The Actuarial Profession
making financial sense of the future

GIRO Conference and Exhibition 2012
Juggling uncertainty the actuary's part to play

19 September 2012

GIRO Conference and Exhibition 2012

Third Party Working Party

David Brown

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This document supports the research effort of the Actuarial Profession's working party and is not written advice directed at the particular facts and circumstances of any given situation and/or data.

The materials contained in this presentation pack and any oral representation of it by the working party are outside the scope of the TAS.

Acknowledgements

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Tesco Underwriting
The Co-operative Insurance
Zurich

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DLG: Oliver Wallace

AXA:
Sylvie Le Delliou
Raj Lakhani
Louise Purchase & team

Admiral: Jamie Long

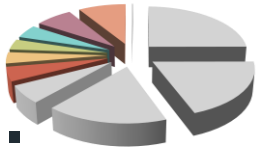
Third Party Working Party

- Third iteration of the Actuarial Profession's Third Party Working Party, which investigates third party motor claims (injury and property damage)
- Scope this year focussed on private car comprehensive business, with a more granular analysis of geography
- At £8.5bn earned premium for 2011, greater volumes of data than ever before:
  - Data from new contributors representing an extra £2.1bn in earned premium for 2011
  - Significant increase in number of contributors since last year, including new FSA and FSC (Gibraltar) regulated companies
  - Analysis of geography now supported by data at postcode sector level
  - Data collected, processed and analysed in aggregate by Towers Watson

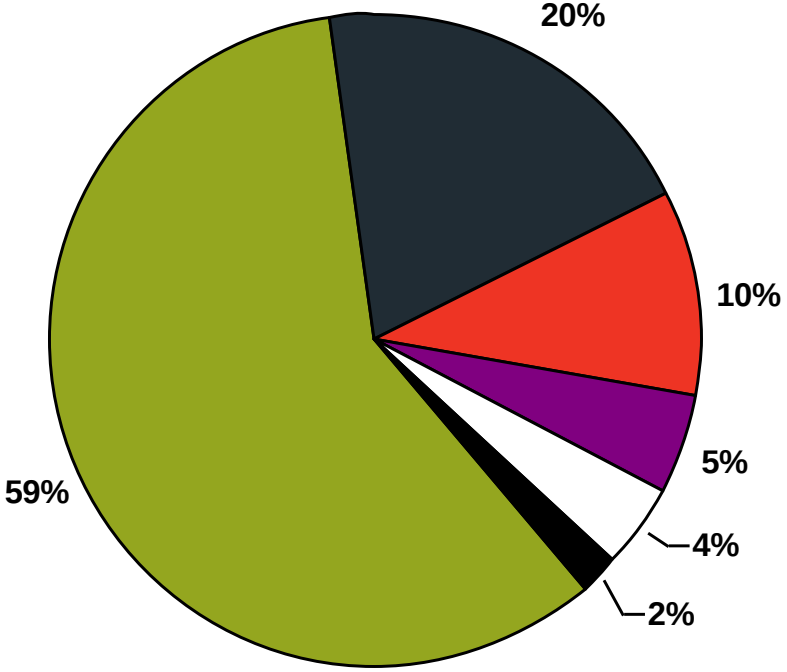
Third Party Working Party

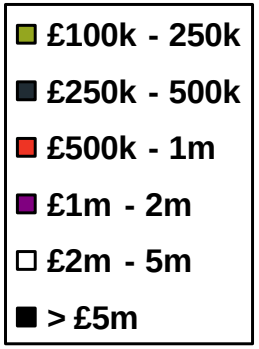
- Initial results presented at June Reserving Seminar and Pricing Seminar:
  - Market statistics and accident year trends, with commentary from the Working Party
  - Analysis of regional experience
- Further potential results is being presented at GIRO:
  - Analysis of individual bodily injury claims data
  - Ancillary analysis from publicly available sources
  - Data questionnaire
  - Implications for the PPO working party results
- Data is provided as at 31 December 2011
- But the focus of today's plenary will be Large Bodily Injury Claims

80% of excess claims are under £500k; but almost 60% of the cost is for claims > £1m.

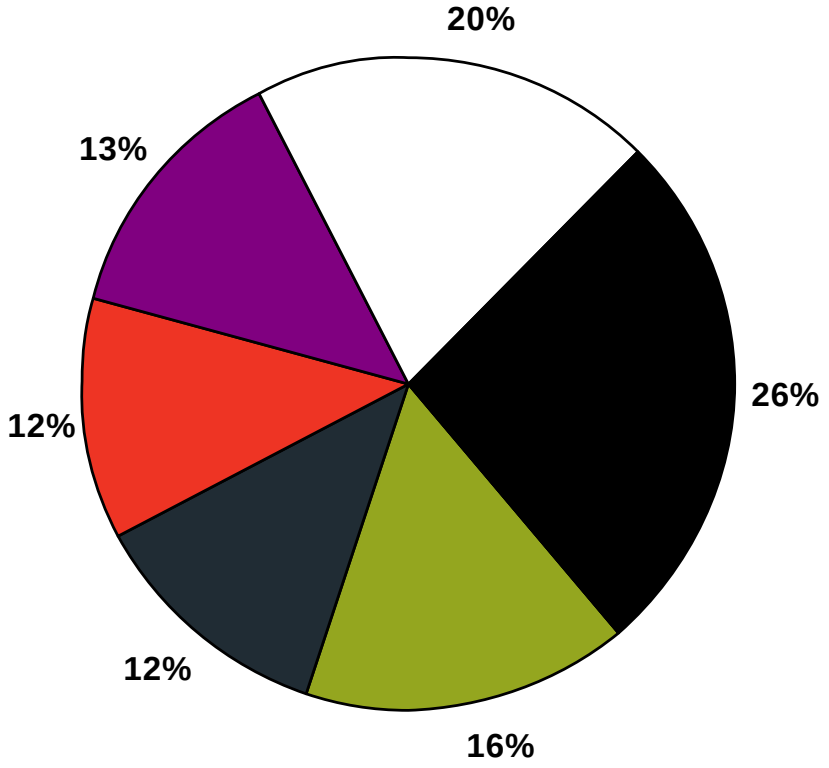


Frequency

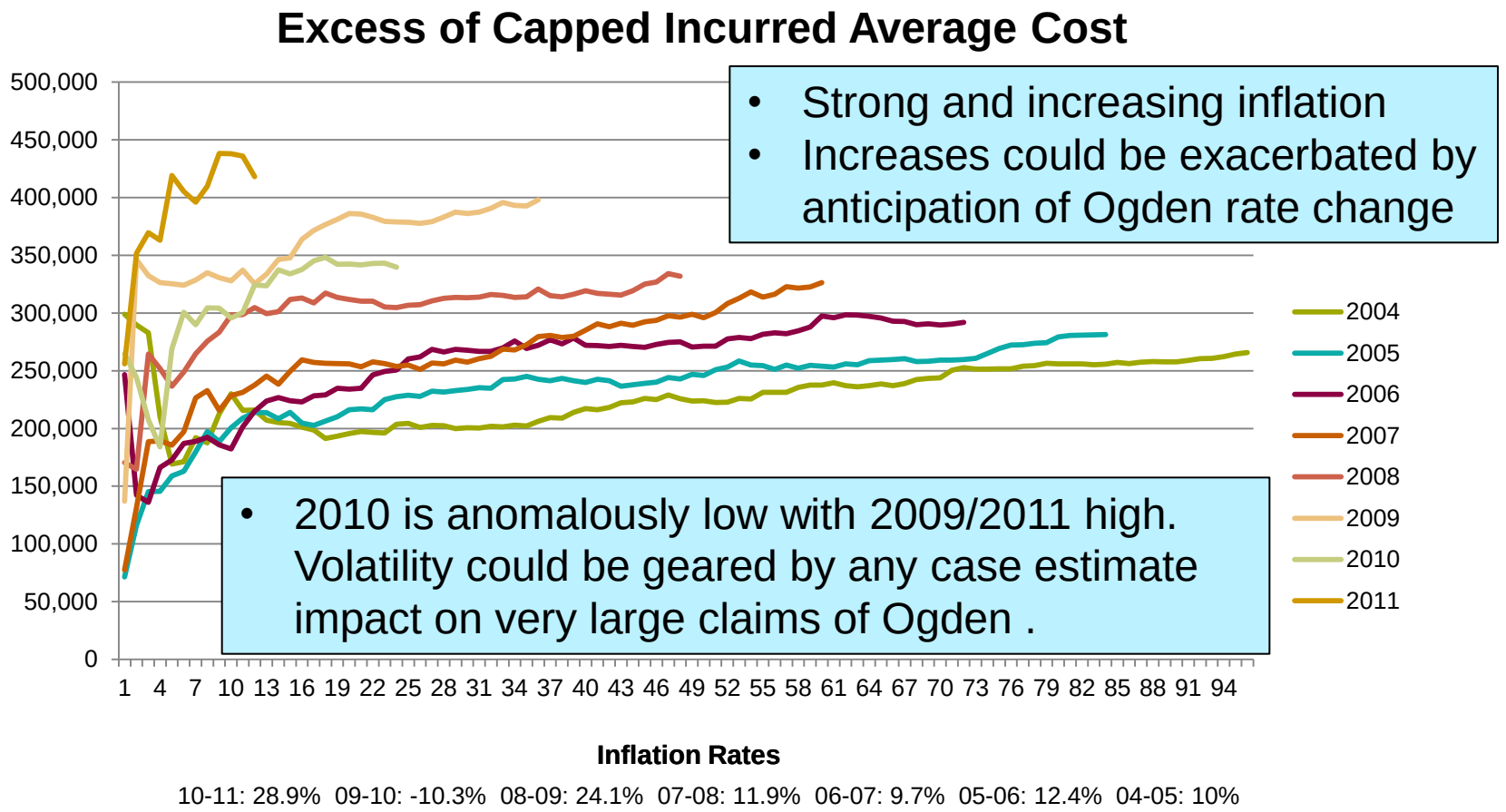




Cost



Excess of capped bodily injury
Data trends



Excess of capped bodily injury
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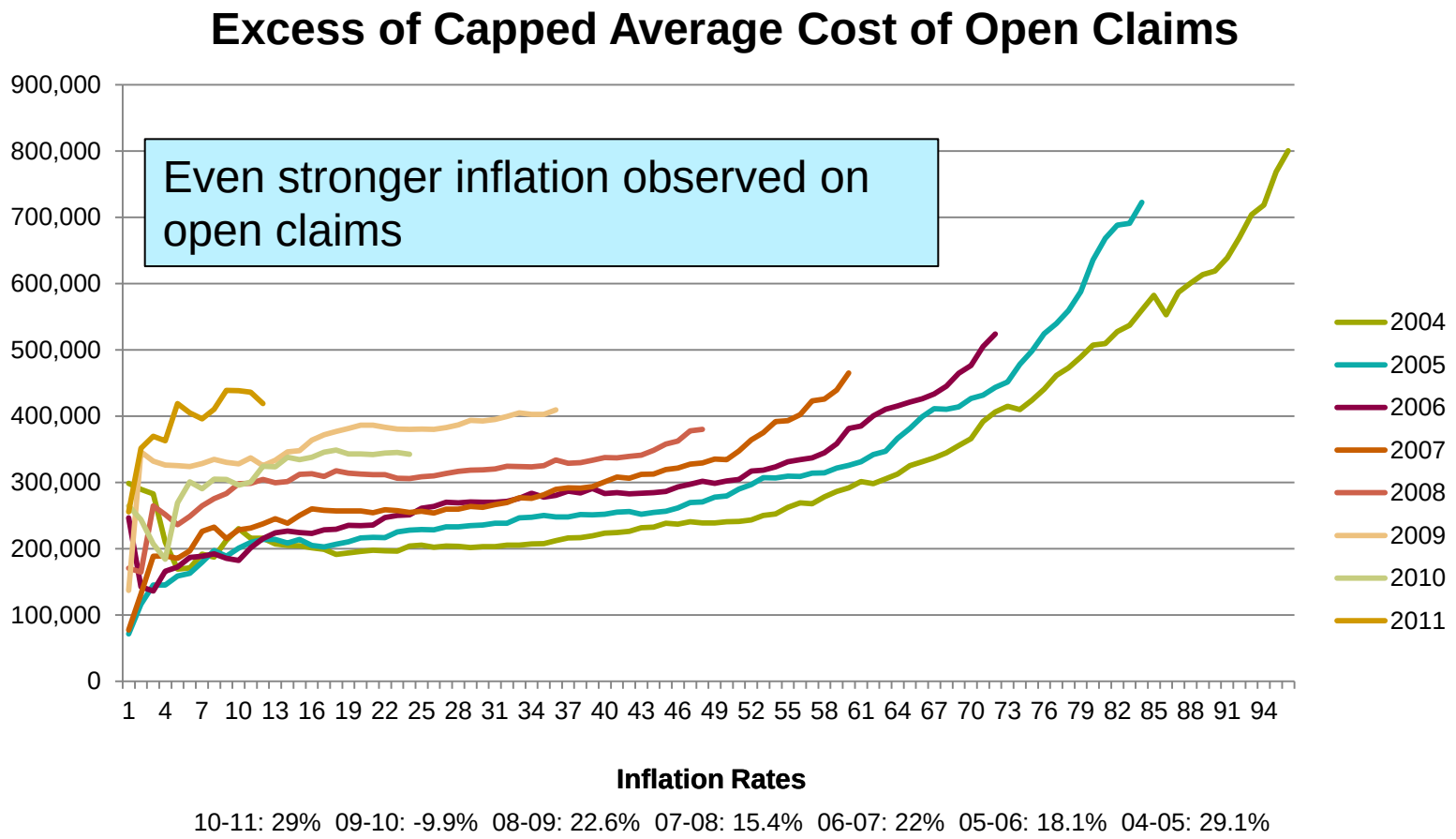


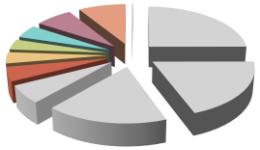
Excess of capped bodily injury
Projected Results

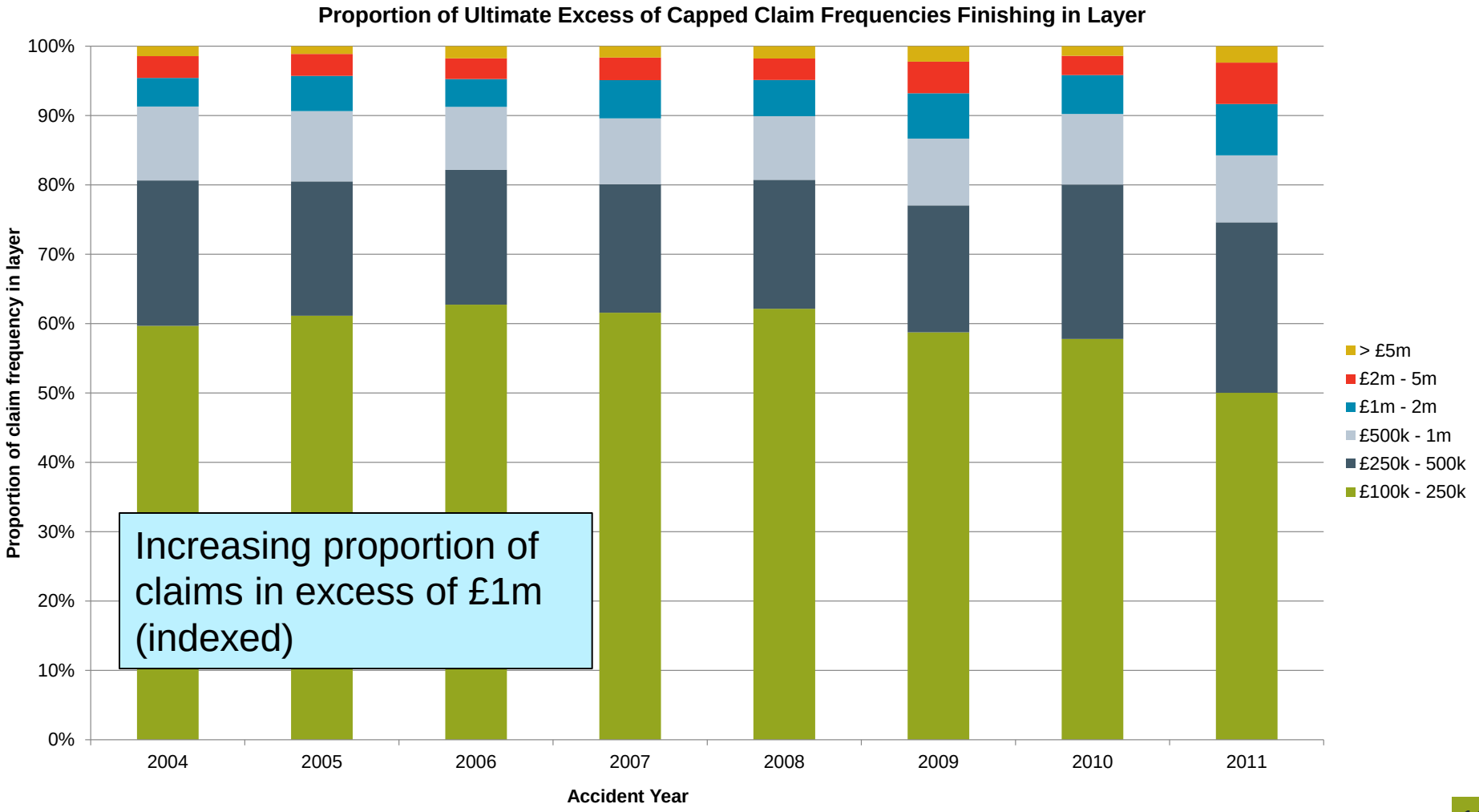
Projected Ultimate Excess of Capped TPI Results for Private Car Comprehensive

Accident Period	Earned Exposure (millions of vehicle years)	Ultimate Excess of Capped Claim Frequency (claims per million vehicle years)	Ultimate Excess of Capped Claim Severity (£000s)	Ultimate Excess of Capped Burning Cost (£)	Year-on-Year Change in Frequency (% pa)	Year-on-Year Change in Severity (% pa)	Year-on-Year Change in Burning Cost (% pa)
2004	9.80	98	273,881	26.9			
2005	10.76	91.8	296,396	27.2	-6.5%	8.2%	1.2%
2006	12.58	83.4	316,941	26.4	-9.1%	6.9%	-2.9%
2007	13.03	83.9	359,190	30.1	0.6%	13.3%	14.0%
2008	14.75	79.0	396,668	31.3	-5.9%	10.4%	4.0%
2009	15.65	84.9	494,179	41.9	7.5%	**24.6%**	**33.9%**
2010	15.64	71.3	443,142	31.6	-15.9%	-10.3%	**-24.6%**
2011	15.74	77.9	581,015	45.3	9.2%	**31.1%**	**43.1%**
Average					-3.3%	11.3%	7.7%

- Excess claims are volatile. 2009 was an adverse year. Our projections suggest that 2011 is worse, driven by the high frequency of claims > £1m
- Claim frequencies have benefitted from reducing number of accidents (TPD). Year on year they deflate at a long run rate of 3%.
- Average costs have inflated at a long run rate of 11% driven by increases in the frequency of claims > £1m.

Excess of capped bodily injury
Projected Results





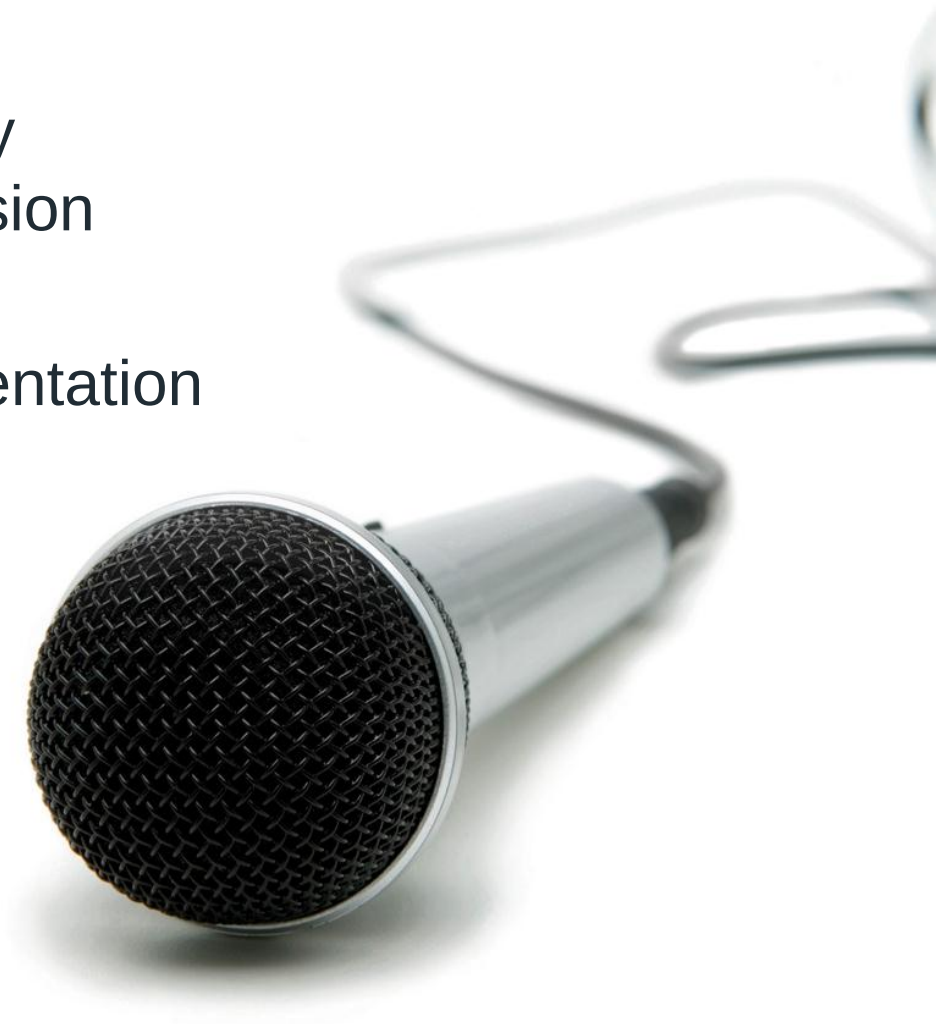
Legislative Developments
Ogden Discount Rate

- Current rate set at 2.5% in June 2001
- Mechanical application of this approach would now lead to a discount rate of c.1%.
- Lord Chancellor's review of discount rate underway with consultation on the methodology:
  a. Recent ILGS yields (similar to 2001);
  b. Mixed portfolio of investments
- Consultation closes 23/10/12. But further new consultation announced on "whether the restrictions on the factors" ... "are still appropriate."
- Post consultation, any change to the discount rate unlikely before mid-2013
- Reduction in rate would increase the cost of large personal injury claims:
  - Impacting Motor Liability and Commercial General Liability (EL/PL), but also MOD and NHS settlements
  - Increasing attractiveness to some claimants of lump sum awards relative to PPOs
  - With period of uncertainty potentially leading to delays in settlement of large claims (currently resisted by courts)

Questions or comments?

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

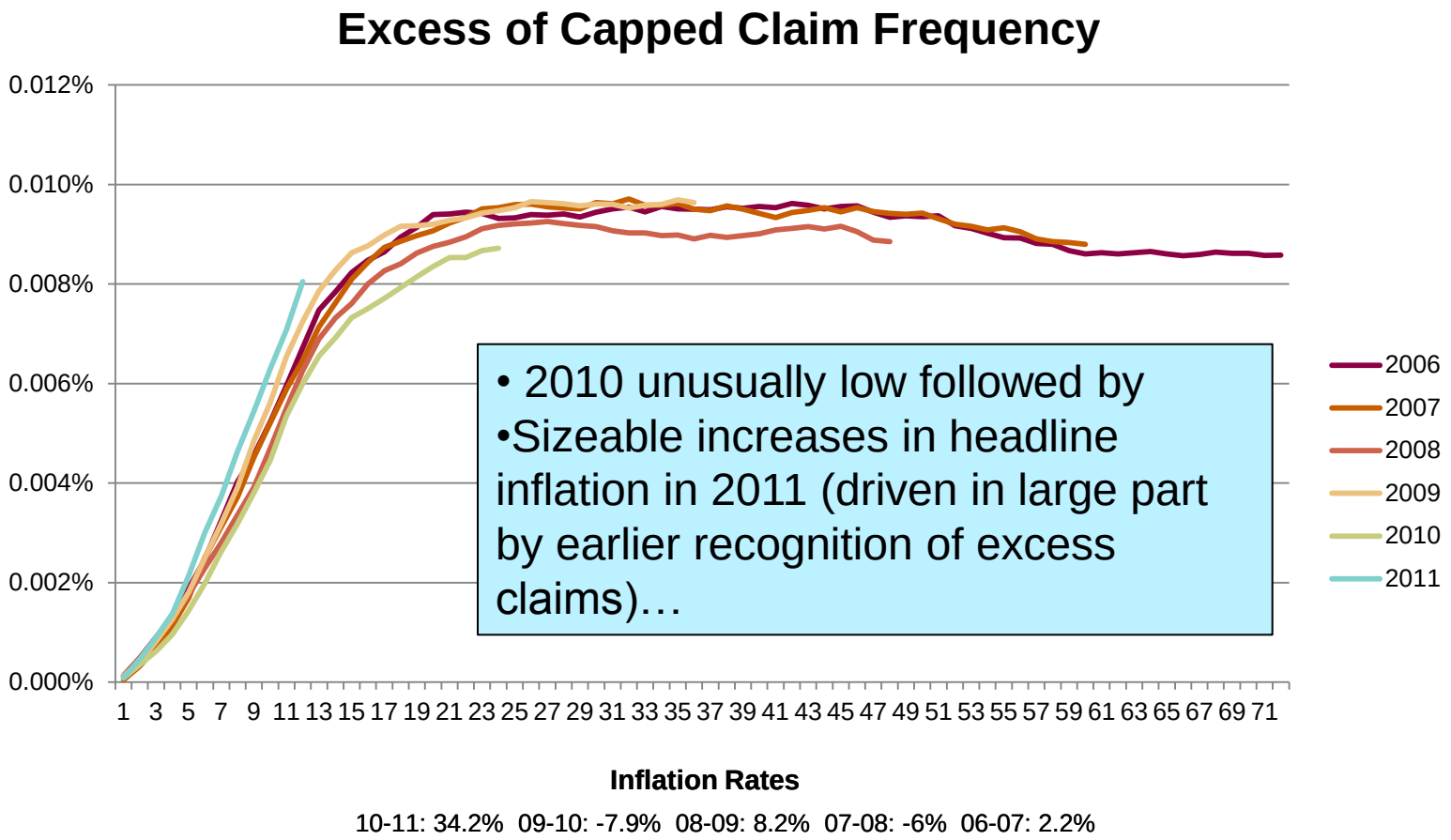
The views expressed in this presentation are those of the presenter.



Notes on data

- The 2012 transactional analysis represents a significantly different cohort of claims data than the 2011 study
  - New contributors to the Working Party
  - New data contributors to the transactional analysis
  - Some contributors who provided transactional data last year were unable to do so again this year
  - We have excluded data from contributors where there were concerns over data quality which could not be resolved within the timescales of the TPWP
- As such any analysis based on comparison of current results with previous results is likely to be erroneous, including any inferences on individual contributors

Excess of capped bodily injury
Data trends



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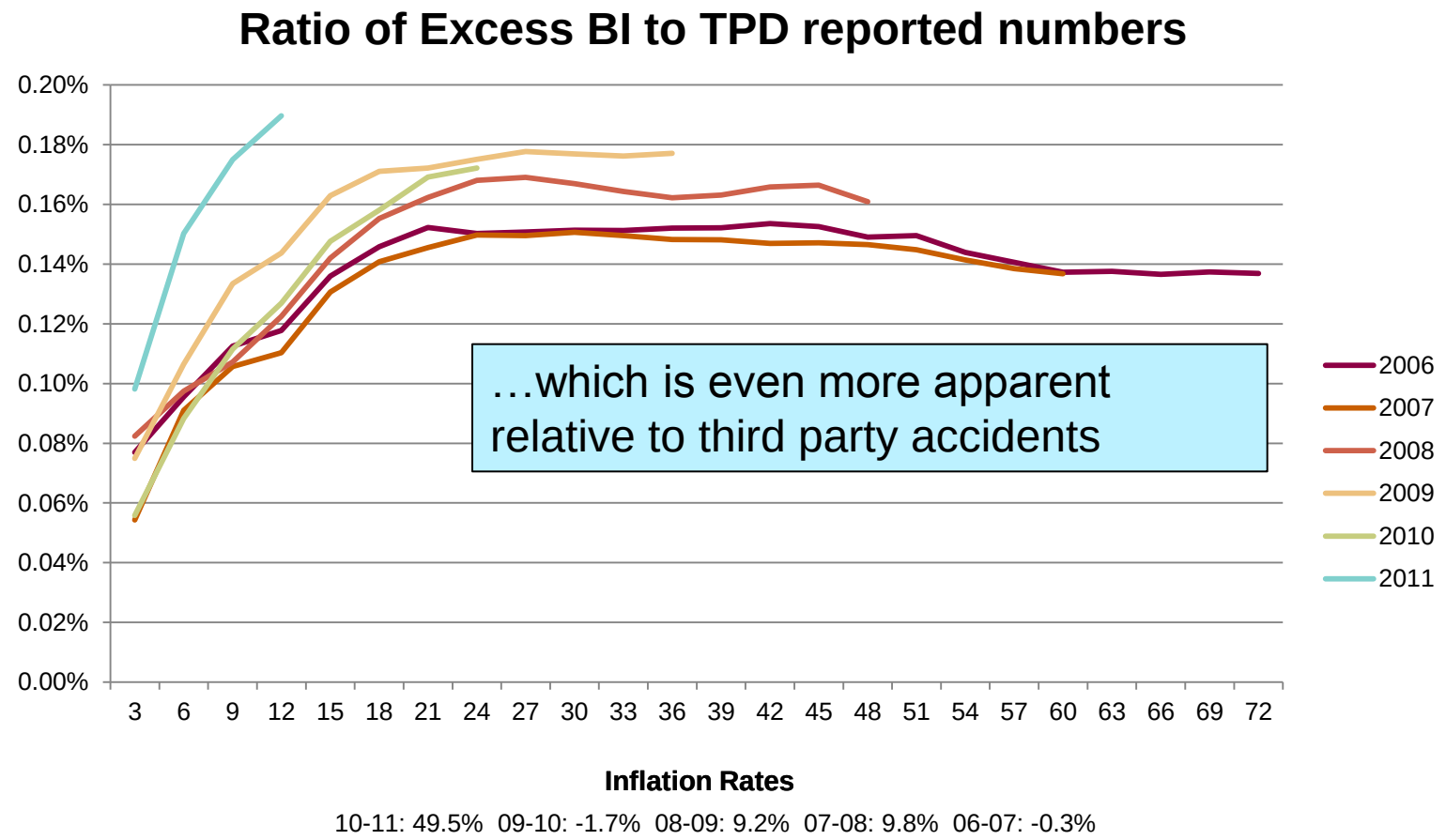

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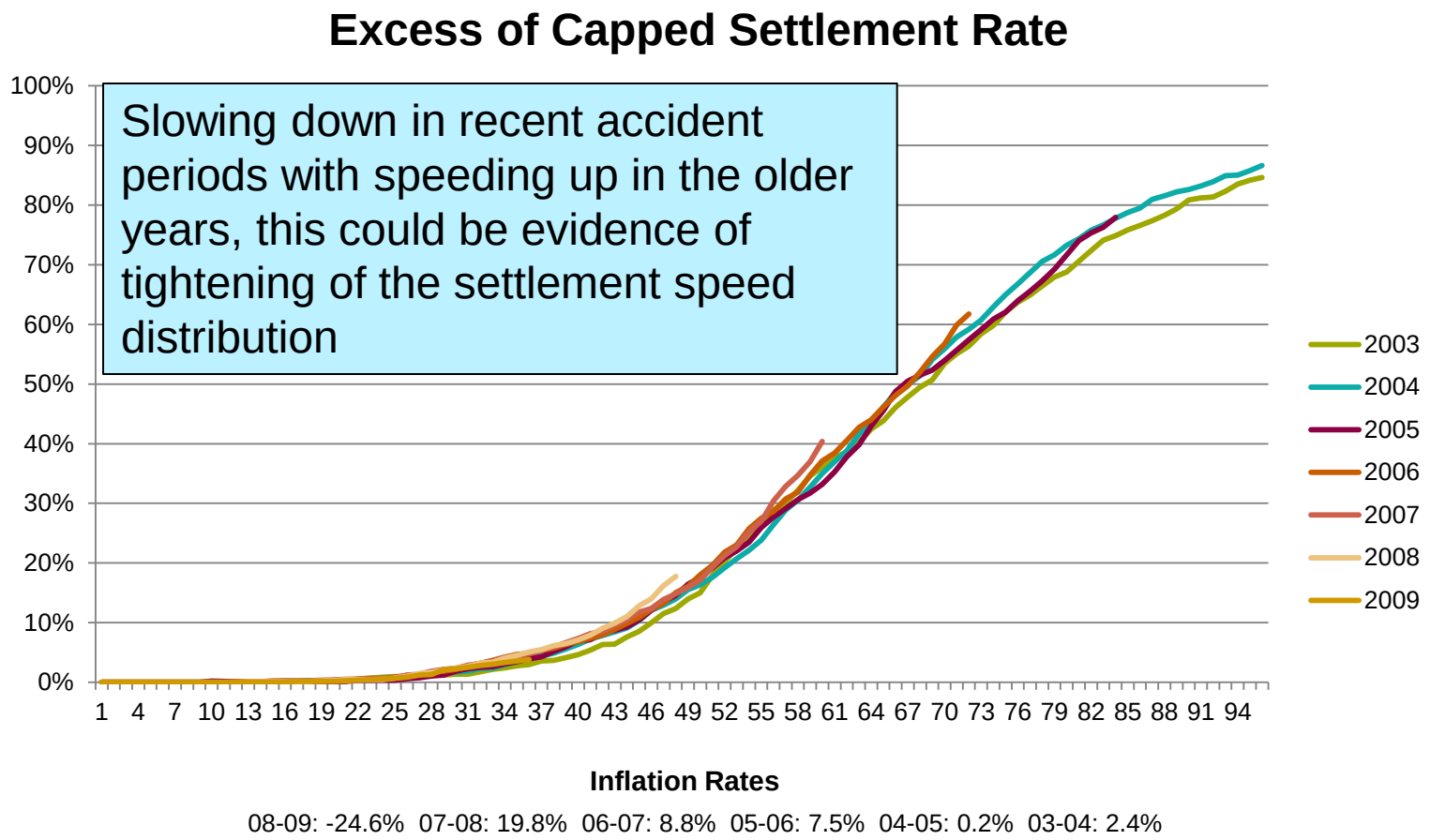

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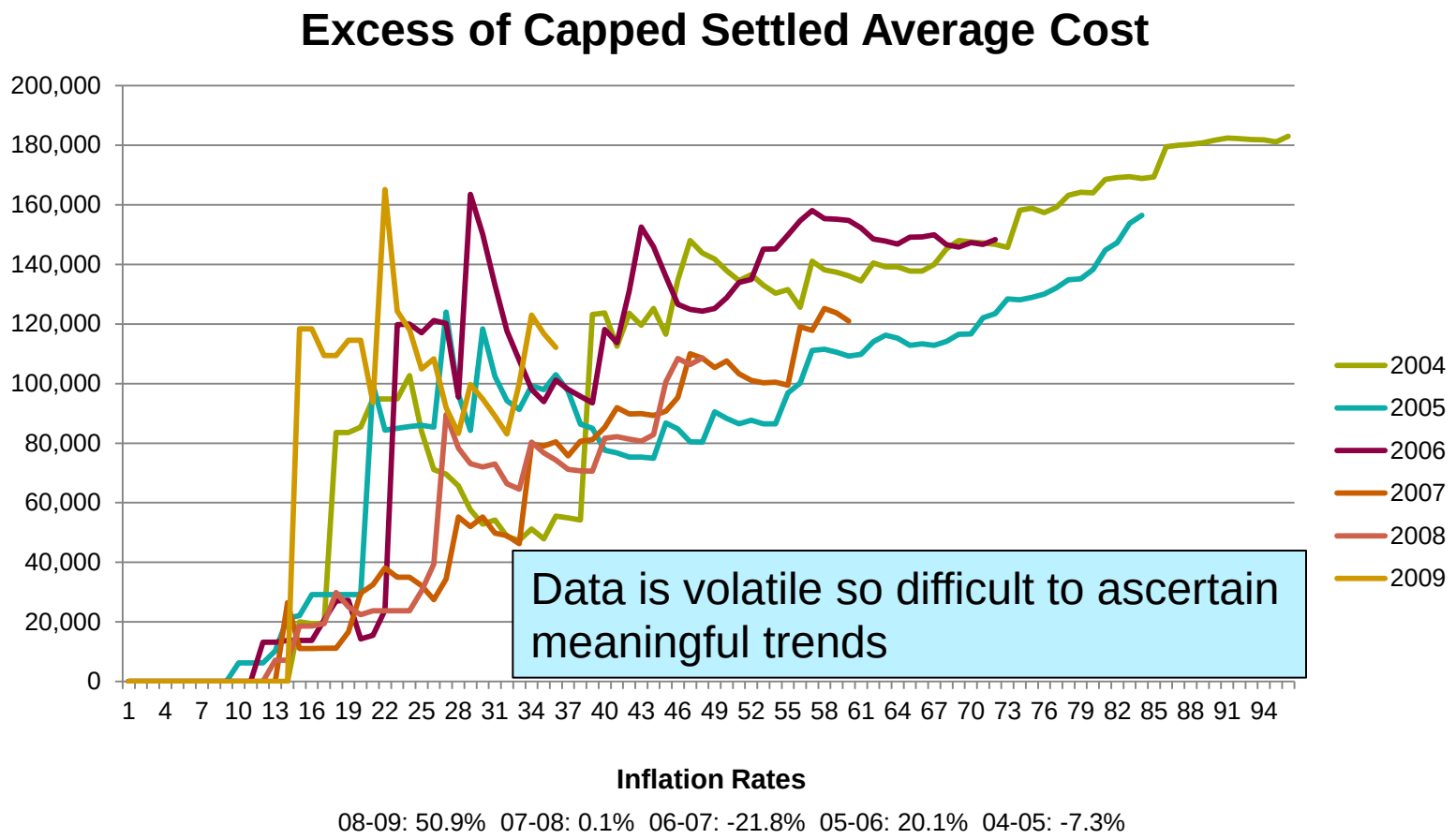

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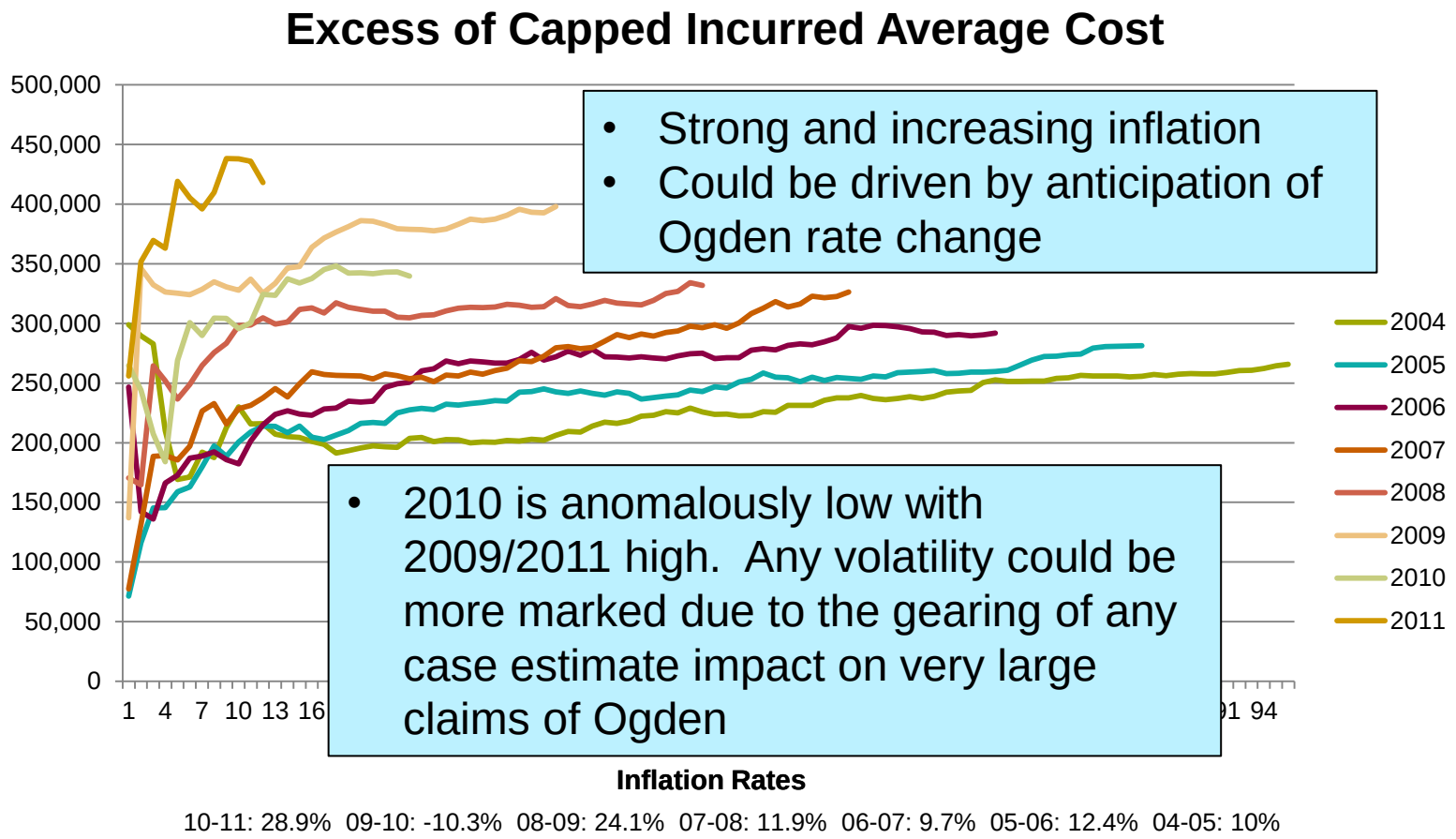

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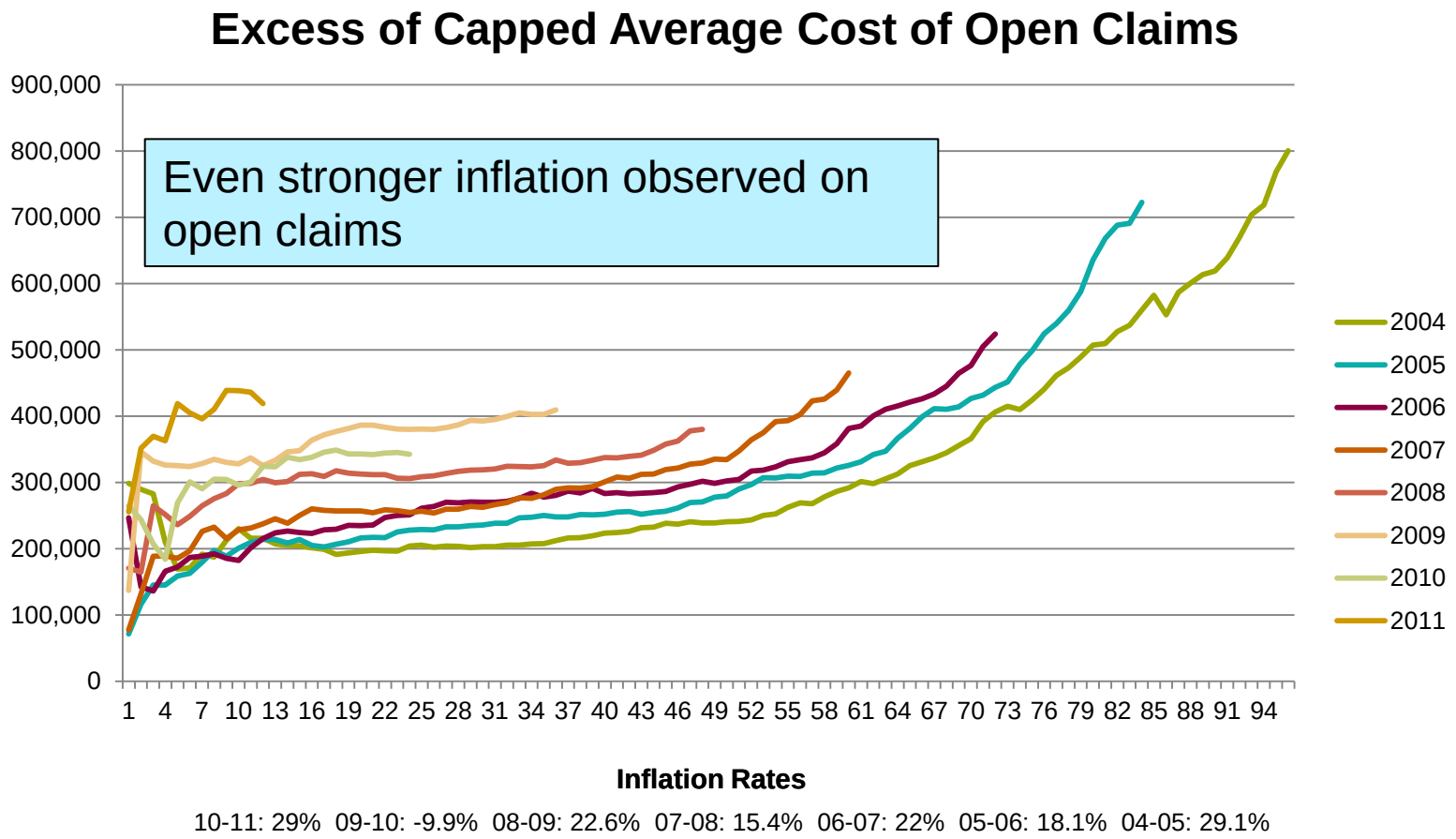

Notes on projections

- Mechanical projection methodology
- Claims have been projected in 11 layers (all in 2010 money, indexed at 7% pa)
  - 0 to 1k
  - 1k to 10k
  - 10k to 20k
  - 20k to 50k
  - 50k to 100k
  - 100k to 250k
  - 250k to 500k
  - 500k to 1m
  - 1m to 2m
  - 2m to 5m
  - 5m+
- Previous TPWP reports have not indexed layers. Therefore meaningful comparisons can not be made between this and previous studies
- The first six layers (up to 250k) are projected by accident quarter, the remaining layers are projected by accident year

Notes on projections

- The claims data used for this analysis contains shifts in the underlying proportions of claims between contributors, who may display differing case reserving philosophies for the largest claims over time. Because of this, the TPWP feels that any mechanical projection of combined paid or incurred claims for the aggregate market is likely to be misleading.
- For this reason, insurers with differing case reserving philosophies were treated separately in this review. This is a different approach to the previous study.
- The results of the initial layered analysis were then appropriately adjusted in order to give results that are in line with the separate projections mentioned above.

Initial Projection Methodology
Claim Numbers

The claim number projections were based on a mechanical application of the following process:

- A basic chain-ladder technique was applied to a triangle of reported claim numbers by quarterly origin for layers < £250k and annual origin for layers > 250k.
- A trend line was fitted to the implied projected claim frequency between 2007Q1 and 2010Q2 (for layers < £250k) or between 2006 and 2010 (for layers > £250k).
- The selected claim frequency was taken as the basic chain-ladder projection for accident years prior to 2011 and a weighted-average (Bornhuetter- Ferguson) of the basic chain-ladder projection and the trended frequency for 2011.

Initial Projection Methodology
Claim Amounts

The claim amount projections were based on a mechanical application of the following process:

- A basic chain-ladder technique was applied to triangles of paid claims and incurred claims by quarterly origin for layers < £250k and annual origin for layers > £250k
- The implied initial average cost was estimated by combining the projected paid and projected incurred:
  - For layers < £100k, an average of the projected paid and projected incurred was used up to and including 2010Q2 and the projected incurred for 2010Q3 onwards
  - For layers between £100k and £1m, an average of the projected paid and projected incurred was used up to and including 2008 and the projected incurred for 2009 onwards
  - For layers > £1m, the projected incurred was selected for all accident periods

Initial Projection Methodology
Claim Amounts

- A trend line was fitted to the implied initial average cost between 2007Q1 and 2010Q4 (for layers < £250k) or between 2006 and 2010 (for layers > 250k).
- The selected average cost was taken as the basic chain-ladder projection for accident years prior to 2011 and a weighted-average (Bornhuetter-Ferguson) of the basic chain-ladder projection and the trended average cost for 2011.
- No tail beyond 12 years as the earliest data if from 2000.
- An x% tail factor would increase ultimates for all accident years by x% but with the same trend across years.
- Any projection based on incurred data is reliant on the accuracy and consistency of case estimates over time

Excess of capped bodily injury
Projected Results

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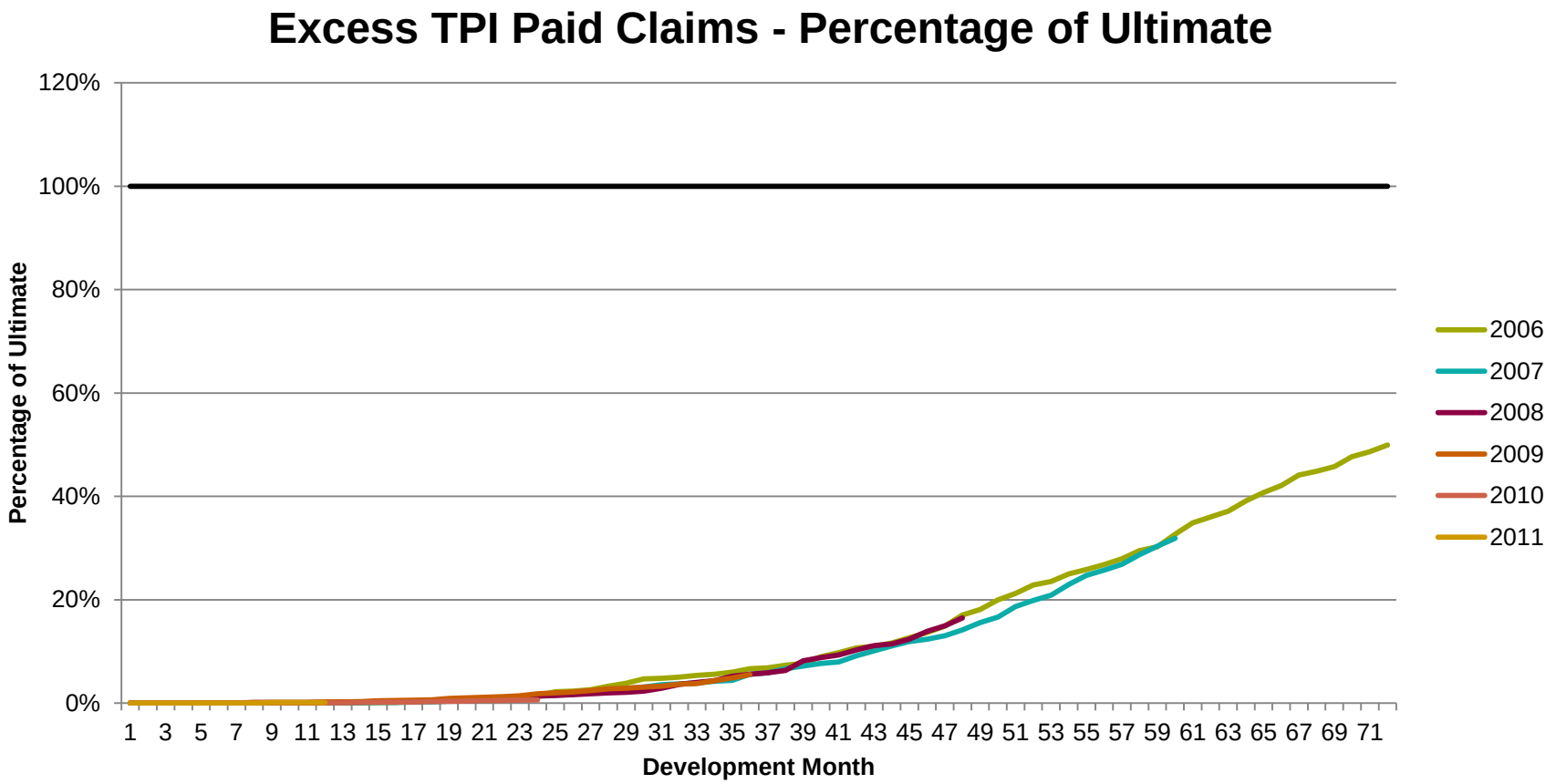
Excess of capped bodily injury
Projected Results

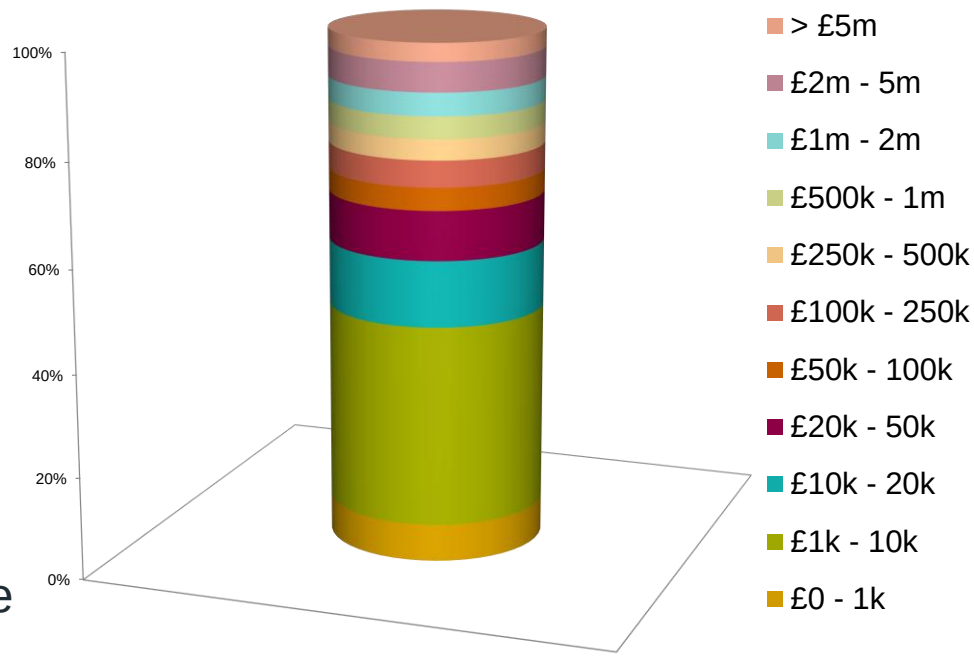


Introduction
Terminology

- When presenting results of a layered analysis, there is a choice in how to partition the claim amounts:
  - Type 1: In which claims that exhaust the width of a particular layer contribute an amount equal to the layer's width
  - Type 2: In which claims that exhaust the width of a particular layer are removed from that layer, and the full claim amounts "from ground up" ("FGU") are allocated to the next layer up

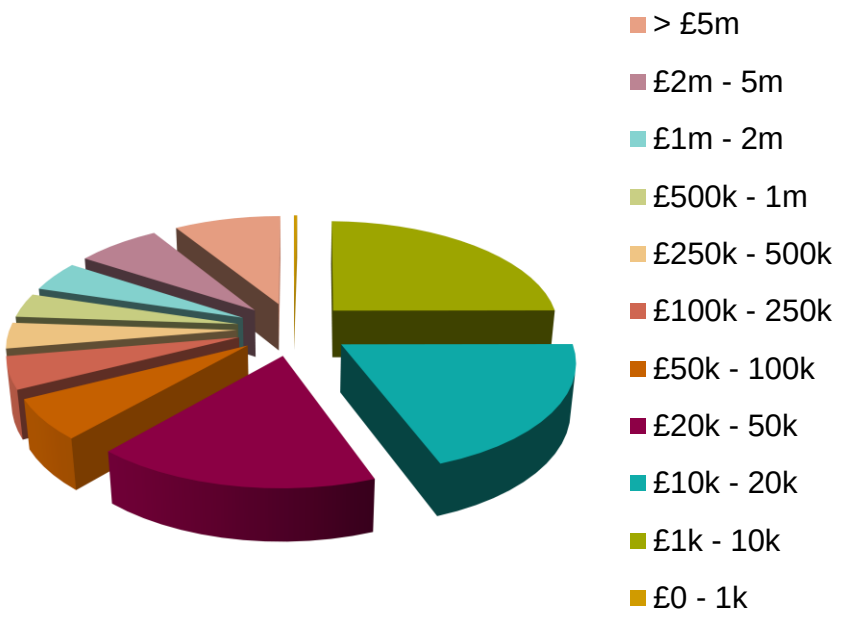
Introduction
Graph terminology

- Using the Type 1 definition, a claim of £15,000 from accident year 2010 contributes:
  - £1k to Layer 1 (0 – £1k)
  - £9k to Layer 2 (£1k – £10k)
  - £5k to Layer 3 (£10k – £20k)
  - £0 to all other layers
- The chart shows the projected total TPI burning cost split by layer using Type 1 definition.
- In this presentation, any charts which use this definition will be accompanied with a version of this graphic. Shading represents the portion(s) of the claim that is relevant to the given statistic.

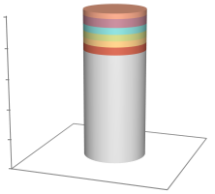


Introduction
Graph terminology

- Using the Type 2 definition, a claim of £15,000 from accident year 2010 contributes:
  - £15k to Layer 3 (£10k – £20k)
  - £0 to all other layers
- The chart shows the projected total TPI burning cost split by layer using Type 2 definition.
- In this presentation, any charts which use this definition will be accompanied with a version of this graphic. Shading represents the portion(s) of the claim that is relevant to the given statistic.



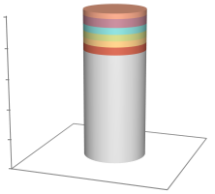
Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 1 Layered Results (all layers given in 2010 money, indexed at 7% pa)

Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency (in layer and above) (claims per million policy years)							
2004	98.2	39.6	19.0	8.5	4.5	1.4	98.20
2005	91.8	35.7	17.9	8.6	3.9	1.0	91.80
2006	83.5	31.1	14.9	7.3	4.0	1.5	83.45
2007	83.9	32.2	16.7	8.7	4.1	1.4	83.90
2008	78.9	29.9	15.2	8.0	3.8	1.4	78.92
2009	84.8	35.0	19.5	11.3	5.8	1.9	84.85
2010	71.3	30.1	14.2	7.0	3.0	1.0	71.35
2011	77.9	38.9	19.8	12.3	6.5	1.9	77.87
Average Cost (£000s)							
2004	62	110	212	496	1,160	2,104	274
2005	64	127	244	511	1,310	2,839	297
2006	66	127	268	531	1,437	2,347	317
2007	74	145	287	558	1,497	2,470	359
2008	76	151	312	567	1,684	3,607	397
2009	83	160	337	618	1,709	3,129	494
2010	94	164	339	693	2,104	4,036	443
2011	105	178	384	683	1,421	2,681	581
Burning Cost (£)							
2004	6.1	4.3	4.0	4.2	5.2	3.0	26.89
2005	5.9	4.5	4.4	4.4	5.2	2.9	27.22
2006	5.5	3.9	4.0	3.9	5.7	3.5	26.45
2007	6.2	4.7	4.8	4.9	6.2	3.4	30.14
2008	6.0	4.5	4.7	4.5	6.5	5.1	31.34
2009	7.0	5.6	6.6	7.0	9.8	5.9	41.94
2010	6.7	4.9	4.8	4.8	6.3	4.0	31.62
2011	8.2	6.9	7.6	8.4	9.2	5.0	45.26

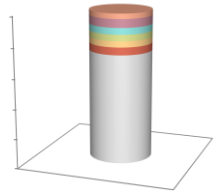
Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 1 Layered Results (all layers given in 2010 money, indexed at 7% pa) - Implied % Change

Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency % Change							
2004							
2005	-7%	-10%	-6%	1%	-12%	-28%	-7%
2006	-9%	-13%	-17%	-15%	1%	44%	-9%
2007	1%	4%	12%	19%	4%	-6%	1%
2008	-6%	-7%	-9%	-9%	-6%	1%	-6%
2009	8%	17%	28%	42%	50%	35%	8%
2010	-16%	-14%	-27%	-38%	-48%	-47%	-16%
2011	9%	29%	39%	76%	118%	85%	9%
Average	-3%	0%	1%	5%	5%	4%	-3%
Average Cost % Change							
2004							
2005	4%	16%	15%	3%	13%	35%	8%
2006	3%	0%	9%	4%	10%	-17%	7%
2007	13%	14%	7%	5%	4%	5%	13%
2008	3%	4%	9%	2%	12%	46%	11%
2009	9%	6%	8%	9%	1%	-13%	24%
2010	13%	2%	1%	12%	23%	29%	-10%
2011	12%	9%	13%	-2%	-32%	-34%	31%
Average	8%	7%	9%	5%	3%	4%	11%
Burning Cost % Change							
2004							
2005	-3%	4%	8%	4%	-1%	-3%	1%
2006	-7%	-13%	-9%	-12%	11%	19%	-3%
2007	14%	19%	20%	25%	8%	-1%	14%
2008	-3%	-4%	-1%	-7%	5%	48%	4%
2009	17%	24%	38%	54%	52%	17%	34%
2010	-5%	-12%	-26%	-31%	-36%	-32%	-25%
2011	22%	40%	57%	73%	47%	23%	43%
Average	4%	7%	9%	10%	9%	8%	8%

Higher TPBI excess layers
Projected Results



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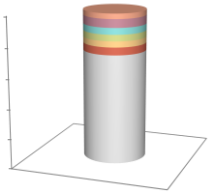
	Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency % Change	2004							
	2005	-7%	-10%	-6%	1%	-12%	-28%	-7%
	2006	-9%	-13%	-17%	-15%	1%	44%	-9%
	2007	1%	4%	12%	19%	4%	-6%	1%
	2008	-6%	-7%	-9%	-9%	-6%	1%	-6%
	2009	8%	17%	28%	42%	50%	35%	8%
	2010	-16%	-14%	-27%	-38%	-48%	-47%	-16%
	2011	9%	29%	39%	76%	118%	85%	9%
Average	All	-3%	0%	1%	5%	5%	4%	-3%
	Last 4	-2%	5%	4%	9%	12%	8%	-2%
	Last 4 (Excl 2010)	3%	12%	18%	32%	45%	36%	3%
	Last 2	-4%	5%	1%	4%	6%	-1%	-4%
Average Cost % Change	2004							
	2005	4%	16%	15%	3%	13%	35%	8%
	2006	3%	0%	9%	4%	10%	-17%	7%
	2007	13%	14%	7%	5%	4%	5%	13%
	2008	3%	4%	9%	2%	12%	46%	11%
	2009	9%	6%	8%	9%	1%	-13%	24%
	2010	13%	2%	1%	12%	23%	29%	-10%
	2011	12%	9%	13%	-2%	-32%	-34%	31%
Average	All	8%	7%	9%	5%	3%	4%	11%
	Last 4	9%	5%	8%	5%	-1%	2%	13%
	Last 4 (Excl 2010)	8%	6%	10%	3%	-8%	-6%	22%
	Last 2	12%	5%	7%	5%	-9%	-7%	8%
Burning Cost % Change	2004							
	2005	-3%	4%	8%	4%	-1%	-3%	1%
	2006	-7%	-13%	-9%	-12%	11%	19%	-3%
	2007	14%	19%	20%	25%	8%	-1%	14%
	2008	-3%	-4%	-1%	-7%	5%	48%	4%
	2009	17%	24%	38%	54%	52%	17%	34%
	2010	-5%	-12%	-26%	-31%	-36%	-32%	-25%
	2011	22%	40%	57%	73%	47%	23%	43%
Average	All	4%	7%	9%	10%	9%	8%	8%
	Last 4	7%	10%	12%	14%	11%	10%	11%
	Last 4 (Excl 2010)	11%	19%	29%	35%	33%	29%	26%
	Last 2	8%	11%	8%	9%	-3%	-8%	4%

Frequency

- Excess claims are volatile. 2009 was an adverse year. Our projections suggest that 2011 is worse, particularly for claims > £1m
- Claims are impacted by the number of accidents (TPD) and overall claim numbers have been reducing (-3%)
- Inflation is marginal or negative for claims < £1m
- Inflation is positive and c. 5% for claims >£1m

Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 1 Layered Results (all layers given in 2010 money, indexed at 7% pa) - Implied % Change

	Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency % Change	2004							
	2005	-7%	-10%	-6%	1%	-12%	-28%	-7%
	2006	-9%	-13%	-17%	-15%	1%	44%	-9%
	2007	1%	4%	12%	19%	4%	-6%	1%
	2008	-6%	-7%	-9%	-9%	-6%	1%	-6%
	2009	8%	17%	28%	42%	50%	35%	8%
	2010	-16%	-14%	-27%	-38%	-48%	-47%	-16%
	2011	9%	29%	39%	76%	118%	85%	9%
Average	All	-3%	0%	1%	5%	5%	4%	-3%
	Last 4	-2%	5%	4%	9%	12%	8%	-2%
	Last 4 (Excl 2010)	3%	12%	18%	32%	45%	36%	3%
	Last 2	-4%	5%	1%	4%	6%	-1%	-4%
Average Cost % Change	2004							
	2005	4%	16%	15%	3%	13%	35%	8%
	2006	3%	0%	9%	4%	10%	-17%	7%
	2007	13%	14%	7%	5%	4%	5%	13%
	2008	3%	4%	9%	2%	12%	46%	11%
	2009	9%	6%	8%	9%	1%	-13%	24%
	2010	13%	2%	1%	12%	23%	29%	-10%
	2011	12%	9%	13%	-2%	-32%	-34%	31%
Average	All	8%	7%	9%	5%	3%	4%	11%
	Last 4	9%	5%	8%	5%	-1%	2%	13%
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Burning Cost % Change	2004							
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	2006	-7%	-13%	-9%	-12%	11%	19%	-3%
	2007	14%	19%	20%	25%	8%	-1%	14%
	2008	-3%	-4%	-1%	-7%	5%	48%	4%
	2009	17%	24%	38%	54%	52%	17%	34%
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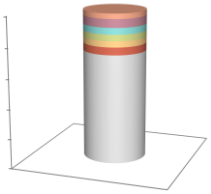
	Last 4 (Excl 2010)	11%	19%	29%	35%	33%	29%	26%
	Last 2	8%	11%	8%	9%	-3%	-8%	4%

Severity

- Whilst 2009/11 were bad on a frequency basis, they had lower than normal inflation for the average claims larger than £1m.
- Overall severity inflation is at 11% (driven by frequency impacts): within individual layers, inflation of claims <£1m is only slightly greater than 7% indexation; but that of claims >£1m is under indexation (3-5%)

Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 1 Layered Results (all layers given in 2010 money, indexed at 7% pa) - Implied % Change

	Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency % Change	2004							
	2005	-7%	-10%	-6%	1%	-12%	-28%	-7%
	2006	-9%	-13%	-17%	-15%	1%	44%	-9%
	2007	1%	4%	12%	19%	4%	-6%	1%
	2008	-6%	-7%	-9%	-9%	-6%	1%	-6%
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Average	All	-3%	0%	1%	5%	5%	4%	-3%
	Last 4	-2%	5%	4%	9%	12%	8%	-2%
	Last 4 (Excl 2010)	3%	12%	18%	32%	45%	36%	3%
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	2006	3%	0%	9%	4%	10%	-17%	7%
	2007	13%	14%	7%	5%	4%	5%	13%
	2008	3%	4%	9%	2%	12%	46%	11%
	2009	9%	6%	8%	9%	1%	-13%	24%
	2010	13%	2%	1%	12%	23%	29%	-10%
	2011	12%	9%	13%	-2%	-32%	-34%	31%
Average	All	8%	7%	9%	5%	3%	4%	11%
	Last 4	9%	5%	8%	5%	-1%	2%	13%
	Last 4 (Excl 2010)	8%	6%	10%	3%	-8%	-6%	22%
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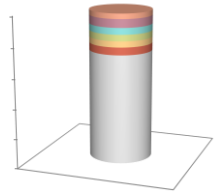
Burning Cost % Change	2004							
	2005	-3%	4%	8%	4%	-1%	-3%	1%
	2006	-7%	-13%	-9%	-12%	11%	19%	-3%
	2007	14%	19%	20%	25%	8%	-1%	14%
	2008	-3%	-4%	-1%	-7%	5%	48%	4%
	2009	17%	24%	38%	54%	52%	17%	34%
	2010	-5%	-12%	-26%	-31%	-36%	-32%	-25%
	2011	22%	40%	57%	73%	47%	23%	43%
Average	All	4%	7%	9%	10%	9%	8%	8%
	Last 4	7%	10%	12%	14%	11%	10%	11%
	Last 4 (Excl 2010)	11%	19%	29%	35%	33%	29%	26%
	Last 2	8%	11%	8%	9%	-3%	-8%	4%

Burn Cost

- 2009 & 2011 stand out as bad years – driven primarily by the frequency of claims > £1m
- Average Burn cost Inflation is 8% across all years; 11% since 2008. This builds in a benefit of dropping accident frequencies.
- Were prospective accident frequencies not to drop further, future burn cost inflation could be in excess of 15%.

Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 1 Layered Results (all layers given in 2010 money, indexed at 7% pa)

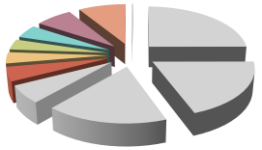
	Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
TPI/TPD Claim Numbers Index	2004							
	2005							
	2006	0.78	0.58	0.55	0.43	0.44	0.58	0.78
	2007	0.77	0.59	0.60	0.51	0.45	0.53	0.77
	2008	0.84	0.64	0.64	0.54	0.49	0.63	0.84
	2009	0.91	0.75	0.83	0.77	0.74	0.86	0.91
	2010	0.82	0.69	0.64	0.51	0.41	0.48	0.82
	2011	1.00	1.00	1.00	1.00	1.00	1.00	1.00
TPI/TPD Claim Numbers Index % Change	2004							
	2005							
	2006							
	2007	-2%	1%	9%	16%	1%	-8%	-2%
	2008	10%	8%	6%	7%	9%	18%	10%
	2009	8%	18%	29%	43%	51%	36%	8%
	2010	-10%	-8%	-22%	-34%	-45%	-44%	-10%
	2011	22%	44%	55%	96%	143%	107%	22%
Average	All	5%	11%	13%	18%	18%	12%	5%
	Last 4	7%	14%	14%	19%	22%	17%	7%
	Last 4 (Excl 2010)	13%	23%	29%	44%	59%	49%	13%
	Last 2	5%	15%	10%	14%	16%	8%	5%

TPD Adjusted Frequency

- Adjusting for TPD frequency, inflation is at 5%, and > 10% for claims > £250k (and closer to 20% for claims between £1m and £5m)

Higher TPBI excess layer
Projected Results

80% of claims are under £500k; but almost over 60% of the cost is from claims > £1m

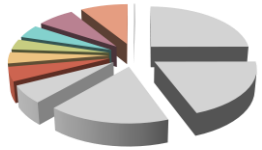


Private Car Comprehensive Type 2 Layered Results (all layers given in 2010 money, indexed at 7% pa)

Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency (finishing in layer) (claims per million policy years)							
2004	58.6	20.6	10.5	4.1	3.1	1.4	98.20
2005	56.1	17.8	9.3	4.7	2.9	1.0	91.80
2006	52.3	16.2	7.6	3.3	2.5	1.5	83.45
2007	51.7	15.5	8.0	4.6	2.7	1.4	83.90
2008	49.0	14.7	7.2	4.1	2.4	1.4	78.92
2009	49.8	15.5	8.2	5.5	3.9	1.9	84.85
2010	41.2	15.9	7.3	4.0	2.0	1.0	71.35
2011	39.0	19.1	7.5	5.8	4.6	1.9	77.87
Average Cost (£000s)							
2004	103	224	447	974	2,105	5,436	341
2005	108	253	497	1,054	2,445	6,404	368
2006	113	259	539	1,020	2,459	6,162	393
2007	126	286	562	1,145	2,646	6,551	441
2008	130	299	612	1,155	2,891	7,975	484
2009	136	301	624	1,224	3,040	7,801	588
2010	153	336	685	1,464	3,652	9,036	543
2011	156	353	673	1,315	2,846	8,031	688
Burning Cost (£)							
2004	6.0	4.6	4.7	3.9	6.5	7.7	33.44
2005	6.1	4.5	4.6	4.9	7.1	6.5	33.77
2006	5.9	4.2	4.1	3.4	6.1	9.1	32.81
2007	6.5	4.4	4.5	5.3	7.2	9.1	36.99
2008	6.4	4.4	4.4	4.8	7.1	11.2	38.23
2009	6.8	4.7	5.1	6.8	11.7	14.8	49.87
2010	6.3	5.3	5.0	5.8	7.2	9.0	38.75
2011	6.1	6.7	5.1	7.6	13.2	14.9	53.59

3/5 freq	1/5 freq	1/10 freq	1/20 freq	1/25 freq	1/50 freq
1/7 cost	1/8 cost	1/9 cost	1/7 cost	1/5 cost	3/10 cost

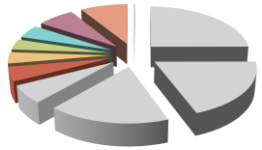
Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 2 Layered Results (all layers given in 2010 money, indexed at 7% pa) - Implied % Change

Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
Frequency % Change							
2004							
2005	-4%	-14%	-11%	15%	-5%	-28%	-7%
2006	-7%	-9%	-18%	-28%	-14%	44%	-9%
2007	-1%	-4%	5%	38%	9%	-6%	1%
2008	-5%	-6%	-9%	-11%	-10%	1%	-6%
2009	2%	6%	13%	34%	58%	35%	8%
2010	-17%	2%	-11%	-28%	-49%	-47%	-16%
2011	-6%	21%	4%	44%	134%	85%	9%
Average	-6%	-1%	-5%	5%	6%	4%	-3%
Average Cost % Change							
2004							
2005	5%	13%	11%	8%	16%	18%	8%
2006	5%	2%	8%	-3%	1%	-4%	7%
2007	11%	10%	4%	12%	8%	6%	12%
2008	3%	5%	9%	1%	9%	22%	10%
2009	5%	1%	2%	6%	5%	-2%	21%
2010	12%	12%	10%	20%	20%	16%	-8%
2011	2%	5%	-2%	-10%	-22%	-11%	27%
Average	6%	7%	6%	4%	4%	6%	11%
Burning Cost % Change							
2004							
2005	1%	-2%	-1%	25%	10%	-15%	1%
2006	-2%	-7%	-12%	-31%	-14%	39%	-3%
2007	10%	6%	10%	55%	18%	0%	13%
2008	-2%	-1%	-1%	-10%	-2%	23%	3%
2009	6%	6%	15%	42%	66%	32%	30%
2010	-7%	14%	-3%	-14%	-38%	-39%	-22%
2011	-4%	26%	2%	29%	83%	65%	38%
Average	0%	6%	1%	10%	11%	10%	7%

Higher TPBI excess layers
Projected Results



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Frequency % Change	2004							
	2005	-4%	-14%	-11%	15%	-5%	-28%	-7%
	2006	-7%	-9%	-18%	-28%	-14%	44%	-9%
	2007	-1%	-4%	5%	38%	9%	-6%	1%
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	2011	-6%	21%	4%	44%	134%	85%	9%
Average	All	-6%	-1%	-5%	5%	6%	4%	-3%
	Last 4	-7%	5%	-1%	6%	14%	8%	-2%
	Last 4 (Excl 2010)	-3%	6%	2%	20%	49%	36%	3%
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Average Cost % Change	2004							
	2005	5%	13%	11%	8%	16%	18%	8%
	2006	5%	2%	8%	-3%	1%	-4%	7%
	2007	11%	10%	4%	12%	8%	6%	12%
	2008	3%	5%	9%	1%	9%	22%	10%
	2009	5%	1%	2%	6%	5%	-2%	21%
	2010	12%	12%	10%	20%	20%	16%	-8%
	2011	2%	5%	-2%	-10%	-22%	-11%	27%
Average	All	6%	7%	6%	4%	4%	6%	11%
	Last 4	6%	5%	5%	4%	2%	5%	12%
	Last 4 (Excl 2010)	3%	3%	3%	-1%	-4%	2%	19%
	Last 2	7%	8%	4%	4%	-3%	1%	8%
Burning Cost % Change	2004							
	2005	1%	-2%	-1%	25%	10%	-15%	1%
	2006	-2%	-7%	-12%	-31%	-14%	39%	-3%
	2007	10%	6%	10%	55%	18%	0%	13%
	2008	-2%	-1%	-1%	-10%	-2%	23%	3%
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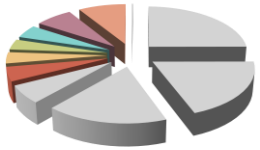
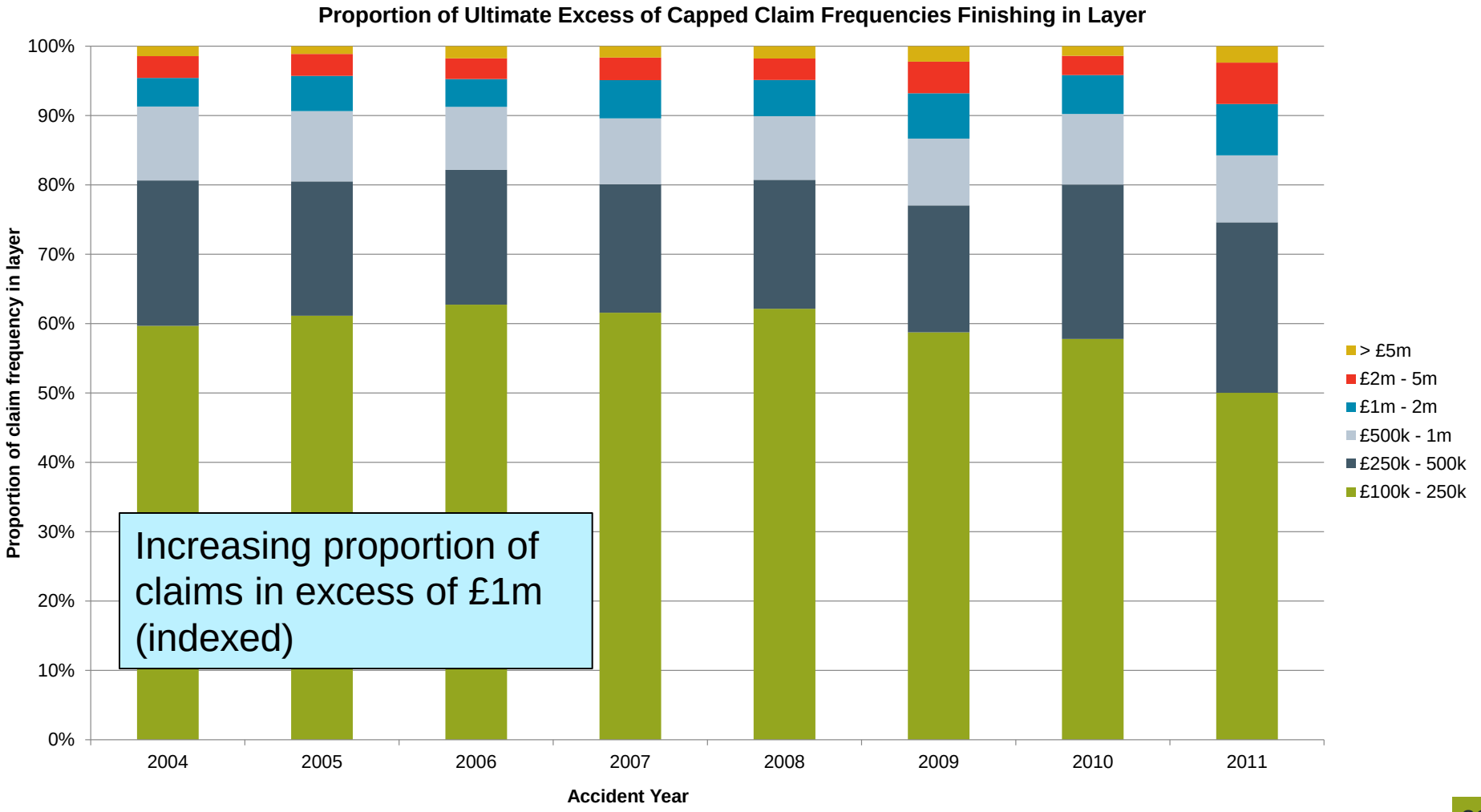
	Last 4 (Excl 2010)	0%	10%	5%	18%	44%	39%	23%
	Last 2	-5%	20%	0%	6%	6%	0%	4%

Burn Cost

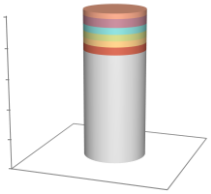
- Burn cost inflation on a type 2 basis is marginal lower than on a type 1 basis, at 7% (c.f. 8%) not adjusting for underlying accident frequencies
- This is because type 2 includes the contribution of the proportion of excess claims beneath the capping threshold. This contribution to the average cost element of burn cost necessarily inflates at 7% indexation rather than higher type 1 average cost inflation of 11%

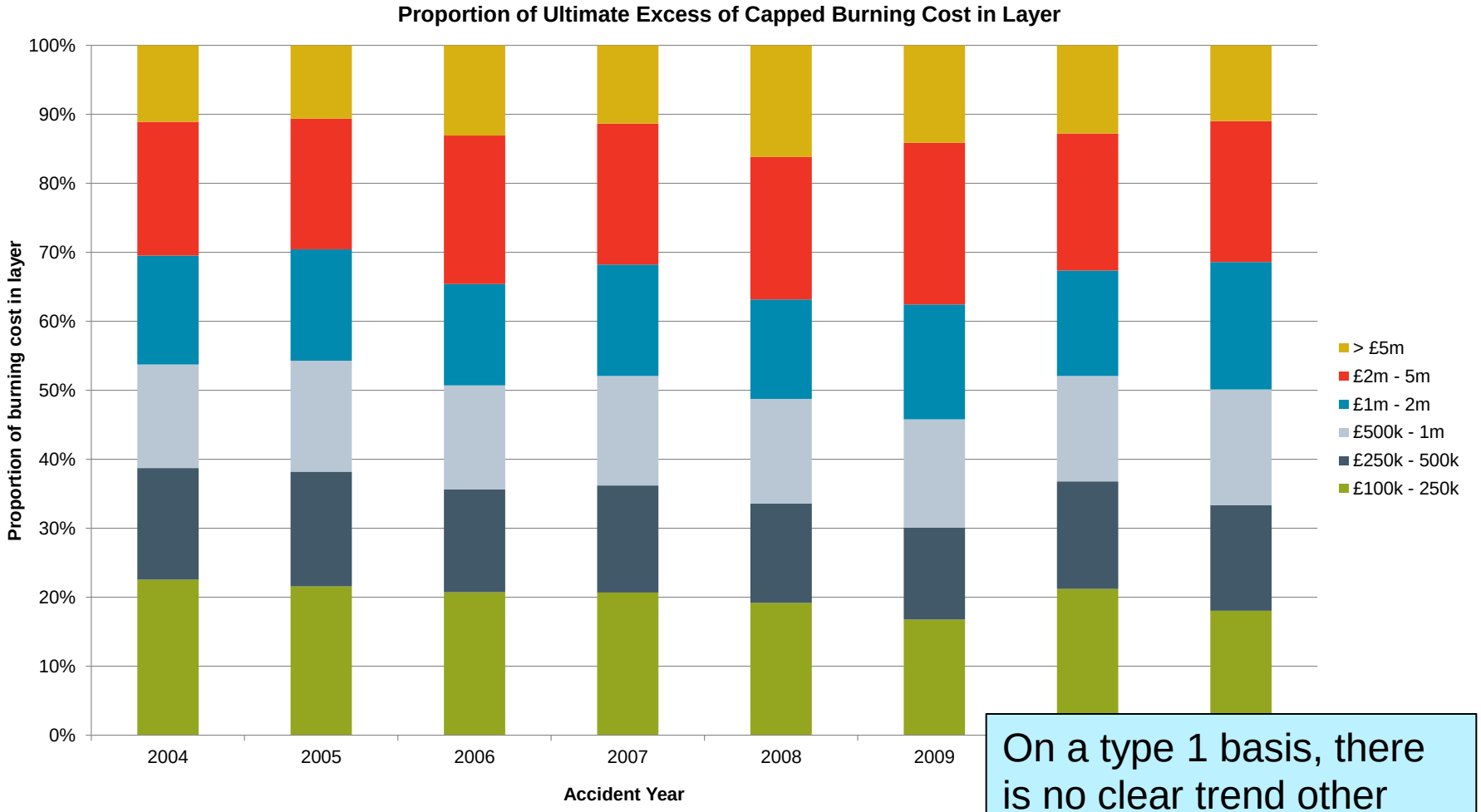
Excess of capped bodily injury
Projected Results





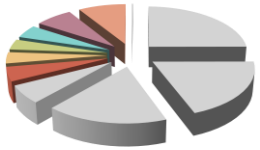
Excess of capped bodily injury
Projected Results

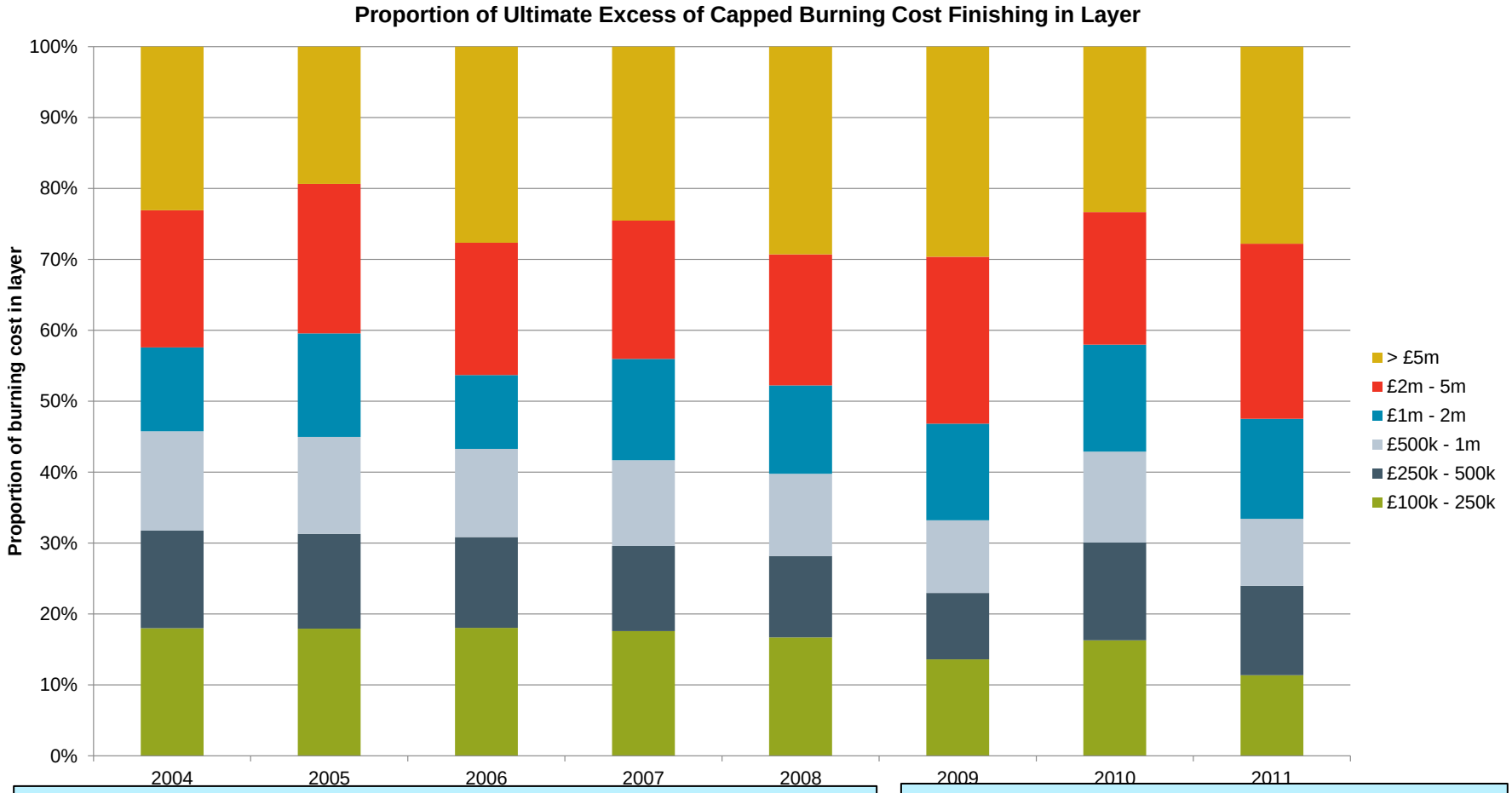




On a type 1 basis, there is no clear trend other than year on year volatility …

Excess of capped bodily injury
Projected Results

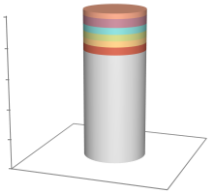


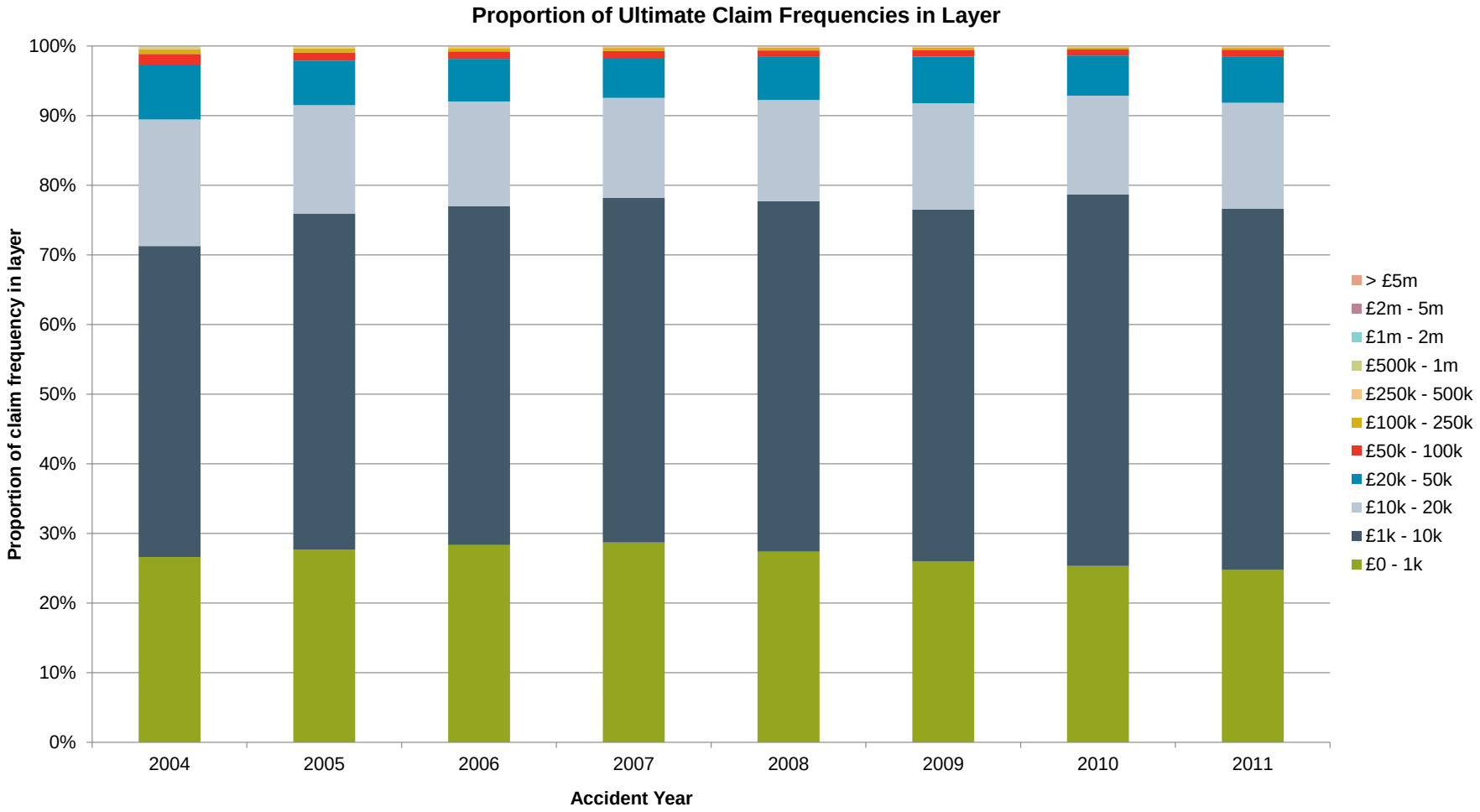


In terms of very large claim exposure 2009 & 2011 are bad years; with 2010 a good year

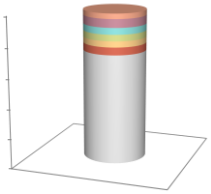
But clear increasing proportion of cost moving to layers > £1m

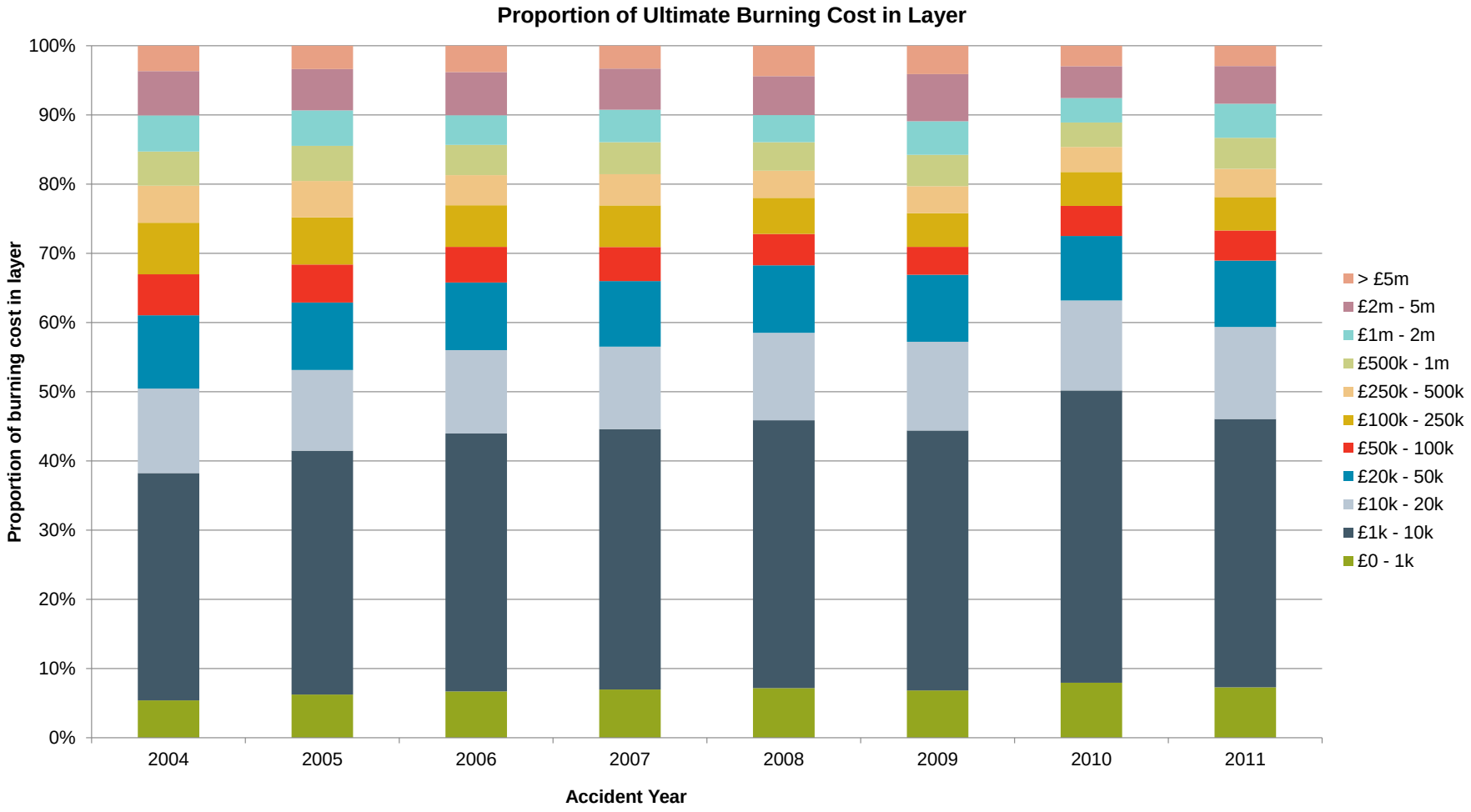
Excess of capped bodily injury
Projected Results



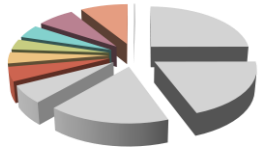


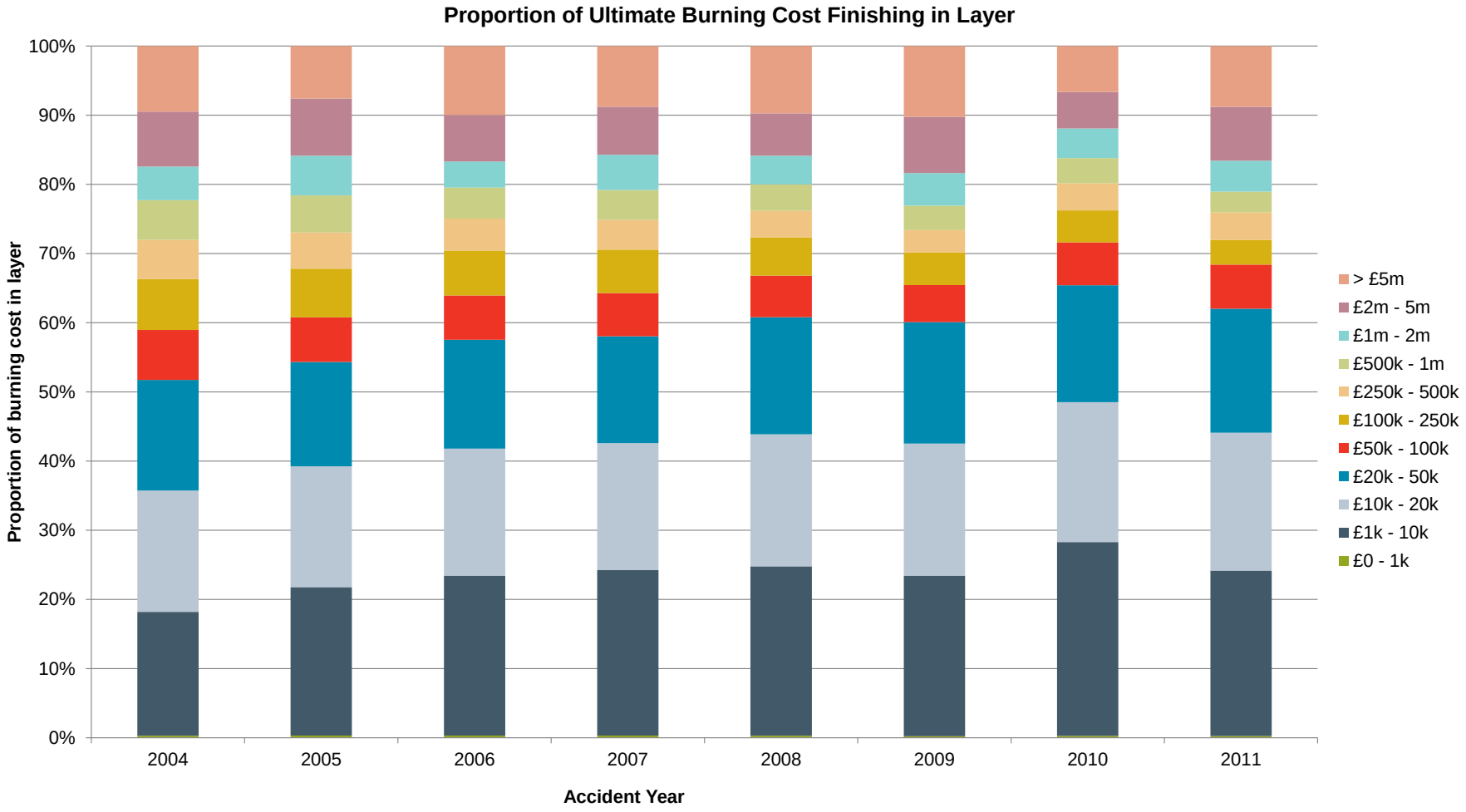
Excess of capped bodily injury
Projected Results





Excess of capped bodily injury
Projected Results





Excess of Capped bodily injury
Analysis of Largest Claims

- Average incurred claim cost triangles were constructed for the following subsets of data:
  - Largest 2000 claims for each accident year
  - Largest 1000 claims for each accident year
  - Largest 200 claims for each accident year
  - Largest 200 claims for each accident year, excluding the largest 20
- By taking the largest n claims in each year, the intention is to consider injuries of similar severity to get a measure of inflation for large claims that is undistorted by an increasing frequency of small or mid-range claims or the indexation of thresholds.
- We show the annualised average increases of claim costs over several periods for each of the above subsets

Excess of Capped bodily injury
Analysis of Largest Claims

Claim severity triangle for Private Car Comprehensive (largest 2,000 claims per accident year)

	Development Year (Figures in £000s)								
Loss Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2003	94	122	138	145	145	146	146	149	152
2004	120	155	160	169	174	181	181	186	
2005	121	163	175	188	191	192	202		
2006	122	176	201	214	224	225			
2007	138	198	226	248	261				
2008	188	253	273	299					
2009	246	350	390						
2010	225	326							
2011	363								
Annualised Escalation Rates									
3 Year Periods									
2003 - 2006	9%	13%	13%	14%	16%	16%			
2004 - 2007	5%	8%	12%	14%	14%				
2005 - 2008	16%	16%	16%	17%					
2006 - 2009	**26%**	**26%**	**25%**						
2007 - 2010	18%	18%							
2008 - 2011	**25%**								
5 Year Periods									
2003 - 2008	15%	16%	15%	16%					
2004 - 2009	15%	18%	20%						
2005 - 2010	13%	15%							
2006 - 2011	**24%**								

Severity inflation in excess of 20% becoming more common ....

Excess of Capped bodily injury
Analysis of Largest Claims

Claim severity triangle for Private Car Comprehensive (largest 1,000 claims per accident year)

	Development Year (Figures in £000s)								
Loss Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2003	166	209	231	245	246	249	251	255	261
2004	204	261	269	287	298	313	315	325	
2005	199	274	300	320	329	333	352		
2006	197	296	337	367	390	392			
2007	230	337	387	426	455				
2008	320	436	473	518					
2009	423	614	684						
2010	383	557							
2011	630								
Annualised Escalation Rates									
3 Year Periods									
2003 - 2006	6%	12%	14%	14%	17%	16%			
2004 - 2007	4%	9%	13%	14%	15%				
2005 - 2008	17%	17%	16%	17%					
2006 - 2009	**29%**	**28%**	**27%**						
2007 - 2010	19%	18%							
2008 - 2011	**25%**								
5 Year Periods									
2003 - 2008	14%	16%	15%	16%					
2004 - 2009	16%	19%	**21%**						
2005 - 2010	14%	15%							
2006 - 2011	**26%**								

Severity inflation in excess of 20% becoming more common .... And more so for the very largest claims...

Excess of Capped bodily injury
Analysis of Largest Claims

Claim severity triangle for Private Car Comprehensive (largest 200 claims per accident year)

	Development Year (Figures in £000s)								
Loss Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2003	455	609	650	720	754	776	803	832	863
2004	601	750	784	859	936	1,030	1,052	1,108	
2005	579	826	914	1,001	1,046	1,089	1,199		
2006	559	918	1,084	1,169	1,286	1,337			
2007	704	1,062	1,212	1,336	1,520				
2008	1,047	1,422	1,555	1,699					
2009	1,309	2,015	2,237						
2010	1,231	1,732							
2011	1,973								
Annualised Escalation Rates									
3 Year Periods									
2003 - 2006	7%	15%	19%	18%	19%	20%			
2004 - 2007	5%	12%	16%	16%	18%				
2005 - 2008	**22%**	20%	19%	19%					
2006 - 2009	**33%**	**30%**	**27%**						
2007 - 2010	**20%**	18%							
2008 - 2011	**24%**								
5 Year Periods									
2003 - 2008	18%	18%	19%	19%					
2004 - 2009	17%	**22%**	**23%**						
2005 - 2010	16%	16%							
2006 - 2011	**29%**								

Severity inflation in excess of 20% becoming more common .... And more so for the very largest claims...

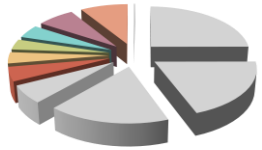
Excess of Capped bodily injury
Analysis of Largest Claims

Claim severity triangle for Private Car Comprehensive (largest 200 claims, excluding largest 20 claims, per accident year)

	Development Year (Figures in £000s)								
Loss Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
2003	276	415	481	561	564	554	573	590	594
2004	387	495	559	636	678	708	724	745	
2005	404	568	635	693	726	774	829		
2006	406	726	835	867	879	902			
2007	524	803	885	992	1,114				
2008	852	1,108	1,190	1,232					
2009	1,135	1,605	1,756						
2010	846	1,276							
2011	1,563								
Annualised Escalation Rates									
3 Year Periods									
2003 - 2006	14%	**21%**	**20%**	16%	16%	18%			
2004 - 2007	11%	18%	17%	16%	18%				
2005 - 2008	**28%**	**25%**	**23%**	**21%**					
2006 - 2009	**41%**	**30%**	**28%**						
2007 - 2010	17%	17%							
2008 - 2011	**22%**								
5 Year Periods									
2003 - 2008	**25%**	**22%**	20%	17%					
2004 - 2009	**24%**	**27%**	**26%**						
2005 - 2010	16%	18%							
2006 - 2011	**31%**								

Severity inflation in excess of 20% becoming more common .... And more so for the very largest claims... But most strikingly so if you remove the super-large claims

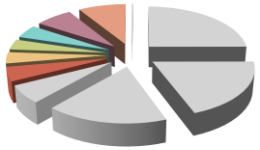
Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 2 Layered Results (all layers given in 2010 money, indexed at 7% pa)

Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
TPI/TPD Claim Numbers Index							
2004							
2005							
2006	0.98	0.62	0.73	0.42	0.39	0.58	0.78
2007	0.94	0.58	0.75	0.57	0.42	0.53	0.77
2008	1.05	0.64	0.80	0.60	0.44	0.63	0.84
2009	1.07	0.68	0.91	0.81	0.70	0.86	0.91
2010	0.95	0.74	0.86	0.62	0.38	0.48	0.82
2011	1.00	1.00	1.00	1.00	1.00	1.00	1.00
TPI/TPD Claim Numbers Index % Change							
2004							
2005							
2006							
2007	-4%	-7%	3%	35%	7%	-8%	-2%
2008	11%	10%	6%	4%	5%	18%	10%
2009	3%	7%	14%	36%	60%	36%	8%
2010	-12%	9%	-5%	-23%	-45%	-44%	-10%
2011	6%	35%	16%	61%	162%	107%	22%
Average	0%	10%	6%	19%	21%	12%	5%

Higher TPBI excess layers
Projected Results



Private Car Comprehensive Type 2 Layered Results (all layers given in 2010 money, indexed at 7% pa) - Implied % Change

	Accident Year	£100k - 250k	£250k - 500k	£500k - 1m	£1m - 2m	£2m - 5m	> £5m	> 100k
TPI/TPD Claim Numbers Index	2004							
	2005							
	2006	0.98	0.62	0.73	0.42	0.39	0.58	0.78
	2007	0.94	0.58	0.75	0.57	0.42	0.53	0.77
	2008	1.05	0.64	0.80	0.60	0.44	0.63	0.84
	2009	1.07	0.68	0.91	0.81	0.70	0.86	0.91
	2010	0.95	0.74	0.86	0.62	0.38	0.48	0.82
	2011	1.00	1.00	1.00	1.00	1.00	1.00	1.00
TPI/TPD Claim Numbers Index % Change	2004							
	2005							
	2006							
	2007	-4%	-7%	3%	35%	7%	-8%	-2%
	2008	11%	10%	6%	4%	5%	18%	10%
	2009	3%	7%	14%	36%	60%	36%	8%
	2010	-12%	9%	-5%	-23%	-45%	-44%	-10%
	2011	6%	35%	16%	61%	162%	107%	22%
Average	All	0%	10%	6%	19%	21%	12%	5%
	Last 4	1%	15%	7%	15%	24%	17%	7%
	Last 4 (Excl 2010)	6%	17%	12%	32%	64%	49%	13%
	Last 2	-3%	21%	5%	11%	20%	8%	5%