

28 November – 1 December 2004

Xth Accident Compensation Seminar

2004



Institute of Actuaries of Australia

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NSW Coal Mining Industry A Case Study

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With an Introduction by Ian Farrar of Coal Services**



Institute of Actuaries of Australia



Overview

- Introduction
 - Ian Farrar
- Background
 - Chris Wallace
- Industry dynamics impact on claim frequency and size
 - Melissa Yan
- Claim frequency impact on scheme cost comparisons
 - Peter McCarthy
- Accident prevention impact on claim frequency
 - Chris Wallace
- Challenges for other schemes
 - Peter McCarthy



Introduction



History

- Commonwealth and NSW Governments establish the Joint Coal Board (JCB) in 1946
- JCB commences Coal Mines Insurance in 1948 as an industry scheme
- Commonwealth withdraws from JCB in 2000
- NSW Government establishes Coal Services Pty Limited (CSPL) in 2001
- CSPL owns Coal Mines Insurance



The NSW coal industry today

- Significant scale
 - Employs 10,165 people
 - Produces 142 million tonnes of raw coal, worth \$6.8 billion
- Significant export production
 - NSW exports 54% of its production
 - Total world trade 668 million tonnes
 - NSW exports are 11.5% of total world trade
- Significant NSW impact
 - Direct and indirect employment in regional communities
 - 93% of NSW electricity comes from coal-fired generation
- There is currently a coal “boom” with both increased demand and increased prices



Background



CMI scheme

- Historically operated under same legislation as NSW workers compensation schemes
- Left out of 2001 scheme and benefit reforms
- CMI now has more generous benefits
 - Longer weekly benefits
 - Benefits are uncapped and include bonuses
 - Common law and redemptions are major features of the CMI scheme
- Accident pay extends the benefits duration at award rates of pay
- We estimate CMI benefits are theoretically 30% to 40% higher than NSW WorkCover scheme



CMI scheme reviews

- In 2000, KPMG undertook a review which lead to establishment of CSPL
 - Recommended CMI remain separate to WorkCover and be an industry specialist monopolist insurer provided performance improved
- In 2003, Ernst & Young undertook a review on the progress of scheme improvement
- In 2004, Ernst & Young reviewed the monopoly arrangement for the scheme
 - Report has been provided to NSW Government and will be tabled in parliament



Industry dynamics impact on claim frequency and size



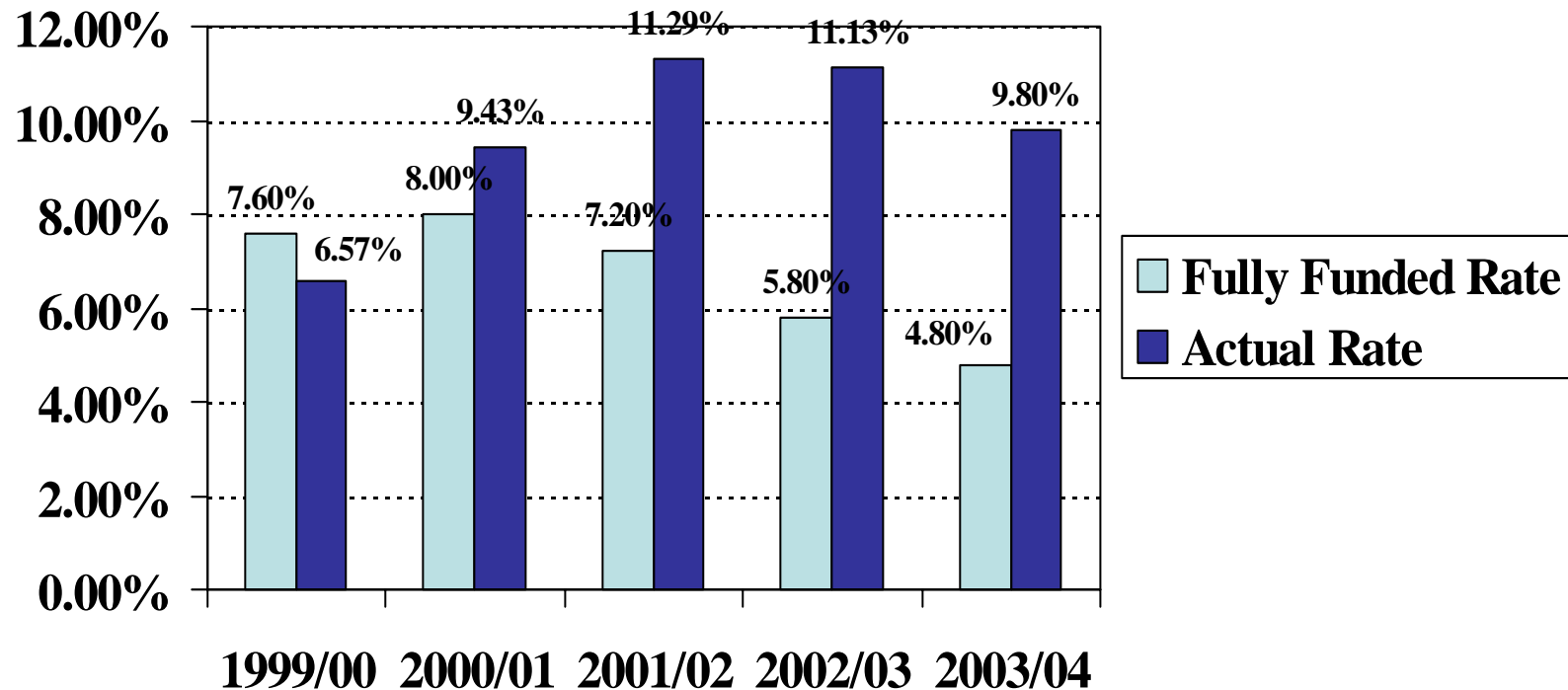
Exposure trends

- Reduction in workforce
- Productivity increased
- Aging of workforce
- Shift from underground to open cut
- Growth of large employers (rationalisation)
- Growth of contractor workforce
- Trends have impacted claim frequency, average cost, and premium rates



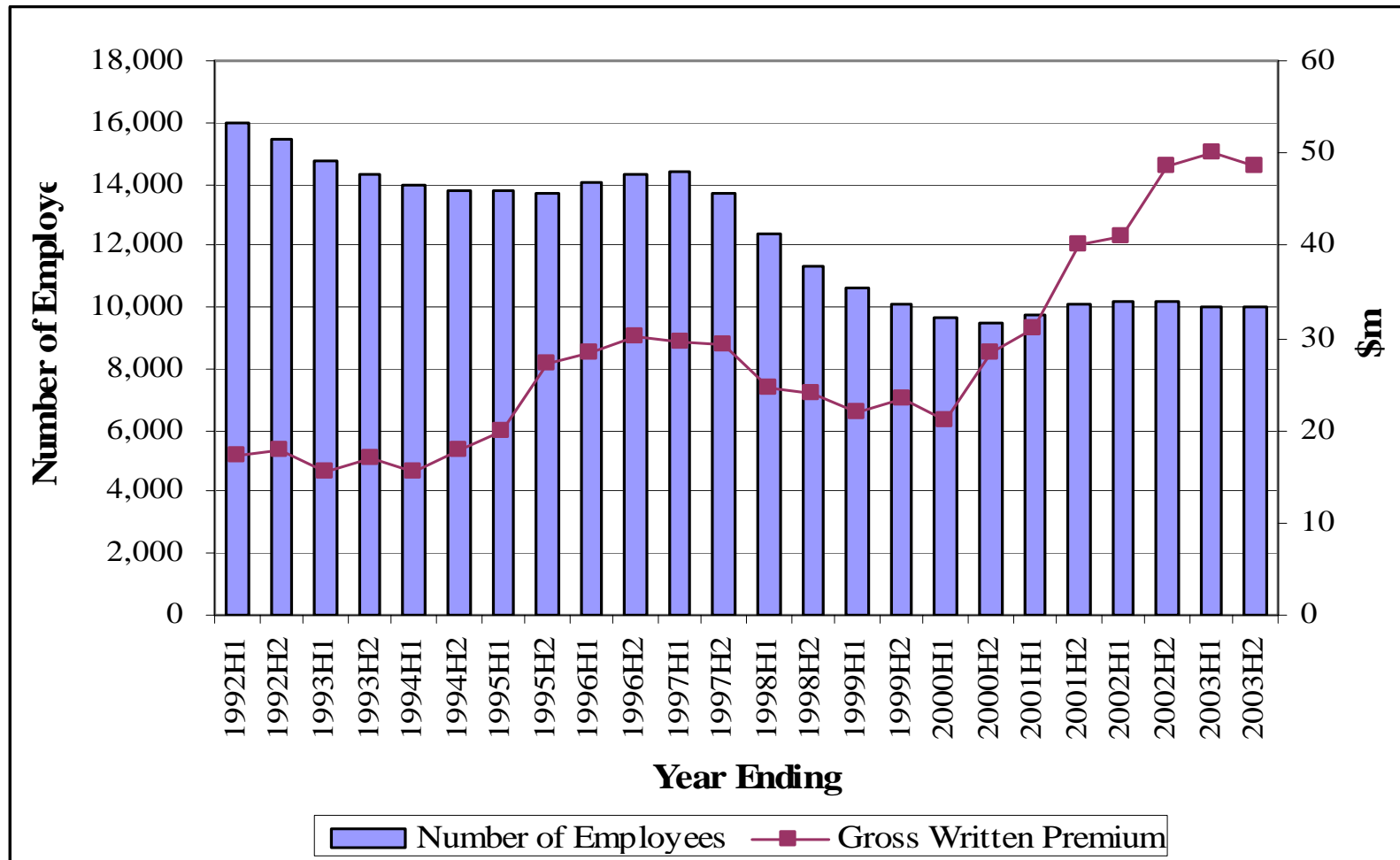
Premium rates

Estimated Fully Funded Premium Rates for CMI



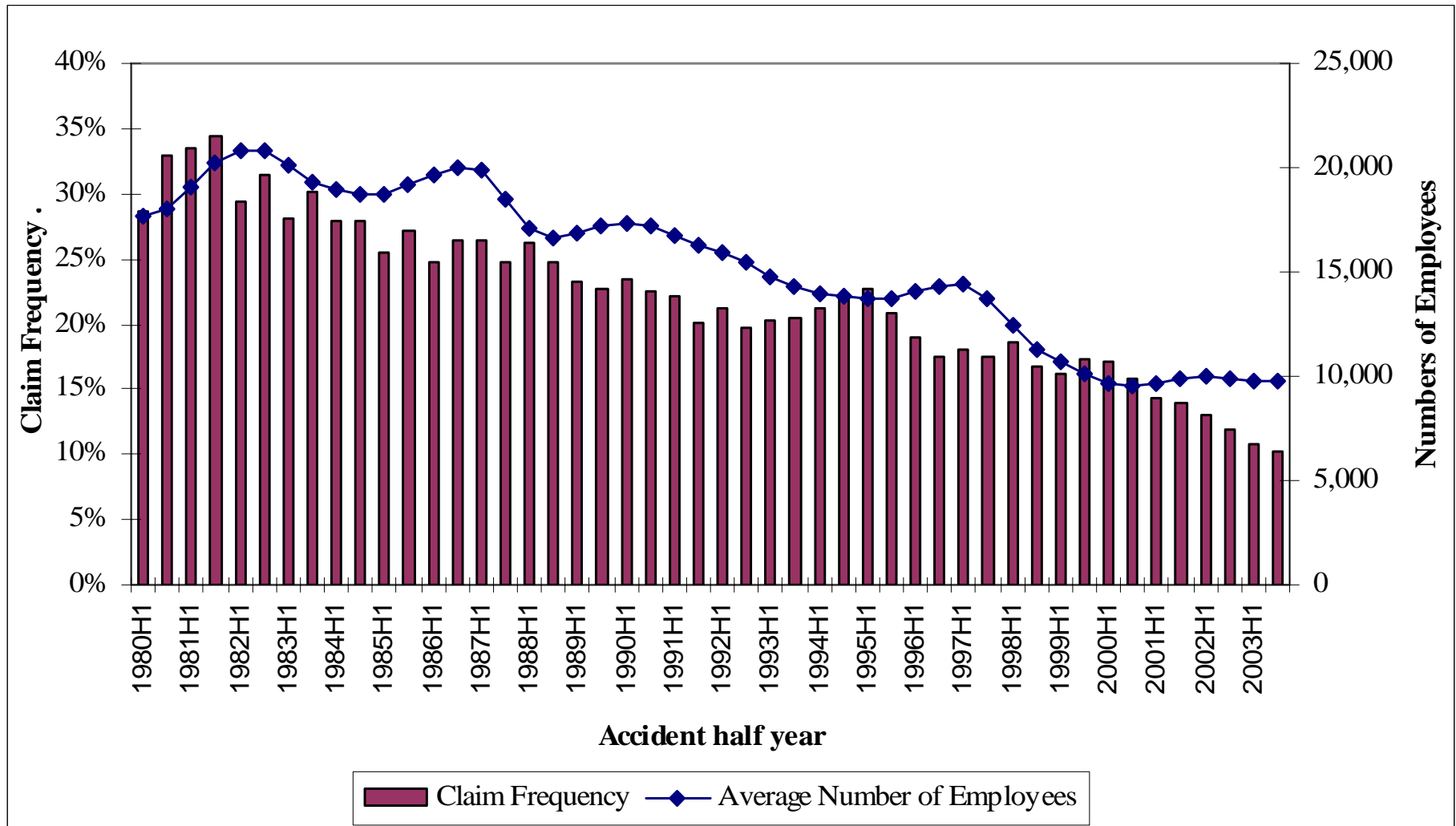


CMI overall exposure experience



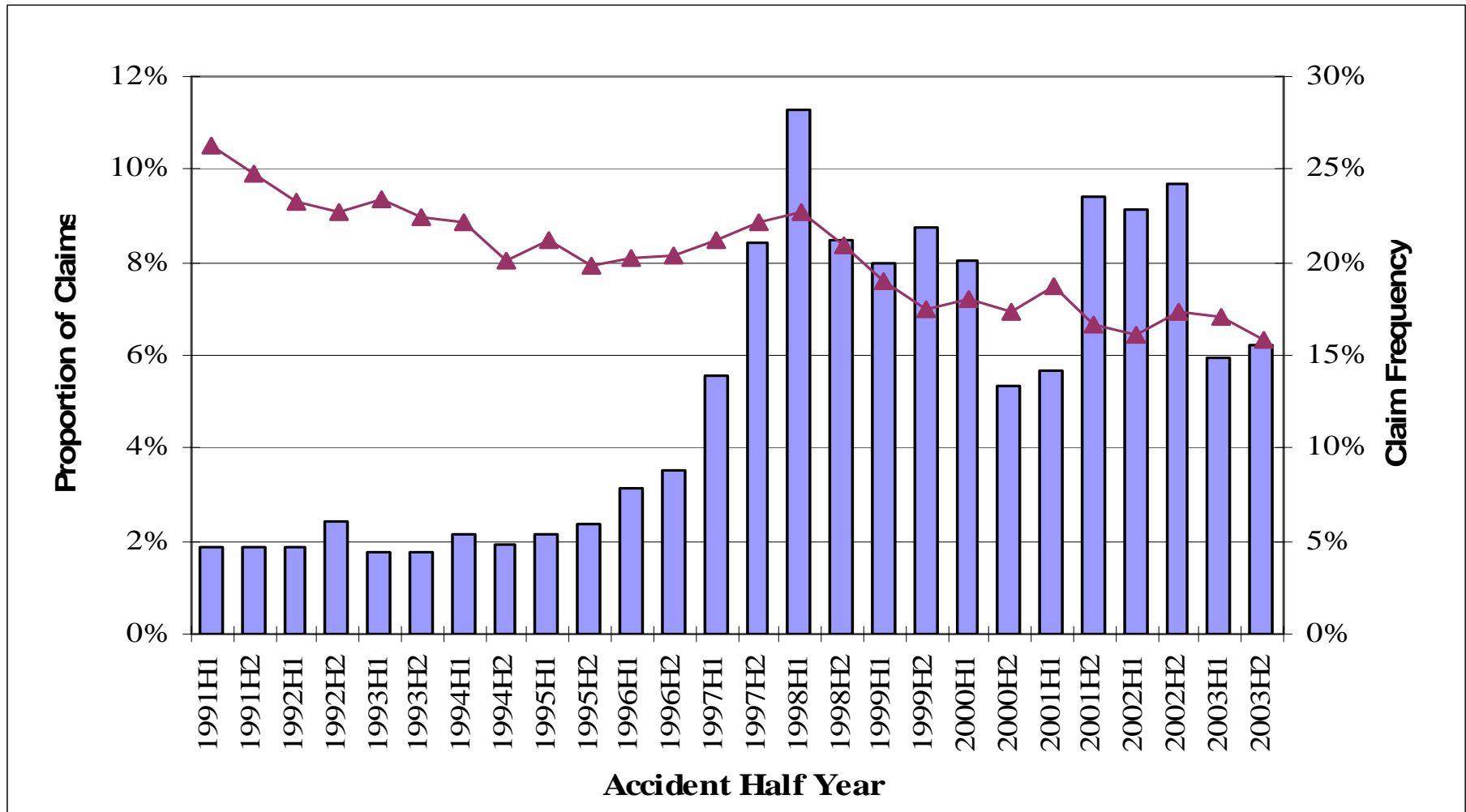


Claim frequency per half year



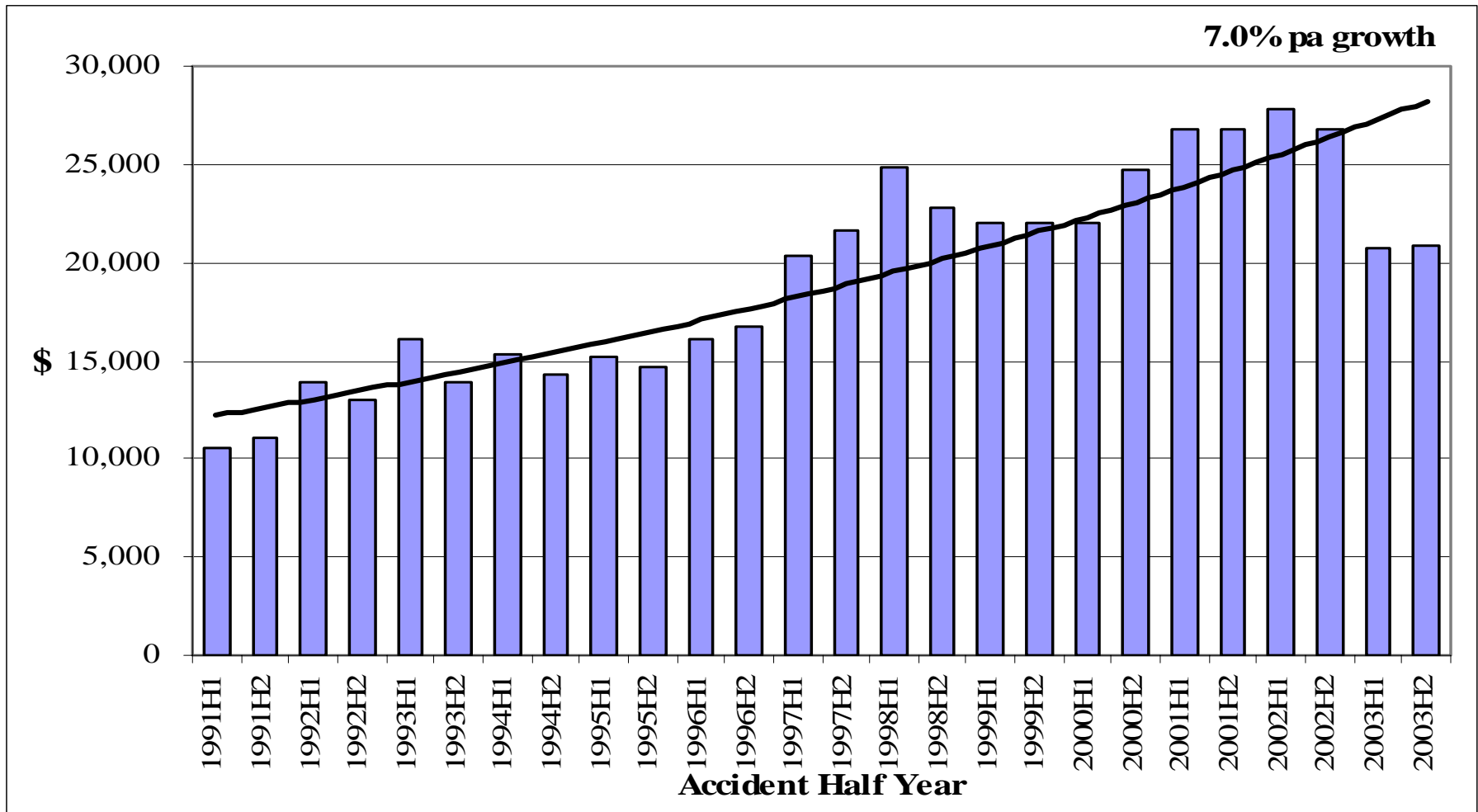


Proportion of ultimate retrenched claims





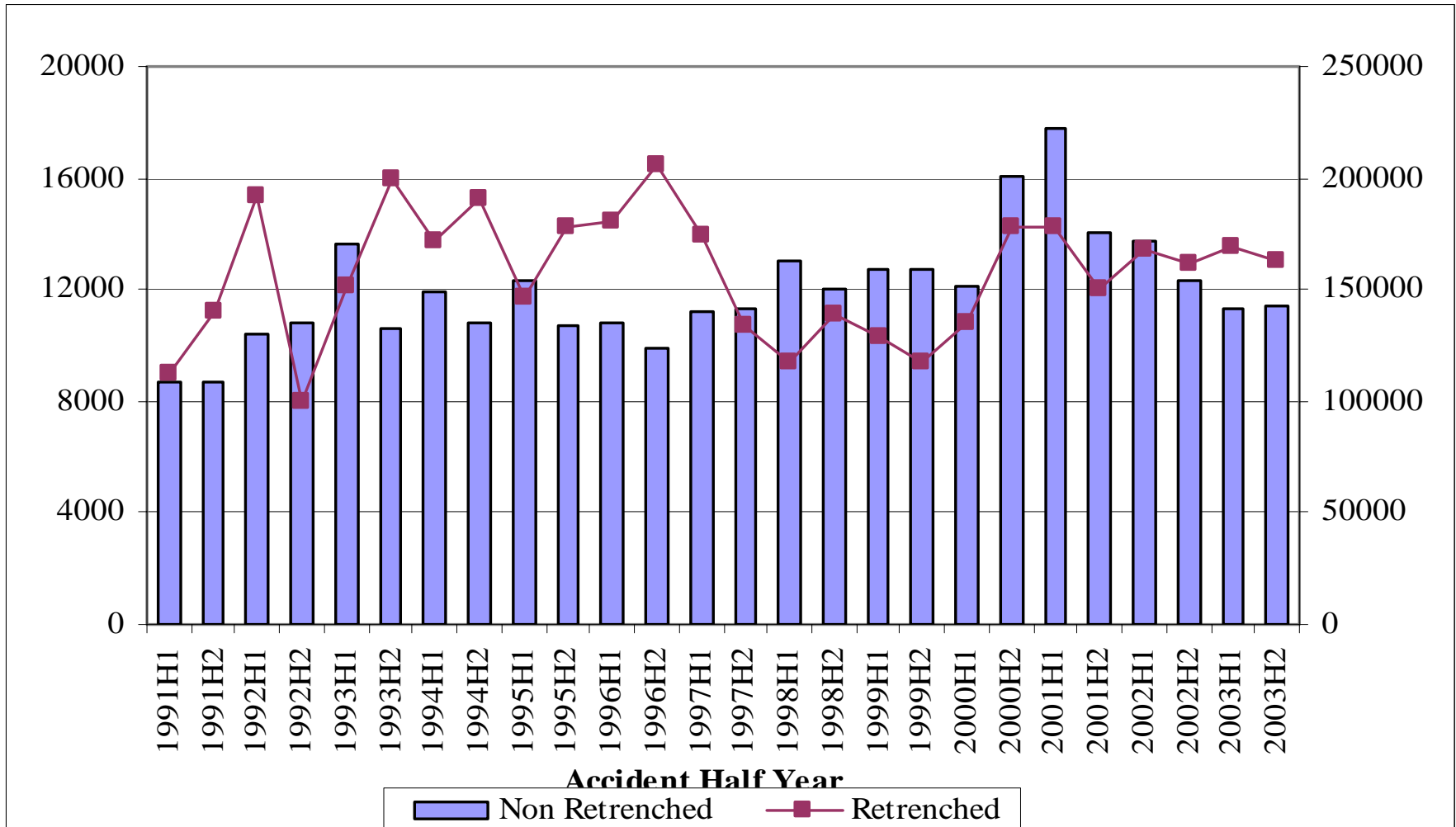
Ultimate average claim size





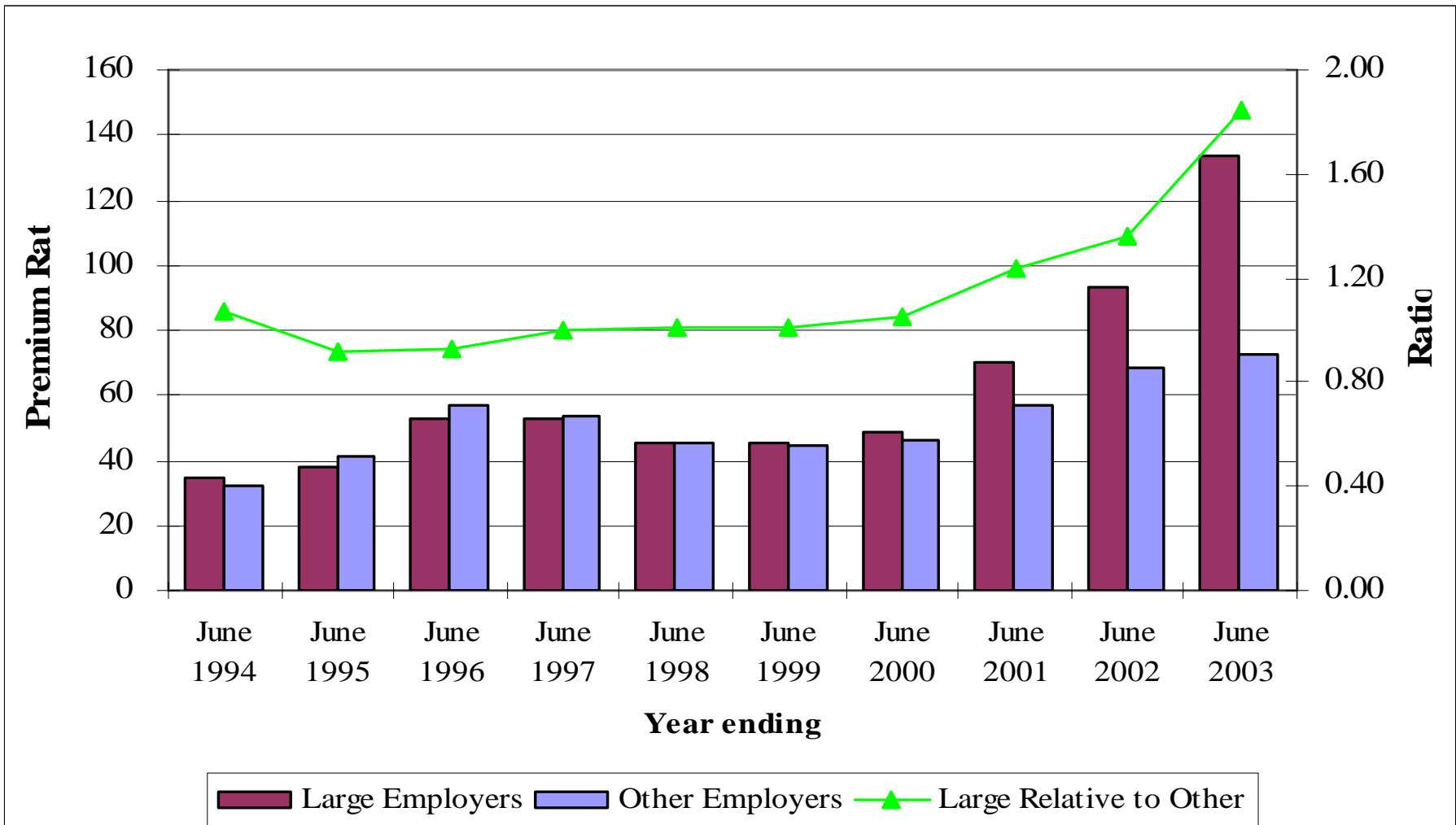
Ultimate average claim size

Non-retrenched and retrenched



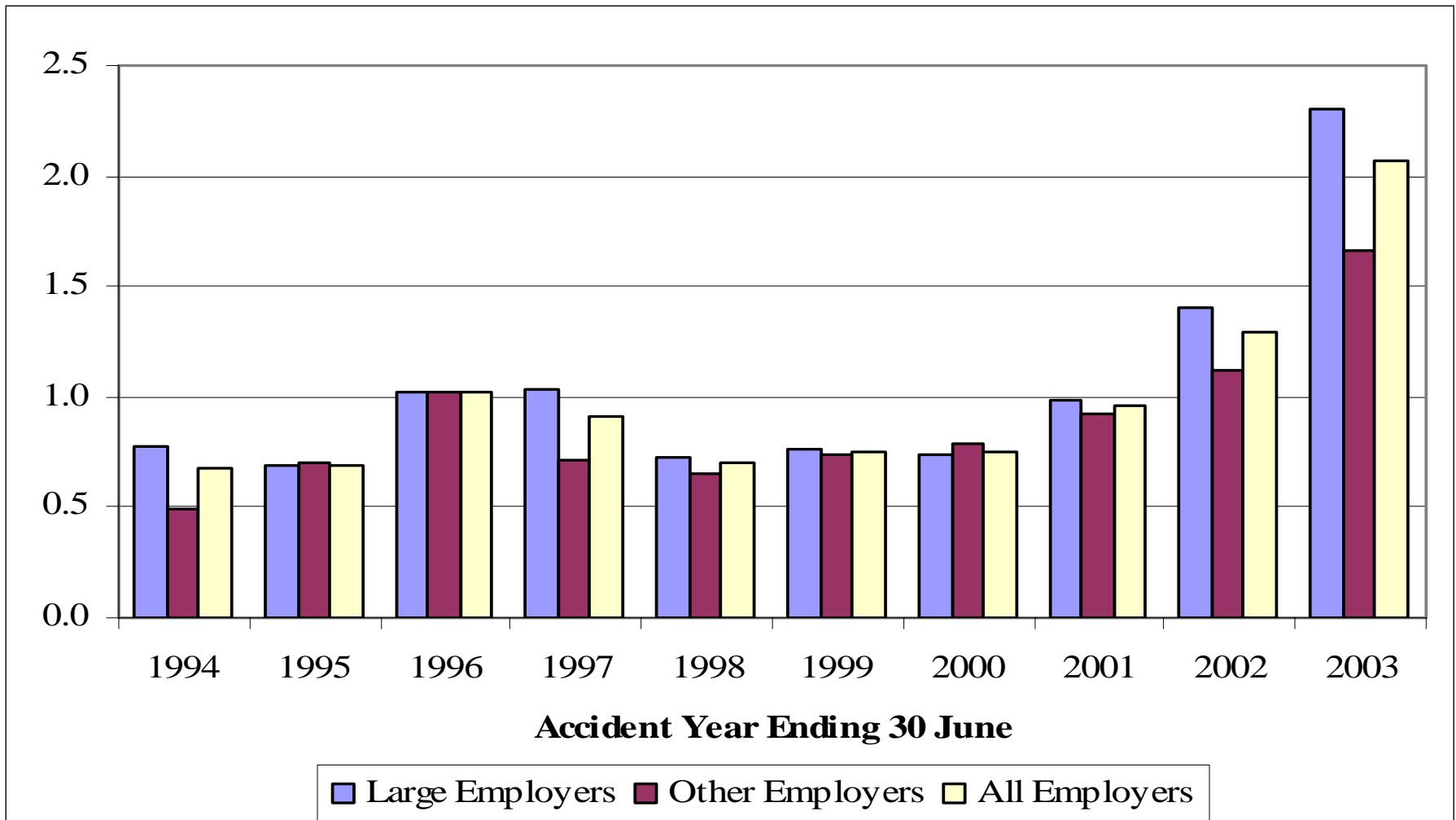


Average premium rate (large v small)





Premium coverage ratio





Employer size issues for premium

- Claims costs for inactive policies (those no longer in business) are currently spread to current policyholders in proportion to their incurred costs
 - Large employers pick up a greater share of costs of ceased employers
 - In other schemes, these costs are partly born by all industries
- Question? – who pays for industry restructuring



Scheme Cost Comparisons



Introduction

Approach

- Estimate the theoretical cost differences in benefits
- We compare scheme average premium rates after adjustments
- We compare claim frequency differences

Theoretical difference

- CMI scheme is between 30% and 45% more expensive than NSW, excluding accident pay
- CMI scheme is a further 10% more expensive than NSW for the higher cost of capital and risk margins



Adjustments

Operational differences

- Accident pay in CMI
- Excess in QLD
- Profit margins in QLD
- Expenses for CMI scheme
- CMI premium rates are currently higher than the fully funded level

Scheme differences

- NSW average premium rate 2.8%, adjusted to QLD industry mix is 3.20%
- QLD average premium rate 1.55%, adjusted for profit margin is 1.43%
- CMI rates reduced to reflect the difference in underlying broader scheme premium rates
 - Reflects cultural and benefits differences



Summary of results

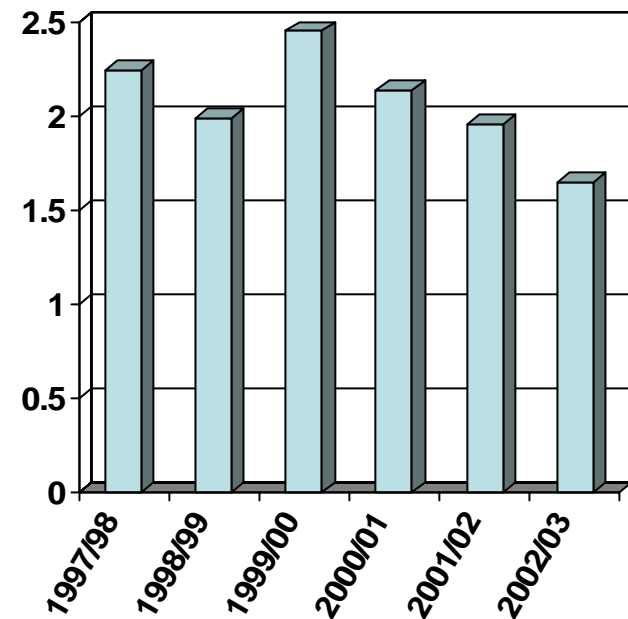
Comparison	Adjustment	Difference in weighted average premium rate
CMI versus NSW mining	None	45% higher
CMI versus NSW mining	Operational adjustments	16% lower
CMI versus QLD coal	None	430% higher
CMI versus QLD coal	Operational adjustments	190% higher
CMI versus QLD coal	Operational + scheme adjustments	10% lower



Claim frequency comparison

- CMI versus QLD coal claim frequency
- Measured number of claims reported divided by \$100,000 wages
- NSW claim frequency is about twice that of QLD
- Similar ratios also found in “Comparative Performance Monitoring Reports”

Ratio of NSW to QLD Coal Industry Claims Frequency





Accident Prevention



Survey

- Surveyed NSW coal mines for accident prevention practices, and compared survey responses to claim frequency
- 21 survey responses (out of population of 58 mine sites)
- The survey respondents represented within the NSW coal industry
 - 43% of employees
 - 72% of production



Themes of comments made

- Restructuring of the industry has
 - increased focus on safety
 - Upgraded physical infrastructure
- Current attention is on “behavioral” safety
- Standard systems being implemented across multiple mine sites
- More formalised safety training occurring
- Increase in performance indicators and measurement
- Safety is increasingly being seen as “attitude” or workforce culture
- Fear of prosecution now driving many management decisions



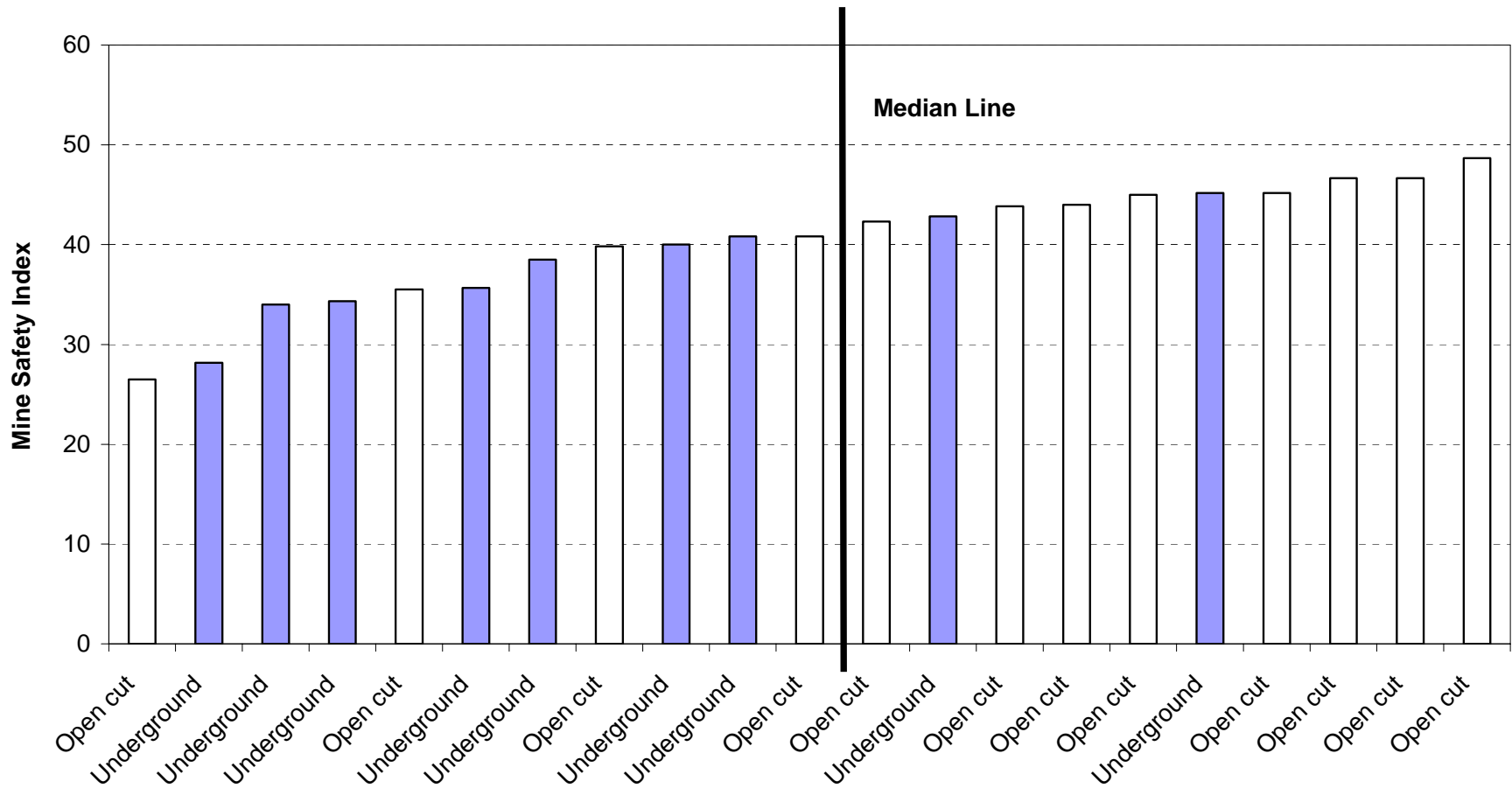
Some of the results

- 95% said they had a mine safety manager
- 95% said they had safety management systems
- 86% said safety was integrated with employment decisions
- 76% said they had a safety expense budget
- 67% said they actively managed age and shift fatigue
- 62% said they had safety in performance agreements for staff
- 52% said they linked remuneration to safety



We developed a “safety index”

Survey Respondents - Mine Safety Index



Results

Claim Frequency Comparisons	FiveYear	OneYear
	Claim Frequency	Claim Frequency
Respondents (Sample)	22.9%	16.6%
Other	30.4%	20.1%
Sample Open Cut	14.1%	8.7%
Sample Underground	31.1%	23.9%
Safety Index High	18.9%	11.8%
Safety Index Low	26.4%	20.4%
Open Cut - Safety Index High	13.8%	8.3%
Open Cut - Safety Index Low	15.2%	10.2%
Underground - Safety Index High	43.4%	32.6%
Underground - Safety Index Low	28.9%	22.7%
Small Company(<=200 employees)	23.5%	18.1%
Large Company	22.6%	15.9%
How successful do you rate your safety program?		
Highly successful	20.0%	13.8%
Moderately successful	23.5%	17.2%
Length of time framework has been in place:		
>3yrs	22.5%	16.2%
1-3yrs	25.9%	20.3%



Practices that most impact safety

- Having adequate resources to implement safety systems
- Linking employment decisions to safety management
- Using open cut processes
- Linking safety measurement to workers comp costs
- Measuring progress towards organisation vision of safety
- Linking production processes to safety management
- Involving the parent company in mine site safety
- Achieving cultural acceptance and buy-in to safety
- Linking general decision making to mine safety



Challenges for Other Schemes



Challenges for other schemes

- Accident prevention is a major driver of scheme costs
- The economic dynamics of an industry are a key driver of claims costs and premiums
- Data, data and data
- We question the significance of the impact of benefit design on claims costs and premium levels
- Cross-subsidies within premium systems are possibly greater within Australian schemes than many realise
- Industry based schemes may be a significant opportunity to improve the claims experience and reduce premiums in other schemes