

Selected indicators of the performance of the NSW CTP Scheme to 2013

1. Introduction

The Motor Accidents Authority (MAA) has requested Ernst & Young (EY) to analyse and comment on specific metrics of the performance of the NSW CTP Scheme (Scheme) as follows:

- ▶ Premium affordability including a comparison with other state schemes (Section 2)
- ▶ Scheme efficiency (Section 3)
- ▶ Significant claims experience trends (Section 4)
- ▶ Insurer expenses (Section 5)
- ▶ Insurer profit margins (Section 6).

EY is the NSW Scheme's independent actuary.

We are preparing a more detailed report of the analysis of key metrics of the Scheme which will be made available in due course.

In this document references to the previous report refer to the report we prepared titled "NSW CTP Scheme Performance Update, 2012". Many of the metrics presented in this document are an update of those presented in the previous report using data to June 2013, with the exception of premium affordability.

The Lifetime Care Scheme is excluded from the analysis (except when assessing the affordability of premiums) since it is not managed by insurers and is instead managed by the Lifetime Care & Support Authority.

The purpose of this letter is to set out the results of our analysis of selected key metrics of the performance of the Scheme.

A considerable amount of the results presented in this letter are based on the regular work that the Scheme Actuary has prepared for the MAA for many years. The results presented are a mixture of an analysis of the observed experience of the Scheme and actuarial projections of estimated future experience conducted as part of regular actuarial work for the MAA.

Please refer to the glossary at the end of this document for definitions of terms used in this document.

2. Premium affordability

We have assessed the historical affordability¹ of passenger vehicle premiums within the NSW Scheme for each 30 June quarter from 2000 to 2013 and the 31 December 2013 quarter.

Whilst premiums were relatively stable between the quarters ending 30 June 2000 and 30 June 2007, the affordability measure significantly improved because average weekly earnings (AWE) increased. Since 2008, when measured against AWE, the price of a NSW green slip has increased from around 28% of AWE for the quarter ending 30 June 2008 to around 36% of AWE for the quarter ending June 2013.

The average premium has reduced for the December 2013 quarter compared to the June 2013 quarter. This is due to a reduction in the MCIS levy set by the MAA and the Lifetime Care & Support Authority from July 2013. This reduction in average premium and the increase in average weekly earnings have improved the affordability measure for the December 2013 quarter to 35%.

In the previous report we estimated affordability of 37% as at 1 February 2013 using insurer rate filings submitted to the MAA and an estimate of the AWE. The affordability measure in the June 2013 quarter of 36% is lower than the affordability measure of 37% estimated in the previous report (hence premiums are more affordable) due to:

- ▶ QBE, the insurer with the lowest premium rates in the quarter, gained market share in the June quarter and the average Scheme premium reduced as a result
- ▶ An increase in average weekly earnings to June 2013
- ▶ Some small reductions in premiums by a few insurers after 1 February 2013.

Interest rates increased during 2013 and we estimated that if interest rates had not increased average premiums (excluding GST) may have increased by about \$20 by the end of 2013. This is a reverse of the situation that occurred over the previous few years where falls in interest rates resulted in a significant increase in premiums.

Since 31 December 2013, the green slip premiums for some insurers have increased providing an increase in the average premium of around \$10, reducing the affordability of the Scheme.

In comparison to other jurisdictions, green slips in NSW remain least affordable as shown below.

Table 1: CTP premium for all passenger vehicles by state for the 31 December 2013 quarter

State	Premium (incl. levies, excl. GST) \$	Affordability %
NSW	494	35
NT	465	32
ACT*	527	31
VIC	370	27
SA	351	27
TAS	307	24
QLD	308	22
WA	257	16

*It is based on NRMA. Suncorp started offering CTP insurance in ACT from 1 July 2013. However, market share information is not available to calculate an average premium for ACT.

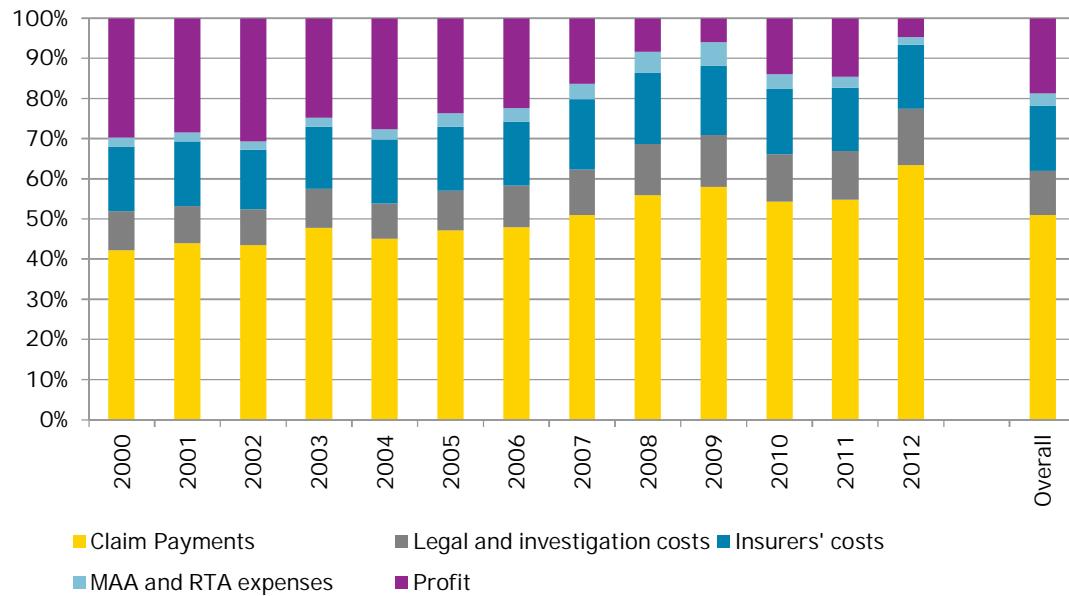
¹ Refer to the glossary for definition

While South Australia and the Australian Capital Territory are introducing a Lifetime Support Scheme from 1 July 2014, which is expected to increase premiums by around \$50 and \$34 respectively, their CTP premium will still remain more affordable than NSW after these increases when measured by the relevant AWE. The same observation can be made for Queensland and Western Australia when they implement a Lifetime Support Scheme.

3. Scheme efficiency

Scheme efficiency² is a key measure of the Scheme performance and can be viewed by stakeholders as an indicator of value for money. The figure below sets out the estimated usage of premiums by underwriting year before adjusting for contracted out legal costs. The yellow bar (percentage of premium that is used for claim payments) indicates the efficiency measure for each year.

Figure 1: Split of premium before adjustment for contracted-out legal costs



The results for underwriting year 2012 indicate that Scheme efficiency has increased to 63% compared to 55% for underwriting years 2010 and 2011. The primary cause of this is premiums did not change much but the estimated cost of claims increased. Note that the most recent year is also the least certain, since claims costs take many years to emerge in the scheme, so the ultimate efficiency measure will not be known with certainty for some years to come.

The average Scheme efficiency across underwriting years 2000 to 2012 is about 50%; the same level we assessed in the previous report.

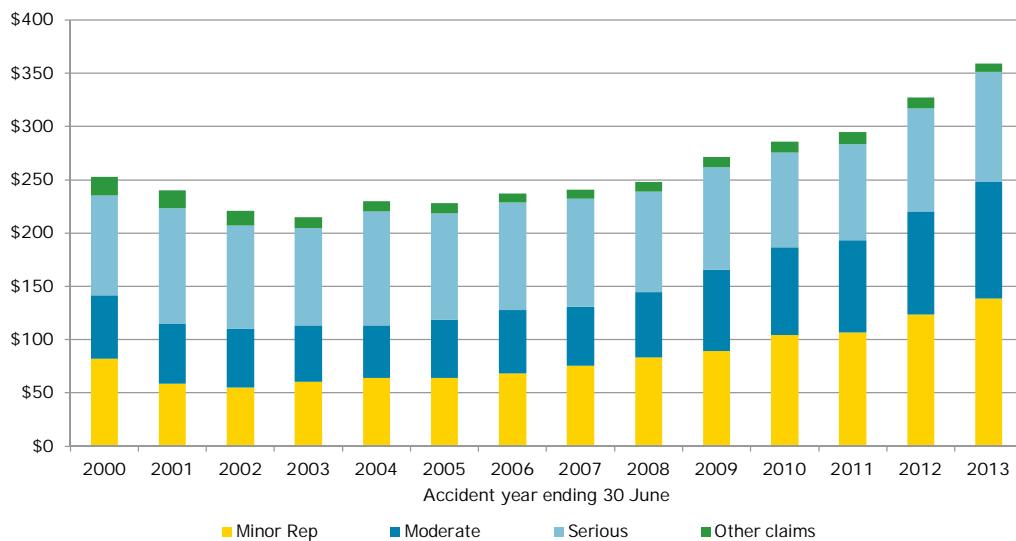
² Refer to the glossary for definition

4. Claims experience

4.1.1 Claims cost per policy

The figure below shows the estimated fully inflated cost per policy for all the claims in the NSW Scheme by accident year since 2000.

Figure 2: Cost per policy for all claims and Accident Notification Forms (ANFs)



The cost per policy reduced from 2000 to 2003, increased slowly from 2003 to 2008 and has increased at a greater rate from 2008.

The main drivers of the increase since 2008 continue to be higher claims frequency for minor severity injuries with legal representation and higher claims frequency for moderate severity injuries.

The cost per policy for minor severity injuries with legal representation has increased by \$55 or 66% since 2008 and for moderate severity injuries has increased by \$48 or 78% over the same time. The increases for minor severity injuries with legal representation and moderate severity injuries are significantly above normal wage inflation, increasing about 11% p.a. and 12% p.a. respectively or 7% p.a. and 8% p.a. above wage inflation. The cost per policy for serious severity injuries has been relatively stable in real terms.

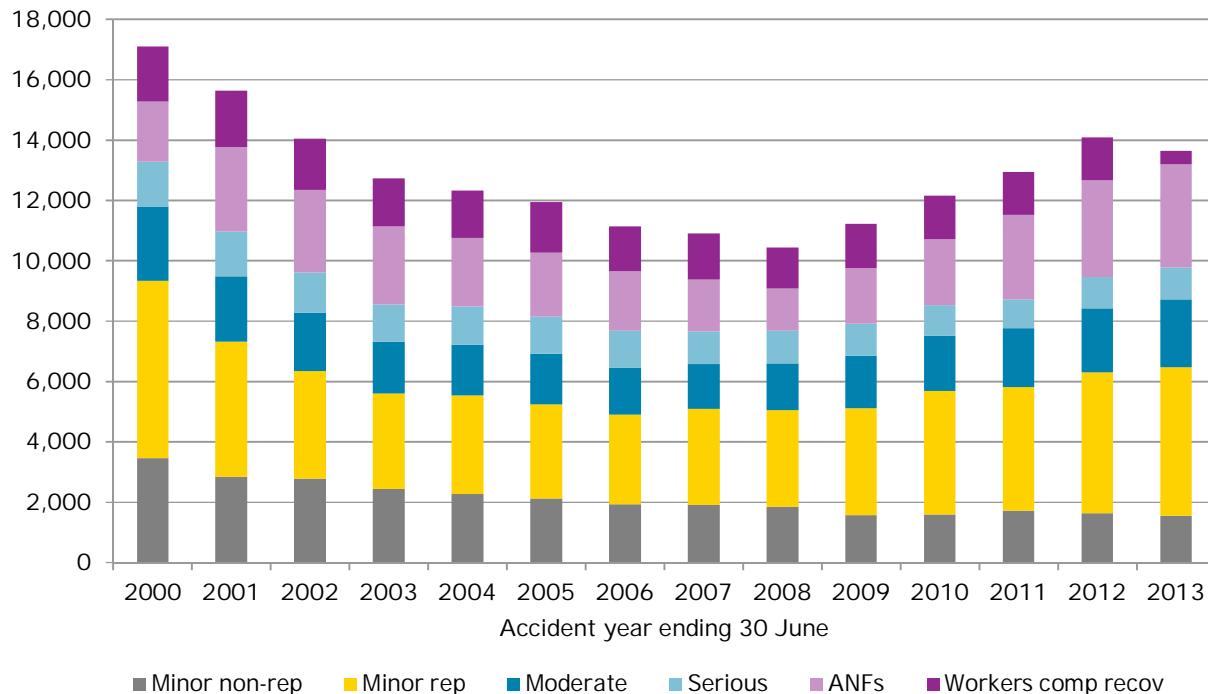
Workers compensation recovery claims, non-legally represented minor claims and ANFs (labelled as "Other claims" in the figure above) represent less than 4% of the cost of claims and as such have a relatively small impact on movements in the cost per policy.

Although not shown above, our analysis also shows that legal and investigation costs have been a stable proportion of total claims costs for the Scheme.

4.1.2 Ultimate number of full claims and ANFs

The following figure shows the breakdown by claim type and injury severity³ of the ultimate estimated number of claims (which includes claims incurred to 30 June 2013 but not yet reported) by accident year, since 2000 for the Scheme.

Figure 3: Ultimate number of full claims and ANFs



The number of full claims (excluding workers compensation recovery claims and ANFs) reduced from accident years 2000 to 2008 but has increased since 2008. This increase has been mainly from claims for legally represented minor severity injuries and moderate severity injuries.

Of the total estimated ultimate number of full claims for accident year 2013 (excluding workers compensation recovery claims and ANFs), 66% were minor severity claims.

Our estimate of the ultimate full claim numbers (excluding workers compensation recovery claims and ANFs) has increased by 27% from 7,683 in 2008 to 9,775 in 2013. The increase is 33% above the decrease in road casualties of 6% during the same period.

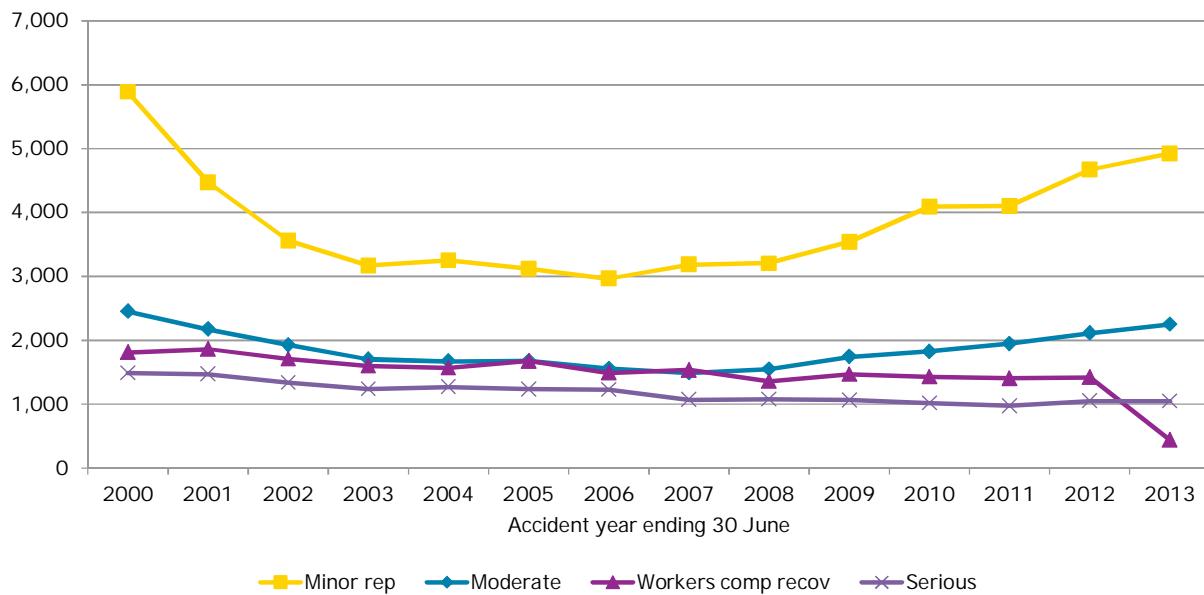
Excluding workers compensation recovery claims and ANFs the number of claims in the 2013 accident year increased by 3% from 2012. The number of full claims and ANFs has fallen due to the significant reduction in the number of workers compensation recovery claims.

³ Refer to the glossary for definition

4.1.2.1 *Ultimate number of claims for minor severity legally represented, moderate severity, serious severity and workers compensation recoveries*

The figure below shows our ultimate estimated number of claims by accident year since 2000 for minor severity injuries legally presented, moderate severity, serious severity and workers compensation recoveries.

Figure 4: Ultimate number of claims for minor severity legally represented, moderate severity, serious severity and workers compensation recoveries



The number of claims for minor severity legally represented injuries reduced by 46% from 2000 to 2003. The number of claims was relatively stable between 2004 and 2008. Since 2008 the number of claims has increased by about 54% despite casualty numbers falling by 6%. The increase in number of minor claims in the 2013 accident year is consistent with the trend from 2008.

For moderate severity injuries, the number of claims reduced by 39% from 2000 to 2007. Since 2007 the number of claims has increased by about 51%. The increase in number of minor claims in the 2013 accident year is consistent with the trend from 2008.

For serious severity injuries the number of claims has reduced by about 30% since 2000 reflecting falling casualty numbers but with some volatility. Since 2007, the ultimate number of claims appears to have stabilised.

For workers compensation recoveries, there has been a significant decline in the ultimate number of claims in the 2013 accident year reflecting the legislative changes to NSW Workers Compensation journey claims from June 2012. From this date if someone is injured in a journey to or from work then he/she can no longer claim under workers compensation but can still claim under the CTP scheme directly. Therefore, it is expected that a proportion of these workers compensation recoveries will emerge as CTP claims. However, as shown in Figure 3, the total number of claims for the Scheme has reduced in the 2013 accident year. Therefore there does not appear to be clear evidence that the number of full claims has increased as a result of the change to the NSW workers compensation legislation. However, as noted earlier, these workers compensation recovery claims do not have a material cost impact on the scheme.

4.1.3 Superimposed inflation

Superimposed inflation has been a long-term feature of personal injury schemes in Australia over many decades especially in common law type benefit structures. It tends not to operate uniformly over time, with periods of very high levels followed by periods of dormancy and at times negative levels. It can be very unpredictable and creates significant challenges for actuaries in assessing premium rates and outstanding claims liabilities.

During the operation of the privatised NSW CTP Scheme since 1989, various actuaries have assessed the levels of superimposed inflation generally adopting similar underlying actuarial methods to the methods we have adopted. The levels of superimposed inflation assessed by various actuaries since the early 1990s can be summarised as follows:

- ▶ For the previous Scheme for accidents up to September 1999 the average superimposed inflation from 1993 to 1996 was around 14% p.a. and around 3% p.a. from 1997 to 2003 (note before 1992 there was limited claims experience on which to measure superimposed inflation)
- ▶ It was difficult to measure the superimposed inflation in the early 2000s for the current Scheme because there were limited numbers of claims finalised. Assessments of the experience to 2004 for the current Scheme indicate negative superimposed inflation for some severity levels. In addition superimposed inflation for the previous scheme was benign during this period
- ▶ For the current Scheme the average superimposed inflation was around 6% p.a. from 2004 to 2009 based on assessments made by various actuaries. It has been around zero since then.

As can be seen above, superimposed inflation has been very variable being around 14% p.a. in some years and in other years negative.

Over longer periods superimposed inflation has averaged:

- ▶ About 3% p.a. since 1998
- ▶ Closer to 4.5% p.a. since the early 1990s.

It needs to be recognised that these averages are over periods of different scheme benefit designs.

The great variability in superimposed inflation experience over time:

- ▶ Has presented significant challenges to actuaries, insurers and the MAA in assessing an appropriate assumption as it can be very unpredictable, and can have a large impact on insurer profits with significant losses emerging in some periods and significant profits in others
- ▶ Resulted in actuaries making assumptions that have varied over time for premium rating and assessment of outstanding claims liabilities. For the NSW CTP Scheme:
 - ▶ In the early 1990s actuaries assumed rates of superimposed inflation of around 3% p.a.
 - ▶ With increased superimposed inflation experience in early to mid-1990s the assumptions were increased to about 6% p.a. and until the 1999 legislative reforms actuaries adopted an assumption around this level
 - ▶ With the 1999 legislative changes some actuaries reduced their assumptions to between 4% p.a. and 4.5% p.a. for a few years while others left the assumption at around 6% p.a.

- ▶ Over the current Scheme until the last few years assumptions adopted by actuaries have varied from around 3% p.a. to 6% p.a. Individual actuaries have also varied their assumptions over time. For example the previous Scheme Actuary adopted assumptions since 2001 that have varied from 3% p.a. to 5% p.a. as the experience varied over time
- ▶ In the last few years with benign experience actuaries have been reducing assumed superimposed inflation rates. Currently, actuarial assumptions for premium rate filings vary between 2% p.a. and 3% p.a. Our latest assumption is within the current range adopted by insurers.

5. Insurer expenses

We have reviewed insurers' acquisition⁴ and claims handling expenses⁵ (CHE), provided in insurers' premium rate filings since 2000.

The growth in the overall business acquisition expenses and net cost of reinsurance from underwriting year 2000 to 2012 was less than the growth in wage inflation. In addition, the overall business acquisition expenses and net cost of reinsurance as a percentage of written premiums has been reducing since 2008.

The composition of insurer business acquisition expenses vary by insurer. The way that the expenses are reported to the MAA also varies by insurer due in part to different approaches each insurer adopts in presenting its own expenses internally. From a review of several recent insurer rate filings, salaries and associated costs, IT and finance costs account for the largest proportion of insurer costs. They account for between 75% and 90% of the acquisition costs excluding commission and reinsurance costs or between \$30 and \$55 per policy.

The total dollar commission for the industry had a downward trend from 2000 to 2008. Since 2008 the dollar commission has been increasing by an average of 12% p.a. closely in line with increasing premiums. From a review of recent rate filings, for insurers who largely acquire business through intermediaries, the commission per policy varies from about \$15 to \$40 per policy. The difference by insurer depends on how much business is acquired from intermediaries and the mix of business by vehicle class and other aspects.

In contrast, for insurers who largely acquire business directly rather than through intermediaries, marketing and advertising costs are much lower. For these insurers recent premium filings suggest marketing and advertising costs account for between 3% and 8% of the insurers' acquisition expenses excluding commission and reinsurance or between \$1 and \$5 per policy. To this cost needs to be added other acquisition expenses (e.g. call centres) to provide a proper comparison of acquisition expenses to those insurers who use intermediaries. These additional expenses are not provided in sufficient detail in premium rate filings.

There has been a steady increase in the dollar CHE at an average rate of around 10% p.a. from underwriting year 2007 to 2012. However, the CHE as a proportion of written premium has been relatively stable suggesting that the increase in CHE is in line with the increase in claim payments and written premium.

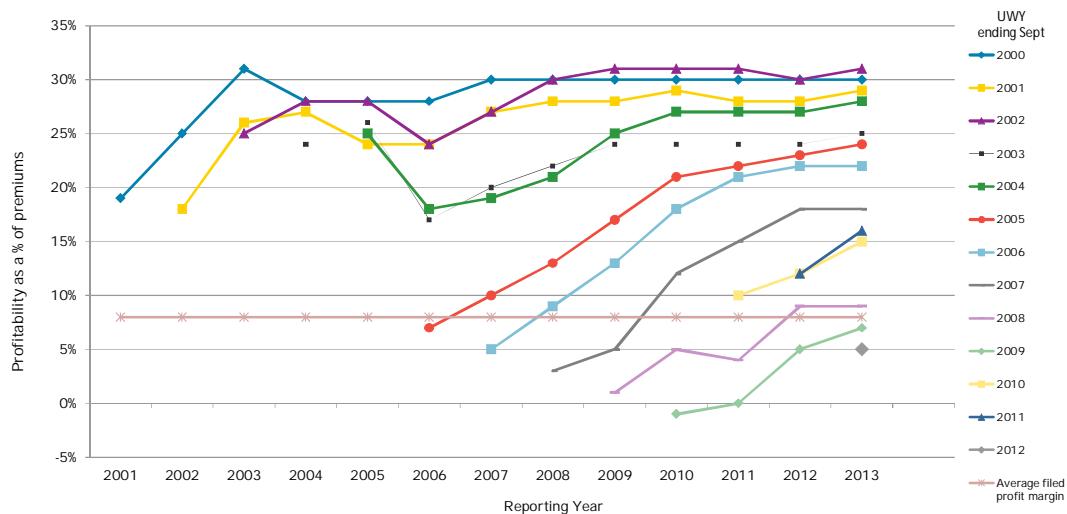
⁴ Refer to the glossary for definition

⁵ Refer to the glossary for definition

6. Insurer profit margins

The figure below shows the changes in the hindsight assessment of profit margins⁶ for each underwriting year since 2000 at each reporting year beginning 2001 as assessed by the MAA's Scheme Actuary. The figure below also shows the average filed profit margin since 2000.

Figure 5: History of CTP profit



*Underwriting years from 2000 to 2002 are ending 30 June in the reporting years from 2001 to 2003

While we have not shown the profit for underwriting years prior to 2000 in this report, Taylor Fry has shown the profit for the underwriting years prior to 2000 in the letter titled "Hindsight estimates of insurers' profits referred to in submissions to the Inquiry into the Exercise of the Functions of the Motor Accidents Authority and the Motor Accidents Council – Eleventh Review" and dated 14 October 2011. Premium written from 1990 to 1992 and 1996 to 1999 underwriting years resulted in profit while premium written from 1993 to 1995 underwriting years resulted in losses for insurers.

We have explored the reasons for the high profits, significant variability in profits between underwriting years and variable assessments of insurer's profits over time. Our insights at a high level of the drivers of the results are summarised below. We have divided our comments for the five underwriting years from 2000 to 2004 and from 2005 and later as the patterns of the emerging profits are different.

For underwriting years 2000 to 2004 there are three key reasons for the high profits emerging. It is not possible to quantify the impact of each as there are significant interaction impacts:

- ▶ In the original costings for the current Scheme in 1999, claims frequency was assumed to be at a level similar to the recent experience for the previous Scheme since claimants were still entitled to economic loss and medical and associated benefits under the current Scheme. However experience emerged at a much lower level in the current Scheme compared to 1999 as illustrated in section 4.1.2 above. The claims frequency did not reduce to a new level at the start of the current Scheme, nor align with casualty numbers. Instead it continued to reduce from 1999 for four years and during that time it nearly halved. The reduction in claims frequency was substantially more than the reduction in casualties during this period. The causes of the reduction in claim frequency are unclear.

⁶ Refer to the glossary for definition

In personal injury schemes delays in reporting of claims defer the understanding of emerging claims experience for a significant period. Consequently except for some small reductions it took about two years for insurers to recognise the significance of the reduction in claims frequency and adjust assumptions in rate filings (note there is up to a six month delay between an insurer analysing claims experience to the date new premium rates are effective). However the continued reduction in claims frequency resulted in claims frequency assumptions being too high for a number of years in insurer's premium rate filings.

Additional uncertainty is associated with a significant reduction in claims frequency as the impact on average claims size can be unclear for many years. In absence of contrary evidence, in situations where a significant reduction cannot be explained by a corresponding reduction in casualties, it is logical for actuaries to assume the reduction in claims is due to minor severity claims not being reported. The reasoning is that these claims forgo little benefits by not reporting a claim compared to moderate and serious severity claims

- ▶ Past superimposed inflation experience for both the previous and current Scheme from late 1999 until 2003 was benign. As the basis of premiums for the current Scheme from 1999 for a number of years was the previous Scheme claims costs adjusted for changes to allow for the reforms, the absence of superimposed inflation reduced the assessed hindsight cost of claims.

In addition, actuarial assumptions of superimposed inflation in the early years of the current Scheme were on average about 4% to 4.5% p.a. while actual experience was much less.

The difference in the assumed average claims size experience and superimposed inflation compared to the adopted assumptions contributed significantly to the additional insurer profits in the first five years of the Scheme. Relatively small changes in assumptions and changes in the superimposed claims experience over a few years can have a significant impact on premiums, outstanding claims liabilities and emerging insurer profits

- ▶ In insurer premium rate filings from 1999 for up to five years, insurers generally assumed the 1999 legislative changes would only be about 80% to 85% effective which increased premiums. As the experience of the Scheme emerged it became apparent the legislative reforms were more effective than had been assumed by the insurers and allowed for in premium rate filings and in the initial costing of the reforms by actuaries in 1999.

This is not unusual as costing of legislative reforms is very difficult and the results are much more uncertain than normal premium rating assessments of an established scheme with considerable past claims experience.

This assumption made a significant contribution to the additional profits in the first five years of the Scheme.

For underwriting years from 2005 to 2012 the main reasons for the high profits emerging and the increase in assessed profits over time are noted below. It is not possible to quantify the impact of each source of additional profits as there are significant interaction impacts:

- ▶ For underwriting years 2008 to 2012 - The benign level of superimposed inflation in the last four years is the main contributor to the higher profits. Each year of superimposed inflation experience that was less than that assumed when the business was written increased the estimated profit, hence the upward slope of the profit lines in the above chart. As the actuaries adjust the assumed superimposed inflation down the estimated profit increases. As noted above the impact of this experience is significant on premiums and insurer profits

Offsetting the impact of superimposed inflation has been the increased claims frequency and increased claims with legal representation since 2008.

- ▶ For underwriting years 2005 to 2007 the main reasons for high profits were:
 - ▶ The decline in claims frequency continued from 2004 until 2007 and was greater than insurers and actuaries anticipated
 - ▶ The benign levels of superimposed inflation in the last four years also contributed to higher profits in 2005 and 2006 underwriting years but to a lesser extent than later years
 - ▶ The slow recognition of the low superimposed inflation from years 2000 to 2003, where the assumptions adopted for premiums in the years 2005 to 2007 were higher than what emerged in hindsight.

7. Uncertainty, reliance and limitations

7.1 Uncertainty

There is significant uncertainty associated with actuarial estimates. Estimates of future claims experience (claims numbers and payments) are always inherently uncertain because they depend on the outcome of future events which cannot be forecast precisely. Examples of claims experience that are particularly challenging to forecast include changes to social, economic and legal environments. Therefore, actual claims experience may emerge at levels higher or lower than the actuarial estimates.

7.2 Reliance and limitations

In undertaking this review, reliance has been placed upon the data provided to us by the MAA, Taylor Fry, public reports from other schemes and information from Victorian Transport Accident Commission, Motor Accident Insurance Commission, Motor Accidents Insurance Board and Motor Accident Commissions. With regards to the MAA data we are specifically relying on the accuracy by which insurers have provided their data to the MAA.

Glossary

Term	Definition																
Accident notification form	The form provides for the early payment of reasonable and necessary medical expenses and/or lost earnings up to a maximum of \$5,000. ANFs can be lodged by at fault and not at-fault injured parties.																
Accident year	The year in which the accident occurred. Accident years run from 1 July to 30 June each year.																
Acquisition expenses	All expenses insurers incurred to acquire and retain CTP business. These expenses include personnel costs and associated costs (e.g. rent, insurance premiums, etc), IT costs, finance costs (e.g. accounting, audit, actuarial, etc), stationery, marketing and advertising costs, commissions and other costs including overhead costs.																
Affordability	Average premium (including levies but excluding GST) charged in the quarter divided by average weekly earnings in the quarter. This consistent with the definition presented in the MAA's annual report and that adopted by other schemes. The higher this ratio the less affordable the premium.																
Claims handling expenses	Expenses related to managing and administering CTP claims. These expenses include direct costs of claims staff managing claims, rehabilitation staff, managers and support staff.																
Claim type	The claims in the NSW CTP scheme are split into full claim, ANF and workers compensation recovery claim.																
Contracted- out legal costs	Costs payable to the legal practitioner representing the claimant, by the claimant, under an agreed private arrangement i.e. those costs in excess of those specified in the MAA Cost Regulation. These costs are not transparent in the insurer or Scheme data held by the MAA.																
Cost per policy	Total cost of claims divided by the number of insured motor vehicles in NSW.																
Inflated cost per policy	Sum of past claim payments nominal dollars and future claim payments including future wage inflation and superimposed inflation divided by the number of policies.																
Injury severity	<p>The table below shows the injury severity level classifications. Specialised insurer staff classify each claimant's injury severity based on the Abbreviated Injury Scale set by the Association for the Advancement of Automotive Medicine.</p> <table border="1"> <thead> <tr> <th>Injury severity level code</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Minor</td> </tr> <tr> <td>2</td> <td>Moderate</td> </tr> <tr> <td>3</td> <td>Serious</td> </tr> <tr> <td>4</td> <td>Severe</td> </tr> <tr> <td>5</td> <td>Critical</td> </tr> <tr> <td>6</td> <td>Maximum</td> </tr> <tr> <td>9</td> <td>Unknown</td> </tr> </tbody> </table> <p>We use "serious severity" to refer to claims for serious severity, severe severity, critical severity and maximum severity injuries Abbreviated Injury Scale. Also we will use "minor severity" to refer to claims for minor severity and unknown severity injuries.</p>	Injury severity level code	Description	1	Minor	2	Moderate	3	Serious	4	Severe	5	Critical	6	Maximum	9	Unknown
Injury severity level code	Description																
1	Minor																
2	Moderate																
3	Serious																
4	Severe																
5	Critical																
6	Maximum																
9	Unknown																
Profit margin	The proportion of premium return in excess of all claims liabilities, insurer costs and expenses. Levies and GST are excluded for assessing the profit margin.																

Term	Definition
Scheme Efficiency	<p>The amount of each dollar paid in premiums that is returned to injured people.</p> $\text{Scheme efficiency} = \frac{\text{claim payments received by claimant } \{ 1(a) \}}{\text{Premium } \{ 1(a) + 1(b) + 2 + 3 + 4 \}}$ <p>where:</p> <ol style="list-style-type: none"> 1. Claims payments: <ol style="list-style-type: none"> a. All claim costs excluding those in 1 (b). Claims costs include estimates of outstanding claims liabilities b. Legal, investigation and medico legal costs. These costs also include estimates of outstanding claims liabilities in respect of legal, investigation and medico legal costs 2. Insurer costs 3. Scheme expenses (MAA administration costs and Roads and Maritime Services levy) 4. Insurer profits.
Superimposed inflation	Assessment of superimposed inflation varies according to the actuarial method adopted. We have measured superimposed inflation as the increase in average claim costs defined as payments per claims finalised, over and above wage inflation
Underwriting year	The year the CTP policy was written or sold. Underwriting years run from 1 October to 30 September each year.