution of the life expectancy of claimant at settlement date,
for Motor (MIB) PPO claims and Motor (non-MIB) PPO claims,
by age of claimant at settlement date, for claims settled since 2009

K.5 Reduction in life expectancy of the claimant

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement.
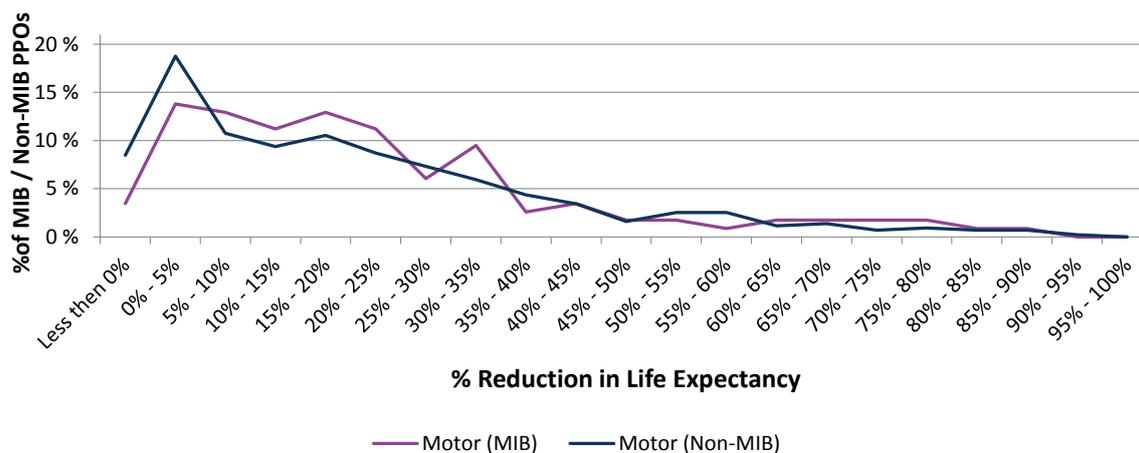
Figure K.10: Distribution of the percentage reduction in life expectancy of a claimant,
for Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
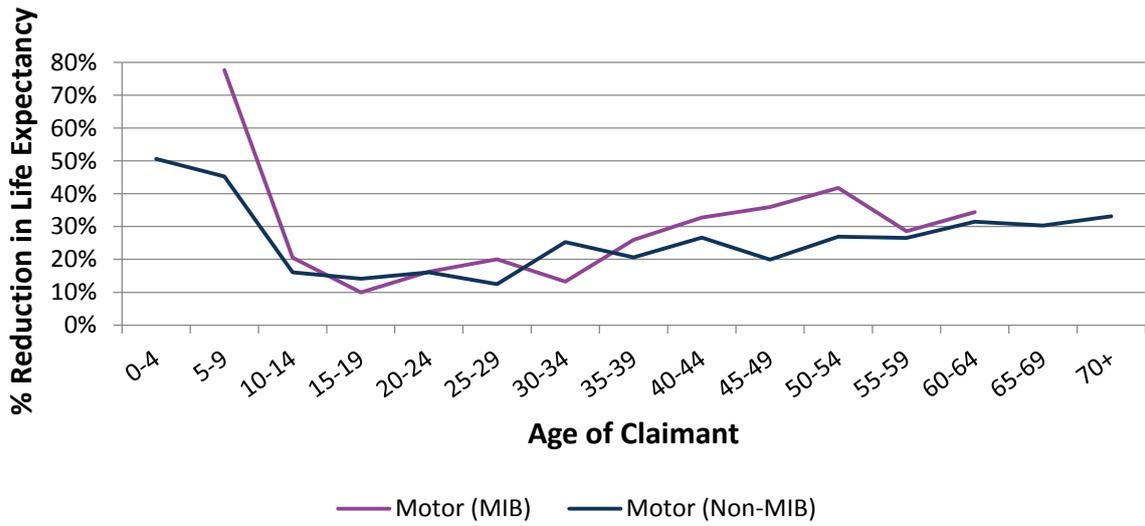
Figure K.11: Distribution of the percentage reduction in life expectancy of a claimant,
for Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, by age of claimant at accident date,
for claims settled since 2009

Appendix L   Indexation of PPO claims

The index used to inflate PPO claim regular payments was originally automatically linked to the Retail Prices Index ("RPI").

However, in 2006, a court case was brought in the form of Thompstone vs Tameside and Glossop Acute Services NHS Trust which questioned this assumption and suggested that the payments for future cost of care would be better linked to wage inflation. The court agreed and the annual inflation increase was linked to the Annual Survey of Hours and Earnings ("ASHE"). The case was appealed and a number of other cases were put on hold pending the outcome. In 2008, the Court of Appeal upheld the ruling that an index other than RPI can be chosen if thought more appropriate. Since then the majority of PPO claims have had inflation linked to ASHE.

ASHE is produced by the Office for National Statistics ("ONS") every November, based on data as at April. It covers a wide range of occupations, though the vast majority of PPO claims so far have, in respect of care costs, been linked to sub-category 6115, relating to care assistants and home carers.

Within a particular job category, the ASHE earnings inflation measures are further split into percentiles. A PPO claim will have the annual inflation linked to a specific percentile, for example to those whose earnings are in the top 10% of earners in the category (i.e. the 90th percentile).

In this appendix, we provide summary statistics for Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims by the following characteristics:

- The index applicable for the primary head of damage of the regular payments
- The head of damage and applicable index for the regular payment streams
- The specific percentiles, where the applicable index for the primary head of damage is ASHE.

In this appendix, we also provide summary statistics for the annual inflation in ASHE 6115 by specific percentile.

L.1   Introductory notes on the summary statistics shown

PPO claims can have different elements included within the regular stream of payments, for example they can include both a Loss of Earnings and a Cost of Care head of damage. These different elements can be linked to different indices.

Figure L.1, Figure L.4 and Figure L.7 show the index applicable for the primary head of damage of the regular payment, where the primary head of damage has been defined as the one for which the associated regular payment amount is the largest.

Figure L.2, Figure L.5 and Figure L.8 show the index applicable for each head of damage payment stream.

Where the applicable index for the primary head of damage is ASHE, Figure L.3, Figure L.6 and Figure L.9 show the proportion of PPO claims linked to specific percentiles, for each settlement year.

L.2   Motor (non-MIB) PPO claims
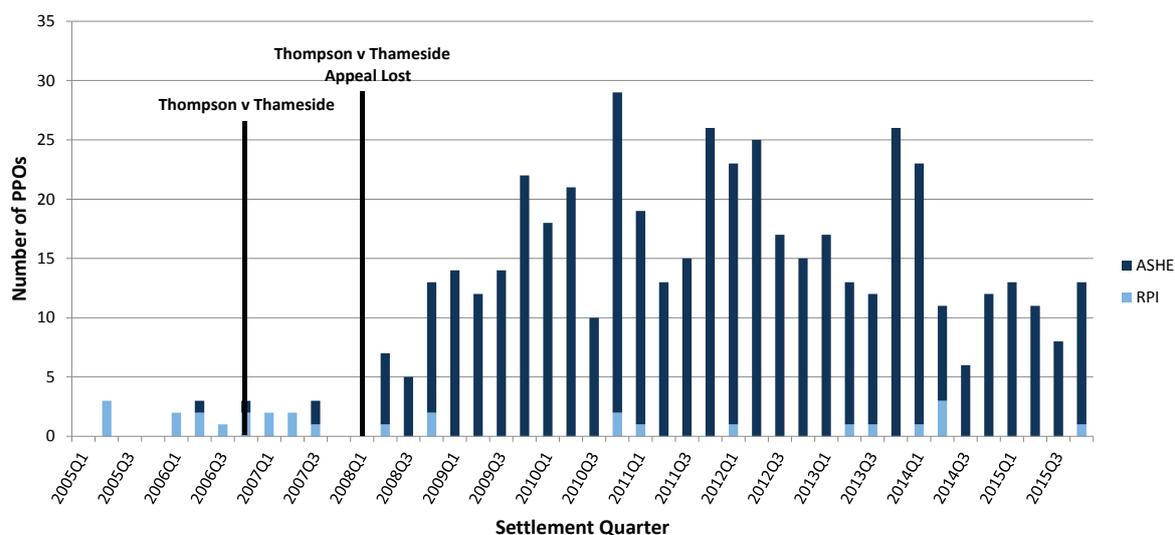
*Figure L.1: Number of Motor (non-MIB) PPO claims, by settlement quarter
and by the index applicable for the primary head of damage of the regular payments*

Total Heads Of Damage	ASHE 6115	Not Indexed	RPI	ASHE Other	Other	Total
Care & Case Management	450	4	24	11	3	492
Loss of Earnings	2	2	23	14	2	43
NA/Missing	27	3	4	2	3	39
Total	479	9	51	27	8	574

*Figure L.2: Number of Motor (non-MIB) PPO claim regular payment streams,
by head of damage and applicable index*
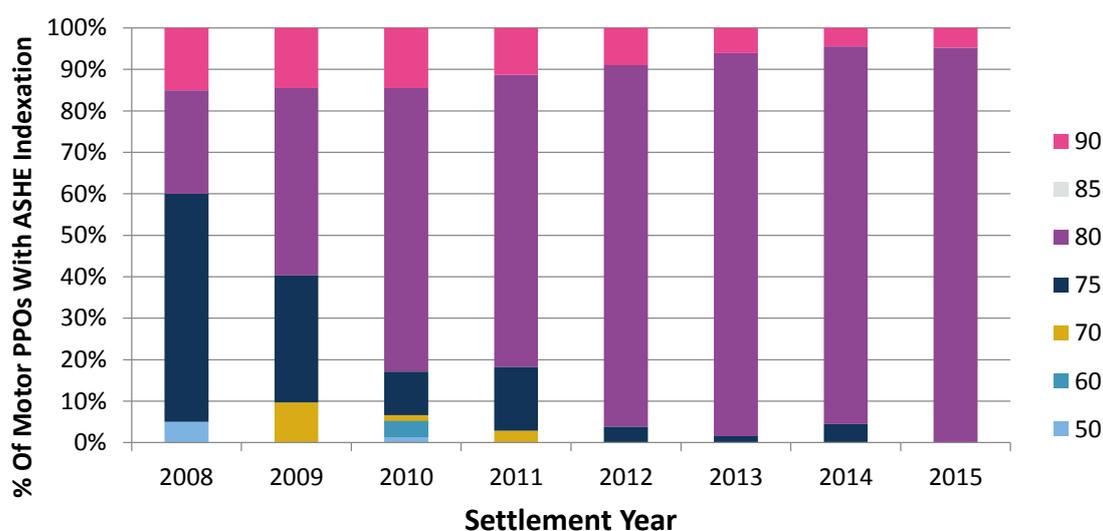
*Figure L.3: Where the applicable index for the primary head of damage is ASHE,
the proportion of Motor (non-MIB) PPO claims linked to specific percentiles, by settlement year*

L.3   Liability PPO claims
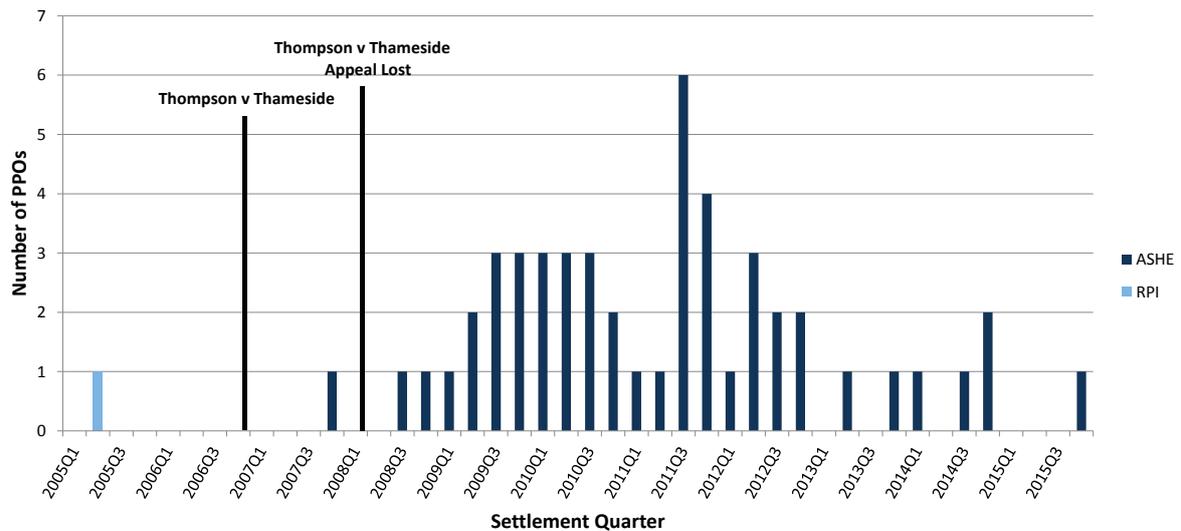
Figure L.4: Number of Liability PPO claims, by settlement quarter
and by the index applicable for the primary head of damage of the regular payments

Total Heads Of Damage	ASHE 6115	Not Indexed	RPI	ASHE Other	Other	Total
Care & Case Management	44	0	1	2	0	47
Loss of Earnings	2	0	0	1	0	3
NA/Missing	2	1	0	0	0	3
Total	**48**	**1**	**1**	**3**	**0**	**53**

Figure L.5: Number of Liability PPO claim regular payment streams,
by head of damage and applicable index
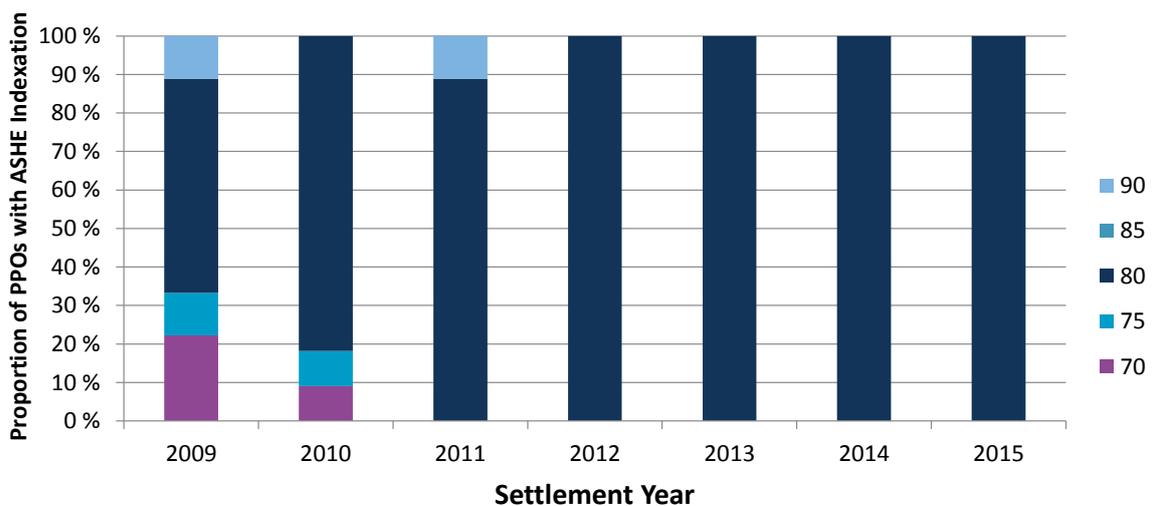
Figure L.6: Where the applicable index for the primary head of damage is ASHE,
the proportion of Liability PPO claims linked to specific percentiles, by settlement year

L.4   Motor (MIB) PPO claims
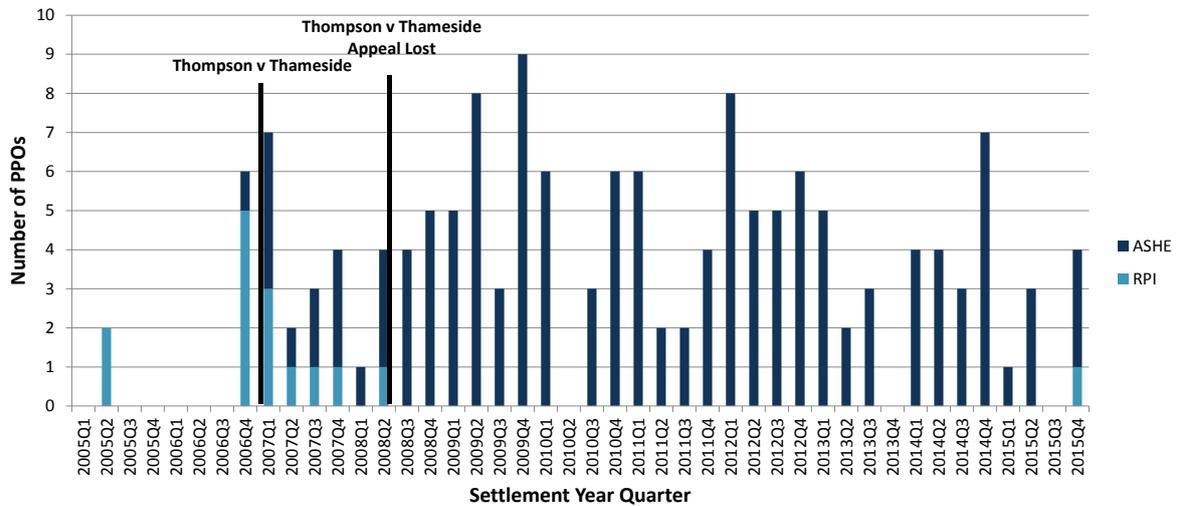
Figure L.7: Number of Motor (MIB) PPO claims, by settlement quarter
and by the index applicable for the primary head of damage of the regular payments

Total Heads Of Damage	ASHE 6115	Not Indexed	RPI	ASHE Other	Other	Total
Care & Case Management	0	0	0	0	0	0
Loss of Earnings	0	0	0	0	0	0
NA/Missing	137	0	15	2	0	154
Total	137	0	15	2	0	154

Figure L.8: Number of Motor (MIB) PPO claim regular payment streams,
by head of damage and applicable index
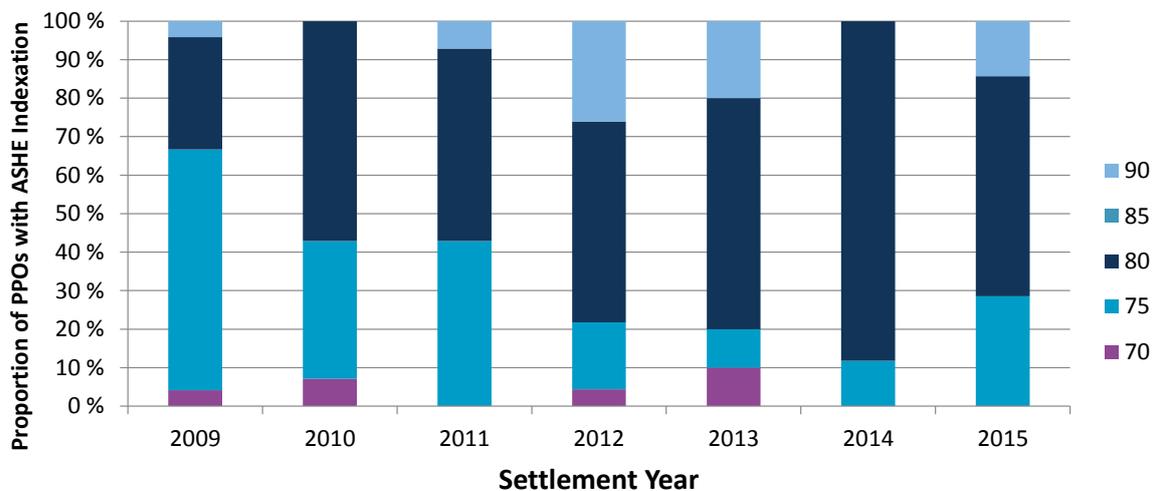
Figure L.9: Where the applicable index for the primary head of damage is ASHE,
the proportion of Motor (MIB) PPO claims linked to specific percentiles, by settlement year

L.5 ASHE

Implemented in the 2011 survey, ASHE code 6115 ("Care Assistants and Home Carers") has been split into two new codes: code 6145 ("Care Workers and Home Carers") and code 6146 ("Senior Care Workers"). Even though the ONS has stated that it will continue to publish figures for code 6115, albeit separately to the main tables, "for the foreseeable future", there is an additional complication since the basis of the ASHE code 6115 figures has changed, and so a slight adjustment is required to be made to the figures for 2011 onwards (details are available within the ONS download of ASHE Table 26 which corresponds to SOC 6145 and 6146).

Figure L.10 and Figure L.11 show the annual inflation in ASHE 6115 by specific percentile. These figures are taken from Table 26.5a (Table 14.5a for 2011 and prior), which relates to hourly gross pay. Figure L.12 compares this annual inflation with that observed for Average Weekly Earnings ("AWE"), taken from the "Not Seasonally Adjusted - Index Figures Excluding Bonuses, Including Arrears" section of the "EARN02: Average Weekly Earnings by Sector" ONS publication.

Year	6115 - Care Assistants and Home Carers Inflation Statistics by Percentile									
	10	20	25	30	40	60	70	75	80	90
2008	3.54%	2.44%	2.04%	2.29%	2.71%	2.59%	3.64%	3.80%	3.27%	2.64%
2009	2.56%	2.86%	2.93%	3.13%	3.06%	2.28%	2.41%	2.72%	2.47%	3.68%
2010	1.00%	1.08%	1.80%	1.88%	1.08%	2.11%	1.18%	0.92%	0.77%	0.41%
2011	0.50%	-0.61%	-0.74%	-0.85%	-1.33%	-2.07%	-1.38%	-1.11%	-1.05%	-1.07%
2012	1.97%	0.61%	0.44%	0.29%	0.27%	-0.23%	-1.39%	-1.12%	-0.87%	-0.42%
2013	1.45%	0.92%	0.29%	0.00%	-0.27%	0.00%	0.22%	0.41%	0.49%	0.33%
2014	1.75%	1.97%	2.06%	1.71%	1.76%	0.59%	0.22%	-0.10%	-0.78%	-0.67%
2015	3.59%	3.56%	2.45%	2.53%	2.52%	2.11%	2.38%	1.65%	1.67%	2.26%
2016	8.43%	5.44%	5.49%	5.48%	4.66%	3.32%	3.39%	3.24%	3.66%	2.78%

Figure L.10: Annual Inflation in ASHE 6115, by specific percentile and by year
(as at April of that year)
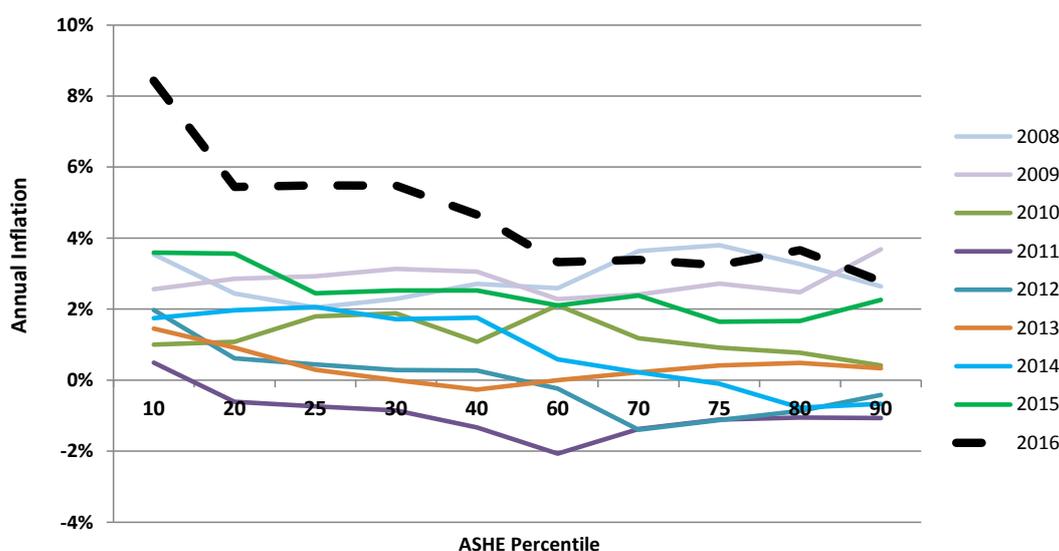
Figure L.11: Annual Inflation in ASHE 6115, by specific percentile and by year
(as at April of that year)
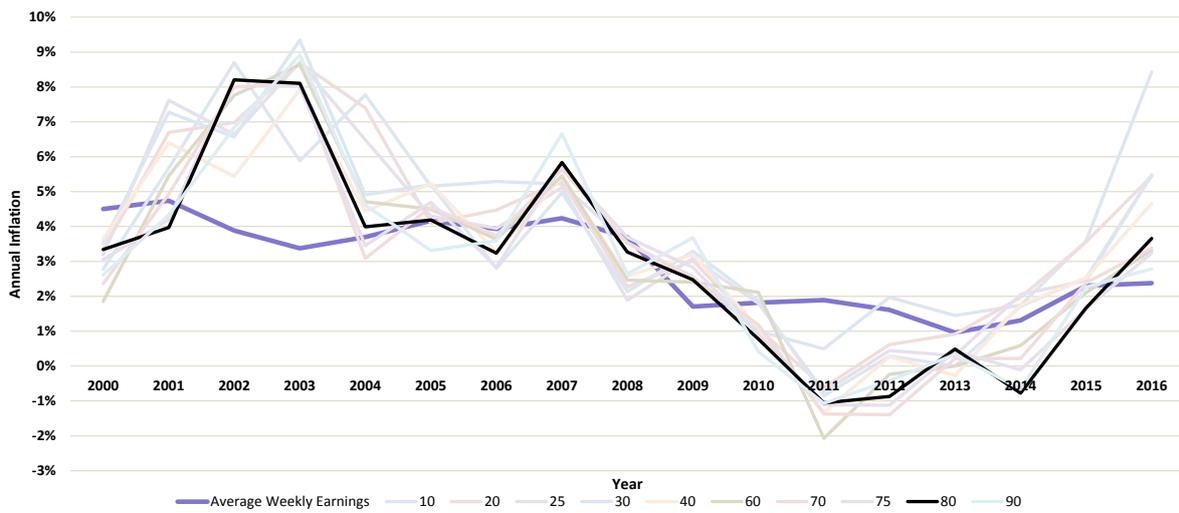
Figure L.12: Annual Inflation in ASHE 6115, by specific percentile, and in AWE, by year (as at April of that year)

Appendix M   Payment components for PPO claims

In this appendix, we provide summary statistics for the lump sum element of PPO claims and for the initial regular payment amount of PPO claims, separately for Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims.

The lump sum element in these summary statistics excludes the first regular payment amount for the PPO claim. Unless otherwise stated, all the lump sum amounts are in nominal terms, i.e. at the time of settlement.

For the initial regular payment amount of PPO claims, in cases where one claimant is awarded more than one series of payments (corresponding to different heads of damage), the initial PPO amount is the sum of the payments for all heads of damage. Once again, unless otherwise stated, the initial PPO amounts are in nominal terms, i.e. at the time of settlement, and are before any stepped payments kick in.

We provide summary statistics for the following:

- Distribution of payment components
- Nominal payment components and payment components with inflation removed – Motor (non-MIB) PPO claims only
- Payment components correlations – Motor (non-MIB) PPO claims only.

For the purposes of comparison, we also provide some of the equivalent summary statistics for Motor (non-MIB) non-PPO claims.

M.1 Motor (non-MIB) PPO claims – distribution of payment components
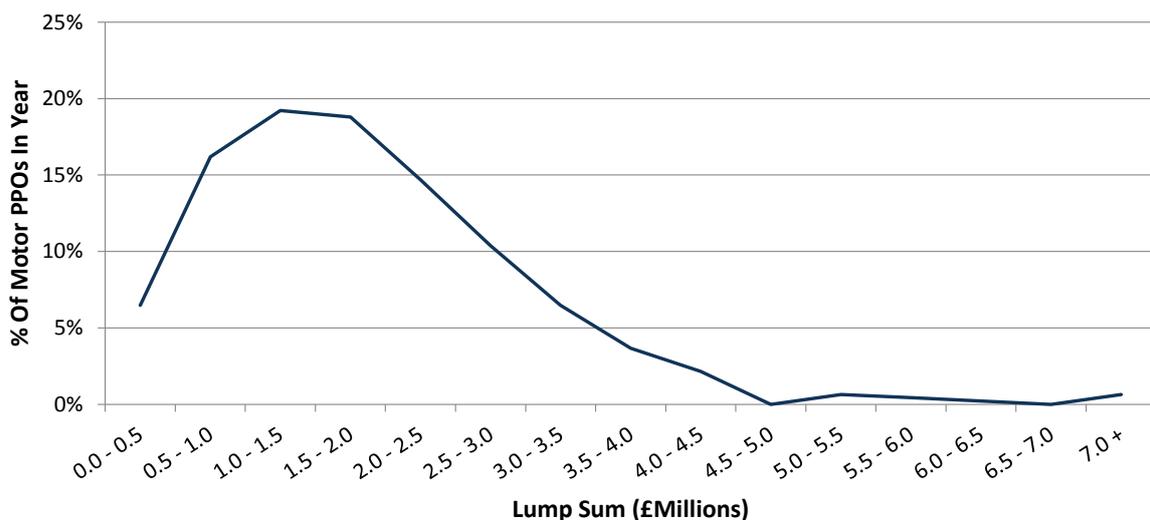
Figure M.1: Distribution of the size of the lump sum element of Motor (non-MIB) PPO claims, for claims settled since 2009
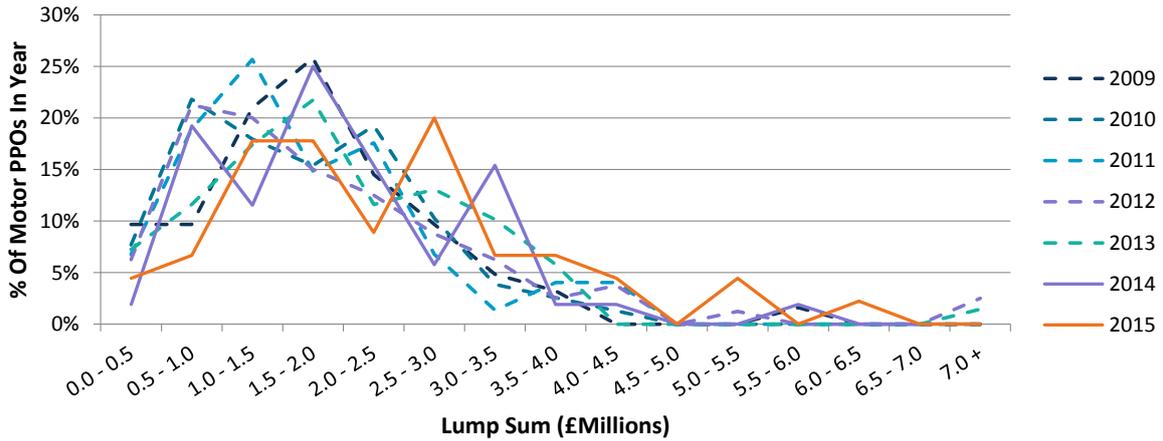
Figure M.2: Distribution of the size of the lump sum element of Motor (non-MIB) PPO claims, by settlement year
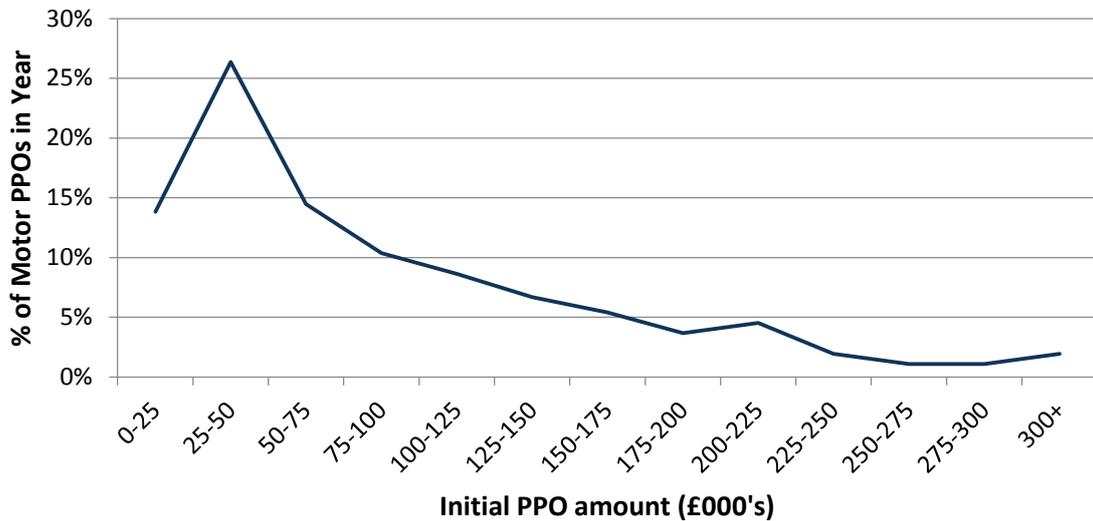
Figure M.3: Distribution of the initial regular payment amount of Motor (non-MIB) PPO claims, for claims settled since 2009
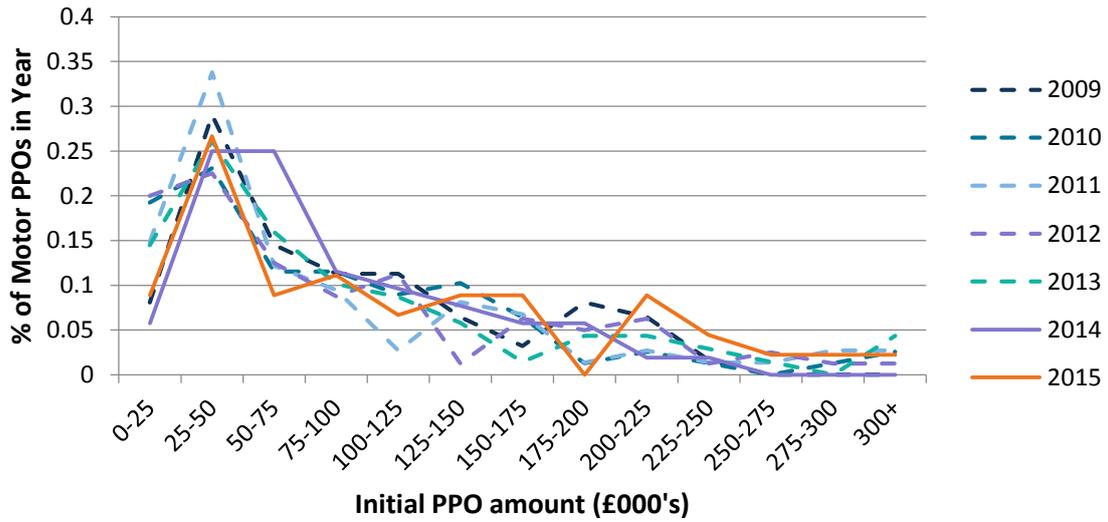
Figure M.4: Distribution of the initial regular payment amount of Motor (non-MIB) PPO claims, by settlement year

M.2 Motor (non-MIB) non-PPO claims – distribution of payment components
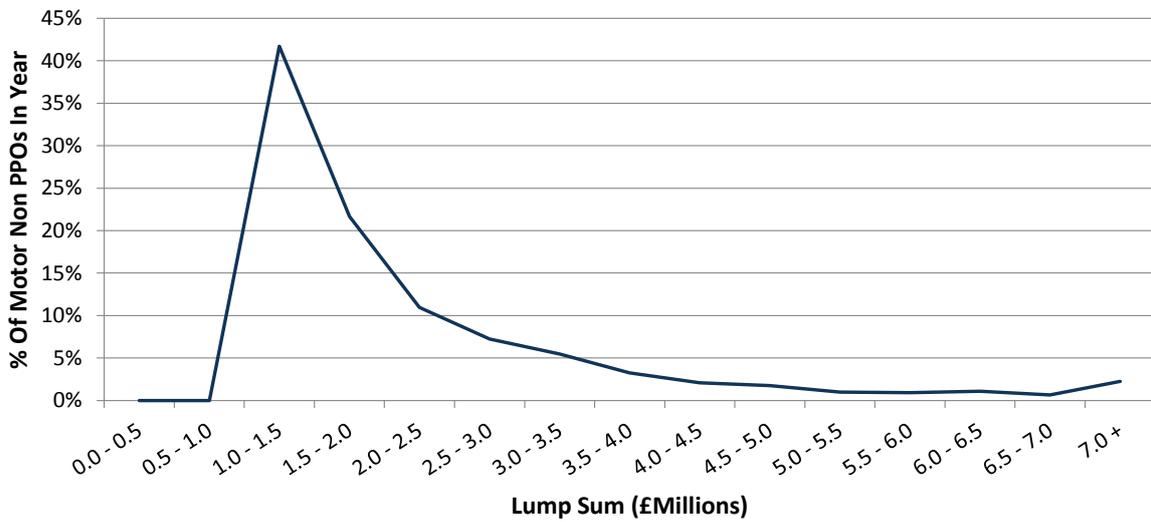
Figure M.5: Distribution of the size of Motor (non-MIB) non-PPO claims, for claims settled since 2009
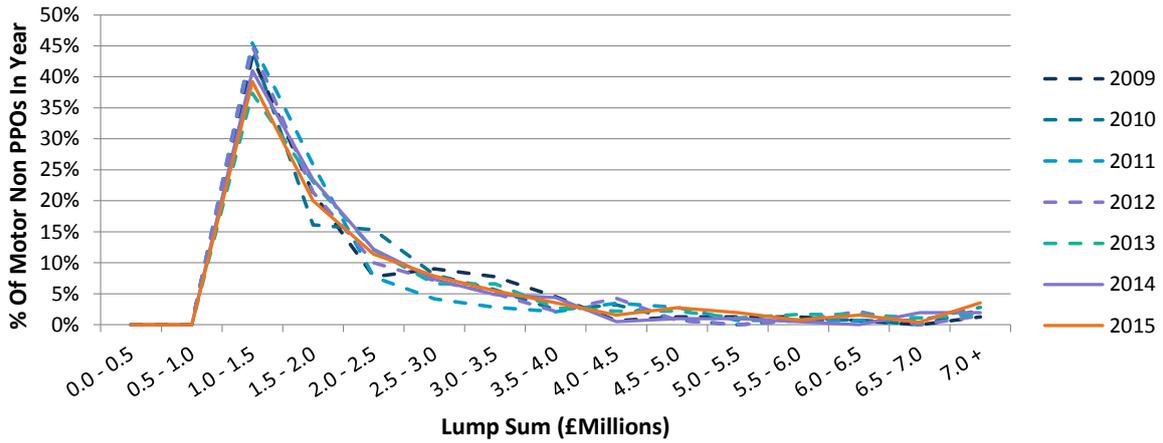
Figure M.6: Distribution of the size of Motor (non-MIB) non-PPO claims, by settlement year
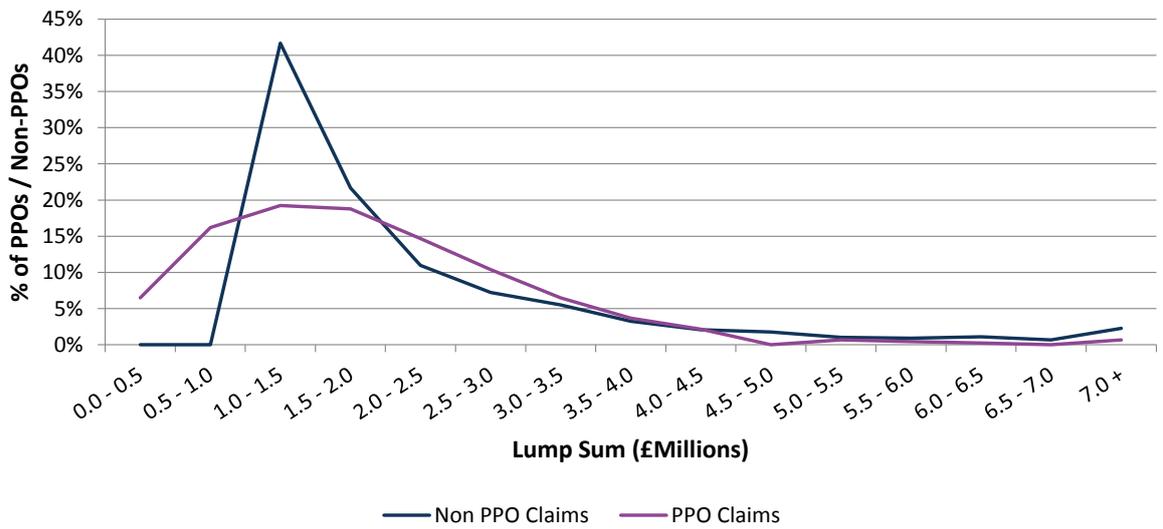
Figure M.7: Distribution of the size of the lump sum element of Motor (non-MIB) PPO claims and the size of Motor (non-MIB) non-PPO claims, for claims settled since 2009

M.3 Motor (non-MIB) PPO claims and non-PPO claims – nominal payment components and payment components with inflation removed
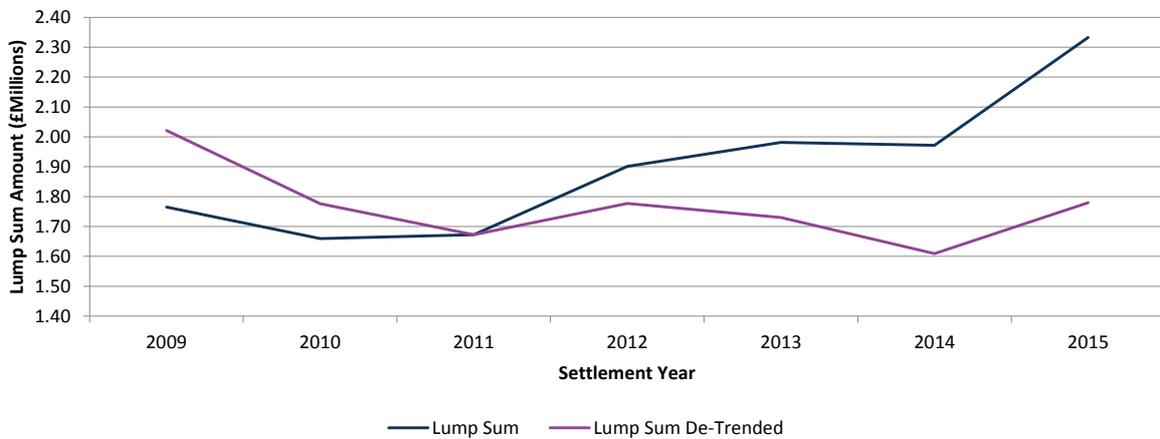
Figure M.8: Average size of the lump sum element of Motor (non-MIB) PPO claims, nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year
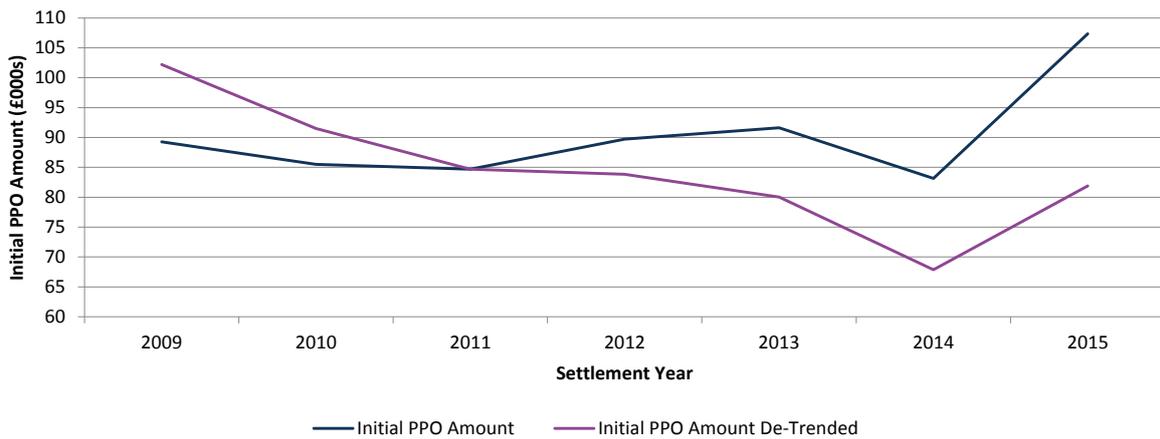
Figure M.9: Average size of the initial regular payment amount of Motor (non-MIB) PPO claims, nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year
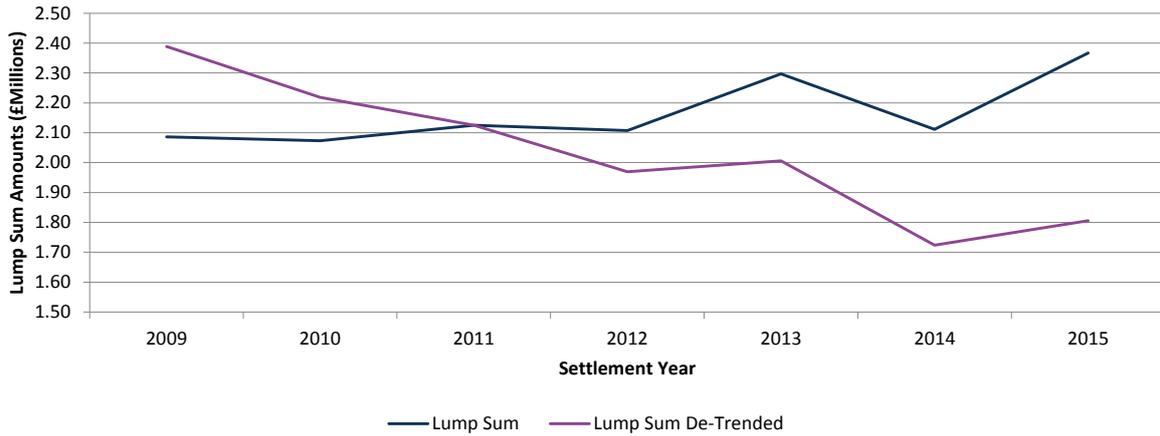
*Figure M.10: Average size of Motor (non-MIB) non-PPO claims,
nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year*
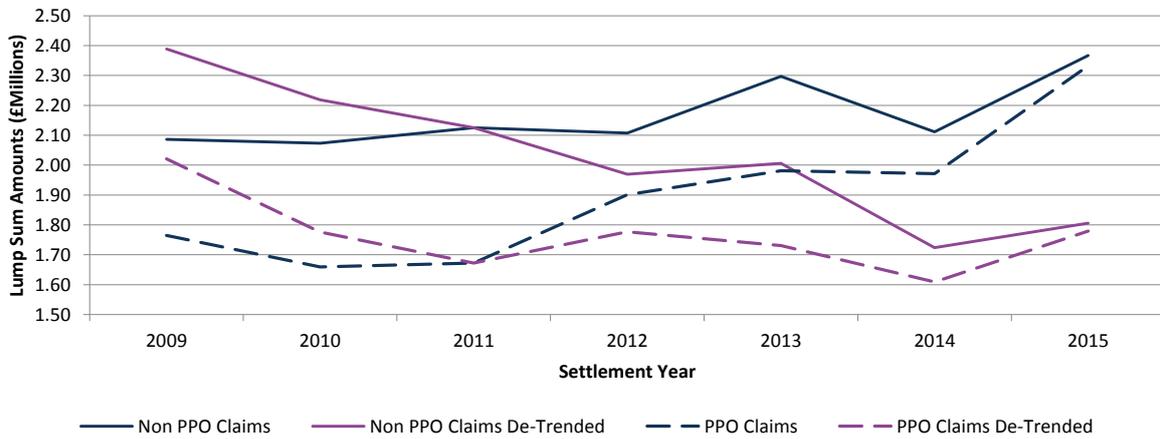
*Figure M.11: Average size of the lump sum element of Motor (non-MIB) PPO claims
and the size of Motor (non-MIB) non-PPO claims,
nominal and with inflation removed (assuming inflation of 7% per annum), by settlement year*

M.4 Motor (non-MIB) PPO claims – payment components correlations
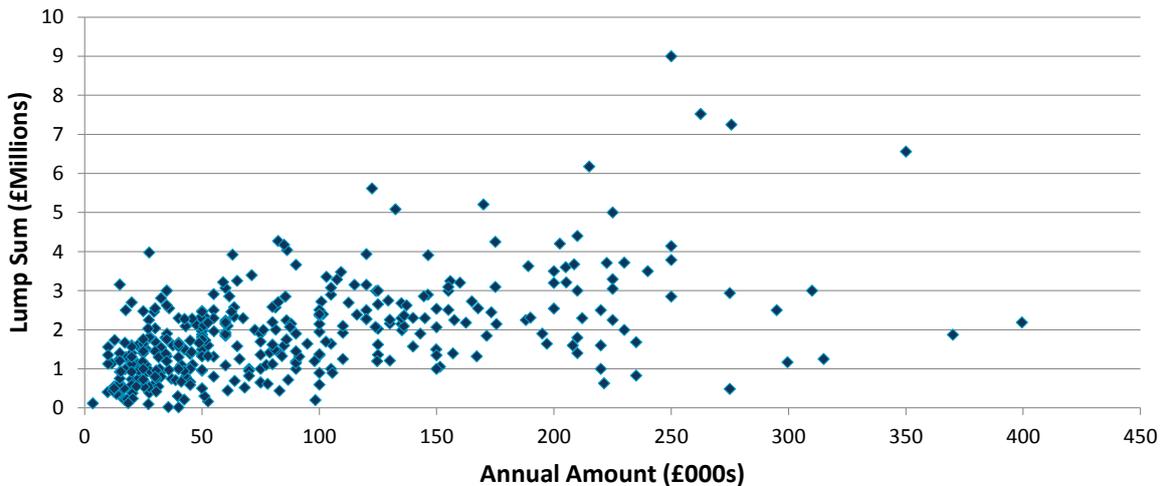
Figure M.12: Scatter graph of the lump sum element and the initial regular payment amount of Motor (non-MIB) PPO claims

For the scatter graph in Figure M.12, the correlation coefficients are:

- Pearson correlation coefficient: 0.51
- Spearman correlation coefficient: 0.53

The coefficients represent the strength and direction of the correlation between the two variables, ranging between -1.00 and +1.00. A larger absolute value represents a stronger relationship in the data, the sign indicating the direction.
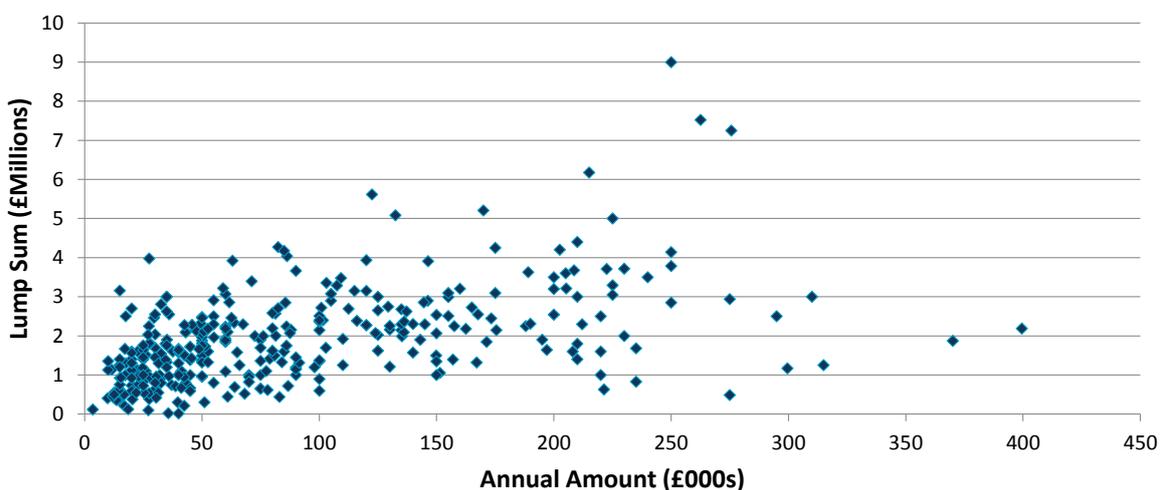
Figure M.13: Scatter graph of the lump sum element and the initial regular payment amount of Motor (non-MIB) PPO claims, for claims settled since 2009

For the scatter graph in Figure M.13, the correlation coefficients are:

- Pearson correlation coefficient: 0.49
- Spearman correlation coefficient: 0.53
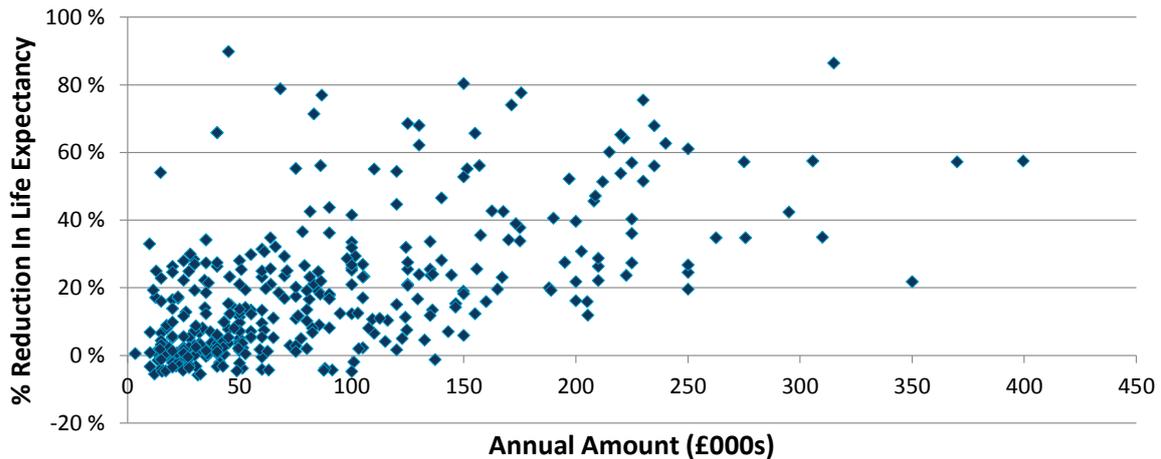
Figure M.14: Scatter graph of the percentage reduction in life expectancy of a claimant and the initial regular payment amount of Motor (non-MIB) PPO claims

For the scatter graph in Figure M.14, the correlation coefficients are:

- Pearson correlation coefficient: 0.58
- Spearman correlation coefficient: 0.57

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement. (Negative percentage reductions in life expectancy may therefore occur if insurers are using more recent mortality tables than those underpinning the Ogden tables.)
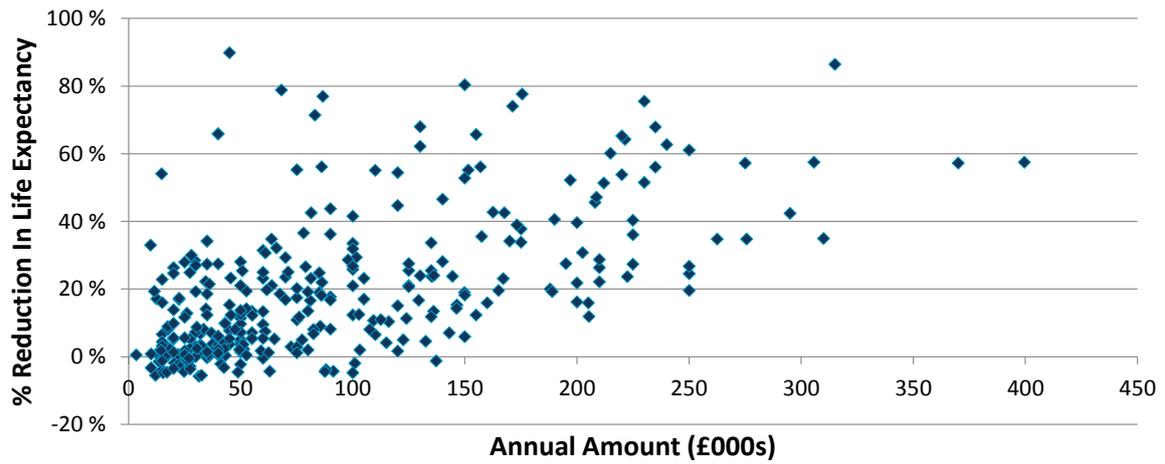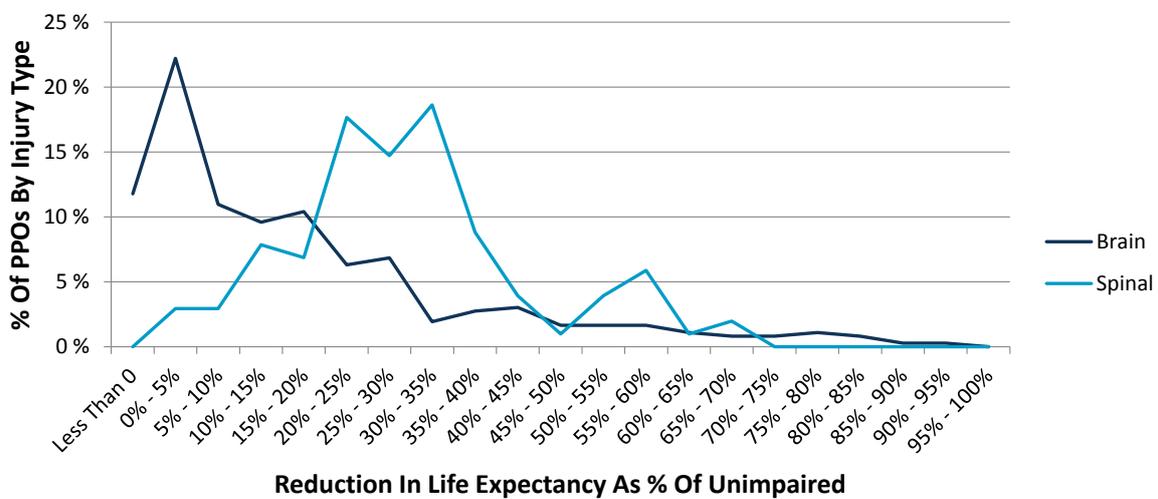
Figure M.15: Scatter graph of the percentage reduction in life expectancy of a claimant and the initial regular payment amount of Motor (non-MIB) PPO claims, for claims settled since 2009

For the scatter graph in Figure M.15, the correlation coefficients are:

- Pearson correlation coefficient: 0.59
- Spearman correlation coefficient: 0.58

M.5 Liability PPO claims – distribution of payment components
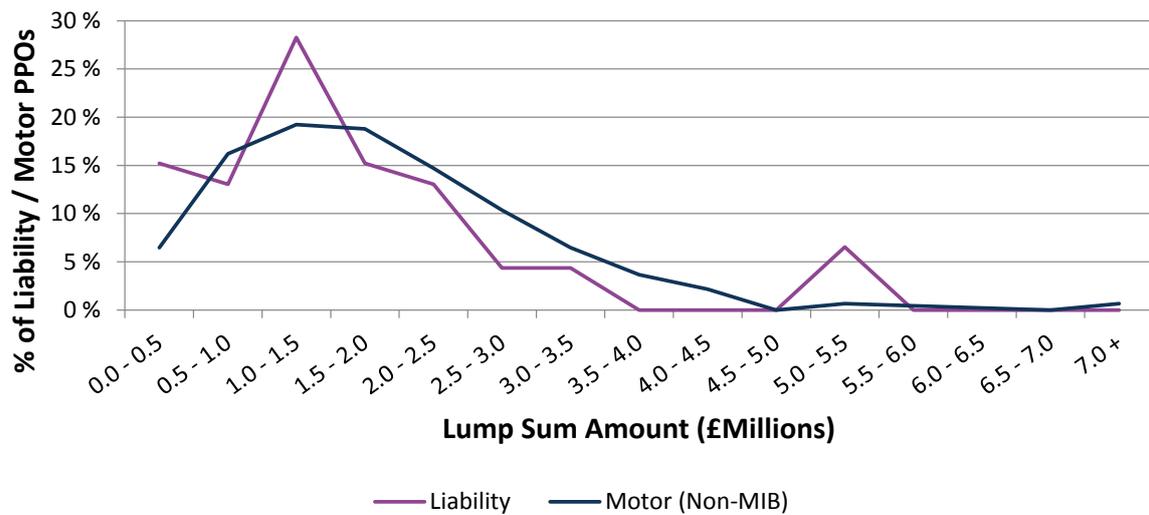
Figure M.16: Distribution of the size of the lump sum element of Liability PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
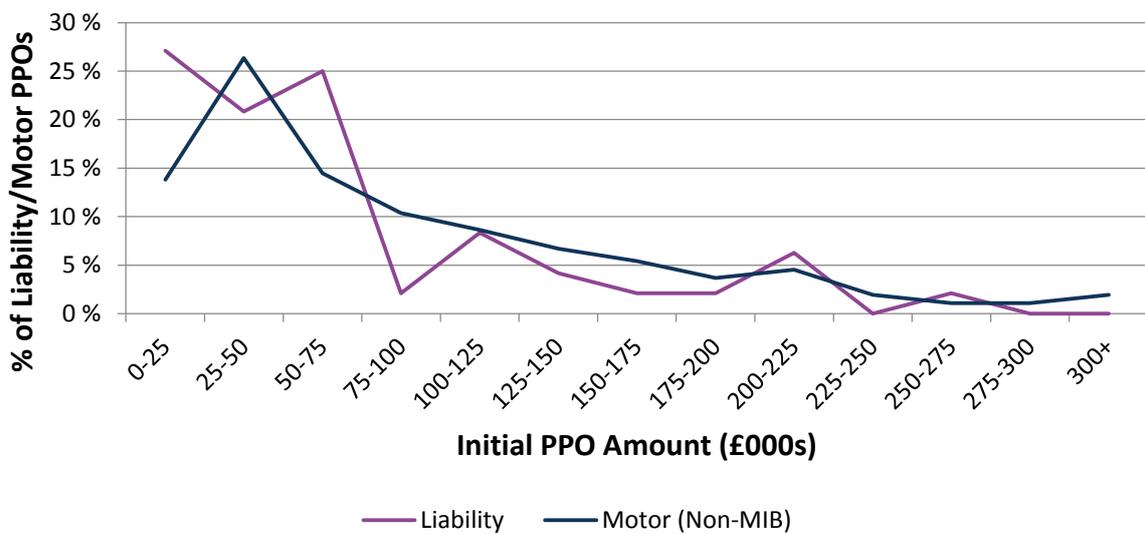
Figure M.17: Distribution of the initial regular payment amount of Liability PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009

M.6 Motor (MIB) PPO claims – distribution of payment components
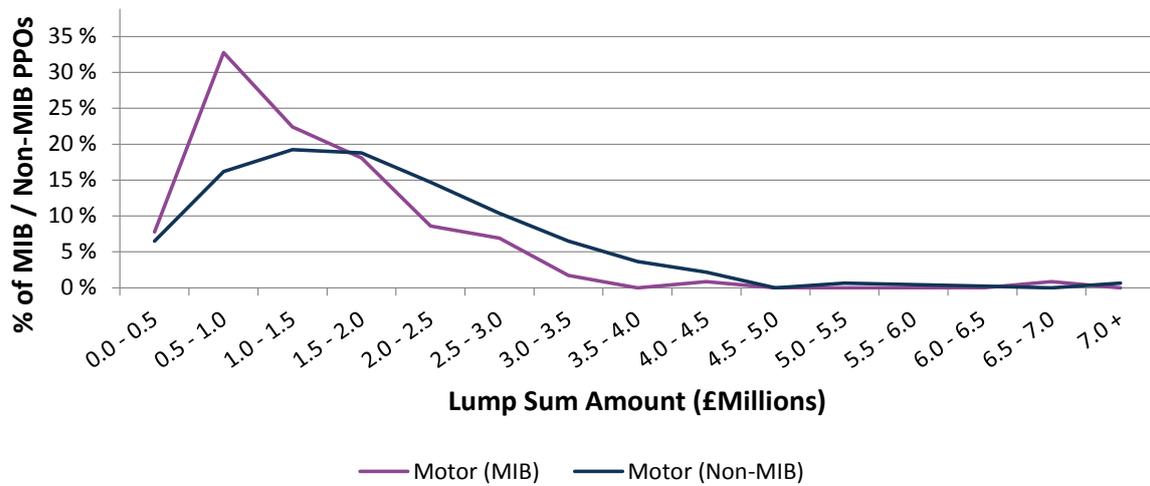
Figure M.18: Distribution of the size of the lump sum element of Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009
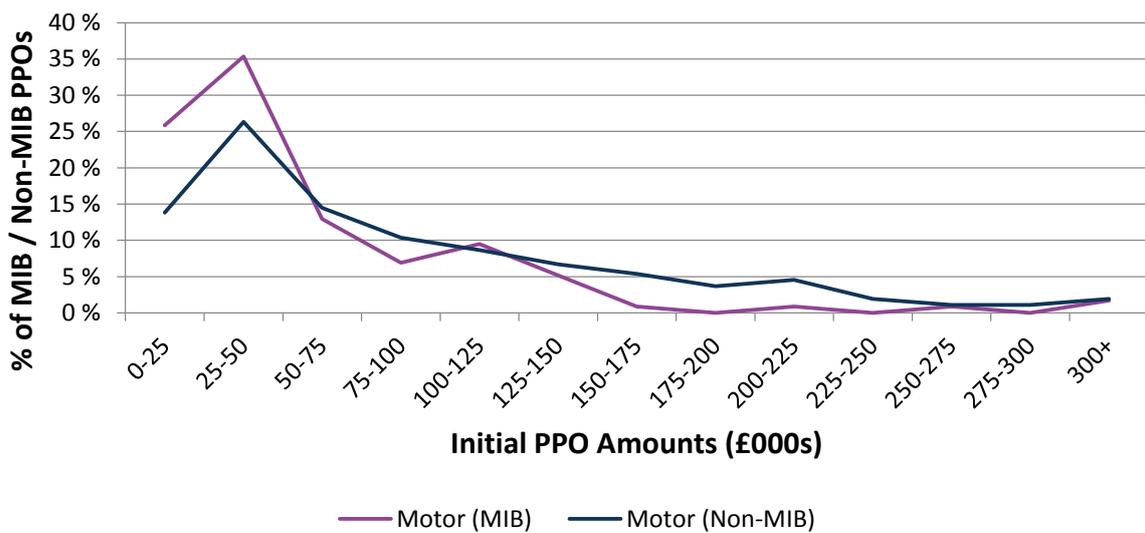
Figure M.19: Distribution of the initial regular payment amount of Motor (MIB) PPO claims and Motor (non-MIB) PPO claims, for claims settled since 2009

Appendix N   Special features of Motor (non-MIB) PPO claims and other statistics

In this appendix, we provide summary statistics on stepped payments, variation orders and indemnity / reverse indemnity guarantees for Motor (non-MIB) PPO claims, together with a small number of other statistics for these PPO claims.

N.1   Definitions

Stepped payments

A PPO claim with stepped payments is one where there is a provision for step changes in the regular payment amount to be made. These step changes will apply at fixed points in time, to situations where a specific change in circumstance has already been foreseen at the time of settlement. For example, there could be a stepped payment for a one-off increase in payments to be made to a claimant whose parents are the primary carers: this would allow for a time when the parents are no longer able to deliver the same standard of care and additional care costs will therefore be incurred.

While the majority of step changes tend to be increases, it should be noted that the step change could be either upward or downward.

Variation orders

A variation order is an allowance for a change in the regular payment amount, usually triggered by a certain event. An example would be the claimant developing additional symptoms in the future, as a result of the original accident.

Variation orders only specify the conditions of the trigger event at the time of settlement and do not specify the amounts that the regular payments will change to.

Indemnity / reverse indemnity guarantees

An indemnity guarantee is a guarantee given by the insurer to pay additional costs in circumstances such as where services provided by the local council are reduced or withdrawn in the future.

A reverse indemnity guarantee covers the opposite situation. For example, where the insurer is able to reduce its payments if the claimant increases his or her reliance on public provision of care.

N.2 Proportion of Motor (non-MIB) PPO claims with special features

Figure N.1 shows the proportion of Motor (non-MIB) PPO claims with special features, together with the number of responses received on each special feature. To provide context for the credibility of these summary statistics, there are 509 Motor (non-MIB) PPO claims in the quantitative industry survey.

Feature	Proportion of PPOs	Number of Responses
Stepped Payments	30%	509
Variation Orders	15%	485
Indemnity Guarantees	3%	442
Reverse Indemnity Guarantees	5%	388
Contributory Negligence	26%	259

Figure N.1: Proportion of Motor (non-MIB) PPO claims with special features,
together with the number of Motor (non-MIB) PPO claims in the survey
with responses received on those special features

N.3 Stepped payments and variation orders by age of claimant at settlement
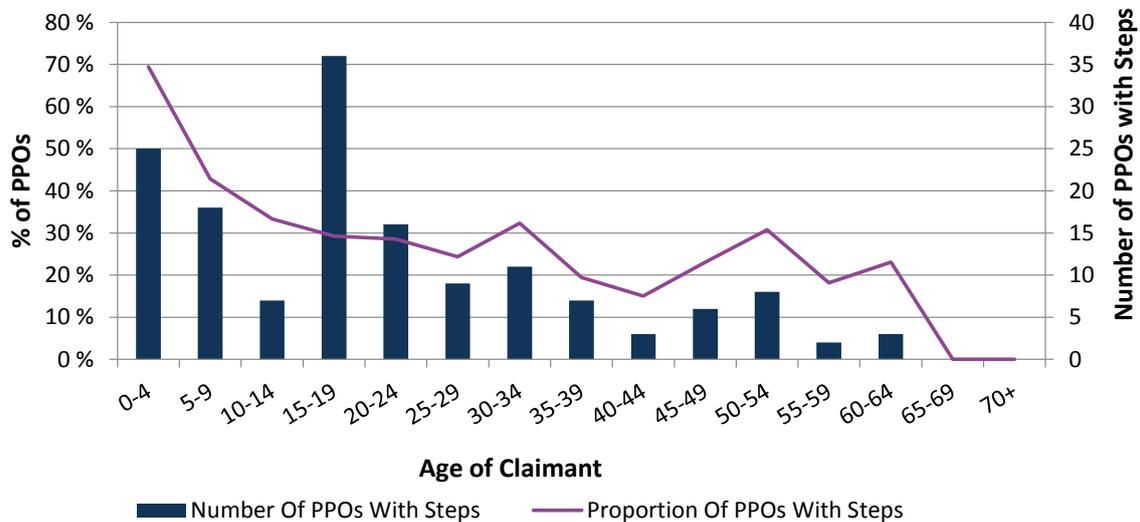
Figure N.2: Number and proportion of Motor (non-MIB) PPO claims
with stepped payment agreements, by age of claimant at accident date
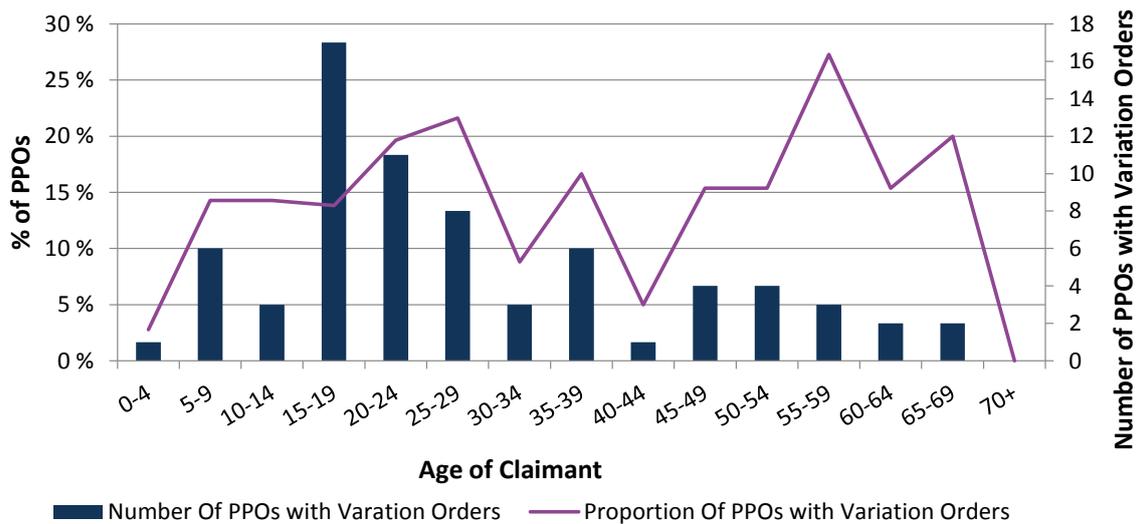
Figure N.3: Number and proportion of Motor (non-MIB) PPO claims with variation order agreements, by age of claimant at accident date

N.4 Stepped payments and variation orders by injury type

In terms of injury type:

- 25% of Motor (non-MIB) PPO claims relating to brain injury have a stepped payment.
- 46% of Motor (non-MIB) PPO claims relating to spinal injury have a stepped payment.

This compares with a general Motor (non-MIB) PPO claim population average of 30%, as shown in Figure N.1.

Again in terms of injury type:

- 10% of Motor (non-MIB) PPO claims relating to brain injury have a variation order.
- 34% of Motor (non-MIB) PPO claims relating to spinal injury have a variation order.

This compares with a general Motor (non-MIB) PPO claim population average of 15%, as shown in Figure N.1.

N.5 Other statistics

In terms of payment frequency:

- 55% of Motor (non-MIB) PPO claims are paid annually.
- 12% of Motor (non-MIB) PPO claims are paid quarterly.
- The remainder (33%) of Motor (non-MIB) PPO claims are paid monthly, bi-monthly, 4-weekly or bi-annually.

In terms of number of claimants:

- 89% of Motor (non-MIB) PPO claims have one PPO claimant.
- 7% of Motor (non-MIB) PPO claims have two PPO claimants.
- The remainder (4%) of Motor (non-MIB) PPO claims have three or more PPO claimants.

In terms of the driving force behind the decision for a claim to be settled as a PPO, for Motor (non-MIB) PPO claims for which information was provided:

- In 56% of cases, it was solely the claimant.
- In 38% of cases, it was a mutual decision between claimant and defendant.
- In 6% of cases, it was the court.
- There was one case where the decision was driven by the defendant.

Appendix O   IFoA PPO Working Party injury type and care regime categorisation

The IFoA PPO Working Party, with the help of a number of claims professionals, devised a categorisation of PPO injury types and care regimes, with the intention of this categorisation becoming UK standard practice, to be used by all insurers and reinsurers.

This categorisation was presented as part of the output of the IFoA PPO Working Party in 2014.

28% of the Motor (non-MIB) PPO claims we received for the 2016 quantitative industry survey, the data for which was taken as at 31 December 2015, had this categorisation attached. This is an improvement on the 2015 survey (as at 31 December 2014), for which only 10% of the Motor (non-MIB) PPO claims we received had this categorisation attached.

Additionally, 27% of the Liability PPO claims we received for the 2016 quantitative industry survey also had this categorisation attached.

As a consequence, for this survey, we have been able to start to provide more in depth analysis of how the characteristics of PPO claims are affected by the type of injury sustained by the claimant and the type of care they receive. We have restricted this analysis to the Motor (non-MIB) PPO claims only.

In this appendix, we reproduce the IFoA PPO Working Party injury type and care regime categorisation, and we provide the following summary statistics for Motor (non-MIB) PPO claims:

- Distribution of PPO claims by injury type categorisation
- Distribution of PPO claims by care regime categorisation
- PPO claim payment components by categorisation
- Life expectancy of the claimant at settlement date by categorisation
- Reduction in life expectancy of the claimant by categorisation.

The summary statistics provided in this appendix are based on only a small subset of data (as noted above, only 28% of the 509 Motor (non-MIB) claims received had the categorisation attached). The small number of claims is likely to have contributed to the volatility in experience in the summary statistics provided in this appendix.

We encourage insurers and reinsurers to use this categorisation – the more PPO claims have this categorisation attached, the more in depth analysis the IFoA PPO Working Party will be able to provide and the less volatility there will be in the experience summarised.

We also encourage insurers and reinsurers to apply this coding to all large claims. This additional information will give further insight at an industry level into the drivers of the changes in PPO propensity.

O.1 Injury type and care regime categorisation

Figure O.1 summarises the IFoA PPO Working Party injury type and care regime categorisation.

Injury type	Code	Category	Description
Brain	B1	PVS	Permanent Vegetative State – No purposeful motor or cognitive function. Requires a feeding tube.
	B2	Cannot walk - Fed by others	Does not feed self, must be fed completely (either orally or by a feeding tube)
	B3	Cannot walk - Self feeds	Can feed self with fingers or utensils, with assistance and/or spillage
	B4	Some walking ability	Walks with support, or unsteadily alone at least 10 feet but does not balance well
	B5	Walks well alone	for at least 20 feet, and balances well
	B6	No mobility issues	
Spinal	S1	Tetraplegia Ventilator Dependent	C1-C3
	S2	High level Tetraplegia	C4-C5
	S3	Low level tetraplegia	C6-C7
	S4	High level Paraplegia	Thoracic T1-T12
	S5	Low level paraplegia	Lumbar
Spinal 2	Complete/ incomplete flag	Complete or incomplete selected	
Amputation	A1	Double upper limb	Double upper limb amputation (or loss of use), including bilateral brachial plexus injuries etc
	A2	Leg - above knee	
	A3	Leg - below knee	
	A4	Other Amputation	
Other	O1		

Care regime	Code	Category	Description
	C1	24/7 2 or more care ratio	24 hour care needing two or more carers for all that time
	C2	24/7 1-2 care ratio	24 hour care needing one to two carers for all that time
	C3	24/7 but night sleeper	24 hour care with at least one carer but carers can sleep at night
	C4	9 or more hours duty care a day	
	C5	5 to 8 hours duty care a day	
	C6	0 to 4 hours duty care a day	
	C7	Domestic help only, no personal care	
	C8	No regular care	

Figure O.1: IFoA PPO Working Party injury type and care regime categorisation

O.2 Distribution of PPO claims by injury type categorisation

Figure O.2: Number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party injury type categorisation

Figure O.3: High-level split of the number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party injury type categorisation

Figure O.4: Detailed split of the number of Motor (non-MIB) PPO claims, by IFoA PPO Working Party injury type categorisation

O.3 Distribution of PPO claims by care regime categorisation

Figure O.5: Number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party care regime categorisation

Figure O.6: Detailed split of the number of Motor (non-MIB) PPO claims,
by IFoA PPO Working Party care regime categorisation

O.4 PPO claim payment components by categorisation

*Figure O.7: Average lump sum amount and initial PPO amount (annual payment)
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party injury type categorisation*

*Figure O.8: Average lump sum amount and initial PPO amount (annual payment)
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party care regime categorisation*

O.5   Life expectancy of the claimant at settlement date by categorisation

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.
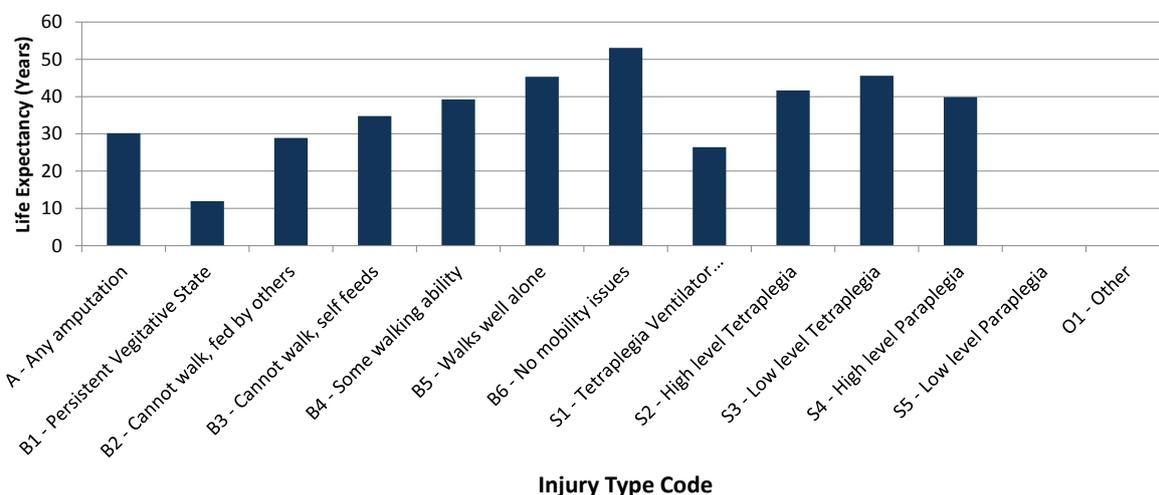
Figure O.9: Life expectancy of the claimant at settlement date
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party injury type categorisation
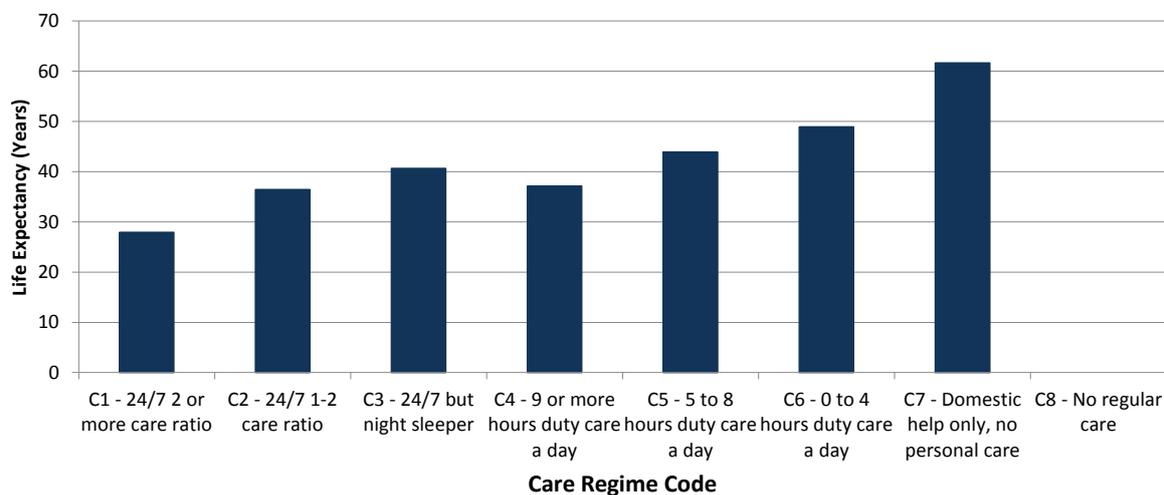
Figure O.10: Life expectancy of the claimant at settlement date
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party care regime categorisation

O.6 Reduction in life expectancy of the claimant by categorisation

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement.
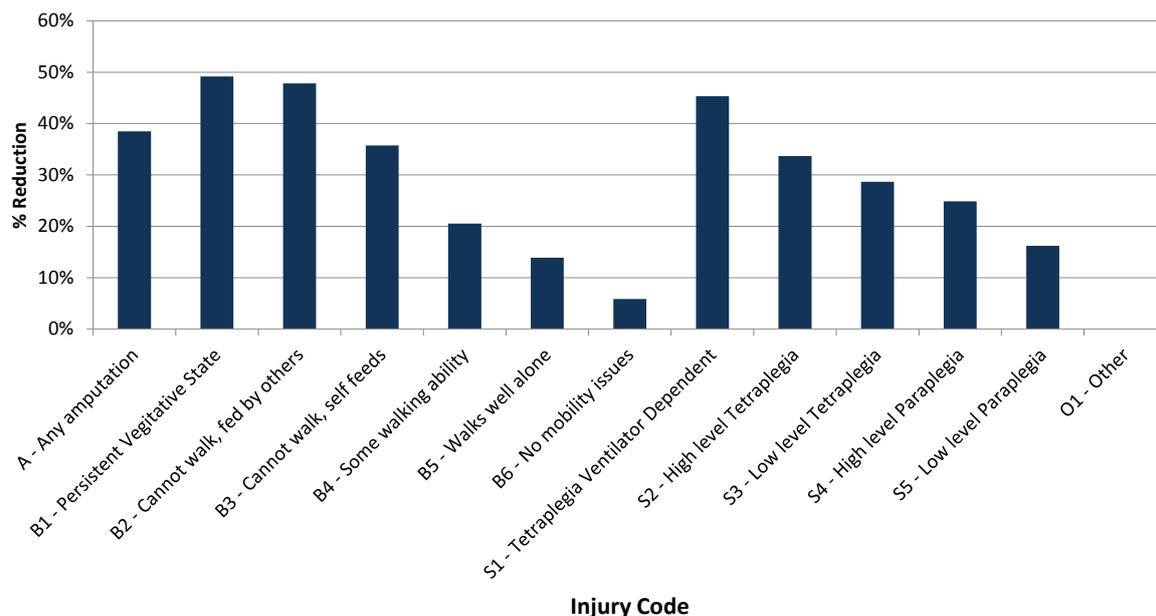
Figure O.11: Percentage reduction in life expectancy of a claimant
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party injury type categorisation
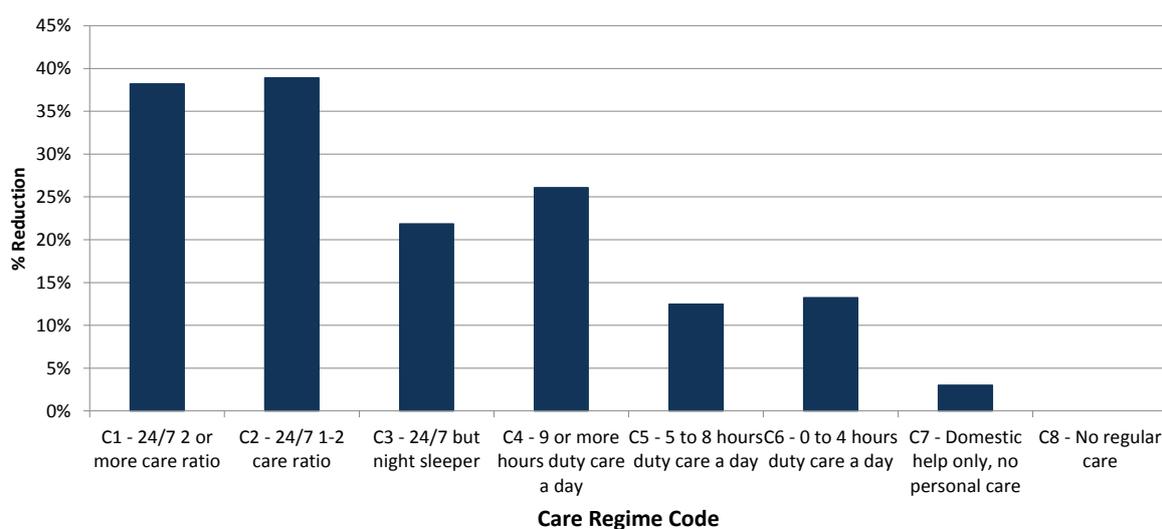
Figure O.12: Percentage reduction in life expectancy of a claimant
for Motor (non-MIB) PPO claims, by IFoA PPO Working Party care regime categorisation

Appendix P   Nature of injury

In this appendix, we provide high-level summary statistics on the nature of injury for Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims.

Where claimants suffered multiple injuries, the summary statistics represent the primary injury.

We also provide summary statistics on the nature of injury for Motor (non-MIB) PPO claims by the following characteristics:

- Age of claimant at accident date
- Delay to settlement
- Life expectancy of claimant at settlement date
- Reduction in life expectancy of the claimant
- Payment components.

P.1   Motor (non-MIB) PPO claims – nature of injury
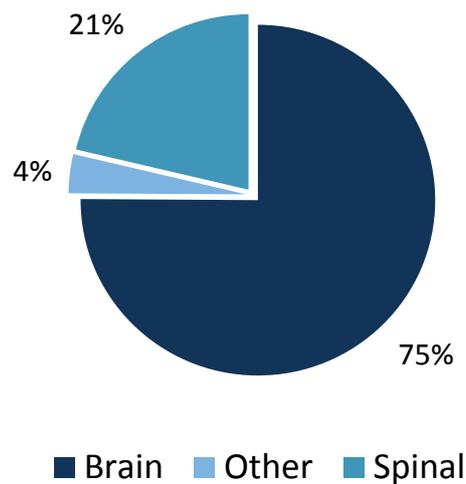
Figure P.1: Split of the number of Motor (non-MIB) PPO claims, by nature of injury
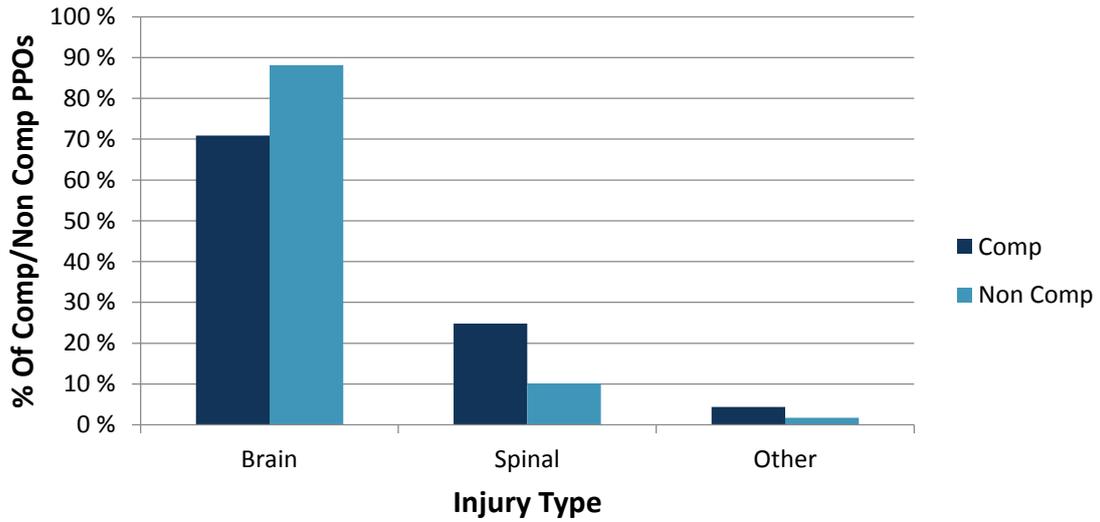
Figure P.2: Distribution of Motor (non-MIB) PPO claims, for Private Motor,
by nature of injury and by cover type
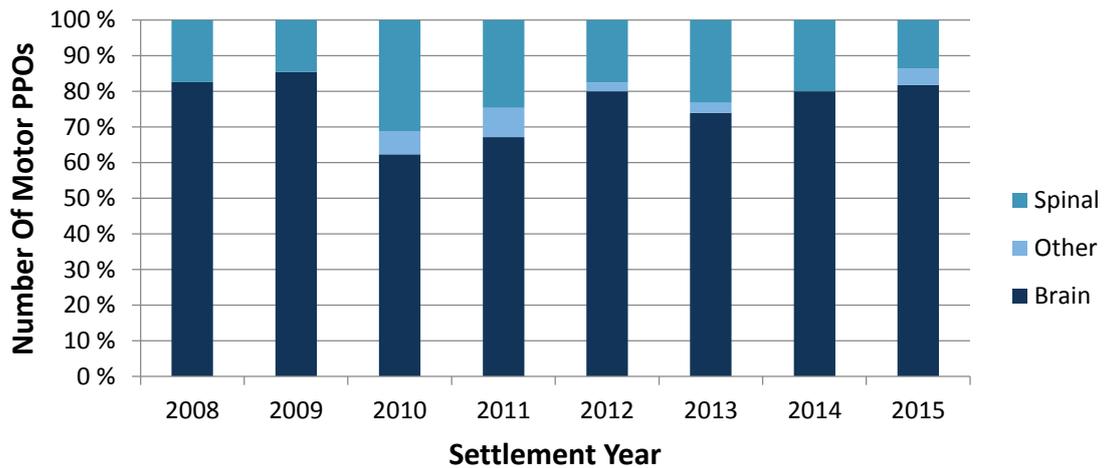
Figure P.3: Proportion of Motor (non-MIB) PPO claims,
by settlement year and by nature of injury

P.2 Motor (non-MIB) PPO claims – age of claimant at accident date
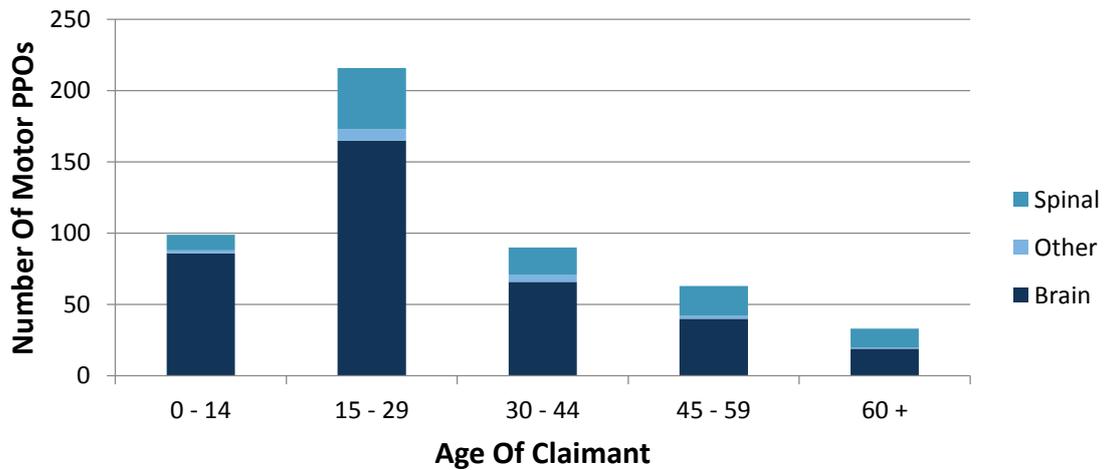
Figure P.4: Number of Motor (non-MIB) PPO claims,
by age of claimant at accident date and by nature of injury
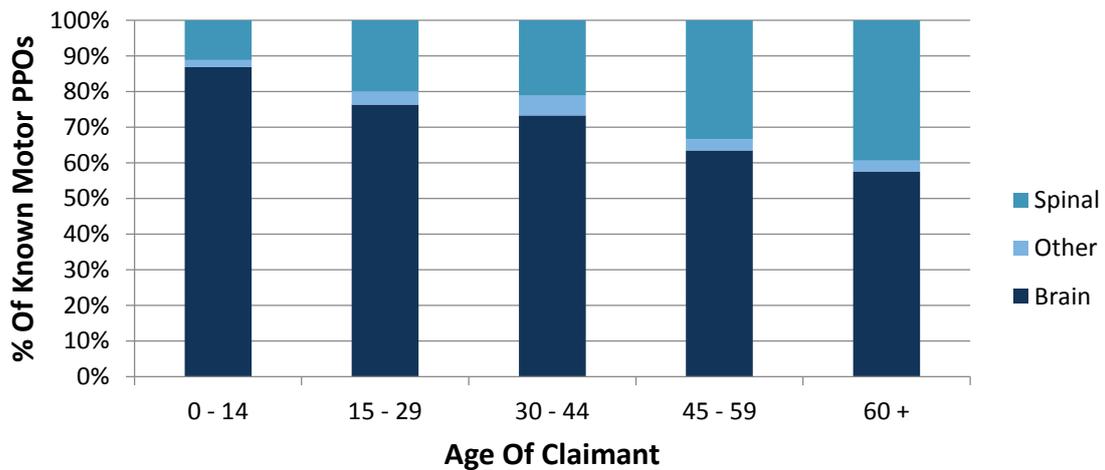
Figure P.5: Proportion of Motor (non-MIB) PPO claims,
by age of claimant at accident date and by nature of injury

P.3 Motor (non-MIB) PPO claims – delay to settlement

The delay to settlement is calculated as the time elapsed between the accident date and PPO settlement date, rounded to the nearest whole year.
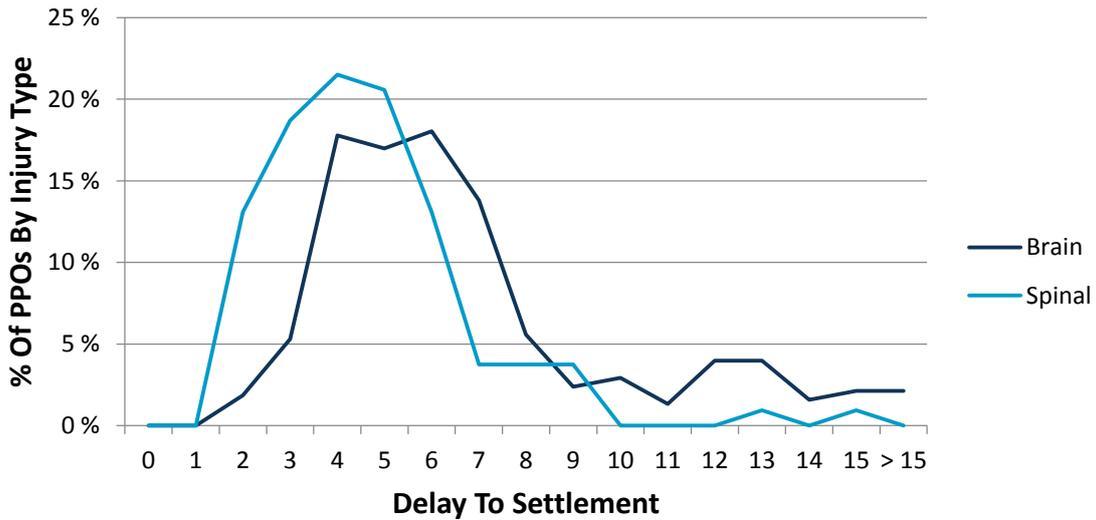
Figure P.6: Distribution of the delay to settlement for Motor (non-MIB) PPO claims, by nature of injury

P.4 Motor (non-MIB) PPO claims – life expectancy of claimant at settlement date

The term "life expectancy" in this document is defined as the future life expectancy at the time of settlement, as per the quantitative industry survey responses. It is not clear whether the data collected represents the claimant experts' views, the defendant experts' views, internal views, or a combination of these.
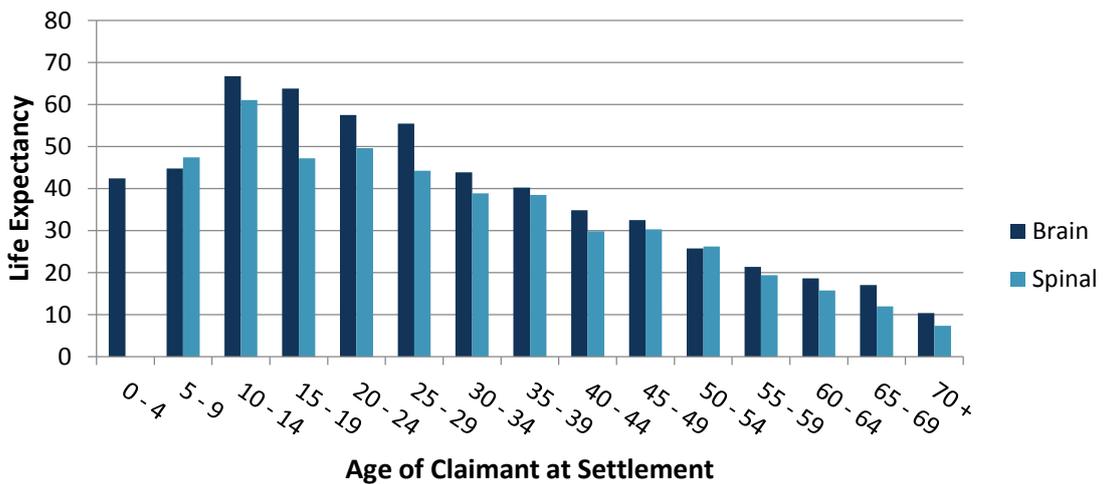
Figure P.7: Distribution of the life expectancy of claimant at settlement date, for Motor (non-MIB) PPO claims, by age of claimant at settlement date and by nature of injury

P.5   Motor (non-MIB) PPO claims – reduction in life expectancy of the claimant

The percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where the unimpaired life expectancy is taken from the Ogden tables (seventh edition), and all life expectancies are quoted as at the date of settlement. (Negative percentage reductions in life expectancy may therefore occur if insurers are using more recent mortality tables than those underpinning the Ogden tables.)

Figure P.8: Distribution of the percentage reduction in life expectancy of a claimant, for Motor (non-MIB) PPO claims, by nature of injury

P.6 Motor (non-MIB) PPO claims – payment components
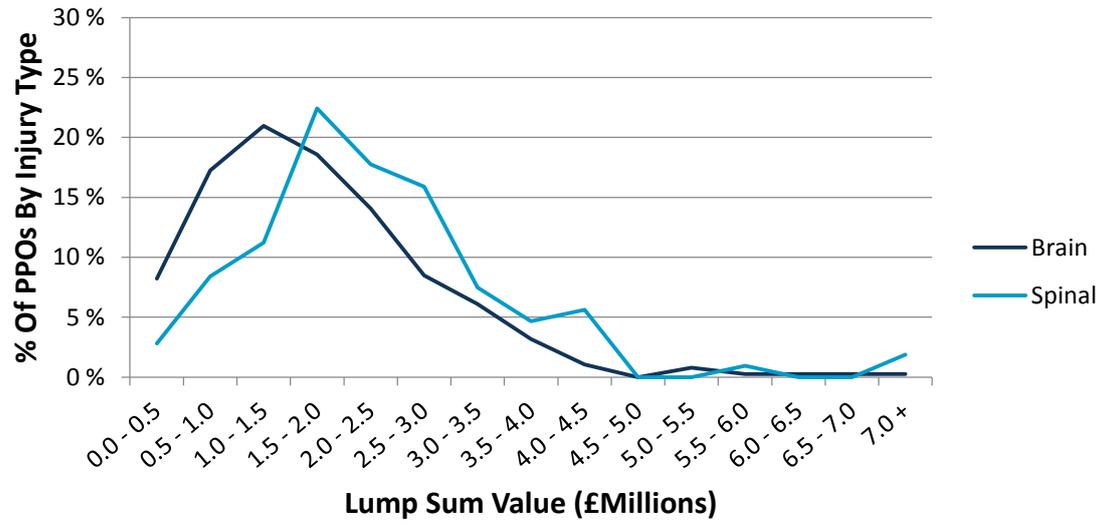
Figure P.9: Distribution of the size of the lump sum element of Motor (non-MIB) PPO claims, by nature of injury
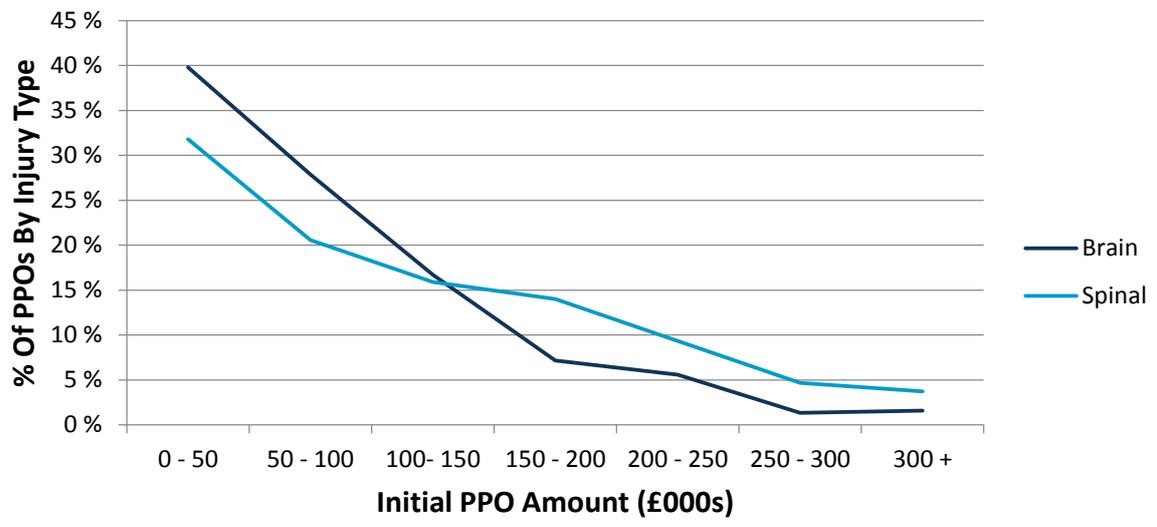
Figure P.10: Distribution of the initial regular payment amount of Motor (non-MIB) PPO claims, by nature of injury

P.7   Liability PPO claims – nature of injury
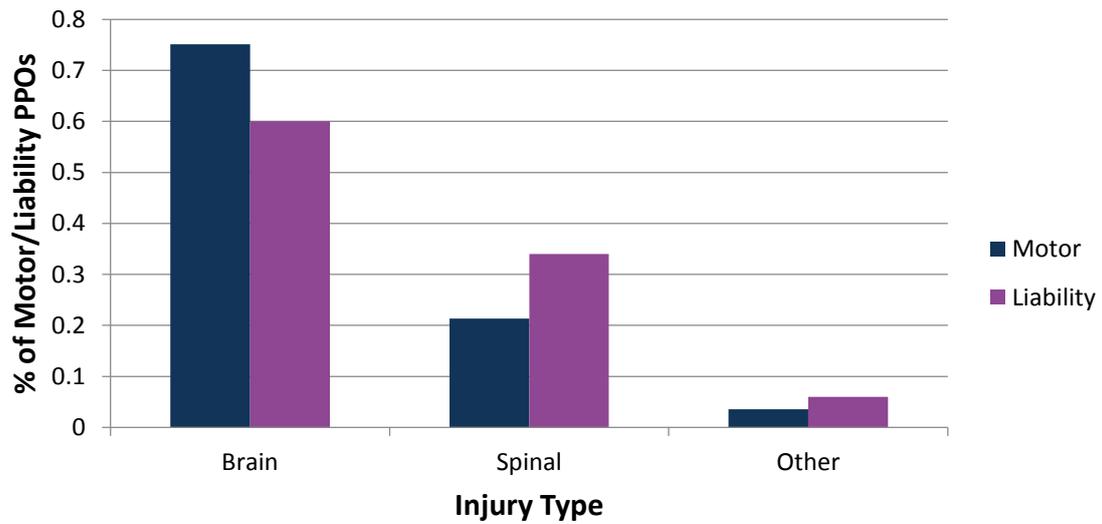
Figure P.11: Distribution of Motor (non-MIB) PPO claims and Liability PPO claims,
by nature of injury

P.8   Motor (MIB) PPO claims – nature of injury
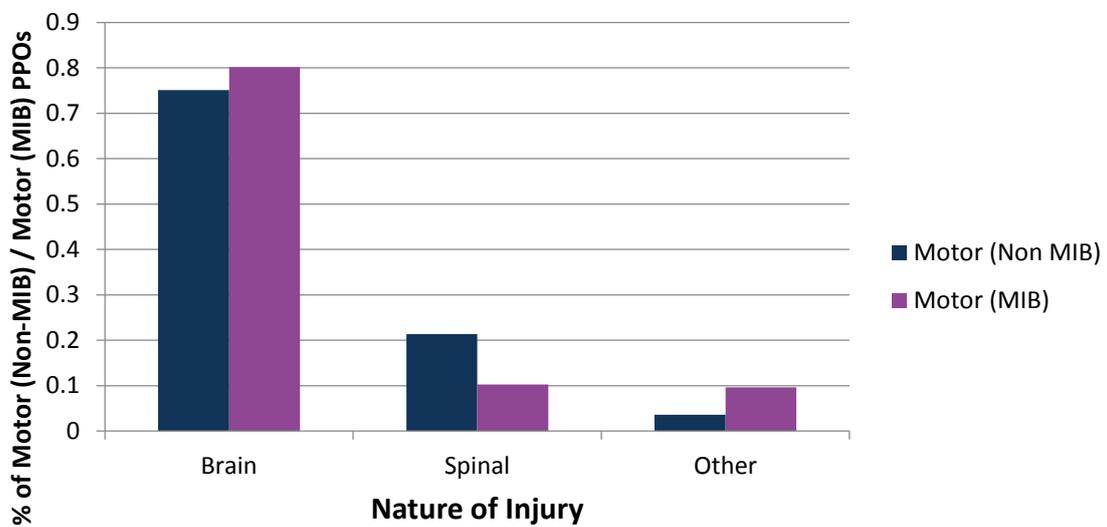
Figure P.12: Distribution of Motor (non-MIB) PPO claims and Motor (MIB) PPO claims,
by nature of injury

Appendix Q   Mortality of PPO claimants

In this appendix, we provide the following summary statistics in relation to the mortality of PPO claimants:

- Number of deaths for PPO claimants
- Actual versus expected number of deaths
- Comparison of PPO claimant mortality rates assumed by insurers to those for unimpaired lives
- PPO claimant mortality multipliers and the equivalent reduction in life expectancy figures
- PPO claimant life expectancy, experience analysis and assumed
- Assumed PPO claimant life expectancy / reduction in life expectancy by insurer.

To increase the sample size, we have considered all PPO claims in this analysis, i.e. Motor (non-MIB) PPO claims, Liability PPO claims and Motor (MIB) PPO claims combined.

We note, however, that there remains very limited data on which to base any firm conclusions.

We also note that there is an inherent bias in any such analysis, in that we will not observe people living much longer than expectations for a very long time to come, which is more likely to overstate mortality than to understate mortality.

We therefore stress caution in using the results of the analysis presented in this appendix.

In considering unimpaired mortality within the analysis in this appendix, we have used the most recent ONS forecast projections (National Life Tables, United Kingdom 2012-2014) rather than the ONS mortality rates that underlie the Ogden tables (seventh edition).

Q.1   Number of deaths for PPO claimants

Figures Q.1 and Q.2 show the "initial exposure" and number of deaths by age group for male and female claimants respectively.

The "initial exposure" is a measure of the total number of years of exposure for PPO claims in the quantitative industry survey, taken as the number of years from settlement date to 31 December 2015 or date of death if applicable.

The "initial exposure" has been taken from the settlement date of the PPO, as we only receive data for claimants who survive to settlement of the claim, and do not receive information on claimants who die before a settlement.
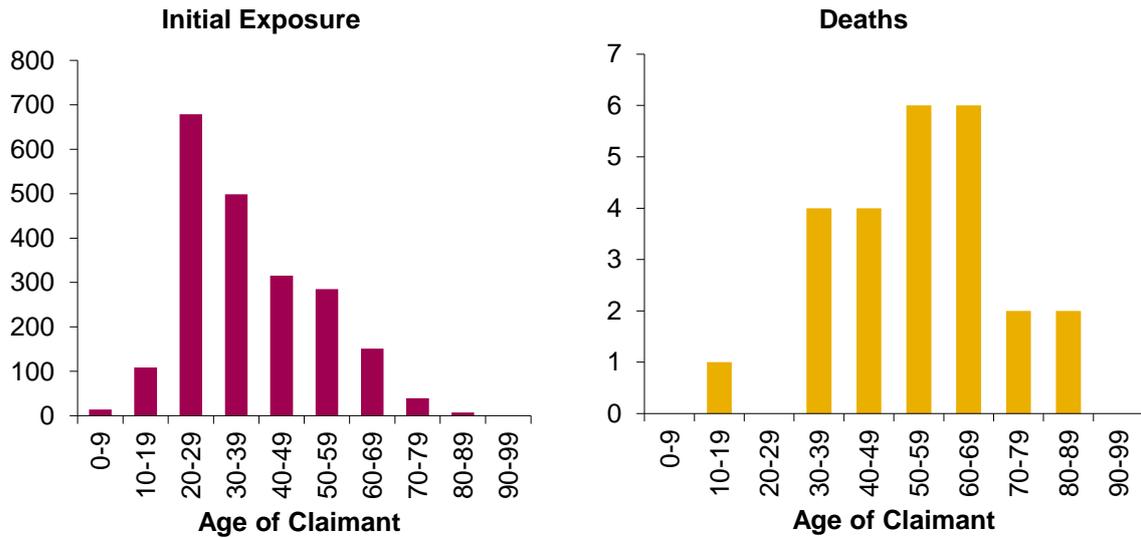
Figure Q.1: Number of years of exposure for PPO claims and number of deaths, for male PPO claimants, by age of claimant at settlement date
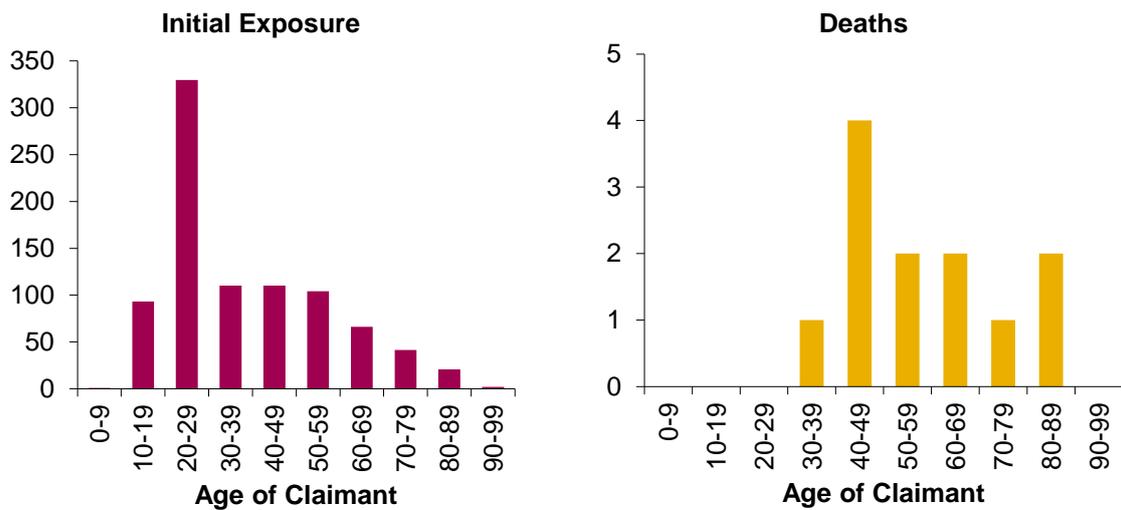
Figure Q.2: Number of years of exposure for PPO claims and number of deaths, for female PPO claimants, by age of claimant at settlement date

Figure Q.3 shows the number of PPO claims where the claimant has died by:

- The number of years since settlement date that the claimant died.
- The number of years between accident date and settlement date.
- The number of years between the accident date and death.

(Note that this data includes one death prior to settlement.)

Number of years	Years since settlement	Delay to settlement	Years since accident
0	4	0	0
1	7	0	0
2	6	1	0
3	6	6	3
4	6	6	2
5	5	7	0
>5	4	18	33
Total	**38**	**38**	**38**

Figure Q.3: Number of deaths for PPO claimants, by various measures of the number of years

Q.2   Actual versus expected number of deaths

We have calculated the multiplicative adjustment to the ONS mortality rates (its most recent forecast projections, as described above), for individuals in the quantitative industry survey, which would be required to produce the number of deaths observed over the period.

We have assumed that the ratio of actual to expected death rates fits to a Poisson distribution, parameterised based on the actual exposed to risk (the "initial exposure", as described above) and the mortality rates from the ONS tables. By using this method we have produced confidence levels around the median result.

The analysis is subject to a number of significant simplifications and assumptions, for example:

- We have assumed that the cohort is homogeneous in terms of life expectancy. We know that is very unlikely to be the case, as some claimants are likely to have a very different prognosis to others as a result of their particular injuries (without taking into account differences in lifestyles). For example, those with serious brain injury will be likely to have lower life expectancies, often significantly so, than those with moderate brain injury.

- We have assumed that it is appropriate to apply a single multiplier to the q_xs (the probability of an individual aged exactly x years will die within the next year). In fact, we do not know the shape of the mortality curve for these impaired lives; indeed the shape may well be different for different injury types. One particular impact of this may be that it is not appropriate to apply the same multiplier as derived from observing the data at this relatively early stage of the experience to future mortality rates, the reason being that, for these kinds of injuries, mortality (relative to unimpaired mortality rates) is often higher in the early years after the accident.

In addition, the analysis was conducted on a very small sample of claims over a short time period (2006 to 2015), and as such cannot be considered to be particularly credible. Therefore, there is considerable uncertainty surrounding the results – one additional or one fewer death would have a large impact on these figures. (Similar analyses that pension funds may conduct are likely to have significantly narrower confidence intervals as pension funds typically have much greater sample sizes.)

Figure Q.4 shows the output of the analysis. The median result suggests that:

- PPO claimants are likely to have a higher mortality rate than the general population as defined by the ONS mortality rates (its most recent forecast projections, as described above), at least initially.
- The mortality rate for male PPO claimants is 8.6 times that of the general population (compared with 3.4 times in last year's industry survey).
- The mortality rate for female PPO claimants is 8.7 times that of the general population (compared with 4.2 times in last year's industry survey).

The difference compared with last year's industry survey primarily reflects an enhancement in the methodology adopted compared with last year (in particular around measuring unimpaired mortality).

The model has output confidence intervals around the median figures, although it should be noted that we would expect the actual confidence intervals to be even broader than those shown in Figure Q.4 due to elements of model error as described above. It is worth noting that this year's median industry survey results are below the 5th percentile shown in the equivalent table in last year's industry survey report.

Percentiles	Male	Female
5th	1201%	1405%
25th	989%	1061%
50th	**864%**	**874%**
75th	755%	719%
90th	669%	603%
95th	622%	543%

Figure Q.4: Median and percentile values for the required adjustment to ONS mortality rates which would be required to produce the number of PPO claimant deaths observed over the period

Figure Q.5 shows the observed (i.e. actual) number of deaths by claimant age band (at settlement date) against those that would have been expected for the survey sample using unimpaired mortality rates based on the ONS mortality rates (its most recent forecast projections, as described above).

In total there have been 37 observed deaths since settlement, against an expected number of 4.2 deaths assuming unimpaired mortality, representing a multiplier of 8.8 (for male and female PPO claimants combined). This result is statistically significant.
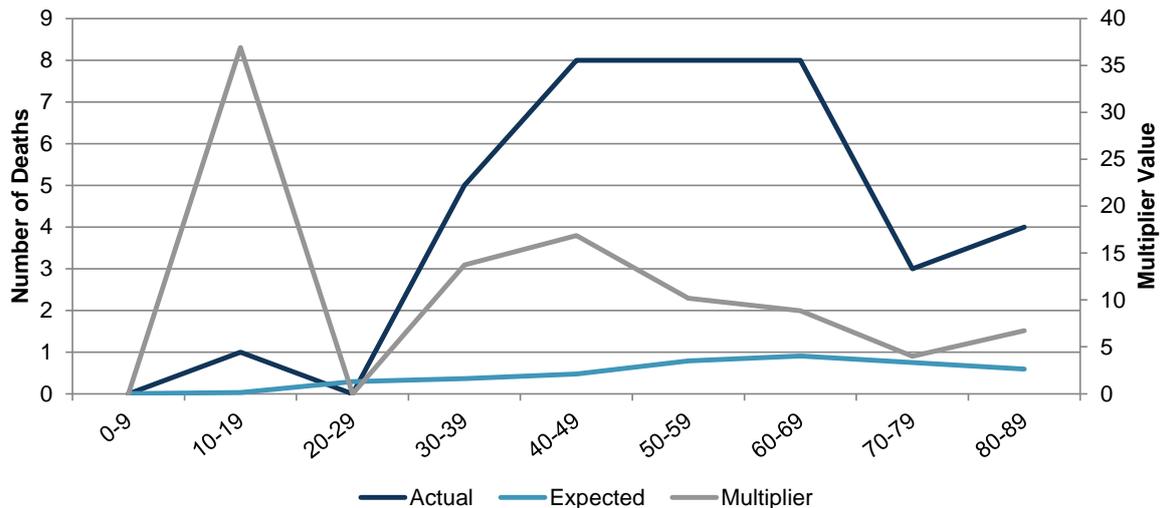
Figure Q.5: Actual number of PPO claimant deaths, expected number of PPO claimant deaths assuming unimpaired mortality, and the multiplier (actual / expected), by age of claimant at settlement date

We encourage readers to place a limited degree of reliance on these estimates and to reference other indicators and data sources to support any assumptions they are using for their own purposes. To reiterate; we advise readers to treat these results with caution due to:

- The small sample size.
- The simplifying assumptions which have been made in the model (homogeneity of underlying mortality in the cohort and the appropriateness of a single multiplier).
- The mortality experience only being considered for those individuals who survive beyond the period it takes for their PPO claim to settle.

Q.3 Comparison of PPO claimant mortality rates assumed by insurers to those for unimpaired lives

By assuming that the shape of the mortality curve is the same for unimpaired and impaired lives, we have converted the impaired life expectancies provided by insurers in the survey to be expressed as a mortality multiplier relative to the ONS mortality rates (its most recent forecast projections, as described above). A value of 100% is representative of life expectancy (or mortality rate) equal to that for an unimpaired life (according to the ONS mortality rates).

These results consider the range of estimates for individual claimants and hence the range of percentiles is considerably wider than the previous analysis.

Figure Q.6 shows the output of the analysis. The median result suggests that:

- Insurers assume that PPO claimants are likely to have a higher mortality rate than the general population as defined by the ONS mortality rates (its most recent forecast projections, as described above).
- Insurers assume that the mortality rate for male PPO claimants is 3.2 times that of the general population (compared with 3.4 times in last year's industry survey).

- Insurers assume that the mortality rate for female PPO claimants is 3.0 times that of the general population (compared with 2.2 times in last year's industry survey).
- Insurers' assumptions around increased mortality for PPO claimants are lower than the observed increased mortality for PPO claimants, as summarised in Figure Q.4.

Percentiles	Male	Female
5th	3136%	4048%
25th	632%	613%
50th	**323%**	**300%**
75th	170%	153%
90th	125%	119%
95th	104%	106%

Figure Q.6: Median and percentile values for the required adjustment to ONS mortality rates which would be required to match insurers' expectations of PPO claimant mortality

Figure Q.7 shows the distribution of these mortality multipliers. It should be noted that this distribution is highly skewed, with, for example, over 5% of male PPO claimants and over 10% of female PPO claimants having assumed mortality rates of more than 22 times the unimpaired rate.
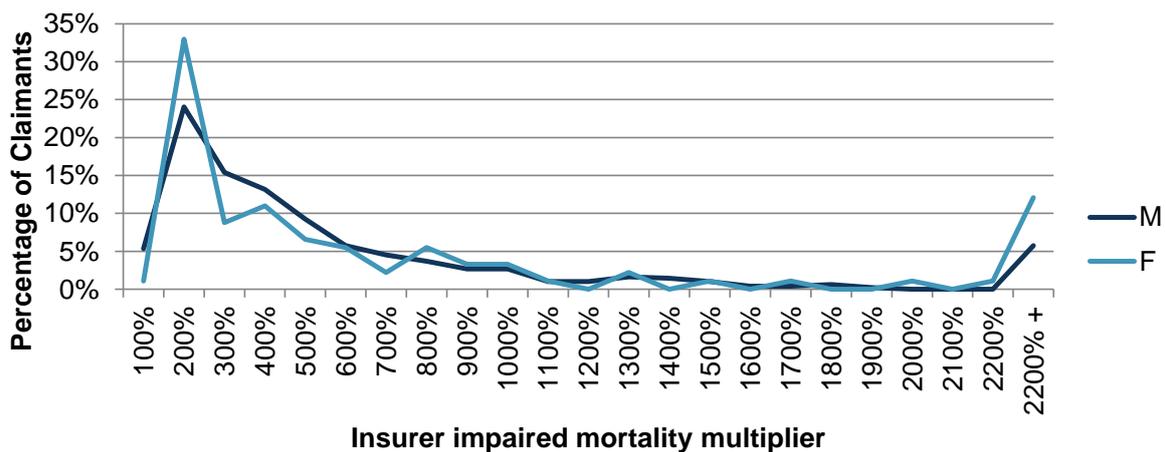
Figure Q.7: Distribution of insurers' mortality multipliers (insurers' expectations of PPO claimant mortality relative to unimpaired lives), by gender of claimant

Q.4 PPO claimant mortality multipliers and the equivalent reduction in life expectancy figures

Figure Q.8 tabulates how the above mortality multipliers translate to the percentage reduction in life expectancy measure for sample male and female lives aged 20, 40, and 60 years in 2010.

Multiplier	Male			Female		
	Age			Age		
	20	40	60	20	40	60
200%	12%	17%	25%	11%	15%	22%
300%	20%	26%	39%	17%	24%	34%
400%	25%	33%	47%	22%	30%	43%
500%	29%	38%	54%	25%	35%	49%
750%	37%	47%	64%	32%	43%	59%
1000%	42%	54%	71%	37%	49%	66%
1500%	50%	62%	79%	44%	57%	74%
2000%	55%	67%	83%	48%	63%	79%

Figure Q.8: Percentage reduction in life expectancy for sample lives implied by the PPO claimant mortality multipliers

Q.5 PPO claimant life expectancy, experience analysis and assumed

The results from the mortality analysis can also be expressed in terms of future life expectancy (in years). This is summarised in Figure Q.9:

- The purple dots show the ONS unimpaired life expectancy for a 34 year old male (52.6 years) and a 34 year old female (55.9 years).
- The dark blue bars and stalks show the 5th to 25th (stalk), 25th to 50th (bar), 50th to 75th (bar) and 75th to 95th (stalk) percentiles of the experience analysis (i.e. based on the analysis of the number of deaths in the industry survey). This applies the mortality multipliers in Figure Q.4 to a 34 year old claimant.
- The light blue bars and stalks show the 5th to 25th (stalk), 25th to 50th (bar), 50th to 75th (bar) and 75th to 95th (stalk) percentiles of the insurer analysis (i.e. based on the insurer assumptions of life expectancy in the industry survey). This applies the mortality multipliers in Figure Q.6 to a 34 year old claimant.
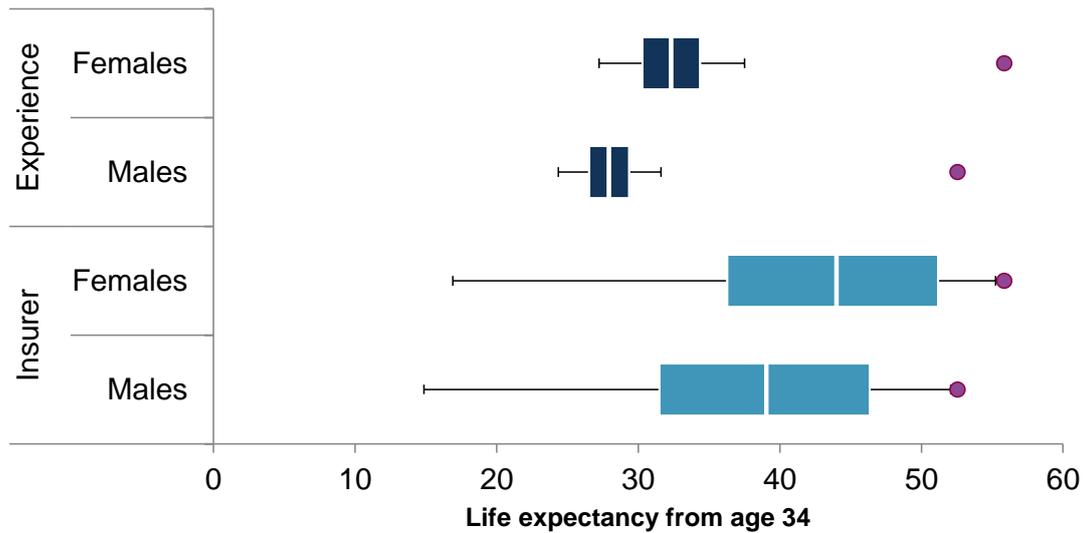
Figure Q.9: Comparison of PPO claimant life expectancy:
unimpaired lives, experience analysis and insurer assumptions

Figure Q.9 shows the much larger ranges of values around the insurer assumptions of life expectancy in the market compared to the experience analysis. This is to be expected due to the lack of homogeneity in the underlying mortality of PPO claimants and also the inconsistent approaches taken to estimating the mortality on a case by case basis (in the case of the insurers) and by estimating the mortality on the entire cohort of PPO claims (experience analysis).

It is also worth reiterating that our analysis assumes it is appropriate to apply a single multiplier to the q_xs. However it is not unreasonable to presume that for brain and spinal injuries, mortality will be higher in the early years after the injury has occurred. Consequently, as the analysis in most cases only covers an early stage of development since the accidents occurred, these results may be overstated. However, there is an average delay before settlement for these claims of six years, which would mitigate this effect to some extent.

Q.6 Assumed PPO claimant life expectancy / reduction in life expectancy by insurer

Figure Q.10 shows the cumulative distribution of the percentage reduction in life expectancy assumed by each insurer. A couple of insurers have been excluded for data reasons, and the data is presented as a range across those insurers included in the analysis.

As elsewhere in this report, the percentage reduction in life expectancy is defined as:

$$\frac{\text{unimpaired life expectancy - life expectancy as provided by participants}}{\text{unimpaired life expectancy}}$$

where all life expectancies are quoted as at the date of settlement.
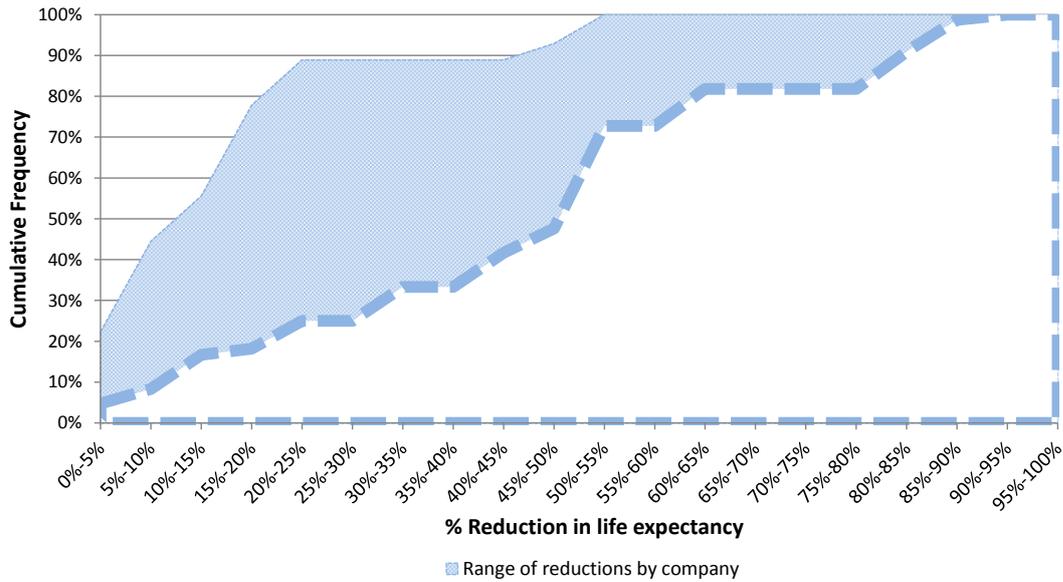
Figure Q.10: Cumulative distribution of the percentage reduction in life expectancy assumed by different insurers

It can be seen that there are significant differences in the life expectancy distributions from insurer to insurer. Some of the observed difference could be explained by differences in the nature of the claimants to each insurer because, as discussed above, individual claimants exhibit large differences in their impairment. Additionally, the relatively small sample size of PPO claims, and the accompanying volatility, could cause significant differences to be observed across insurers.

Appendix R   Reserves for Motor (non-MIB) PPO claims

In this appendix, we provide the following summary statistics in relation to the size of reserves for Motor (non-MIB) PPO claims:

- Reserves for PPO claims as a proportion of published reserves
- Impact of real discount rate assumption on reserves for PPO claims and total cost of PPO claims
- Comparison of total cost of PPO claims to insurers' Ogden-equivalent lump sum estimate
- Comparison of reserves for PPO claims to insurers' estimates of reserves
- Lump sum element of PPO claims as a proportion of total cost of PPO claims
- Reserves for PPO claims by class of business
- Reserves for PPO claims by nature of injury
- Scatter plots of reserves for PPO claims against a number of factors.

In order to consider the size of reserves on a consistent basis, we have estimated the total cost and outstanding reserve for each of the Motor (non-MIB) PPO claims in the quantitative industry survey on a cashflow basis, using the same methodology and assumptions for all claims (including stochastic mortality). However, the parameters used (such as life expectancy from settlement) were taken from individual participating insurer estimates.

We have estimated the total cost and outstanding reserve for each of the Motor (non-MIB) PPO claims using discount rate assumptions ranging from -2% per annum to +2% per annum, discounting to 31 December 2015.

In deriving these estimates, we have made no allowance for some factors that will affect the size of a claim, such as variation orders and indemnity / reverse indemnity guarantees. We have, however, allowed for factors such as stepped payments, where that information has been provided.

The estimates in this appendix are shown gross of reinsurance.

R.1   Reserves for PPO claims as a proportion of published reserves

Given the approximations and assumptions inherent in the underlying analysis, Figure R.1 is intended to give a broad indication only of the proportion of the reserves for PPO claims within published Motor reserves, and the results should be treated with caution.

The analysis makes use of our estimates of the outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment) in the quantitative industry survey as at 31 December 2015, and compares these with the reserves held as presented in the 2015 PRA returns, only considering data for insurers that both participated in the quantitative industry survey and submitted returns to the PRA.

Two measures are shown in Figure R.1: "known PPO reserve only" and "range including IBNR reserve element".

"Known PPO reserve only" is defined as:

$$\frac{\text{our estimate of outstanding reserves for PPO claims in payment}}{\text{outstanding reserves presented in the PRA returns}}$$

"Range including IBNR reserve element" is defined as:

$$\frac{\text{our estimate of outstanding reserves for PPO claims in payment + our estimate of IBNR for PPO claims}}{\text{outstanding reserves and IBNR presented in the PRA returns}}$$

Our estimate of IBNR for PPO claims has been made by assuming that the ultimate number of PPO claims (i.e. the number including IBNR PPO claims) is around 2 to 4 times the number of PPO claims currently settled.

This benchmark was presented at the IFoA Reserving Seminar in November 2011 by the IFoA Third Party Working Party and the IFoA PPO Working Party. It was based on a relatively crude analysis of Private Car Comprehensive claims frequencies for claims above £1 million (in 2011 terms) (IFoA Third Party Working Party research) and PPO propensity rates (IFoA PPO Working Party quantitative industry survey).

This benchmark was used the last time that the IFoA carried out an analysis on reserves for Motor (non-MIB) PPO claims two years ago, and we have continued to use it with no amendment. It is worth noting, however, that this benchmark should reduce over time, as the number of settled PPO claims increases, and so the analysis presented may overestimate the IBNR for PPO claims somewhat.

The bottom of the bars in Figure R.1 corresponds to 2 times the number of PPO claims currently settled and the top of the bars corresponds to 4 times the number of PPO claims currently settled.
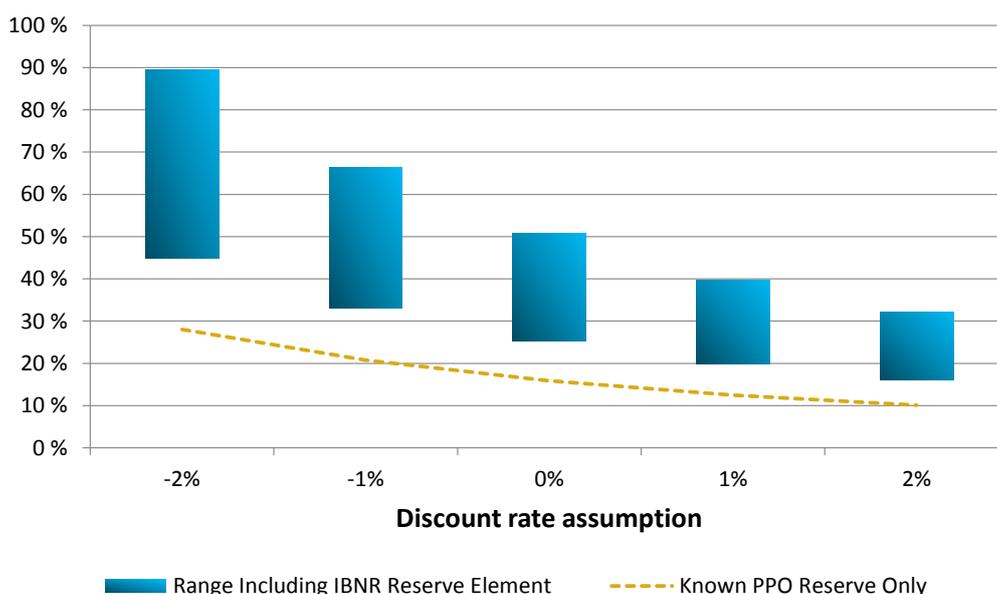
Figure R.1: Reserves for Motor (non-MIB) PPO claims, estimated by the IFoA PPO Working Party, as a proportion of total Motor reserves, as presented in the PRA returns

Figure R.1 suggests that PPO claims in payment may make up between 10% and 28% of Motor case estimates (as presented in the PRA returns), depending on the real discount rate assumed. Allowing for IBNR PPO claims, reserves for PPO claims may make up between 16% and 90% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns), again depending on the real discount rate assumed. At the real discount rate most commonly being used by insurers participating in the qualitative industry survey, namely 0% per annum, PPO claims in payment may make up about 16% of Motor case estimates (as presented in the PRA returns), and reserves for PPO claims, allowing for IBNR PPO claims, may make up between 25% and 51% of published Motor reserves (i.e. booked reserves, as presented in the PRA returns).

R.2 Impact of real discount rate assumption on reserves for PPO claims and total cost of PPO claims

Figure R.2 compares our estimate of outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment), as at 31 December 2015, using discount rate assumptions ranging from -2% per annum to +2% per annum, to an estimate at the prevailing Ogden discount rate of +2.5% per annum.

Figure R.3 shows the same information for the total cost of PPO claims (from ground up), as at 31 December 2015.

Figure R.4 shows the same information for the total cost of PPO claims, as at the PPO settlement date.

Real Discount Rate	Reserve Multiple
-2.0%	3.05
-1.0%	2.26
0.0%	1.73
1.0%	1.36
2.0%	1.10
2.5%	1.00

Figure R.2: Reserves for Motor (non-MIB) PPO claims, as at 31 December 2015,
at various real discount rates, estimated by the IFoA PPO Working Party,
expressed as a multiple of the reserve estimated at a +2.5% per annum real discount rate

Real Discount Rate	Total Cost Multiple
-2.0%	1.89
-1.0%	1.55
0.0%	1.32
1.0%	1.16
2.0%	1.04
2.5%	1.00

Figure R.3: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at 31 December 2015, at various real discount rates, estimated by the IFoA PPO Working Party, expressed as a multiple of the total cost estimated at a +2.5% per annum real discount rate

Real Discount Rate	Total Cost Multiple
-2.0%	1.91
-1.0%	1.56
0.0%	1.33
1.0%	1.16
2.0%	1.05
2.5%	1.00

Figure R.4: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at settlement date, at various real discount rates, estimated by the IFoA PPO Working Party, expressed as a multiple of the total cost estimated at a +2.5% per annum real discount rate

R.3 Comparison of total cost of PPO claims to insurers' Ogden-equivalent lump sum estimate

Figures R.5 to R.8 compare our estimate of the total cost of Motor (non-MIB) PPO claims (i.e. PPO claims in payment) (from ground up) to the estimated cost if they were to settle as a lump sum (under a +2.5% per annum Ogden real discount rate). The Ogden-equivalent lump sum estimates were provided by the participating insurers.

- Figure R.5 shows this comparison at a real discount rate of +2% per annum for valuing the PPO claims, as at 31 December 2015.
- Figure R.6 shows this comparison at a real discount rate of +2% per annum for valuing the PPO claims, as at settlement date.
- Figure R.7 shows this comparison at a real discount rate of 0% per annum for valuing the PPO claims, as at 31 December 2015.
- Figure R.8 shows this comparison at a real discount rate of 0% per annum for valuing the PPO claims, as at settlement date.
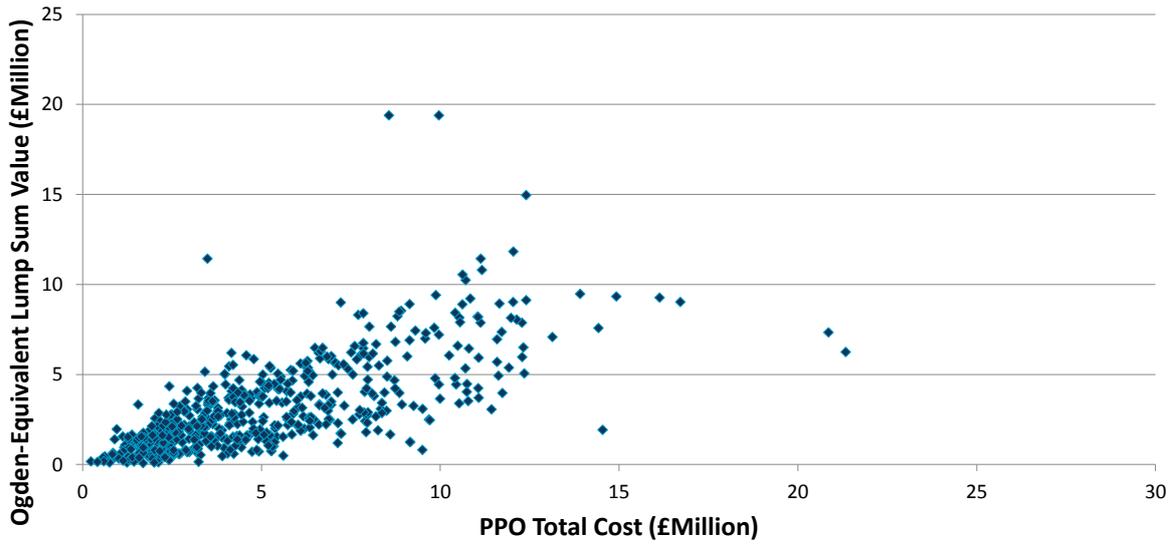
Figure R.5: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at 31 December 2015, at a +2% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the Ogden-equivalent lump sum value, estimated by participating insurers
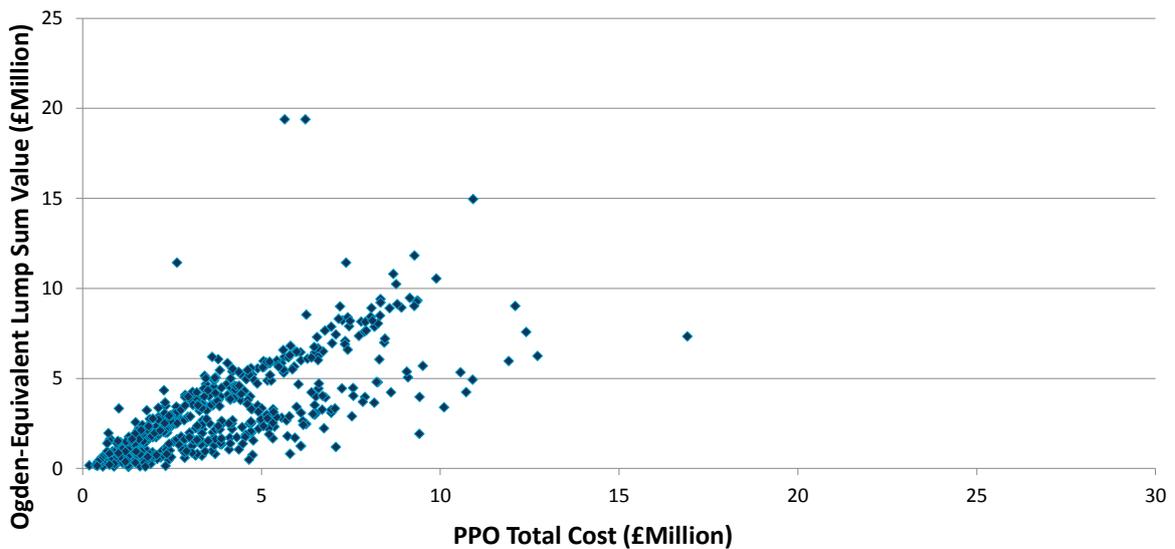
Figure R.6: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at settlement date, at a +2% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the Ogden-equivalent lump sum value, estimated by participating insurers
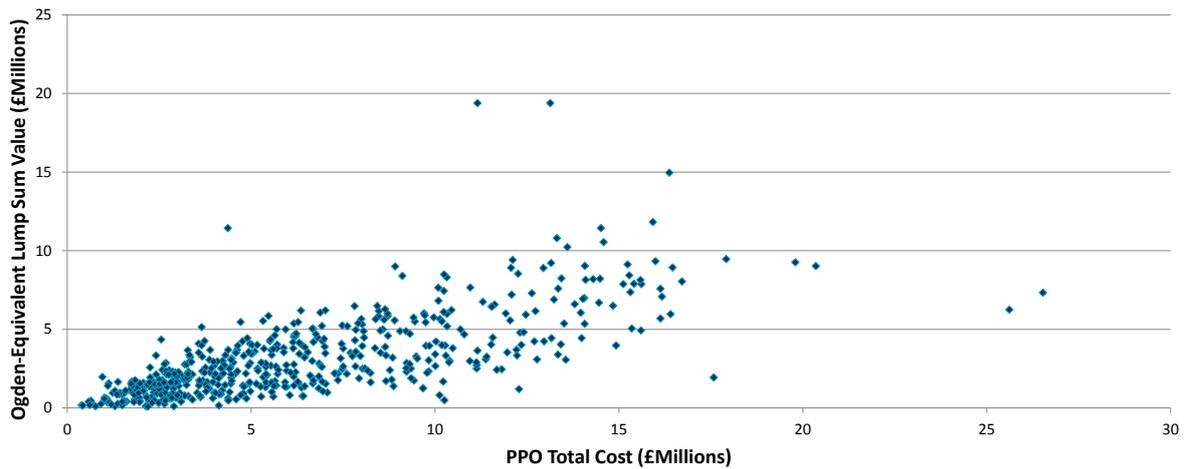
Figure R.7: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the Ogden-equivalent lump sum value, estimated by participating insurers
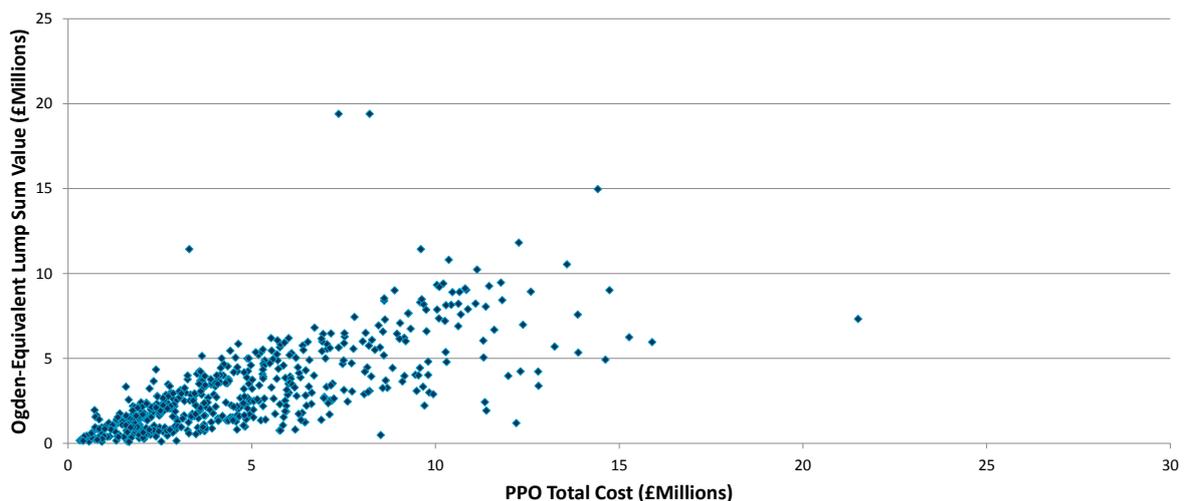
Figure R.8: Total cost (from ground up) for Motor (non-MIB) PPO claims, as at settlement date, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the Ogden-equivalent lump sum value, estimated by participating insurers

R.4 Comparison of reserves for PPO claims to insurers' estimates of reserves

Figures R.9 and R.10 compare our estimate of outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment), as at 31 December 2015, to the reserve estimates provided by the participating insurers.

- Figure R.9 shows this comparison at a real discount rate of +2% per annum for valuing the PPO claims within our estimate.

- Figure R.10 shows this comparison at a real discount rate of 0% per annum for valuing the PPO claims within our estimate.
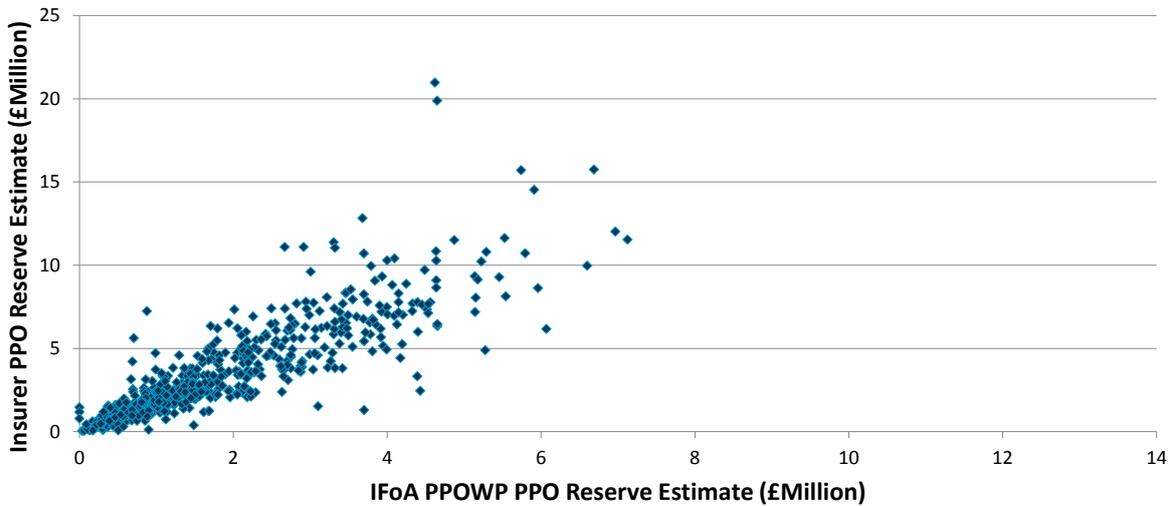
Figure R.9: Reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a +2% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the reserve estimates of participating insurers
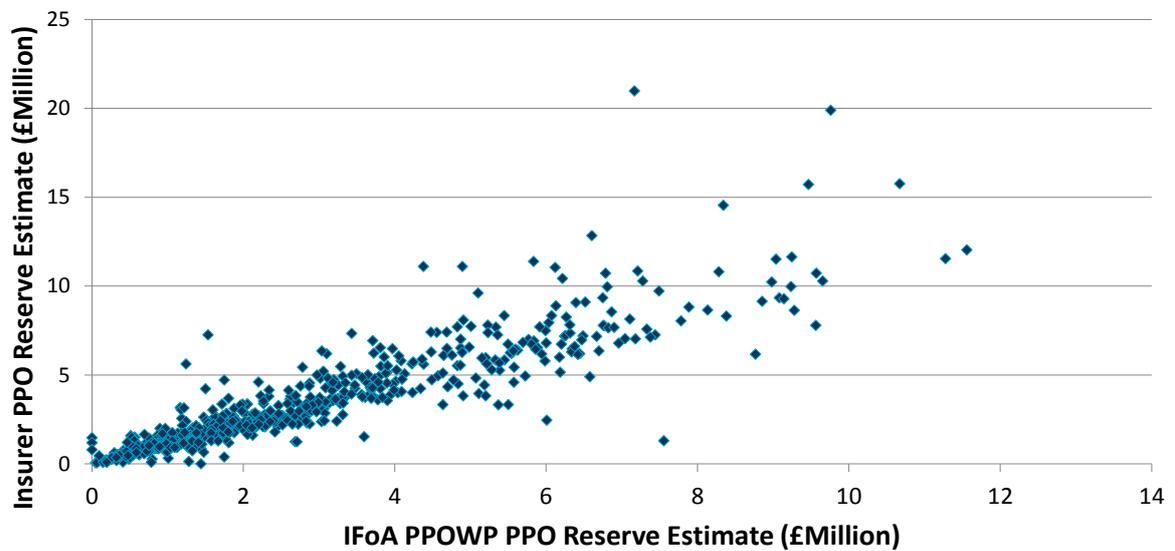
Figure R.10: Reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, compared to the reserve estimates of participating insurers

R.5   Lump sum element of PPO claims as a proportion of total cost of PPO claims

Figures R.11 to R.14 show the lump sum element of PPO claims as a proportion of our estimate of the total cost of Motor (non-MIB) PPO claims (i.e. PPO claims in payment) (from ground up).

- Figure R.11 shows this comparison at a real discount rate of +2% per annum for valuing the PPO claims, as at 31 December 2015.
- Figure R.12 shows this comparison at a real discount rate of +2% per annum for valuing the PPO claims, as at settlement date.
- Figure R.13 shows this comparison at a real discount rate of 0% per annum for valuing the PPO claims, as at 31 December 2015.
- Figure R.14 shows this comparison at a real discount rate of 0% per annum for valuing the PPO claims, as at settlement date.
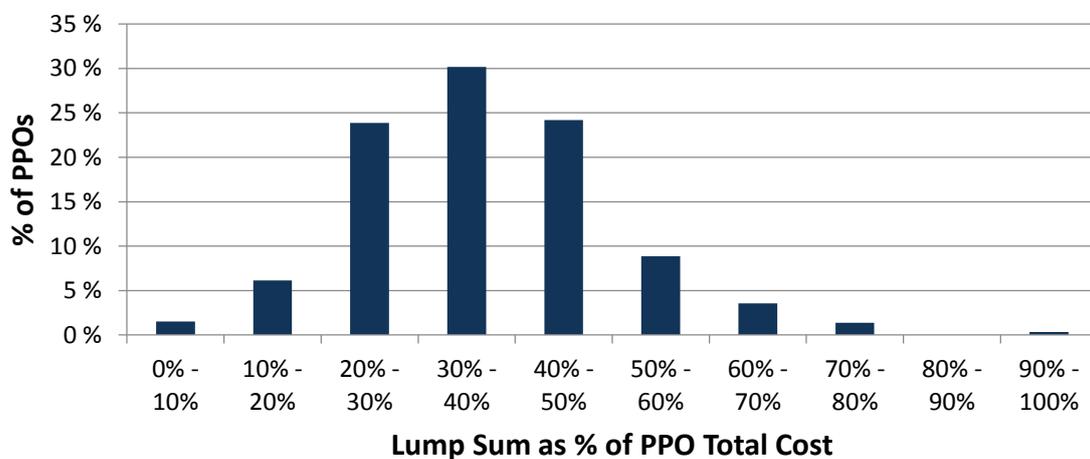
Figure R.11: Distribution of the (nominal) lump sum element of PPO claims as a proportion of the total cost (from ground up) for Motor (non-MIB) PPO claims, as at 31 December 2015, at a +2% per annum real discount rate, estimated by the IFoA PPO Working Party
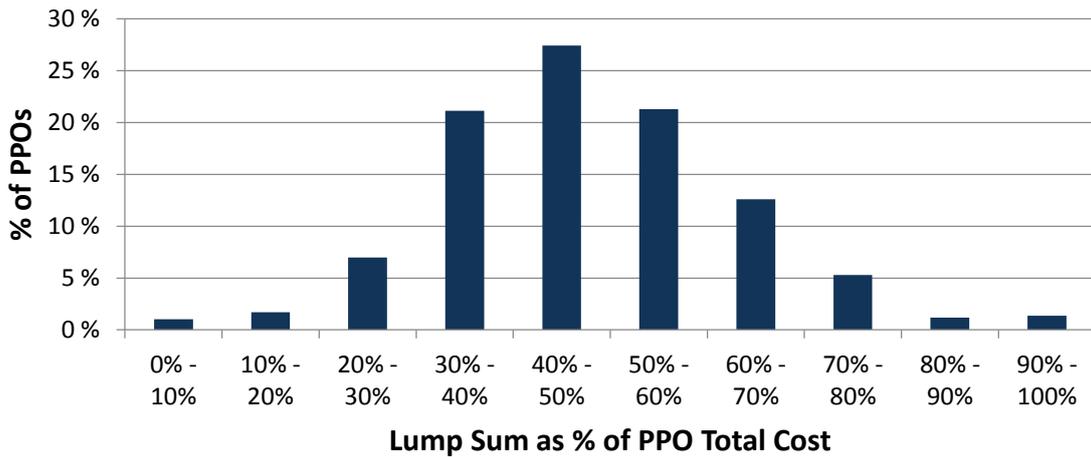
Figure R.12: Distribution of the (nominal) lump sum element of PPO claims as a proportion of the total cost (from ground up) for Motor (non-MIB) PPO claims, as at settlement date, at a +2% per annum real discount rate, estimated by the IFoA PPO Working Party
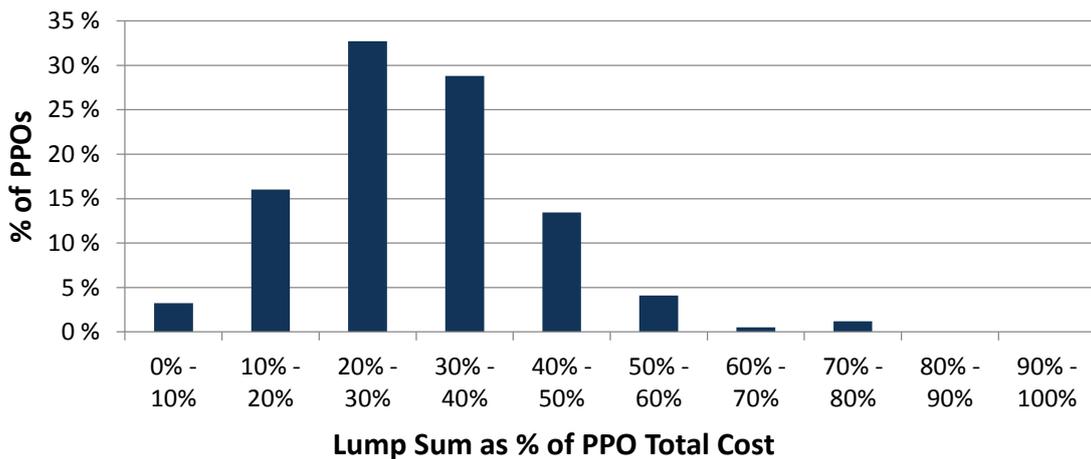
Figure R.13: Distribution of the (nominal) lump sum element of PPO claims as a proportion of the total cost (from ground up) for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party
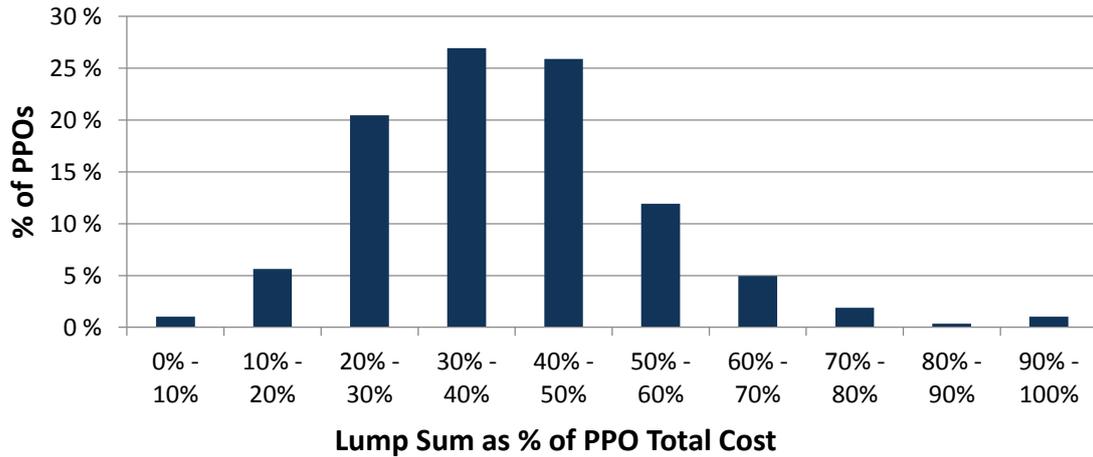
Figure R.14: Distribution of the (nominal) lump sum element of PPO claims as a proportion of the total cost (from ground up) for Motor (non-MIB) PPO claims, as at settlement date, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party

R.6   Reserves for PPO claims by class of business

Figure R.15 shows the distribution of our estimate of outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment) at a real discount rate of 0% per annum for valuing the PPO claims, as at 31 December 2015, by class of business.
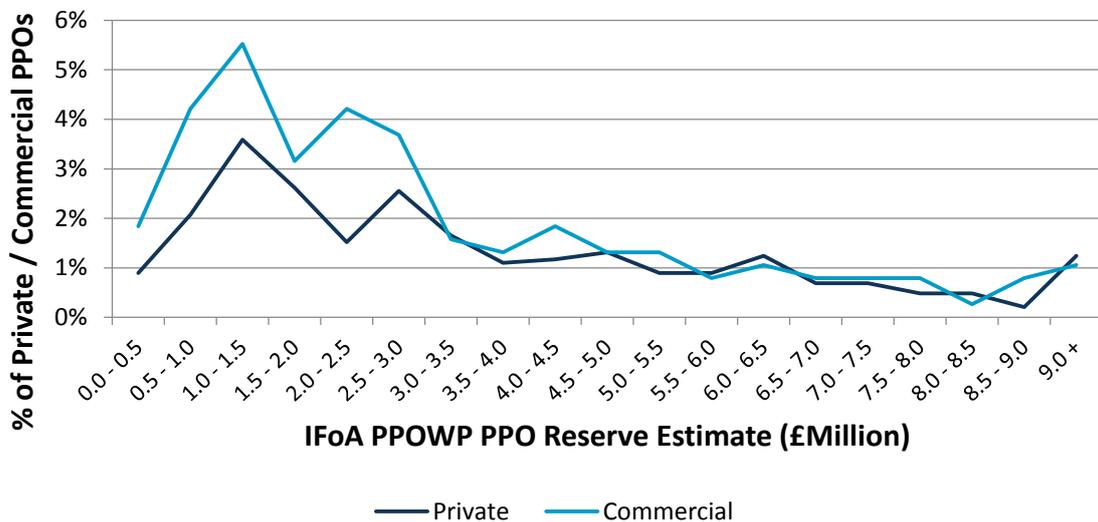
Figure R.15: Distribution of the reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, by class of business

R.7 Reserves for PPO claims by nature of injury

Figure R.16 shows the distribution of our estimate of outstanding reserves for Motor (non-MIB) PPO claims (i.e. PPO claims in payment) at a real discount rate of 0% per annum for valuing the PPO claims, as at 31 December 2015, by the nature of injury.
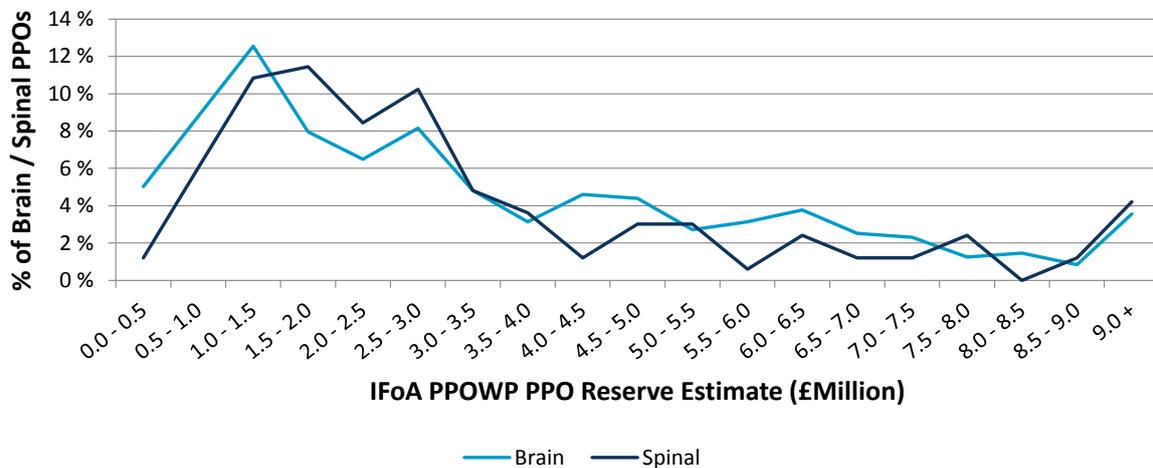
Figure R.16: Distribution of the reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, by nature of injury

R.8 Scatter plots of reserves for PPO claims against a number of factors
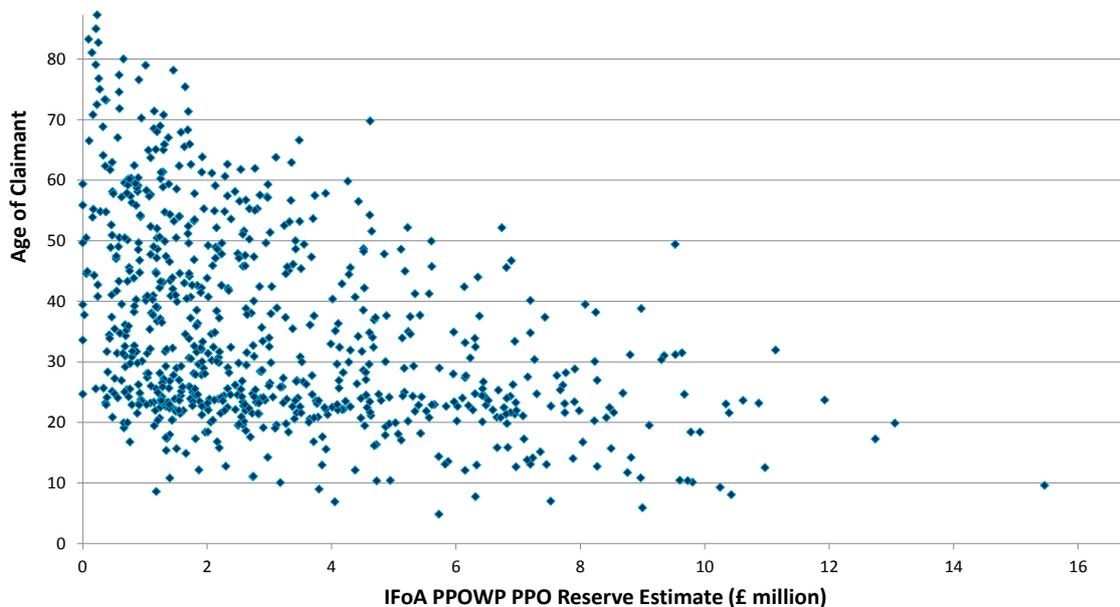
Figure R.17: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the age of claimant at settlement date
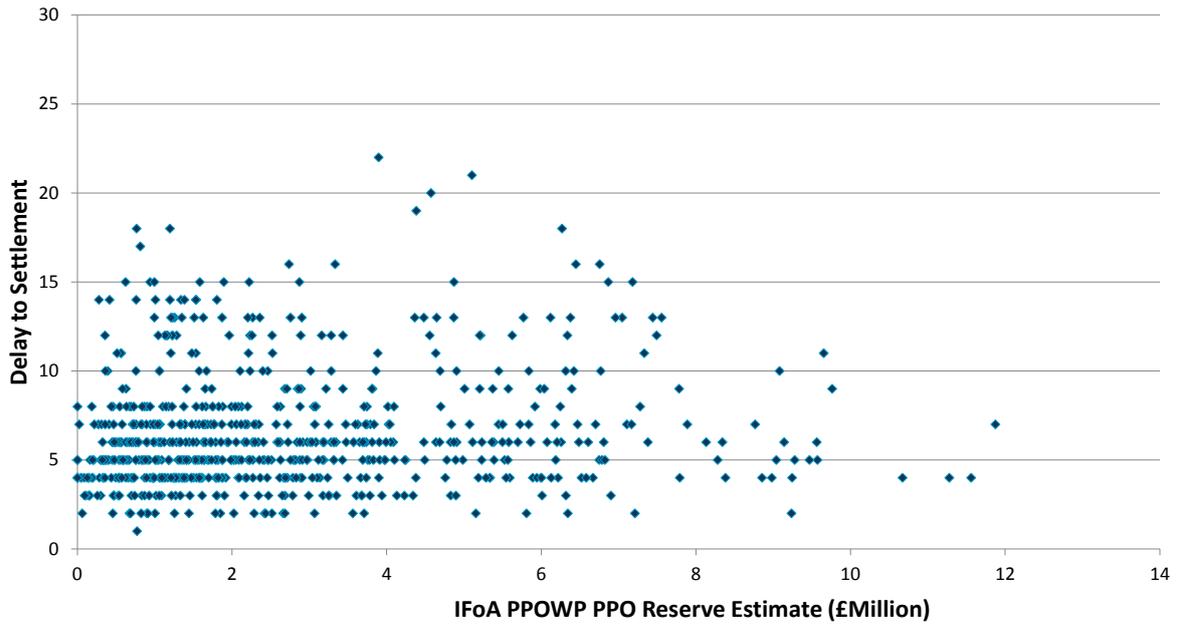
Figure R.18: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the delay to settlement
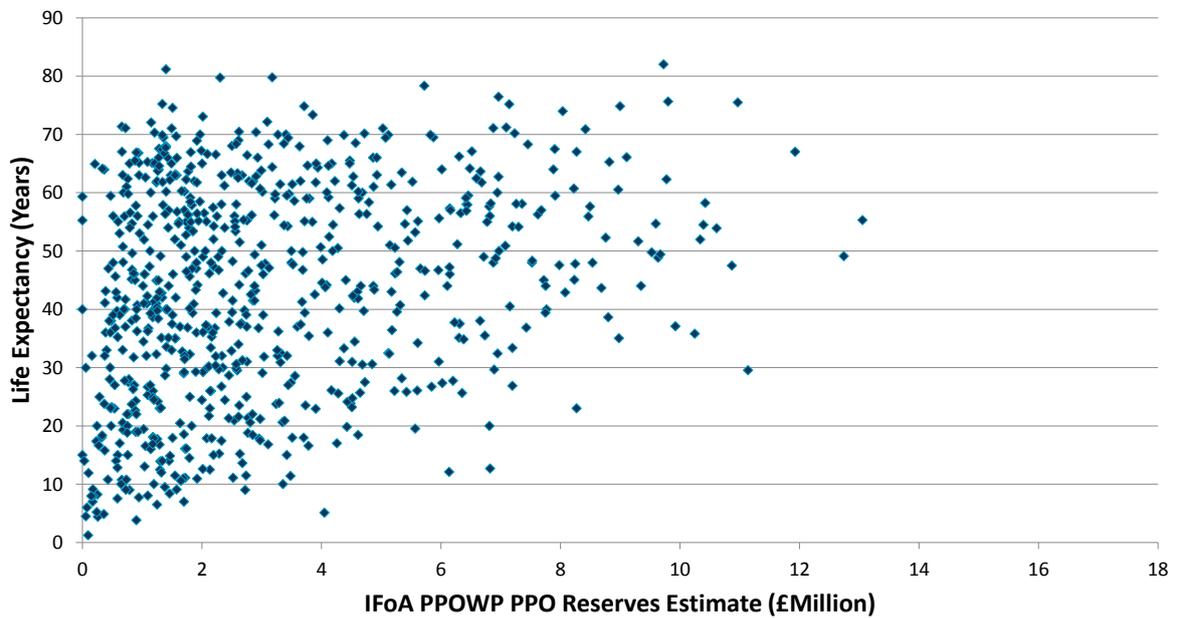
Figure R.19: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the life expectancy of the claimant at settlement date
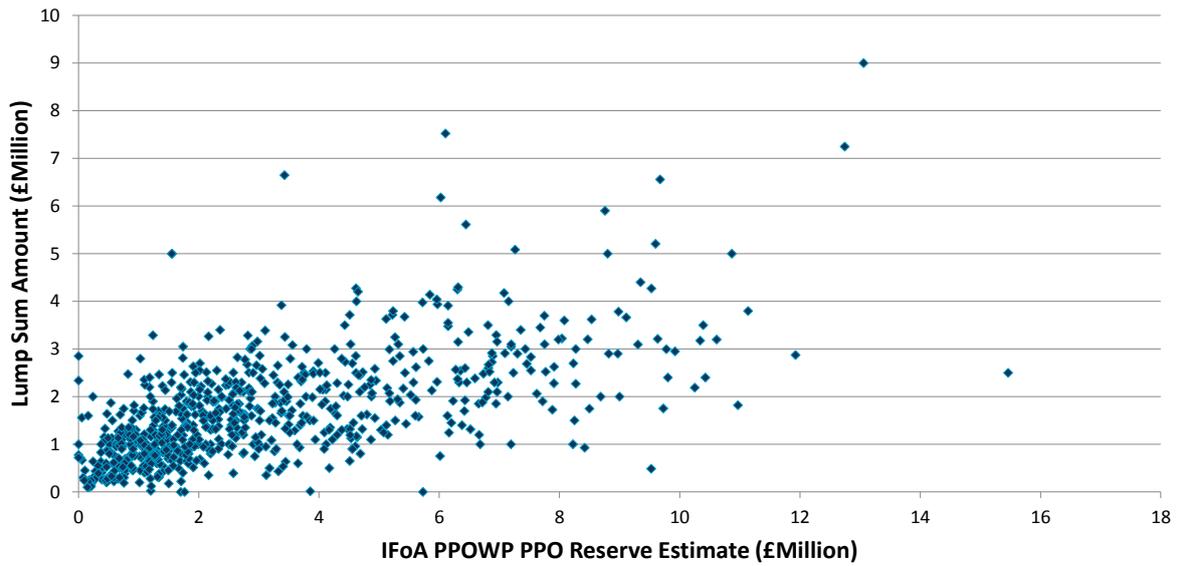
Figure R.20: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the lump sum element of the PPO claim
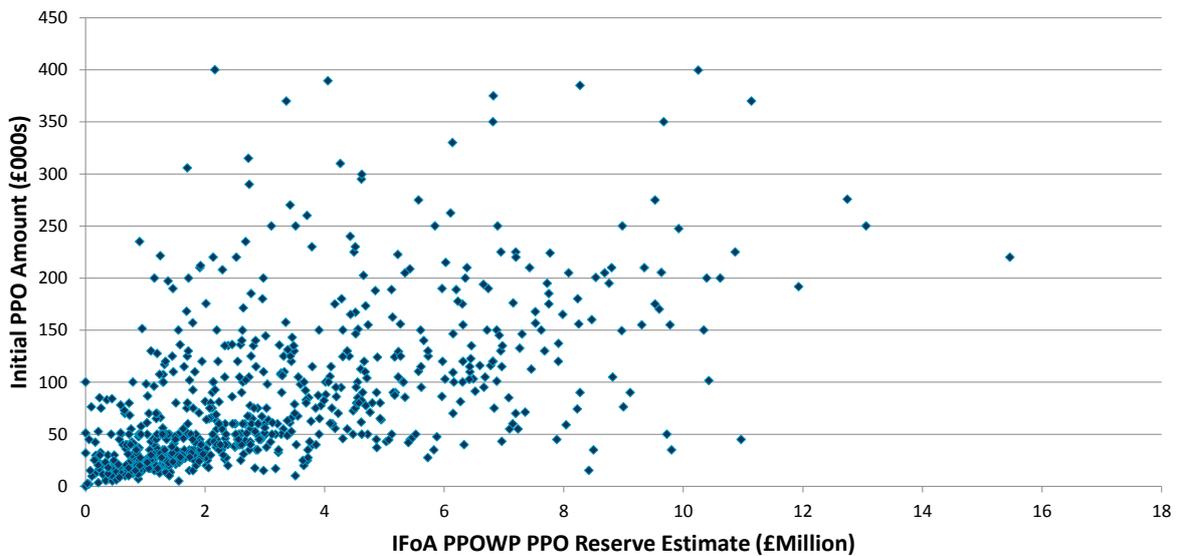
Figure R.21: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the initial regular payment amount of the PPO claim
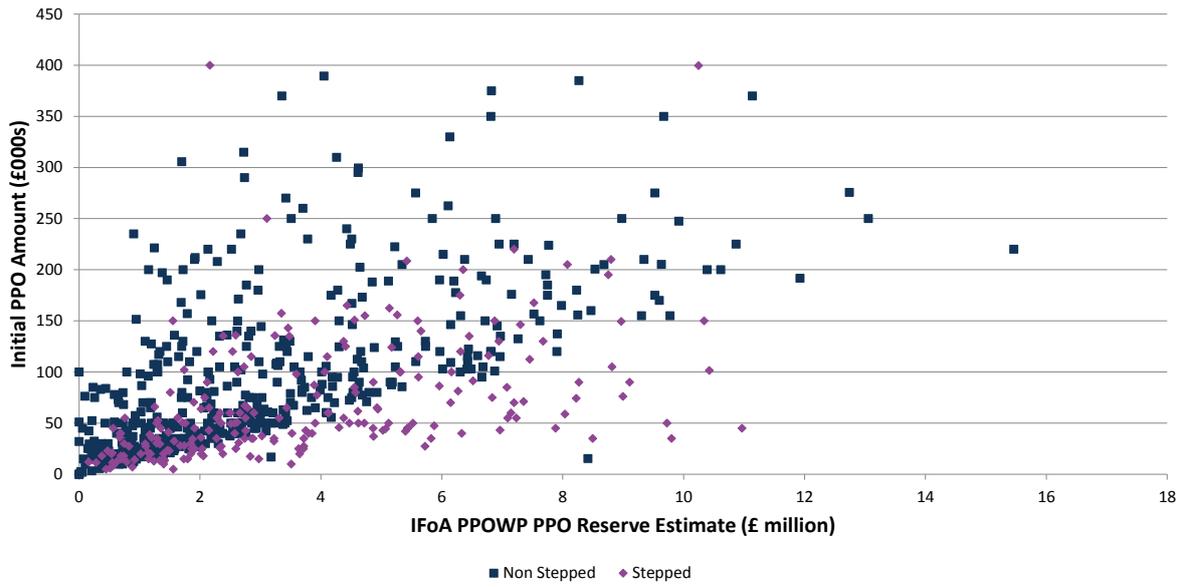
Figure R.22: Scatter plot of reserves for Motor (non-MIB) PPO claims, as at 31 December 2015, at a 0% per annum real discount rate, estimated by the IFoA PPO Working Party, against the initial regular payment amount of the PPO claim, by whether the PPO claim has stepped payments

Appendix S   Detail around the responses to the 2016 qualitative industry survey

In this appendix, we provide more detail around the responses to the 2016 qualitative industry survey.

16 insurers and 4 reinsurers were interviewed for the qualitative industry survey, the responses having been collected between December 2015 and February 2016 inclusive. The companies which have agreed to be acknowledged for their participation in this survey are listed in the Introduction to this report, although please note that the list does not include all participants

It is worth noting that, very occasionally, some of the survey questions were unanswered by some participants. This was occasionally through choice, but more commonly as the interviewee did not know the answer or could not readily obtain the information.

S.1   Level of concern about PPO claims

We asked how concerned companies were about PPO claims on a scale of 1 to 5, with 5 being the most concerned. We also asked how the question would have been answered if it had been asked a year ago.

Figure S.1 shows the responses for participating insurers and reinsurers for the level of concern about PPO claims this year (as at winter 2015-2016), and Figure S.2 shows the responses for participating insurers last year (as at winter 2014-2015, displayed as 2014) and this year (displayed as 2015), with the size of the bubble (the area) representing the number of insurers that gave a particular response. The level of concern for participating reinsurers had not changed between last year and this year.
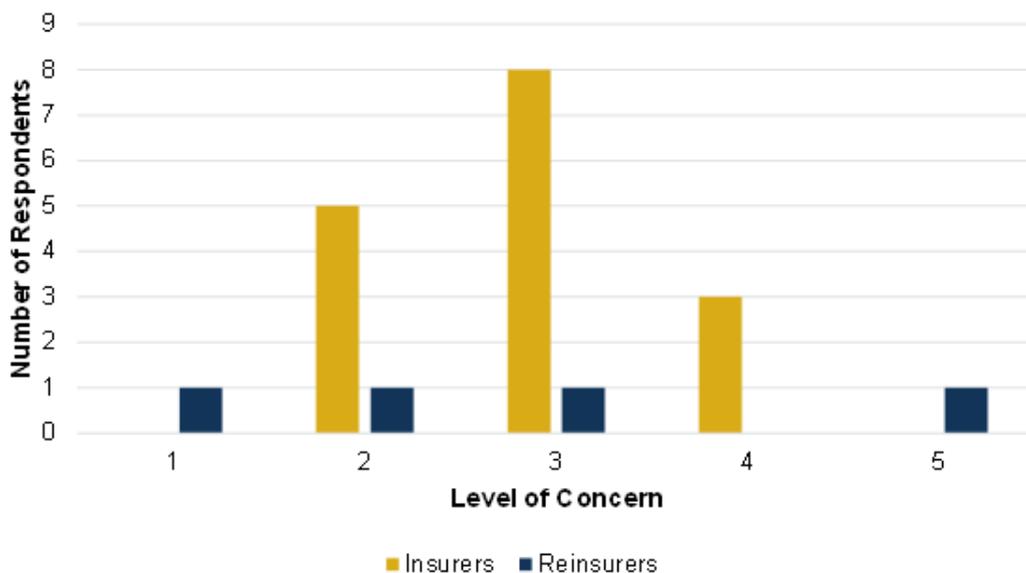
Figure S.1: Level of concern about PPO claims for participating insurers and reinsurers, as at winter 2015-2016 (scale of 1 to 5, with 5 being most concerned)
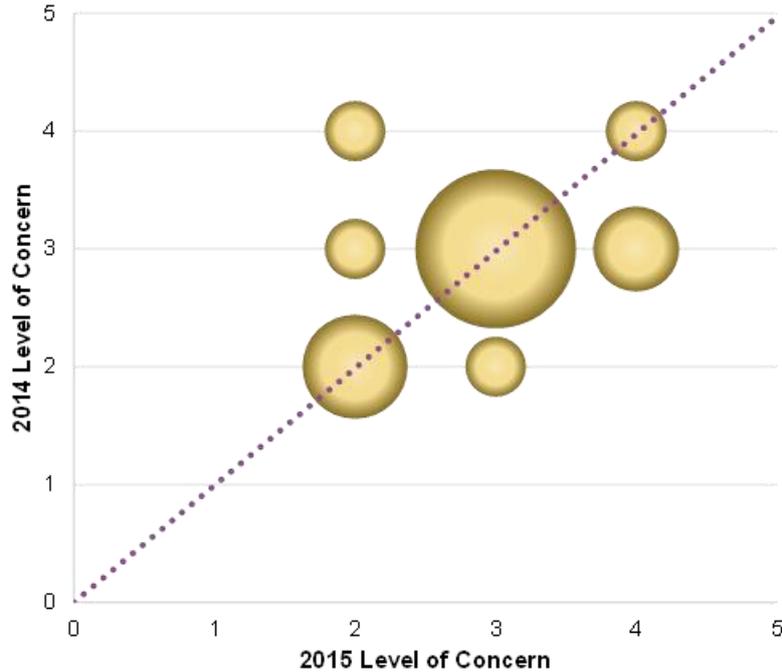
Figure S.2: Level of concern about PPO claims for participating insurers, as at winter 2014-2015 and as at winter 2015-2016 (scale of 1 to 5, with 5 being most concerned)

For the majority of insurers (11 out of 16), the level of concern about PPO claims had not changed across the year. Reasons given for this included PPO propensity and severity being in line with expectations, improved reserving methodologies, and falls in PPO propensity offsetting concerns arising from other factors.

A small number of insurers (3 out of 16) reported an increase in the level of concern about PPO claims. Reasons given for this included having experienced more potential PPO claims than previously expected, the long tailed nature of PPO claims, the impact of Solvency II and a fall in investment returns.

Among the remaining insurers (2 out of 16) which reported a decrease in the level of concern about PPO claims, the reasons given included there not being as many PPO claims settling compared to predicted, improved modelling of PPO claims and greater comfort with PPO claims more generally.

S.2   Reserving for PPO claims

We asked a number of questions about the reserving of settled PPO claims and future PPO claims, and the economic assumptions used to value PPO claims. We also asked about the treatment of variation orders and indemnity / reverse indemnity guarantees, bad debt provisions and the discount rate used for non-PPO reserves.

Reserving for settled PPO claims

Figure S.3 shows the reserving approach to mortality used by participating insurers for settled PPO claims: 10 out of 16 insurers used a probabilistic approach, 4 used an annuity certain method, and 2 used a stochastic model for modelling the mortality component.
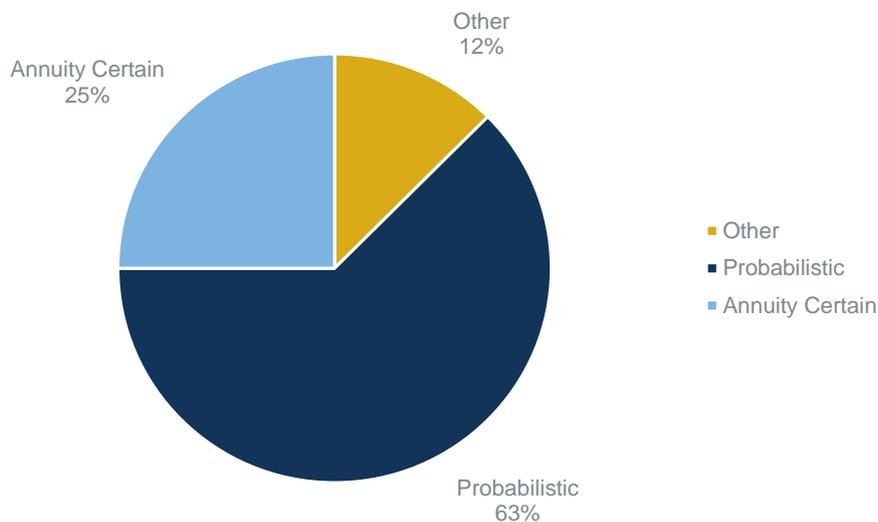
Figure S.3: Reserving approach for settled PPO claims for participating insurers, as at winter 2015-2016

The majority of those asked based their life expectancy on an expert medical opinion but not all allowed for mortality improvements.

In terms of the life expectancy assumption, the majority used medical expert opinions, but there were mixed responses on whether this allowed for any longevity improvements over the claimants' lifetime.

All those insurers taking a probabilistic reserving approach used either the Ogden tables (seventh edition) or a more recently updated publication of the ONS table series which underlies the Ogden tables (seventh edition).

In order to scale these standard life tables to correspond to claimants' impaired life expectancy, six insurers used an aging adjustment (where they considered the claimant had the mortality experience of someone "y"-years older than them) and two insurers used a multiplicative adjustment (where they assumed that the claimant had a mortality experience "z" times more than the life tables suggest). Figure S.4 summarises these responses.
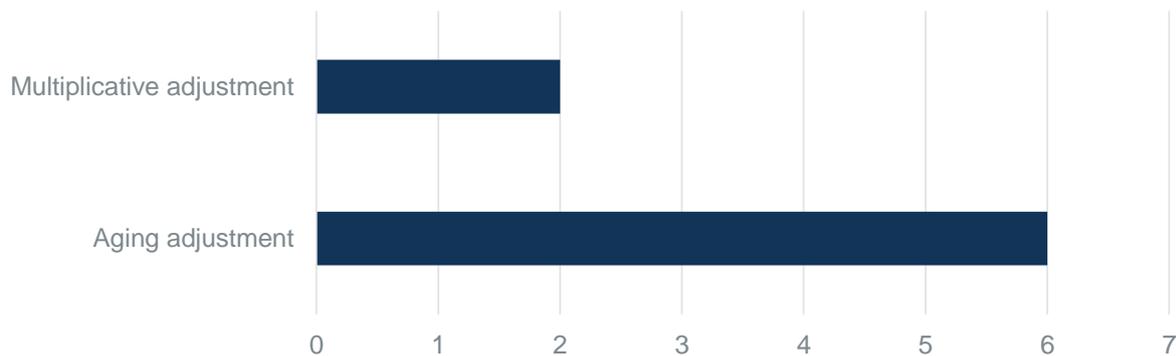
Figure S.4: Approach to scaling life tables for participating insurers, as at winter 2015-2016

Identification of future PPO claims (currently large open claims and pure IBNR)

All 16 participating insurers said that they monitored open large claims and assessed the possibility of them settling as a PPO rather than a traditional large claim settlement. In the majority of cases this was done by the claims team. In one case, the insurer considered the likely number of IBNR PPO claims in aggregate (by considering propensity by size band benchmarks) alongside views on individual large claims.

About half of the participating insurers monitored the accuracy of past predictions. There were mixed experiences in terms of whether predictions had been too light or too prudent, although on the whole past predictions appear to have been fairly accurate.

There were differing approaches to identifying potential PPO claims. About 20% of participating insurers simply identified claims which they believed had the potential to result in a PPO settlement, whereas the remaining 80% also assigned probabilities to the likelihood of this happening.

Some insurers used a formal scoring matrix or mechanism to systematically determine the probability of a claim settling as a PPO based on a number of its features, whereas others used subjective views based on the claim characteristics. Frequent indicators used included injury type (particularly mental capacity), age, annual care cost and the share of contributory negligence, as well as information on how the settlement process was progressing.

Three of the four participating reinsurers monitored open large claims, either by liaising with the cedant insurer regularly or through the claims team.

Reserving for future PPO claims (currently large open claims)

Figure S.5 shows the reserving approach used by participating insurers for future PPO claims in relation to claims that have already been identified as large claims: a variety of approaches are used.
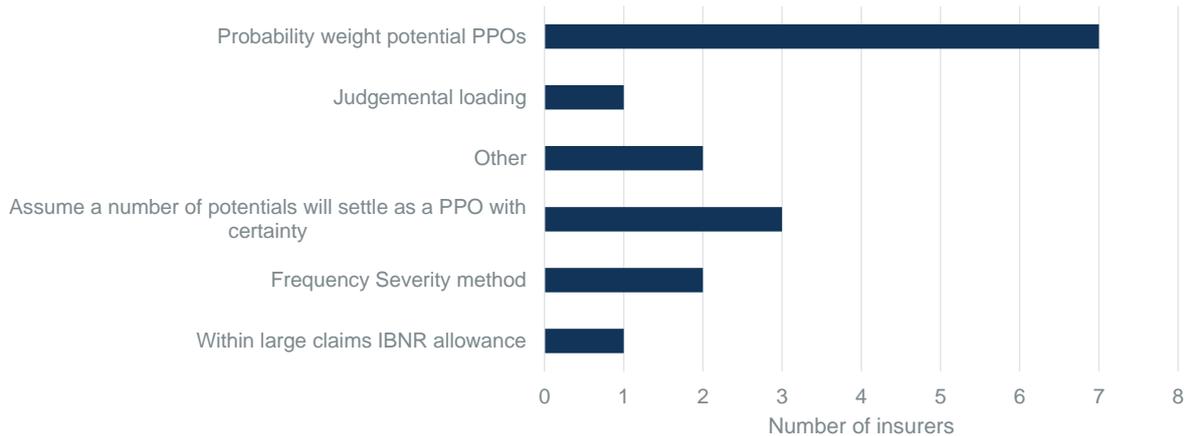
Figure S.5: Reserving approach for future PPO claims on existing large claims for participating insurers, as at winter 2015-2016

Seven insurers used a probability weighting of the claims identified as having potential to settle as a PPO. All except one of these used a method that probability-weighted the potential PPO costs derived from a cashflow projection of each identified large claim. The other applied a 30% uplift to general damages to determine the likely cost of the potential PPO.

Three insurers made an assumption about which potentials would settle as a PPO and valued these as if they had 100% probability of settling as a PPO. One of these insurers assumed all identified potentials would settle as a PPO, with the prudent margin accounting for the pure IBNR element of the PPO reserves.

Two insurers used a frequency-severity method, in which the numbers of PPO claims were projected by size band.

One insurer much more simply included a judgemental loading, and one company said that the allowance for IBNR PPO claims was included with the large claims IBNR allowance.

Of the two other methods used, one firm used a stochastic method which sampled from its large claims to determine possible PPO claims and calculate the additional cost of these settlements. Another used a variety of methods which included some of those discussed above as well as consideration of PPO propensity by premium.

Reserving for future PPO claims (pure IBNR)

Most of the participating insurers reserved for future pure IBNR PPO claims within the reserving approaches discussed above and shown in Figure S.5.

For the remaining participating insurers, figure S.6 shows the reserving approach used for future pure IBNR PPO claims: the majority of those insurers considering pure IBNR added a proportional loading to the PPO reserves.

Frequency Severity Method   ■ Proportional Loading   ■ Did not make an allowance
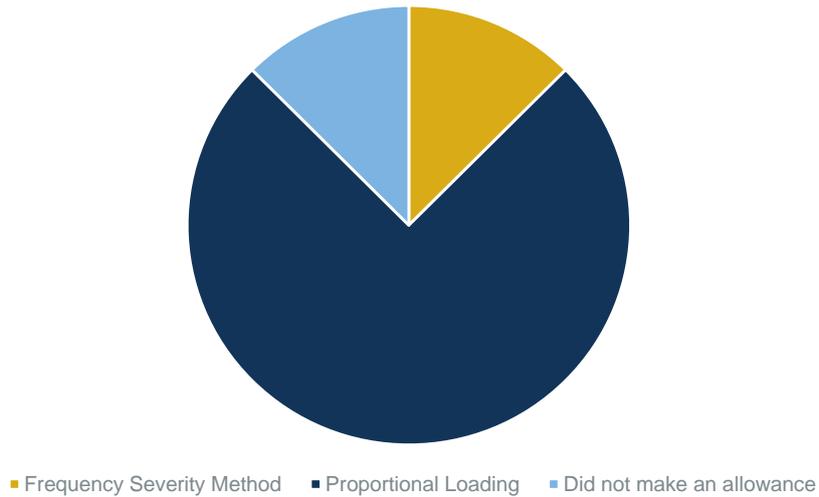
Figure S.6: Reserving approach for future IBNR PPO claims for participating insurers, as at winter 2015-2016

Three of the four participating reinsurers established their own reserves for future PPO claims, using frequency-severity methods or frequency-severity uplift methods, with the remaining reinsurer relying on the estimates made by cedant insurers.

Discounting future PPO claims – to which date

Figure S.7 shows the date to which participating insurers discount future PPO claims: nearly three-quarters of participating insurers (11) discount future PPO claims to valuation date with the remainder of respondents (4) discounting to future expected settlement date.

■ Valuation Date   ■ Settlement Date
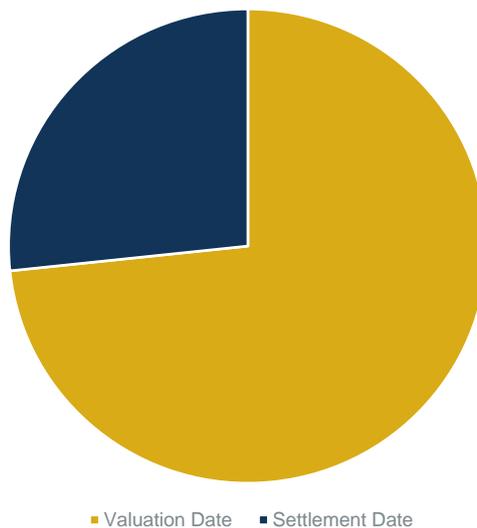
Figure S.7: Date to which participating insurers discount future PPO claims, as at winter 2015-2016

Discounting PPO claims – real discount rate and underlying economic assumptions for reporting under current UK GAAP / IFRS

In valuing PPO claims for reserving purposes, all participating insurers discounted their PPO cashflows. However, the real discount rate (considering both the inflation of payments and discounting in respect of investment returns) has continued to vary significantly by insurer. This is not unexpected, as the real discount rate is a function of two components, both of which will vary by insurer: there are likely to be differences in proportions of PPO claims linked to various indices and differences in investment strategies.

Figure S.8 shows the real discount rates used by participating insurers rounded to the nearest 0.5%, both this year (winter 2015-2016, displayed as 2015) and last year (winter 2014-2015, displayed as 2014). For those using a fixed real discount rate, the most commonly used real discount rate was 0% per annum, with two insurers using a slightly positive real discount rate, and one insurer using a slightly negative real discount rate. The range of real discount rates used was between -1.5% per annum and +1% per annum. While the range of real discount rates used by insurers has remained constant since our previous survey, the distribution of the real discount rates used has narrowed with more insurers opting for a 0% per annum real discount rate. Slightly more insurers are also now using a variable real discount rate.

For participating reinsurers that establish their own reserves for PPO claims as opposed to using estimates made by cedant insurers, the range of real discount rates used was between -1.0% per annum and +3.5% per annum.
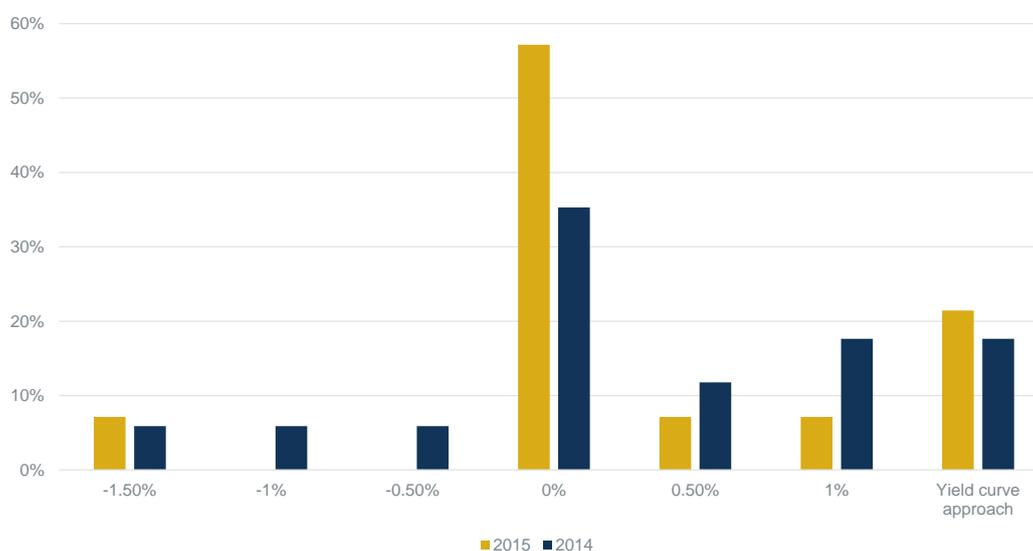
Figure S.8: Real discount rate used by participating insurers to value PPO claims under current UK GAAP / IFRS, as at winter 2014-2015 and as at winter 2015-2016

Most participating insurers stated that they set their ASHE inflation assumption and investment return assumption explicitly, but then check that the implied resulting real discount rate was appropriate.

Figure S.9 shows the ASHE (or payment) inflation rate assumption underlying the real discount rates used by participating insurers, both this year (winter 2015-2016, displayed as 2015) and last year (winter 2014-2015, displayed as 2014). For those using a fixed assumption, the range of ASHE

inflation rates used was between +2.5% per annum and +4.5% per annum, with the distribution shifting downwards compared with last year. In setting this assumption, most participating insurers relied on published research and past ASHE data.
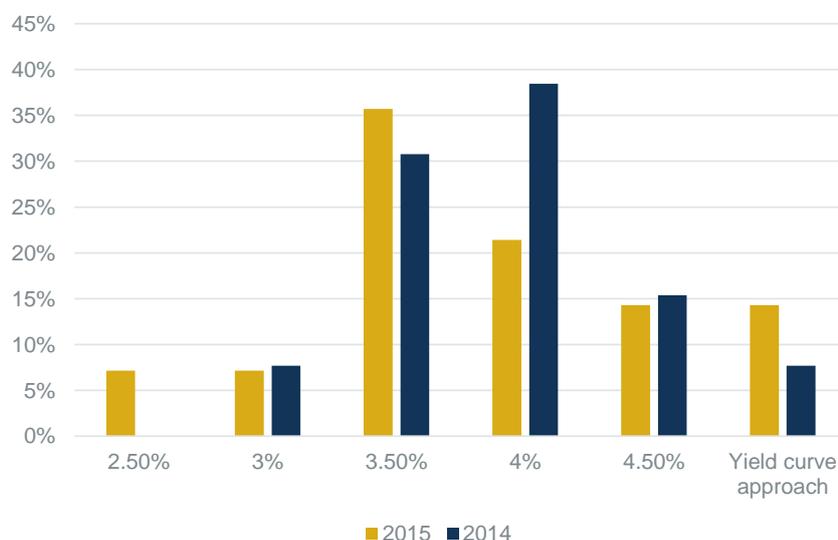
Figure S.9: ASHE inflation rate used by participating insurers to value PPO claims under current UK GAAP / IFRS, as at winter 2014-2015 and as at winter 2015-2016

Figure S.10 shows the investment return assumption underlying the real discount rates used by participating insurers, both this year (winter 2015-2016, displayed as 2015) and last year (winter 2014-2015, displayed as 2014). For those using a fixed assumption, the range of investment returns used was between +2.0% per annum and +5.0% per annum, with the distribution once again shifting downwards compared with last year. In setting this assumption, participating insurers made reference to a rate in line with the yields on actual assets held, expected long term returns, group policies, a risk-free rate, and gilts, although many insurers relied on the assumption that expected investment returns will equal ASHE (or payment) inflation in the long term.
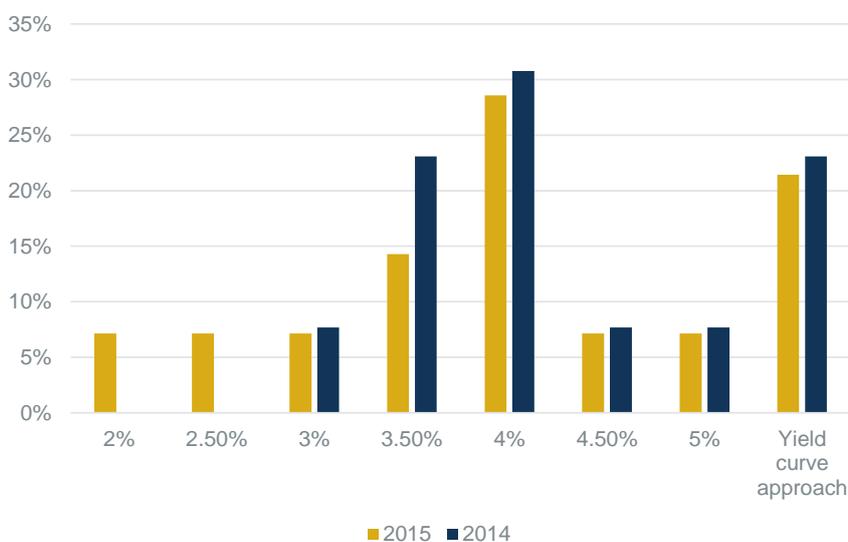
Figure S.10: Investment return used by participating insurers to value PPO claims under current UK GAAP / IFRS, as at winter 2014-2015 and as at winter 2015-2016

Discounting PPO claims –reporting under current Solvency II

Under Solvency II, as the investment return assumption is prescribed by EIOPA, it is the choice of the ASHE (or payment) inflation rate that will determine the real discount rate used.

Figure S.11 shows the ASHE (or payment) inflation rate assumption underlying the real discount rates used by participating insurers under Solvency II.
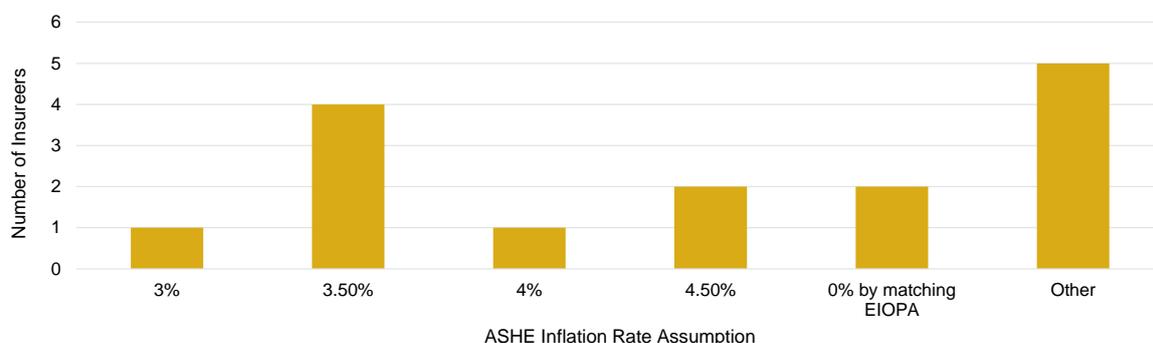
Figure S.11: ASHE inflation rate used by participating insurers to value PPO claims under Solvency II, as at winter 2015-2016

Just under half of participating insurers maintained the ASHE inflation rate used under current UK GAAP / IFRS, with two insurers maintaining a 0% per annum real discount rate by setting the ASHE assumption to equal the EIOPA rate. Of the other approaches used by participating insurers, responses included adjusting ASHE and investment assumptions as follows: using different real discount rates for different reporting jurisdictions, adjusting the EIOPA rates by 1.5% points, using a 2.5% fixed ASHE rate to start with and then moving to a 0% per annum real discount rate after 10 years.

None of the participating insurers had any transitional arrangements in place. Half of respondents had considered using a matching adjustment or volatility adjustor, although only two of these participating insurers had actually implemented a volatility adjustor.

None of the participating reinsurers used a matching adjustment or volatility adjustor.

Variation orders, indemnity guarantees and reverse indemnity guarantees

Half of participating insurers did not consider making an allowance within their reserves for the impact of variation orders or indemnity / reverse indemnity guarantees coming into force, and instead valued PPO claims based on the current payment schedule alone.

Of the other half, only two participating insurers allowed for variation orders or indemnity / reverse indemnity guarantees coming into force after considering them.

One reinsurer considered variation orders, but not indemnity / reverse indemnity guarantees.

This finding is unsurprising, given that very few variation orders or indemnity / reverse indemnity guarantees have been triggered to date.

Bad debt

Most participating insurers did not include a bad debt provision for PPO claims under current UK GAAP / IFRS (only 4 out of 16 did include a provision), with most participating insurers (11 out of 16) including a bad debt provision under Solvency II.

Ogden real discount rate

All of the participating insurers, apart from one, held non-PPO reserves based on the prevailing Ogden discount rate of +2.5% per annum. One insurer held non-PPO reserves based on a +1.5% per annum discount rate.

The majority of participating insurers held a margin for the possibility of the Ogden discount rate decreasing from the prevailing rate of +2.5% per annum, although this usually formed part of a general margin to cover a variety of scenarios.

In terms of the participating reinsurers, three held a specific margin and the other held non-PPO reserves on a variety of bases, most of which below the prevailing Ogden discount rate of +2.5% per annum.

S.3   Treatment of PPO claims within capital modelling

We asked how companies treat PPO claims in the SCR, and about any observed differences between the Pillar I and Pillar III capital requirements for PPO claims.

Treatment of PPO claims in the SCR

Figure S.12 shows the approaches used by participating insurers and reinsurers to allow for PPO claims in the SCR calculation: the majority of participating insurers and half of participating reinsurers used an internal model or partial internal model to allow for PPO claims in the SCR calculation.
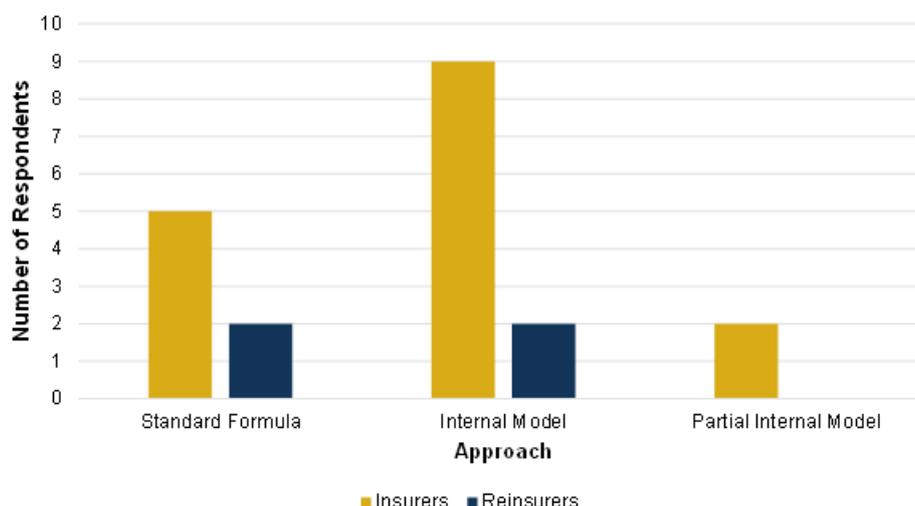
Figure S.12: Approaches used by participating insurers and reinsurers to allow for PPO claims in the SCR calculation, as at winter 2015-2016

Of those participating insurers using an internal model, half had an explicit stochastic PPO model, although how these models calculated the capital uplift required for PPO claims and fed into the overall models varied greatly. Of those that did not have a separate PPO model, PPO claims were allowed for implicitly, for example within Motor third party liability underwriting and reserve risks.

All participating reinsurers using an internal model also had an explicit stochastic PPO model.

Differences between Pillar I and Pillar III

In terms of the allowance for PPO claims under Pillar I (which considers the 1/200 level over a one year time horizon) and for the ORSA under Pillar III (which considers the volatility of the run off to ultimate), almost all participating insurers for which this work has been finalised for PPO claims noted a lower capital requirement for Pillar I vs Pillar III. Some noted, however, that they had not seen a difference between the two or that they were assuming they were the same.

S.4   Treatment of PPO claims within pricing

We asked how companies allowed for PPO claims in the pricing of contracts, and whether the impact of the cost of capital was taken into account when pricing.

While all participating insurers allow for the cost of PPO claims within their pricing, only 3 of the 16 participating insurers apply an explicit load or margin to their prices to cover the cost of PPO claims. The remaining 13 participating insurers allow for PPO claims within a large loss component, and therefore PPO claims are included in their prices implicitly. For those with an explicit allowance, the methodologies utilised include:

- A frequency / severity method to produce a projected pay-out and reported loss pattern.
- The output from a large loss stochastic model.
- Capitalised within exposure pricing.

All 16 participating insurers allow for the cost of capital for PPO claims when pricing, albeit only implicitly in all cases.

For the participating reinsurers, two out of the four reinsurers explicitly allow for PPO claims in the pricing of their contracts. One reinsurer noted that the cost of capital for PPO claims was the main reason for why their company ceased writing Motor XoL business.

S.5   The impact of PPO claims on reinsurance purchase and availability

We asked a number of questions about the reinsurance programmes purchased by participating insurers and offered by participating reinsurers, specifically in the context of PPO-related issues.

Reinsurance in the market

Figure S.13 shows the starting retention on the excess of loss reinsurance programmes purchased by participating insurers for Motor business: the retained risk ranges from £1 million to over £10 million. Only one participating insurer had explicitly changed its reinsurance programme as a result of PPO claims. Another participating insurer had tried to change its reinsurance programme, but PPO claims would have made the cost too high.
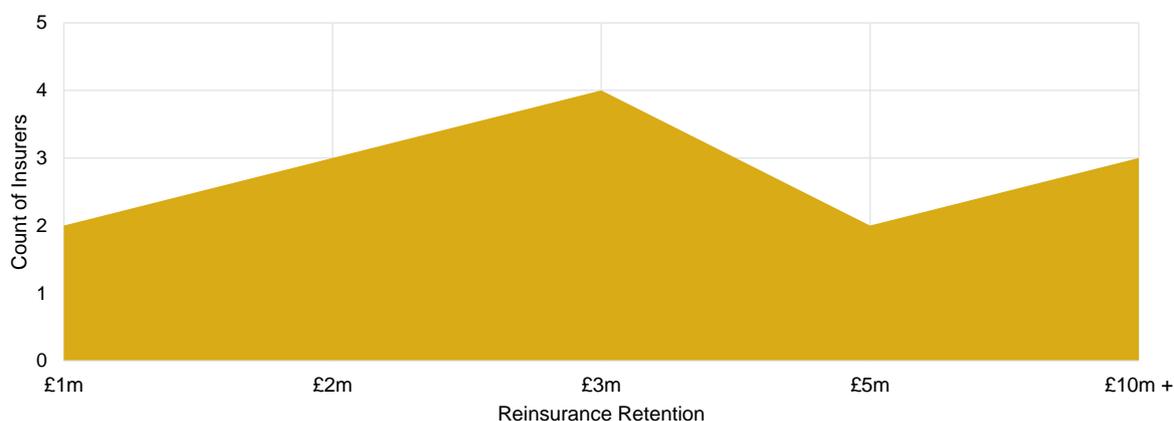
Figure S.13: Starting retention on excess of loss reinsurance programmes purchased by participating insurers, as at winter 2015-2016

Allowing for the cost of capital

Most participating insurers (11 out of 16) considered the impact of the cost of capital due to PPO claims when purchasing reinsurance, albeit less than half of these did so explicitly for PPO claims.

Reinsurance availability and capitalisation clauses

Of the four participating reinsurers:

- The reinsurance offerings for three reinsurers had changed as a result of PPO claims: one ceased writing Motor XoL business due to the cost of capital; one ceased writing uncapped UK and Ireland Motor XoL business; one reduced their Motor XoL participation significantly.
- One reinsurer insisted on capitalisation clauses while two strongly preferred them (noting that one reinsurer no longer writes Motor XoL business).
- Approximately 50% of business exposed to PPO claims was written through capitalisation clauses for the two reinsurers which strongly preferred them.
- All reinsurers insisted upon an indexation clause in their reinsurance contracts.

The reasons given by the participating reinsurers for offering / requiring capitalisation clauses included:

- Internal requirements resulting in having to account for PPO claims on an undiscounted basis, thereby impacting the profit and loss account.
- The effect of the uncertainty of ASHE and longevity on the profitability of the treaty, the cost of a capitalised cover being less than the cost of a traditional XoL cover.

To date, only one of the participating reinsurers has reached the point of capitalisation on one (or more) of its PPO claims.

From the perspective of the participating insurers, only 4 out of 16 insurers had a capitalisation clause on their reinsurance contracts. Where capitalisation clauses were present, these were only on a proportion of the portfolio, and in some instances the presence of these clauses varied by layer. Of those participating insurers without a capitalisation clause, the clear majority stated that they were keen to avoid them.

S.6   Alternative risk transfer for PPO claims

We asked whether companies would consider transferring the risk associated with PPO claims, and the hurdles they may have encountered.

Of the participating insurers, all but one respondent would consider transferring the risk associated with PPO claims if the right option arose. The most significant hurdles in constructing a transaction were a prohibitively high price of such risk transfer solutions, and the lack of a solution that matched to ASHE inflation. While some participating insurers have been approached by a common third party regarding a potential offering, the general perception was that the risk transfer market was not growing, although some felt that it has the potential to grow.

S.7   Investment strategy in relation to PPO exposures

We asked companies whether their investment strategies had changed as a result of PPO claims, whether they have any assets ring-fenced for PPO claims, and what their biggest investment issues related to PPO claims were.

Figure S.14 shows the proportion of participating insurers for which the investment strategy had changed as a result of PPO claims: 7 of the 16 participating insurers had changed their investment strategy as a result of PPO claims, although none of these changes had occurred within the last year. Two participating insurers review their asset / liability matching position regularly, adapting for PPO claims implicitly but without explicitly changing investment strategy as such.
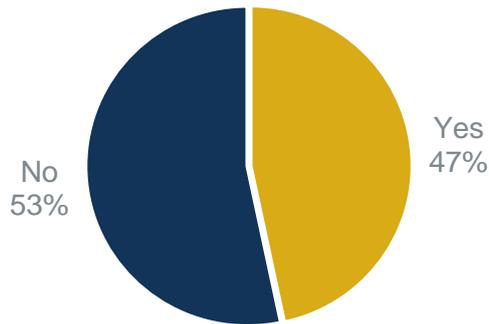
Figure S.14: Whether the investment strategy had changed as a result of PPO claims for participating insurers, as at winter 2015-2016

Only two participating insurers held ring-fenced assets specifically for PPO liabilities, although a number of other insurers held long duration assets to cover all longer-term liabilities.

Half of the participating reinsurers had changed their investment strategy as a results of PPO claims, although not in the last year, and none had any ring-fenced assets.

Among the investment issues highlighted by participating insurers and reinsurers were finding assets to match the long durations associated with PPO claims and finding assets that track a similar index to ASHE.

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This report reflects the work of members of the IFoA PPO Working Party past and present, including the following individuals: