

Injury Schemes Seminar

Balancing Outcomes

10-12 November 2013
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Reinsurance for Injury Schemes

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Overview

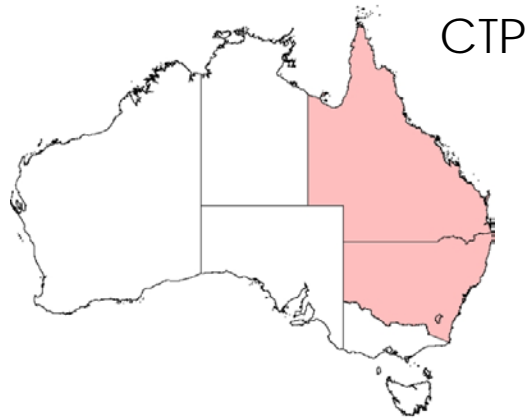
- Use of Reinsurance
- Financial Risks of an Injury Scheme
- Things to Consider
- Types of Reinsurance
- Learning from Overseas
- Some Actuarial Considerations



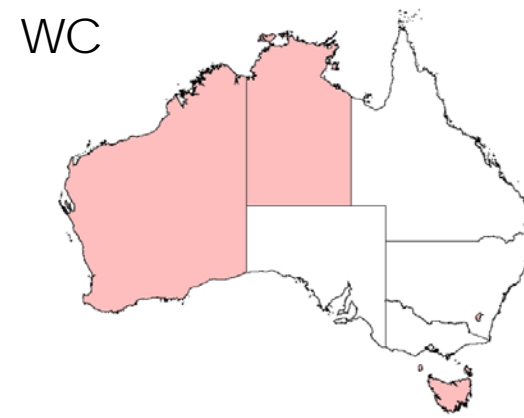
Use of Reinsurance



Private Insurers



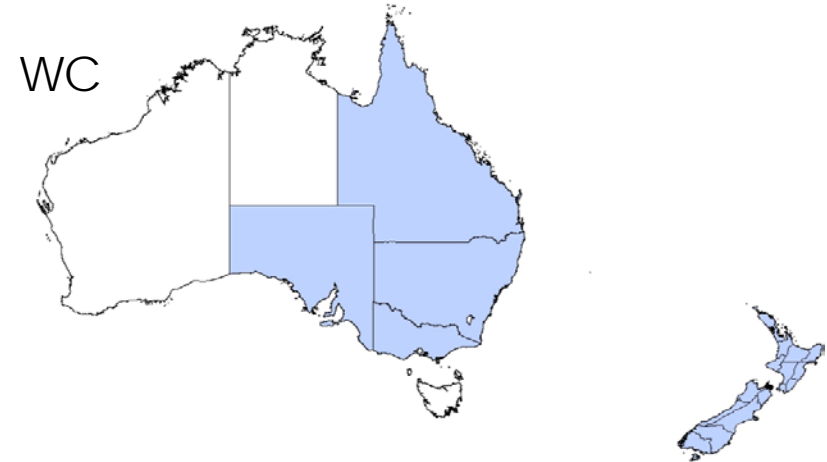
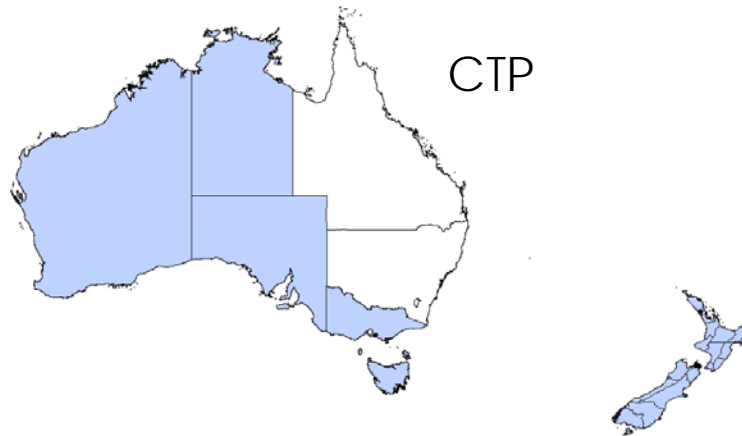
- Usually part of casualty programme
- Predominantly Cat/Risk XL
- Unlimited cover
- Other forms exist



- Usually part of casualty programme
- Cat/Risk XL
- Cover is limited
- UNL linked to property



Public Schemes



- Most buy some form of XL cover
- Range of retentions
- Not always unlimited

- Reinsurance rare
- Different approaches over time
- Some combined Government programmes



Financial Risks of an Injury Scheme



An Imaginary CTP Scheme

- 1M vehicles - \$450 premium - \$450M GWP
- Claims Cost (\$500M)
 - < \$100K: \$200M
 - \$100K - \$1M: \$220M
 - > \$1M: \$80M
- Assets = \$2.1B, Liabilities = \$2B
- Assets: 40% Equities, 40% Fixed Interest, 20% Cash
- Excess of Loss: Unlimited xs \$10M, \$10.00 per vehicle



An Imaginary CTP Scheme

\$50M (50% of net assets) is:

- A major claim or event
- 25% increase in small to medium claims
- 2.5% increase in reserves
- 6% fall in equities
- A fairly minor yield curve movement

XoL Reinsurance Benefit

Effective

No benefit

Depends on why and historic cover

No benefit

Minor

Other risks include:

- Legislation
- Longevity (no fault)
- Inflation
- Pricing



Things to Consider



Things to Consider

- Funding position
 - Public v Private
 - Funding target
 - regulation
- Control over premiums
 - Public v Private
 - Politics
- Legislation and potential legislation changes



Things to Consider

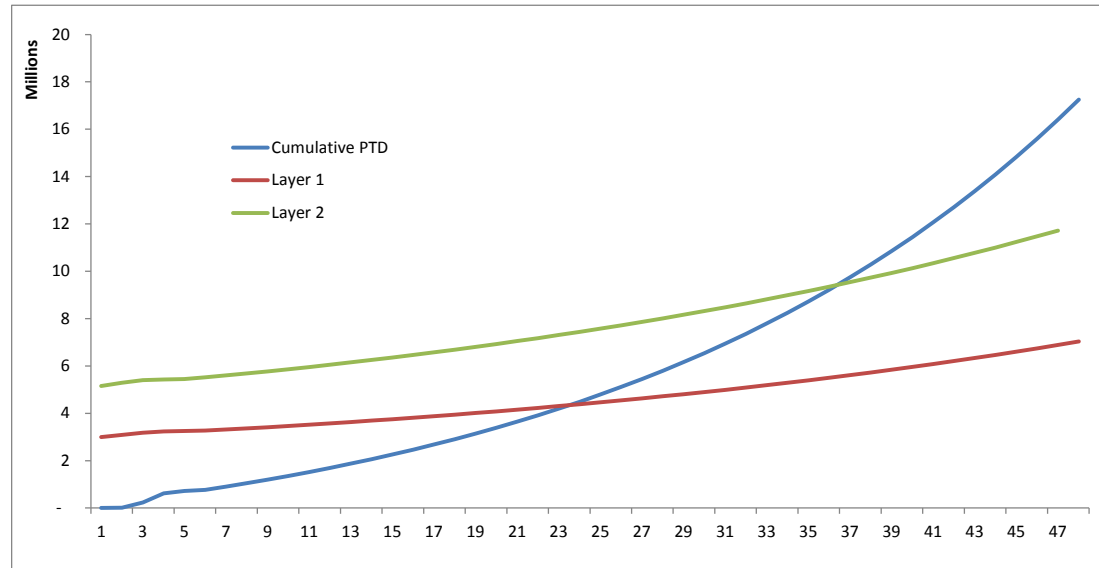
- Risk appetite
 - Earning volatility
 - Capital / funding position
 - Dividend / profit planning

- Scheme maturity
 - Start up v long running
 - Managing volatility
 - Relative size of tail
 - Absolute size



Things to Consider

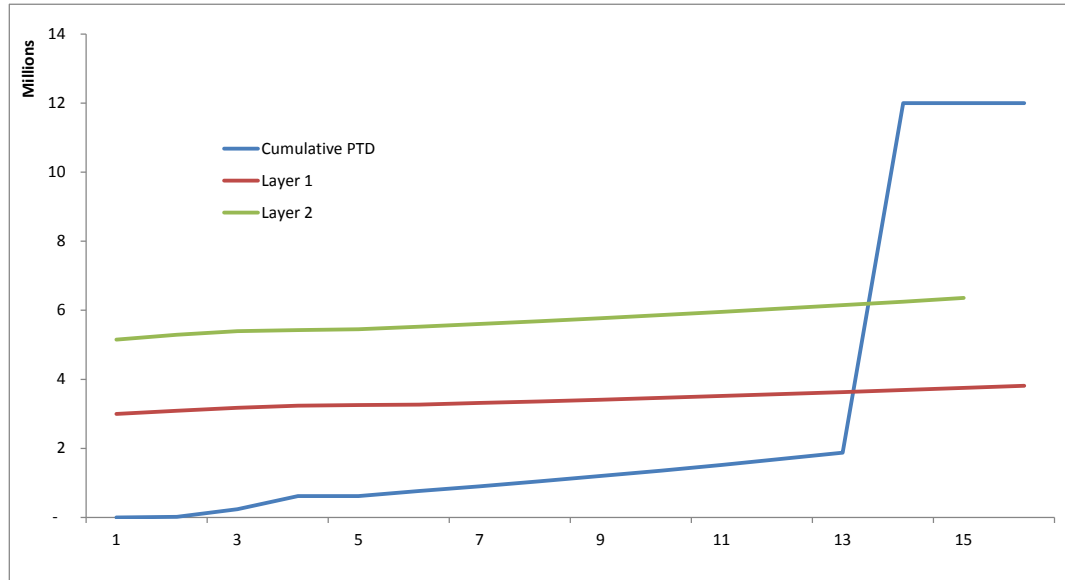
- Benefit Structure – no fault (sample)





Things to Consider

- Benefit Structure – at fault (sample)





Things to Consider

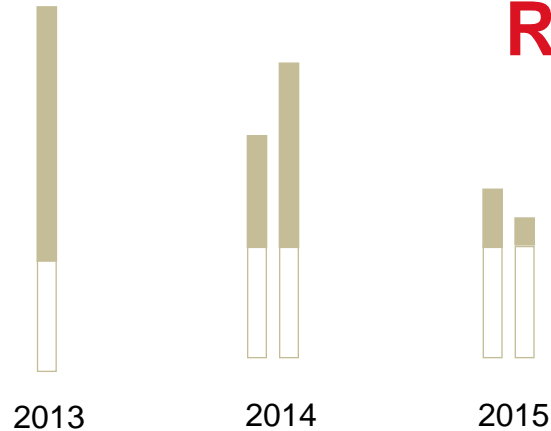
- Other
 - Overall scheme objectives
 - NDIS
 - NIIS
 - Impact on all v large claims:
 - Legislative environment
 - Super imposed inflation
 - Scheme reform (e.g. tort reform)
 - Reinsurance market place and appetite



Types of Reinsurance



Risk/Event XL



- Premium paid (e.g. \$ vehicle or % GWP)
- Claims above retention (e.g. \$10M)
- Range of approaches:
 - Indexation
 - Commutation

PROS

- Most common approach
- Protects from extreme outcomes
- Cover accidents (risk and cat)
- Retain regular profits

CONS

- Not always unlimited (e.g. WC)
- Limit capital relief
- Limit impact on other risks



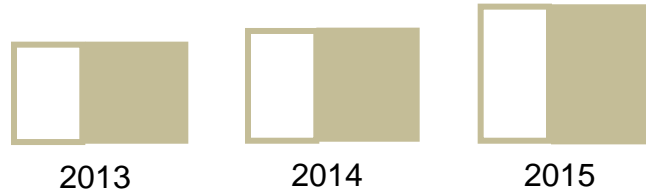
Reinsurers

- ACE Tempest
- Allianz Re
- Allied World
- ARK
- Aspen
- Barbican
- Berkley Re
- Catlin
- Canopus
- Chaucer
- Faraday
- General Re
- Hannover Re
- Liberty
- Markel
- Munich Re
- Novae Re
- Peak Re
- Partner Re
- QBE Re
- SCOR Re
- Swiss Re
- Tokio Millenium Re
- XL Re

etc...



Quota Share



- % Premium, % Claims
- Commission from reinsurers
- Potential flexibility:
 - Profit sharing
 - Cession depending on Market Share

PROS

- Capital relief
- True alignment
- Runs through portfolio over time
- Relatively straight forward
- Ample appetite

CONS

- Still need to consider large claims
- Pay away profitable business
- Need to manage credit risk



Adverse Deterioration Cover (ADC)



- Premium paid upfront
- Cover if reserves deteriorate beyond a point
- May require co-insurance
- May require a cap

PROS

- Caps (subject to limit) tail risk
- Cedant benefits from upside
- Provides certainty

CONS

- Reinsurer does not benefit from upside (price implication)
- Upfront cash flow
- Some retained risk (cap/co-insurance)
- Reinsurer credit risk



Portfolio Transfer

- Ground up cover for reserves
- However, premium paid upfront
- Reinsurer pays % of claims
- Co-insurance likely to be required
- Cap likely to be required
- Reinsurance contract rather than transfer

PROS

- Transfer tail risk
- Capital relief from APRA
- Sharing of upside reduces cost
- Provides certainty
- Could couple with future QS

CONS

- Do not keep upside
- Considerable upfront cash flow
- Deterioration protection on ceded only
- Reinsurer credit risk
- Considerable capacity required



Other Approaches

- Parametric
 - Number of injury types
 - \$X million per excess injury
- Aggregate losses
 - Total losses
- Link cover to other risks
 - Investment return
 - Solvency position
- Commutation formula

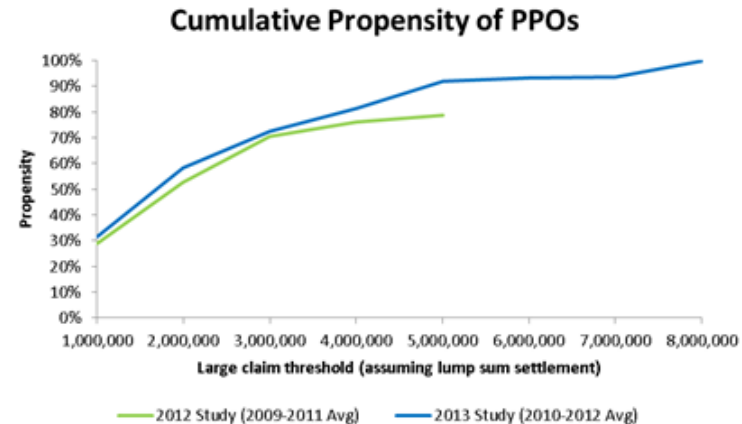
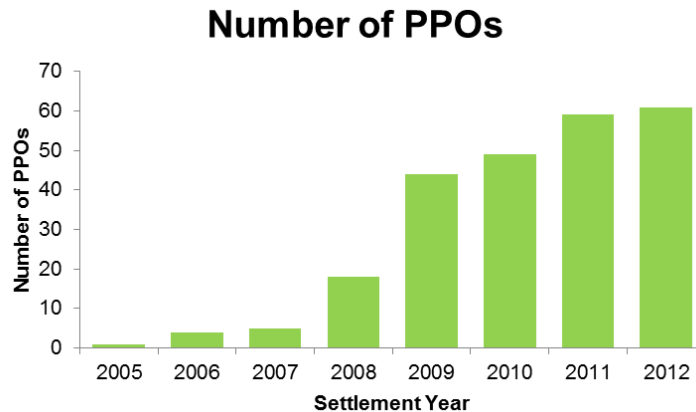


Learning from Overseas



UK Motor

- Periodic Payment Orders – Court Act 2003 from 1 April 2005
 - Usually claimant request
 - Predominantly future care
 - Considerable growth around 2008 – 2.5% discount, ASHE6115 v RPI





PPOs – Impact on Reinsurers

- PPO is undiscounted payment – Lump Sum is discounted
- Higher layers – higher propensity
- Typical assumptions 4%/4% (gap = 0%) – lower than Lump Sum
- Longer tail:
 - Increased reserves / capital requirements
 - Investment strategy?
- Mortality risk – lack of UK impaired mortality tables difficult to hedge
- Reduced appetite
 - Upward pricing pressure
 - Preference for commutation



PPOs – Cedants

- Increase cost
- Consideration of capitalisation clause
 - Range of approaches
 - Return mortality, inflation and investment risk – NOT IDEAL
 - Reduced credit risk
- Reinsurance crucial
 - PPOs on severe claims – i.e. impacted by XL reinsurance
 - Transfer mortality, inflation, investment risk
 - Capitalisation clause major consideration
 - Looking for innovation



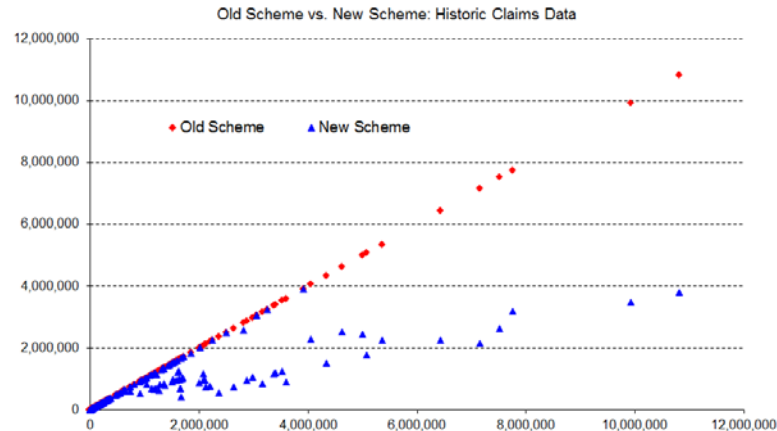
Actuarial Considerations



“Large” Claims

- Threshold: The following table shows the experience for No Fault claims with total paid to date plus case estimate at 30 April 2010 in excess of \$300,000.

- Data Set:

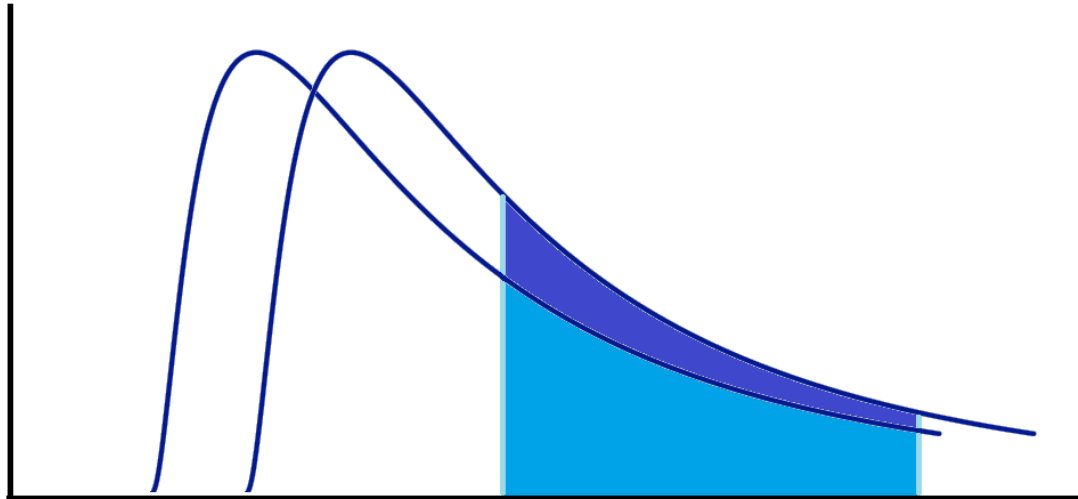


- Claims versus Events



Leverage

- General impact versus Excess of Loss impact
- Small versus Large claim impacts

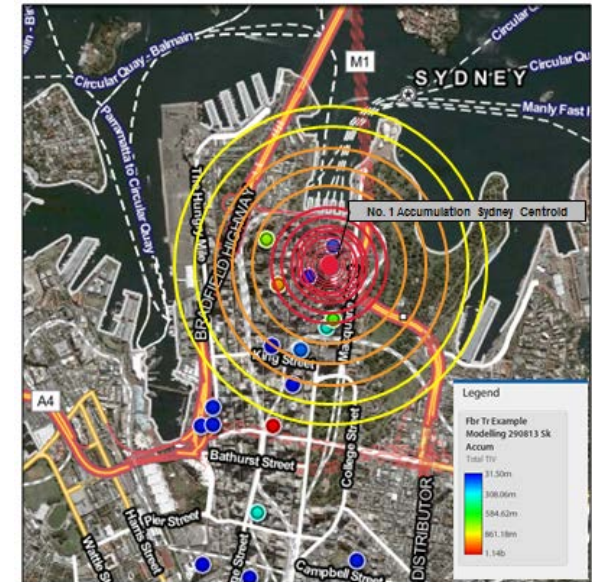




Probable Maximum Loss

- Historic experience (global)
- Scenarios
- Imagination!

Injury Type	Bus	Truck	Other Bus	Cars Light	Motor Cycles	Total
Fatalities without dependants	8		2	3		13
Fatalities with dependants	24	1	2	5	1	33
Minor injuries – no time off work	8		16	32		56
Minor injuries – 10 weeks off work	7		5	8		20
Moderate injuries – 4 months off work	2		2	2		6
Serious injuries – 2 years off work	2		1	1		4
Paraplegic injury – 5 year old Lifetime care	1					1
Paraplegic injury – 35 year old Lifetime care	1		1	1	1	4
Paraplegic injury – 65 year old Lifetime care	1					1
Severe head injuries – 5 year old Lifetime care	1					1
Severe head injuries – 35 year old Lifetime care	1	1		1		3
Severe head injuries – 65 year old Lifetime care	1					1
Quadriplegic injuries – 5 year old Lifetime care	1					1
Quadriplegic injuries – 35 year old Lifetime care	1			1		2
Quadriplegic injuries – 65 year old Lifetime care	1					1
Total Number of People	60	1	30	54	2	147
Total Number of Vehicles	2	1	1	28	2	34





In Conclusion



Concluding Comments

- Range of approaches
- Needs to be effective:
 - Linked to risk appetite
 - To scheme structure / approach
 - Benefit design
- Match need with (or create) market appetite
 - Ideal cover for cedant not always the ideal for reinsurer
- Managing Extremes – actuarial techniques are just one approach!