

Premium Rates Committee of Western Australia

Overview Summary of the Actuarial Report on the Recommended Premium Rates for 2003/04 for Western Australian Workers' Compensation Insurance

1 Overview summary

This overview summary is extracted from the reports presented to the Premium Rates Committee (PRC) of Western Australia. The summary in no way replaces the full report and the reliances and limitations stated therein, rather it is intended for broad communication purposes only.

2 Background

The recommended premium rates are published annually, usually during the June quarter, in the Government Gazette. The published rates broadly follow the Australian and New Zealand Standard Industrial Classification 1993 (ANZSIC) and are sub-divided into 480 classes. This classification standard was introduced from the 1994/95 year. The rates are a guide to insurance companies when underwriting the workers' compensation insurance risks of employers. Depending upon an employers' risk profile and past experience, insurers may discount the recommended rates by any amount, or surcharge up to a maximum of 100% of the applicable recommended rate. Subject to the approval of the Workers' Compensation and Rehabilitation Commission, an insurer may surcharge beyond 100% of the recommended rate.

3 Objectives

The *objectives* of the actuarial assessment of the recommended rates are :

- to calculate the total amount of premium income required
- broad equity across industry classes
- minimal cross subsidy of rates, and
- relative stability in the rating structure.

A further objective is to assess the adequacy of insurers' outstanding claim reserves.

The actuarial assessment includes the calculation of the amount of premium income required to meet the projected cost of claims including expenses and margins with anticipated investment income. From 2001/02, recommended rates no longer make allowance for brokerage/commission costs.

4 Key findings

The *key findings* of the actuarial assessment are:

- recommended Gazette premium rates for 2003/04 should be decreased by:
 - 5.1% for expected claims experience
- this decrease includes the following major influences:
 - stable and close to expected election option lodgements to 31/01/2003, with some increase in the months of July to September 2002
 - better than expected claims experience for 2001/02 and for the half-year to 31/12/2002 (except redemptions and common law payments increase as do case estimates)
 - the 11.2% reduction of the estimated claim numbers incurred from 44,010 (revised) for 2001 to 39,066 for 2002. This gives an estimated 1.1% reduction in cost, assuming smaller claims are saved
 - the assumption that claim numbers will stabilise in future, based on the stable number of 2002/03 claims reported to 31/12/2002 and 31/03/2003
 - an average claim size from our actuarial projection models
 - the 0.2% increase in total expenses and excluding brokerage
 - a 2.4% decrease in common law numbers (central estimate model) with a similar mix of significant and serious claims, decreases costs by around 0.25%
 - a 2.2% increase in premium rates due to the increase in the real market rates of interest used to obtain the present value of projected future claim payments
 - future wage inflation unchanged at 3.5% as per WA Treasury forecasts
 - the once-off effect of removing the 3% allowance for brokerage/commission was accounted for two years ago and does not influence this year's rate change
 - an appropriate allowance for the impact of GST on claims costs is incorporated

- does not include the 10% GST on premium itself
- an eighth accident year's data is used for relative premium rates
- no allowance is made for the State Government's proposed changes to workers' compensation, which are still being developed
- the combination of these assumptions imply an overall 5.1% real decrease in premium rates.

5 Premium rating returns

The latest *premium rating returns* collected are for the 2001/2002 year. These are the *eighth* set of returns based on the ANZSIC industry classification and they are presented on the same basis as last year. The data validation process shows that data quality and efficiency of its collection has improved, however there are still some areas of inaccuracy and issues which need to be considered.

Data for the Government Insurance Fund and Municipal WorkCare was included for the first time in 1997/98. Where possible, the tables presented were adjusted for prior years, to reflect the new funds.

Aggregate data for the half year to 31/12/2002 and unit claim election application data was supplied and used as an indicator of the Act amendment impact on costs.

An eighth accident year's data was added to the ANZSIC class Form WC11.

6 Relative premium rates by industry class

Relative premium rates by industry class were calculated using weighted average data over the eight year period ending 30/06/2002. A hierarchical experience rating system is adopted as the basis of premium rating.

7 Actuarial projection methods

Several actuarial projection methods are used to estimate the incurred cost of claims. The final method was chosen after examining the results obtained and by forming a judgement as to which method or blend of methods to adopt.

The actuarial projection assists with both

- the examination of the adequacy of insurers' declared outstanding claim reserves, and
- the estimation of the expected incurred cost of claims.

This year the treatment of the post October 1999 Act change claim cost projections has been enhanced.

The analysis of expenses and other margins combines with the estimated incurred cost to give a loss ratio, which leads to the calculation of the required premium income and the uniform percentage variation in relative premium rates.

The brokerage component of expenses was removed from the loss ratio from the 2002 premium rates, as a once-off adjustment.

8 Statistical trends

The *statistical trends* observed in the aggregate data up to 30/06/2002 are described below.

8.1 Claim numbers and sizes and estimated incurred costs

Accident year ending 30 June	Estimated number of claims incurred (a)	Average claim size in 30/6/2002 values (b)	Estimated inflated incurred cost of claims \$M (c)
2002	39,066	11,100	471.862
2001	44,010	10,217	471.394
2000	50,735	9,105	463.931
1999	55,714	7,985	418.047
1998	59,859	8,094	436.527
1997	61,184	8,129	433.000
1996	61,161	7,319	375.586
1995	61,528	7,216	360.909

- Notes:**
- (a) includes allowance for IBNR claims
 - (b) in current values before Act change or GST allowances, but including superimposed inflation
 - (c) actual cumulative past payments plus projected inflated future payments.

Comments:

- the number of claims and was fairly stable from 1995 to 1997. Thereafter it decreased by 2% in 1998, 7% in 1999, 10% in 2000, 13% in 2001 and 11% in 2002
- average claim size has increased by 54% in real terms since 1994/95 or 6% pa before allowance for Act changes
- inflated incurred cost increased by 31% (\$111M) between 1995 and 2002, ie from \$361M to \$472M in actual values
- since our estimate last year, the estimated average claim size for the 2001 accident year has increased by 11% to \$10,217 (compared to 4% wage inflation), due to claim cost trends and our enhanced projection techniques.

The analysis of claims experience to 31 December 2002 shows that it is somewhat lower than expected after allowing for the estimated costs saved from the Act amendments, but that claim reports appear to have stabilised.

8.2 Reserving and loss ratios

Some overall market reserving and loss ratios which may assist insurers to judge the relative strength of their reserves are as follows :

Accident year ending 30 June	Cumulative claim payments \$M (a)	Total case estimates \$M (b)	Inflated actuarial incurred cost ests \$M (c)	Total case estimates to claim payments (d)	Ultimate incurred costs/claim payments (e)	Ultimate incurred costs/total case ests (f)	Loss ratios (g)
2002	73.722	248.392	471.862	337%	640%	190%	79%
2001	185.032	326.840	471.394	177%	255%	144%	74%
2000	263.008	353.908	463.931	135%	176%	131%	77%
1999	320.002	377.004	418.047	118%	131%	111%	89%
1998	377.873	417.239	436.527	110%	116%	105%	111%
1997	397.841	421.694	433.000	106%	109%	103%	116%
1996	353.491	366.910	375.586	104%	106%	102%	109%
1995	341.164	351.322	360.909	103%	106%	103%	103%

Notes :
 (a) cumulative actual claim payments
 (b) = (a) + insurer's case estimates outstanding
 (c) = (c) from previous table
 (d) = (b) / (a) x 100
 (e) = (c) / (a) x 100
 (f) = (c) / (b) x 100
 (g) = (c) in \$ / earned premium returned by insurers

By applying the ratios in columns (d), (e) and (f) above, insurers can obtain a measure of the strength of their own case estimates and total incurred claim cost, relative to overall market levels.

Since last year, the case reserving ratio (d) and the ultimate incurred cost ratio to payments (e), decreased for the three most recent accident years and were stable to reducing for earlier years. It appears that insurers have retained their case estimates while payments reduced. The ultimate incurred cost ratio to total case estimates (f) increased for 2000, 2001 and 2002 and were relatively stable for all other years.

The inflated loss ratio (g) is a measure of the cost of claims to earned premium. The higher the loss ratio, the less profitable the portfolio of risks. Most loss ratio estimates have improved since last year due to the continuing impact of the October 1999 Act changes, while there is a increase in the 2002 accident year compared to 2001.

A target inflated loss ratio including all expense and profit loadings would be 85%. The table shows that 1995 to 1998 were very unprofitable as loss ratios far exceeded the 85% target level. The 1999 loss ratio was marginally unprofitable and the early estimates for 2000 to 2002 suggest profitable loss ratios of 74% to 79% which implies insurer premiums could turn out to be somewhat more profitable than the 8% contingency margin allowed. These early estimate should not be relied on because of the high uncertain projected outstanding portion. Around 84% of projected ultimate cost is still outstanding.

8.3 Case estimates, expenses and discount levels and margins

Financial year ending 30 June	Insurers' case estimates outstanding \$M	Total expense levels %	Discount level by insurers against Gazette	Implicit margin in Gazette rates
2002	578.631	16.0%	3.2%	0%
2001	663.111	15.6%	5.9%	0%
2000	667.964	14.2%	5.0%	0%
1999	744.017	16.7%	14.2%	0%
1998	606.247	19.0%	17.6%	10%
1997	513.506	19.3%	23.6%	16%
1996	484.574	18.7%	28.0%	20%
1995	444.736	17.0%		24%
1994	467.406	18.0%		22%

Comments:

- outstanding case estimates decreased by 13% in 2002
- expense levels in 2002 increased to 16% from 15.6% last year
- insurer premium discounts to Gazette rates reduced significantly from 1997 to 2000 and increased in 2001 and then decreased from 5.9% to 3.2% in 2002
- a significant implicit margin in the Gazette rates was removed in 1998. The margin arose in 1994 on introduction of the industry based premium rating classes.

Other trends in the returned data are:

- a material decrease (30%) in incurred number of claims over past four years
- claim payments during 2001/02 decreased by 8% in real values i.e. after allowing for wage inflation
- claim payments in the six months to 31 December 2001 reduced by 4% in actual and 7.7% in real terms compared to the same period in the previous year
- major sources of claim payment reduction is weekly benefits, medical, legal and miscellaneous, while Schedule 1 redemptions and common law increased
- continued decreases in insurers case estimates on open claims
- stable active claim numbers in the three years to 1997, a decrease in 1998 followed by an increase in 1999, a significant (14%) reduction in 2000, a 5% reduction in 2001 and a large 20% reduction in 2002, mainly from the two most recent accident years.

9 Assumptions, observations and conclusions

The analysis of the experience and the trends translate into the following *assumptions, observations and conclusions*:

- a \$11,100 average claim size in 30/06/2002 values which allows for past real growth in excess of wage inflation
- superimposed *inflation* in claim costs of:
 - 6.6% for statutory benefits
 - a historic long term rate of 3.5% per year on common law benefits in future
 - a 1.26% common law claim frequency rate with a \$309,298 weighted average common law claim size including legal costs

leading to

- a \$12,395 adopted average claim size for the 2003/04 underwriting year, in current 30/06/2002 values
- 39,066 incurred claims for 2001/2002 assumed to remain stable for 2003/04
- allowance made for the current cost of claims and the estimated impact of the October 1999 Act amendments based on the now more developed experience of the election option applications
- the 0.2% increase in total expense levels excluding brokerage/commission
- two-thirds of the notional 1.25% allowance for ANTS/GST is made
- the Gazette rates *do not* include the 10% GST on the premium itself
- market rates of interest as at 28 February 2003 are adopted
- future wage inflation remains unchanged at 3.5%, assumed as per WA Treasury forecasts

- an *adopted loss ratio of 80.2% excluding brokerage* in discounted terms, down from 80.4% last year, including
 - an expense loading of 12.65% of premium (12.47% last year), or 16.0% before removing brokerage (15.6% last year), and
 - an unchanged contingency margin of 8% of risk cost
- the *total expense level* of insurers is 16.0% (15.6%), made up of 3.3% (3.1%) brokerage, 1.8% (1.9%) Statutory charges and 10.8% (10.6%) management expenses. The figures in brackets are from last year
- the combination of these assumptions imply a *5.1% real decrease in claim costs*
- retain minimum and maximum premium rates
- the *recommended minimum premium* for a policy remains at \$55 for householder policies and increases to \$170 (\$165 last year) for all other policies
- at 30 June 2002 *insurers reserves* are over-reserved by \$5M (0.4%) compared to the actuarially assessed reserve requirements, while last year they were 8% higher
- average declared *insurer reserves* to claim payments is 327% (313% last year). One current insurer has a ratio less than 290% and 3 had ratios greater than 360%
- declared *prudential margins* over net central estimates, in the range 7.6% to 33.5%, with an average prudential margin of 16.1% (14.4% last year). One large active insurer has a 7.6% prudential margin (being the insurer with low reserves)
- insurer *expense levels* vary between 7% and 25% of premiums, with an average of 16.0% (15.6% last year). Smaller insurers generally have higher expense rates.

10 Communication of Outcomes

The analyses and calculations made highlight the following:

- Gazette rates reduce by 5.1% in aggregate
- the aggregate decrease allows for the impact of the October 1999 Act amendments based on the now more developed election option experience
- this affords more reliance on the results emerging from the actuarial projection model compared to prior year's adjustments required to immature data
- uncertainty still exists about how robust a measure of ultimate incurred cost the recent claims experience will be. The eventual outcome may well differ significantly (either up or down) from the projected level
- the claim costs in the half year to 31/12/2002 are favourable compared to expected
- WA Treasury forward forecasts of WA wage inflation are adopted and market rates of interest as at 28/02/2003
- returned earned premiums for 2001/2002 indicate insurers may achieve a profitable position on the early uncertain estimates (79% estimated loss ratio, compared to a 85% target level).