

12th Accident Compensation Seminar 2009 Rising to the Challenge

Melbourne 22nd – 24th November 2009



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Payment-Type Analysis for Self-Insurers A NSW Case Study

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12th Accident Compensation Seminar 2009

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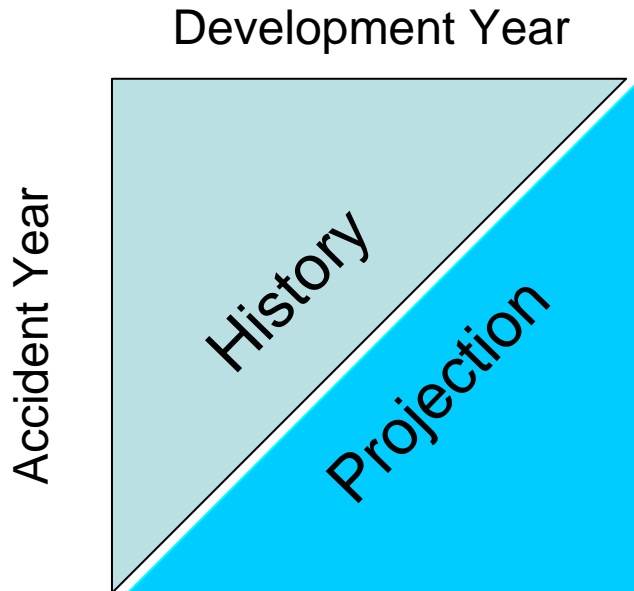
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The basics



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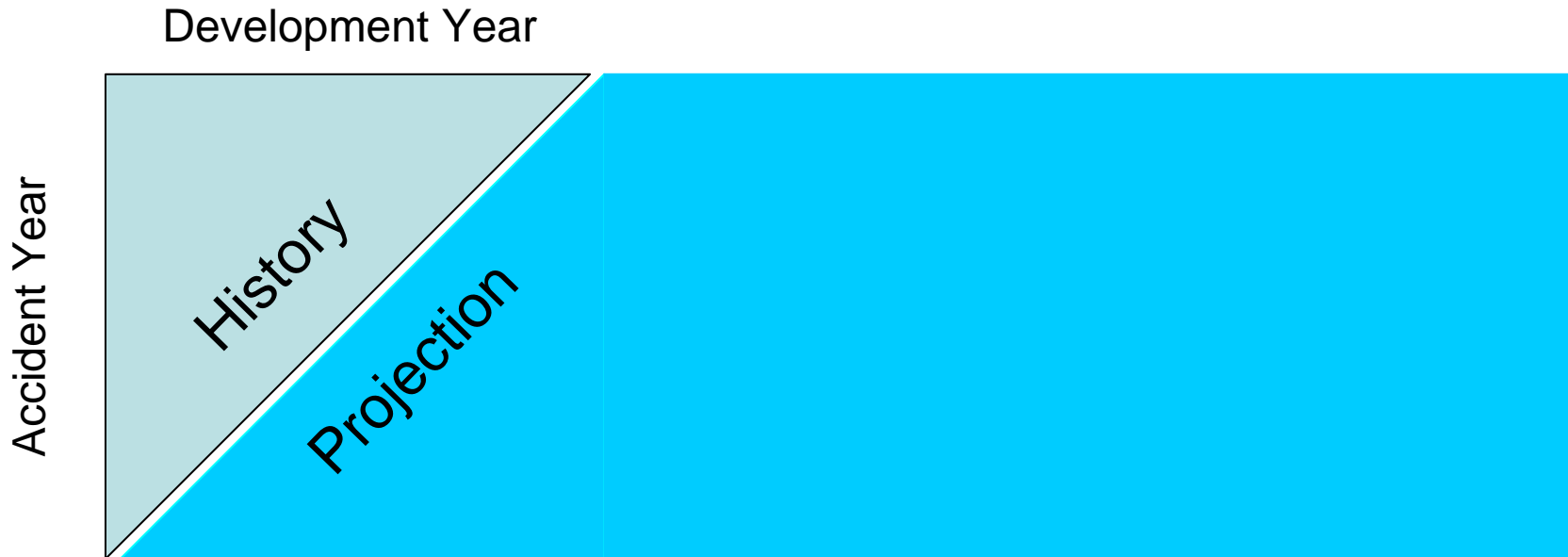
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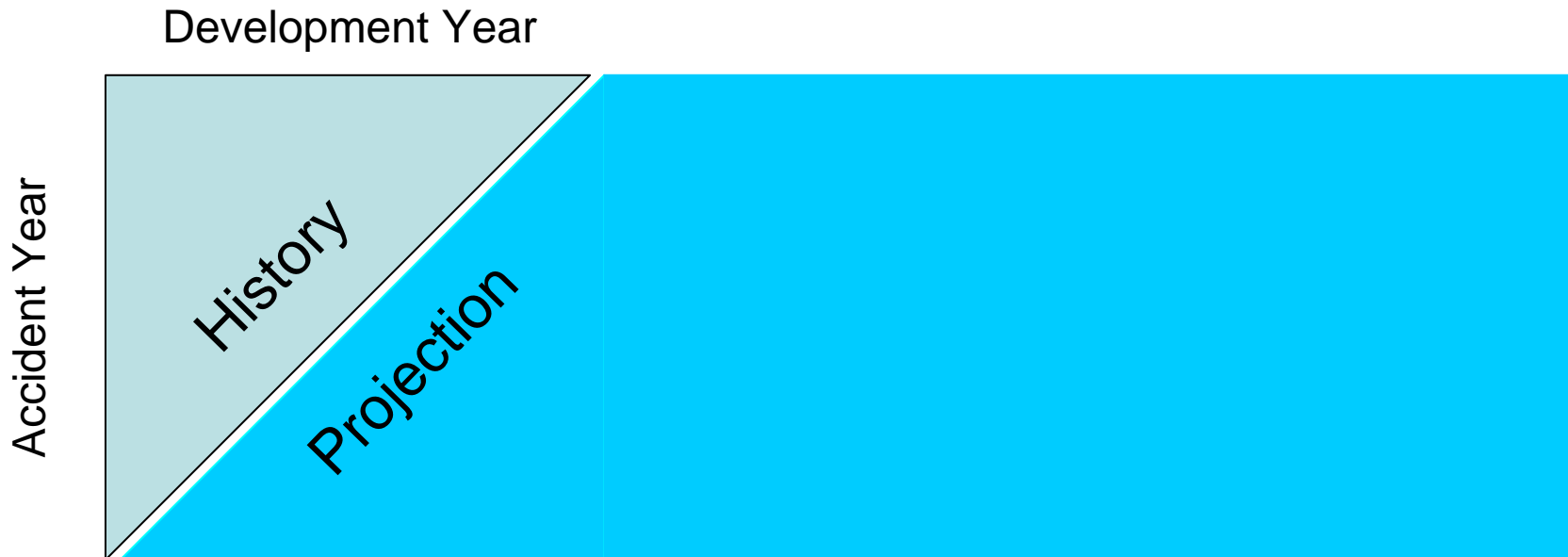


The basics





The basics



- Multiple payment types
- Historical changes to benefits and utilisation
- Small datasets
- Heterogeneous claimant pool (eg age-mix by accident year)
- Batch processing



Paper's Purpose

- Typical self Insurer outstanding claims analysis
 - Combines all payment types
 - Applies standard triangulation techniques
 - PPCI and PCE approaches are very common
- Paper's Purpose
 - Critically review whether such approaches are likely to be predictive
 - Test conventional wisdom that payment-type analysis is impractical
 - Present a payment-type framework that seems to be workable
 - Compare typical aggregate & payment-type projections
 - Discuss other advantages of payment-type approaches



Presentation Structure

- NSW liability structure
- 2001 Scheme changes
- Observations on aggregate approaches
- A payment-type approach
- Comparison of results on change-over
- Insights from payment-type analysis



NSW Liability Structure

- Weekly income replacement – to 1 year after aged pension entitlement
- Medical benefits – potentially for life
- Section 66/67 – lump sums that do not settle the claim
- Common Law – now economic loss only
- Legal & Investigation
- Other minor types – death, commutation
- Claims Handling Expenses

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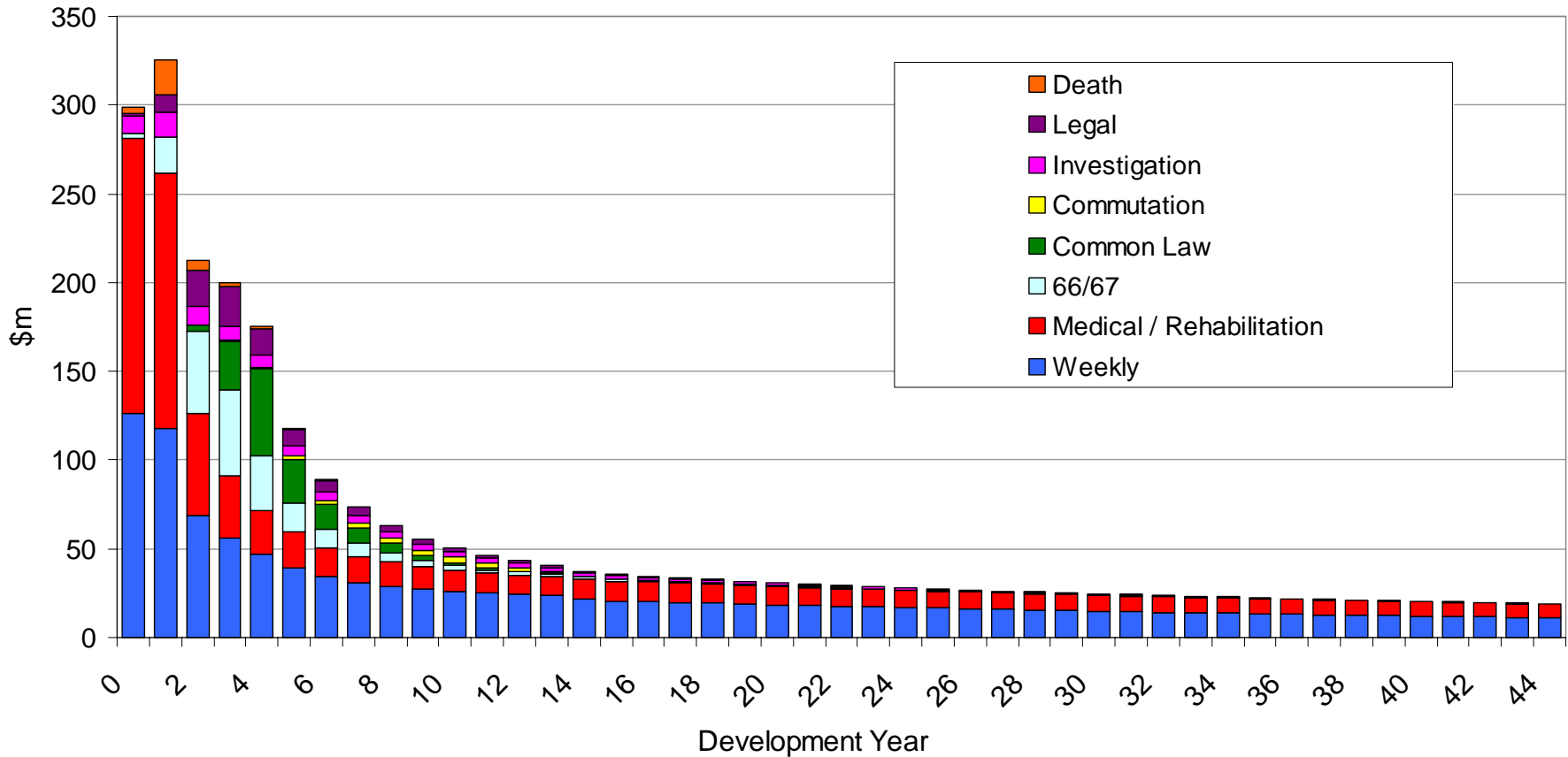
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Scheme - Current Accident Year - Projected Payment Profile





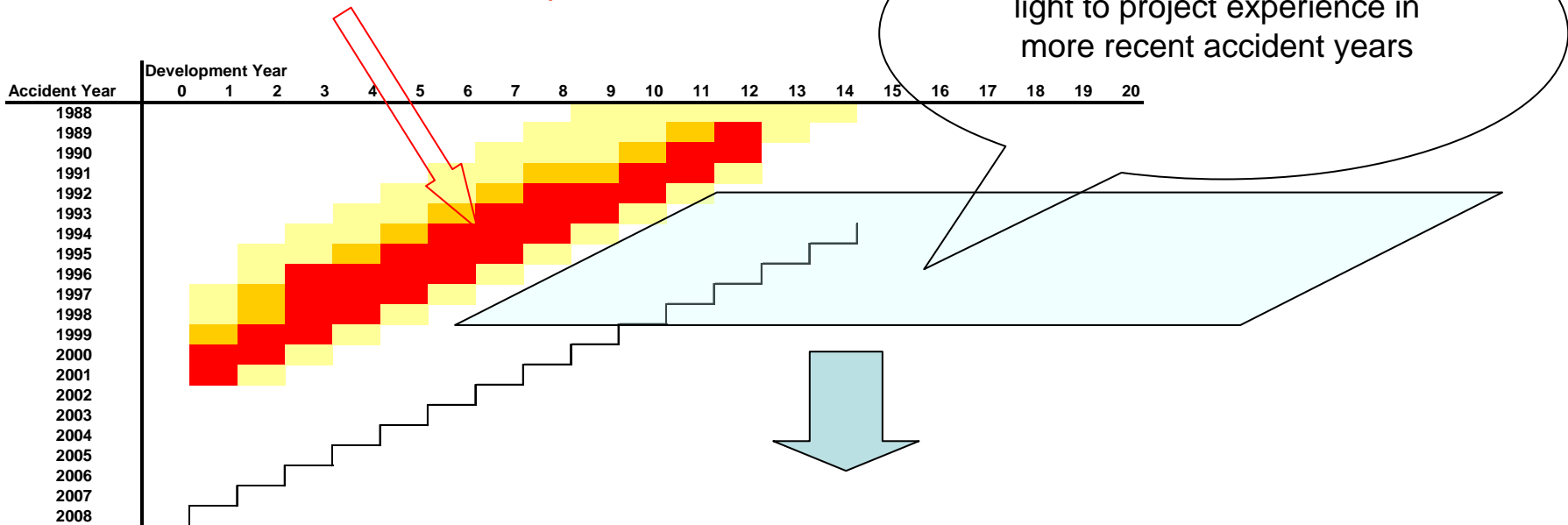
2001 Scheme Changes

- Removal of most lump sum settlements
 - Much more limited access to commutations
 - Common Law
 - New thresholds
 - Non economic loss damages abolished (available via statutory system)
 - Pre litigation procedures to reduce legal costs
 - No irrevocable election between common law and statutory benefits
- Increases to Section 66 & 67 entitlements
- Acceptance of provisional liability
- Controls on legal costs
- Restructured dispute resolution system



Scheme Reform Impact

Commutation & Common Law Lump sum Settlements

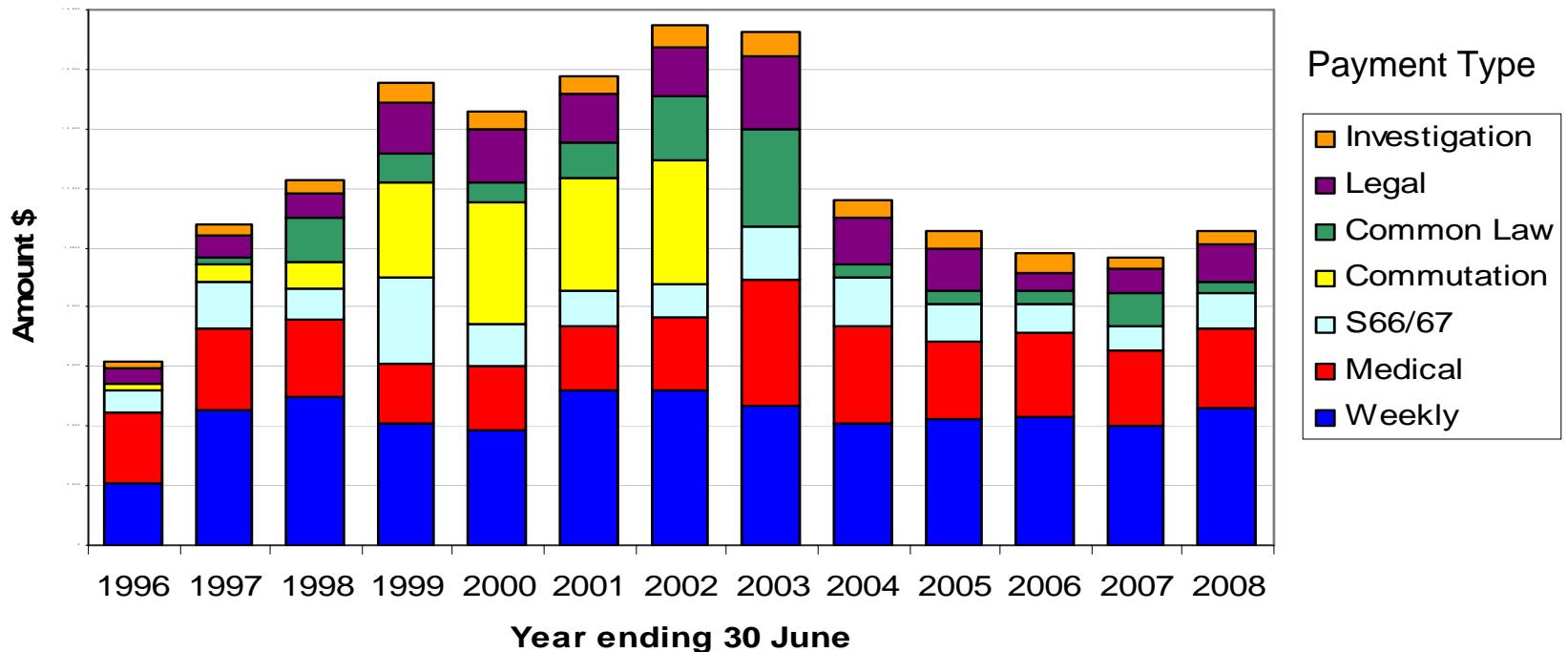


Implications for aggregate, payment-based triangulation techniques



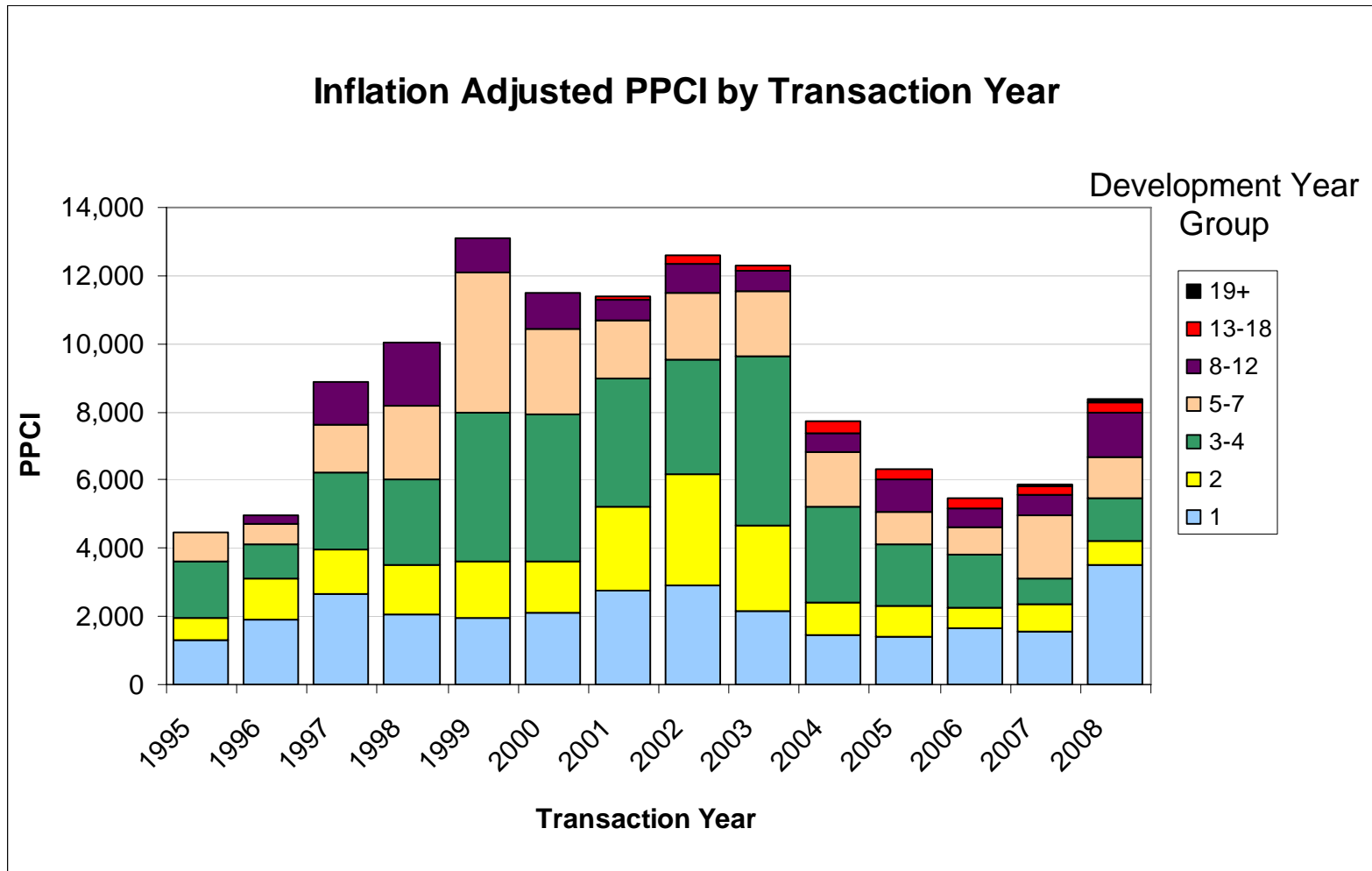
Changes in Payment Composition

**Payments by Transaction Year
Sub-divided by Payment-Type**





Example PPCI History





PPCI Shortcomings

- Volatility
- Number of 'active' incurred claims small
- Future PPCI experience likely to vary by accident year
- Unhelpful structure to determine tail assumptions
- Structure of projected run-off unrealistic (the same for each accident year)
- Generates little useful operational information
- There are more appealing alternatives



Aggregate PCE

- **Case Estimation Manual**
 - Focus is on input to premium formula
 - Caps individual claim contribution to \$150k
 - Only the most recent 3 accident years
 - Certain claim types excluded
 - Weekly benefits
 - At 104 weeks & later – lesser of 6/8 years and 80% of future entitlement
 - Medical
 - Defaults in dollar terms unchanged since 2002
 - Instruction is to take into account caps
 - No allowance for inflation
- **In reality payment-to-outstanding will vary by accident year**
- **Consistent case estimate development across accident years unlikely**



A payment-Type Approach

Breakdown

Most significant

- Weekly benefits
- Medical

Less significant

- Section 66/67
- Common Law
- Investigation & legal
- Other

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Weekly Benefits

Claim No.	Accident Year	Date of Birth	Payment Year							Status	Deemed Rate 31.12.2008	
			2002	2003	2004	2005	2006	2007	2008			
000419	2000	1952 12 08	4,492	-	-	-	-	-	-	-		
000642	2000	1952 11 23	16,337	14,867	16,232	17,578	14,485	-	-	-		
000744	2000	1951 02 13	10,520	12,461	12,924	22,412	29,308	19,228	19,275	y	19,601	
001431	2001	1950 09 21	3,902	-	-	-	-	-	-	-		
001444	2001	1953 02 06	9,433	-	-	-	-	-	-	-		
001681	2001	1950 02 01	6,436	-	-	-	-	-	-	-		
001767	2001	1952 01 09	518	-	-	-	-	-	-	-		
010104	2001	1953 08 24	30,515	16,804	17,257	15,356	16,695	18,729	19,488	y	19,817	
010111	2001	1952 11 30	259	-	-	-	-	-	-	-		
010193	2001	1954 05 25	27,346	1,670	-	45,680	17,262	18,588	20,840	y	21,192	
010244	2001	1953 11 11	-	1,449	-	-	-	-	-	-		
010255	2001	1951 02 02	-	-	3,034	246	-	-	-	-		
010332	2001	1952 01 25	553	-	-	-	-	-	-	-		
010451	2001	1953 09 26	-	1,665	-	-	-	-	-	-		
010480	2001	1951 11 26	1,341	-	-	-	-	-	-	-		
010483	2001	1951 03 06	1,444	-	-	-	-	-	-	-		
970069	1997	1952 02 06	-	-	50,190	6,960	7,200	7,920	7,800	y	7,932	



Weekly Benefits

- **Well-developed accident years**
 - Return to work evidence later than development year 5 or 6 is thin
 - Most beneficiaries are regular annuitants
 - Traditional annuity approach cutting out at age 66 has appeal
 - Can arrange projection to include implicit allowance for common law
 - Consider adjustment for:
 - Late commencing annuitants
 - Non-retirement decrements
 - Evidence of partial return to work
 - ‘Sporadic’ payments (including back-payments for late commencers)
- **Recent accident years**
 - Payments per active claim – with tail informed by annuity projection



Weekly Benefits

- **Observations**

- Reasonably predictable in current-value terms
- Projection not upset by lump sum settlements
- Main areas of uncertainty
 - Inflation
 - Changes to pension eligibility
 - Far-tail return to work & late commencing annuitants



Medical Benefits

Claim Number	Claimant Age 30.6.08	Payment Year						
		2002	2003	2004	2005	2006	2007	2008
970373	49	0	1,783	430	0	0	0	9,021
970489	52	155	0	0	0	0	0	0
970531	62	1,432	155	170	1,270	444	116	597
970611	37	0	0	870	0	0	0	0
970735	47	0	2,011	193	0	0	0	0
970838	54	450	500	0	54	945	0	0
970855	39	0	0	288	0	0	0	0
970869	47	0	0	0	0	0	1,365	922
970873	53	315	2,321	0	0	0	0	0
970938	46	740	32	256	181	459	16,790	24,278
970944	59	1,813	3,540	4,987	4,142	4,687	450	0
970977	46	0	0	1,631	87	0	0	82
970983	46	0	0	0	700	0	0	0
971000	71	197	196	324	52	164	114	0
971003	57	0	700	16,290	0	0	0	0

- Claimants who receive payments each year are common
- Amounts much more variable than income replacement
- High degree of inherent uncertainty
- Untested 'elderly' tail



Medical Benefits

Approach

- PPAC has appeal given benefit utilisation pattern
- Uncertainty justifies simple approach
- Continuance rates
 - Experience-based at early to mid development points
 - Mid-range continuance rate plus mortality in the tail
- Payments per active claim
 - Experience-based where experience exists
 - Tail ??????

Observations

- The most significant contributor to uncertainty
 - Consequence of potentially extraordinary tail length
 - Unknown 'elderly-claimant' effects
 - Questionable relevance of mid-tail experience (affected by lump sum settlements)



Other Payment Types

Section 66/67

- Projection = Numbers x Size Profile
- Can be informed by Scheme valuation patterns
- Bornheutter Ferguson for numbers
- 'Initial' numbers estimate a percentage of number of incurred claims

Common Law

- Similar approach to Section 66/67 – informed by Scheme Patterns for IBNR
- Individual circumstances for any reported claims
- Late settling claims are implicitly allowed for in weekly benefit analysis



Other Payment Types

Legal/Investigation

- Similar characteristics mean they can be considered together
- A high proportion tend to be associated with lump sum settlements
- Low financial significance
- A simple PPCI may suffice
- Paper also sets out a more detailed approach

Death

- Individual circumstances

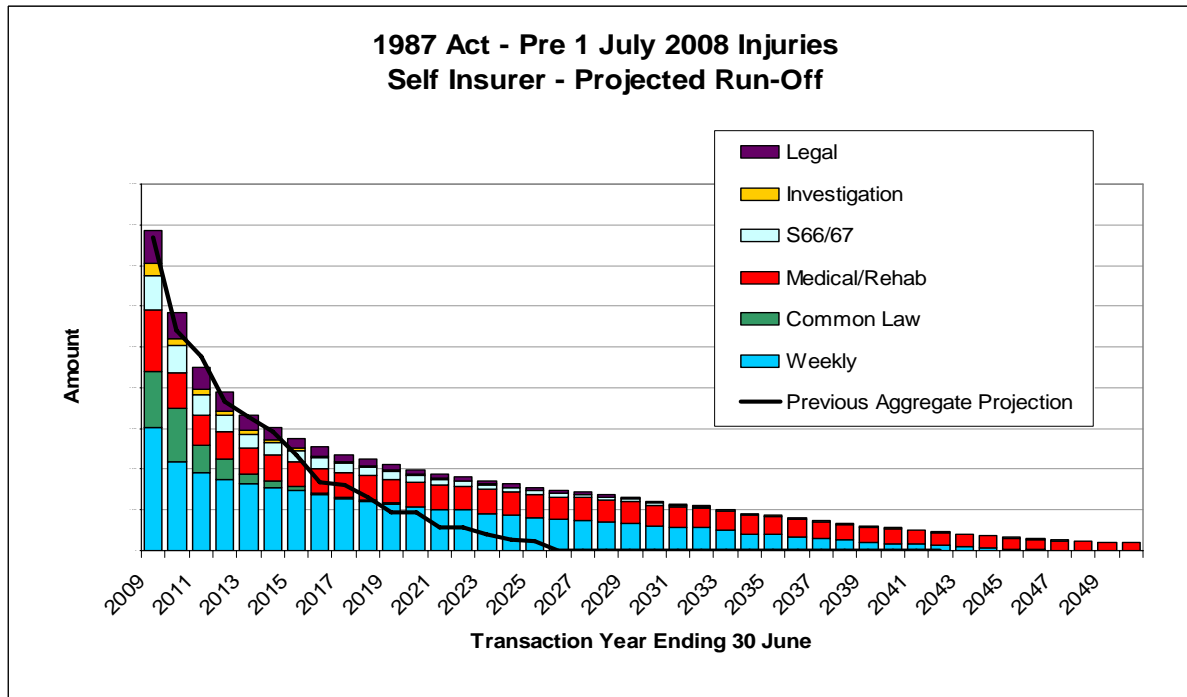
Recoveries

- Typically expected to be of low financial significance
- PPCI or case reserves

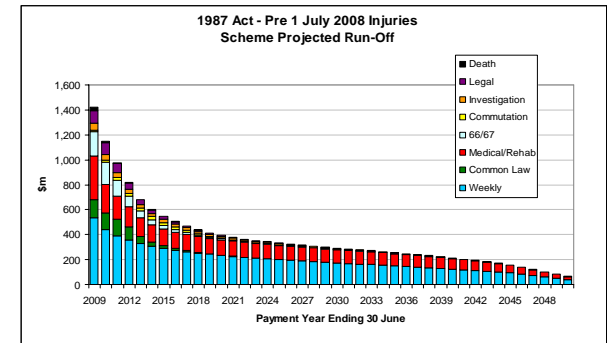


Result comparison

Self Insurer



Scheme





Payment-Type Review General Benefits

- More confidence in valuation result;
 - Valuation process better mirrors claims generating process
 - Better predictors can be brought into the valuation (eg age of claimant)
 - Scope to bring in collateral information
- Increased incentive to keep up with scheme developments
- Adaptation of result to monitoring systems
- Better starting point for costing of alternative benefits

- **Operationally meaningful communication enhances actuary's credibility**
- Opens up possibility for corrective actions by the self-insurer
- A much more useful result to the business

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Questions