Queensland CTP Market Briefing

Review of the risk premium for the 2018Q3 underwriting quarter

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Taylor Fry estimates the components of the risk premium for the Queensland CTP scheme for each underwriting quarter and advises the Queensland Motor Accident Insurance Commission (MAIC) on these components. MAIC integrates our advice with its own views to set a floor and ceiling for insurer CTP premiums.

The risk premium is the expected future cost of claims made to insurers. We consider "core" claims separately from workers' compensation recovery (WC) and interstate sharing (IS) claims. Each component is separated into the frequency of claim per registered vehicle and average claim size.

Taylor Fry's estimate of the headline risk premium is **$199.77**. This risk premium estimate is before the application of inflation and discounting, and before the reduction due to the costs transferred to the National Injury Insurance Scheme Queensland (NIISQ). This estimate is **$2.48 lower** than our responsive estimate of risk premium made at the previous review (see Figure 1).

The reduction is the net result of two opposing trends that have occurred over 2017. We have continued to observe downward pressure on average claim size which has resulted in a lowering of our risk premium estimate. However, claim notifications in 2017 were consistently higher than 2016, which has resulted in a partially offsetting increase in our risk premium estimate.

If the costs transferred to the NIISQ are considered, then the net impact on insurers of this change in risk premium is a reduction of $0.15. This is because we are now estimating a smaller NIISQ offset as a consequence of forecasting fewer high severity claims.

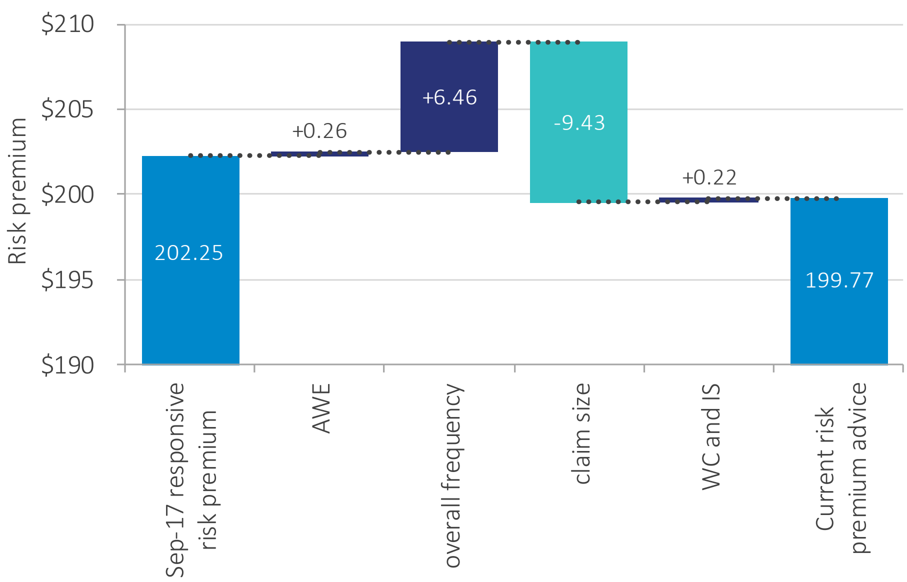
Risk premium

Table 1 Estimate of risk premium at 31 December 2017

	Risk premium component		
	Frequency	Average claim size ($)	Risk premium ($)
Core claims	0.191%	102,720	196.20
WC claims	0.010%	10,339	1.08
IS claims	0.005%	53,179	2.50
Headline risk premium	**0.206%**	**96,929**	**199.77**

Change in estimated risk premium since the previous review

Figure 1 Change in risk premium since the Sep-17 review



The main cause of the reduction in risk premium relative to the responsive estimate made at the Sep-17 review is a lowering of the assumed average claim size for core claims. We reduced the claim size assumption in response to the substantial weakening of the severity profile that was observed over 2017. It was also reduced in response to claims within each severity band finalising for lower than forecast costs.

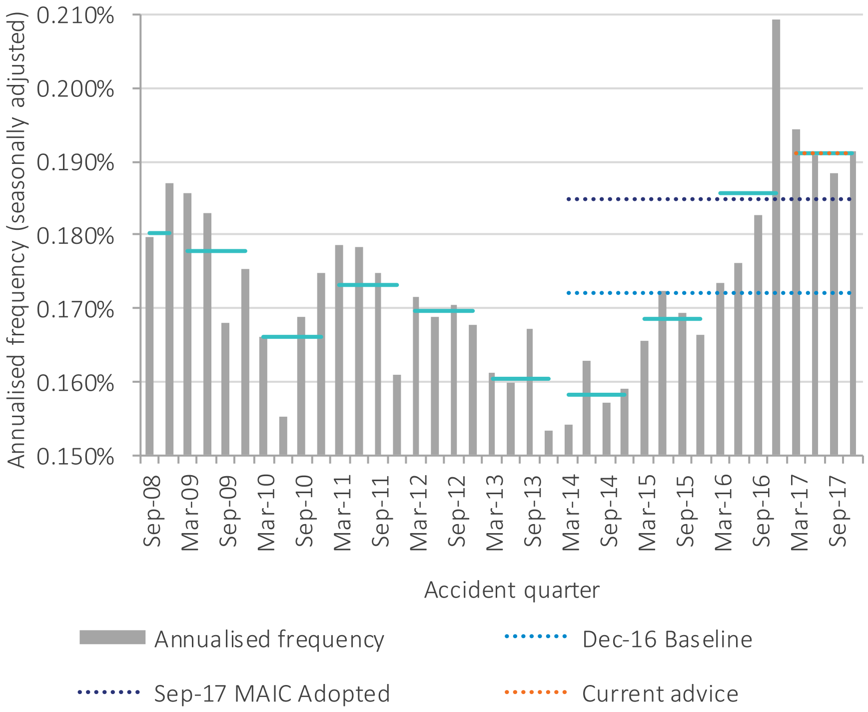
Partially offsetting this decrease is an increase in the assumed core claim frequency.

Core claim frequency and severity

Typically, Taylor Fry reviews the core claim frequency and severity profile each at each annual review, but the experience is monitored quarterly and changes made if necessary. For this annual review we have reviewed and updated the core claim frequency and severity profile assumptions used to set the risk premium. The severity profile was previously revised in Dec-16 and the frequency assumption was last updated in Sep-17.

Overall core claim frequency

Figure 2 Estimated annualised core claim frequency as at 31 December 2017



This figure shows the projected ultimate annualised frequency for each historical accident quarter after allowing for seasonality.

We observe an upward trend from late 2013 until late 2016. This has arguably plateaued for 2017. The projected frequencies for each quarter in 2017 are all above the 0.172% baseline frequency advised at Dec-16 and the 0.185% assumption adopted at Sep-17

For future accident quarters we now advise a frequency assumption of 0.191% equal to our current estimate of the core claim frequency for 2017. This is an 11% increase over the 0.172% we advised at Dec-16 and a 3% increase over the 0.185% adopted by MAIC at Sep-17.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 66% of core claim notifications and 47% of the core risk premium. While there are relatively few high severity claims, these have higher average claim sizes.

Figure 3 Severity-specific frequency

Severity	Proportion	Advised frequency
1N	9%	0.0180%
1Y	66%	0.1253%
2	13%	0.0252%
3	6%	0.0107%
4	1%	0.0016%
5	0%	0.0007%
6	1%	0.0021%
9NA	4%	0.0074%
Total	**100%**	**0.1910%**

At this annual review, we have updated the severity profile assumptions.

We have responded to two major trends in the experience:

- The proportion of severity 1 claims with legal representation has been increasing
- The severity profile has been weakening and we now expect a lower proportion of high severity claims.

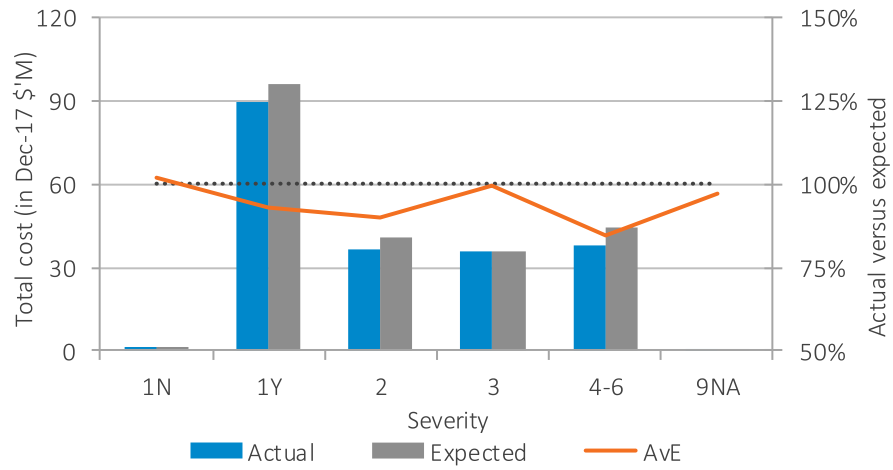
Finalised average claim size

Taylor Fry reviews the average claim size by severity every quarter based on finalised claims.

Total cost of claims by severity

We compare the total cost of finalised claims in the Dec-17 quarter to what was forecast at the previous review for the same number of claims. This reveals the difference in, and materiality of, movements in average claim size by severity.

Figure 4 Total cost of finalised core claims in Dec-17 quarter by severity



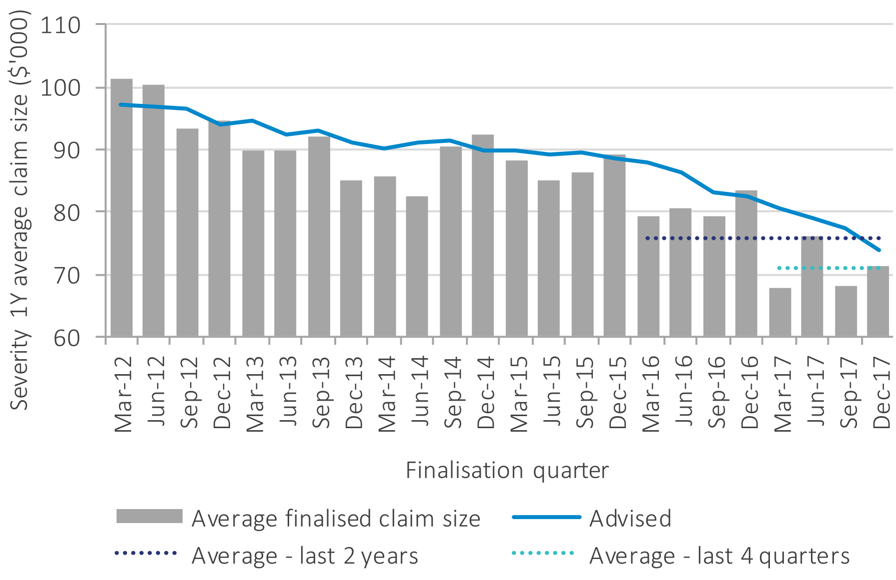
The average finalised claim size in severity 1Y was 7% lower than forecast at the Sep-17 quarterly review. This result is particularly important because severity 1Y claims comprise 47% of the total cost, and outcomes are less volatile than higher severities. This severity 1Y result is a continuation of a downward trend, which we discuss below.

Severity 2 and high severity 4-6 claims have also finalised for lower amounts than expected.

Severity 1Y average finalised claim size

We have adapted to the decreasing severity 1Y average finalised claim size over the past six years.

Figure 5 Decreasing severity 1Y average claim size, including advised at each quarterly review, adjusted for inflation



We have **reduced the baseline average claim size for severity 1Y by 4% to $74k**. The Dec-17 average finalised claim size was influenced by favourable experience for mature claims. Mature claim outcomes are relatively volatile, so we have responded to the low experience cautiously.

The advised baseline average claim size is lower than the average over the past two finalisation years. The one-year average finalised claim size is lower than the advised average claim size.

Change in advised baseline average claim size since the previous review

Table 2 Change in advised baseline average claim size by severity ($'000, adjusted for inflation)

	Severity								All
	1N	1Y	2	3	4	5	6	9NA	
Advised at Sep-17	7	77	148	321	796	1,748	217	17	110
Advised at Dec-17	7	74	144	324	784	1,799	223	17	103
Change	+1%	-4%	-2%	+1%	-2%	+3%	+3%	-1%	-7%

Risk premium scenarios

There is considerable uncertainty in the assumptions underlying our risk premium estimate. There is a risk that the claim frequency and size that ultimately emerge for the 2018Q3 underwriting quarter turn out to be different to our assumed values. The table below shows the impact on the risk premium for some plausible scenarios with alternative sets of risk premium assumptions.

Risk premium scenarios

We have constructed scenarios with different assumptions for core claim frequency and average claim size. The average claim size scenarios incorporate both the variability in severity profile and the variability in the size of claims within severities. Although the table below shows the impact of each scenario in isolation, it is possible that more than one scenario may occur at the same time. If more than one scenario was to occur, we estimate the impact to be approximately additive.

Table 3 Change in risk premium in plausible alternative scenarios

Risk premium scenarios	Impact on risk premium
Frequency scenarios	
Increase by 5%	*+$8*
Decrease by 5%	*-$8*
Average claim size scenarios	
Incurred cost emerges at the levels of accident year 2015	*+$12*
Severity 4 and 5 claims revert to previous frequency	*+$5*
Trends in severity profile continue	*-$2*
Incurred cost emerges at the levels of accident year 2016	*-$10*
The increase in frequency in accident year 2017 is mostly due to small claims	*-$11*

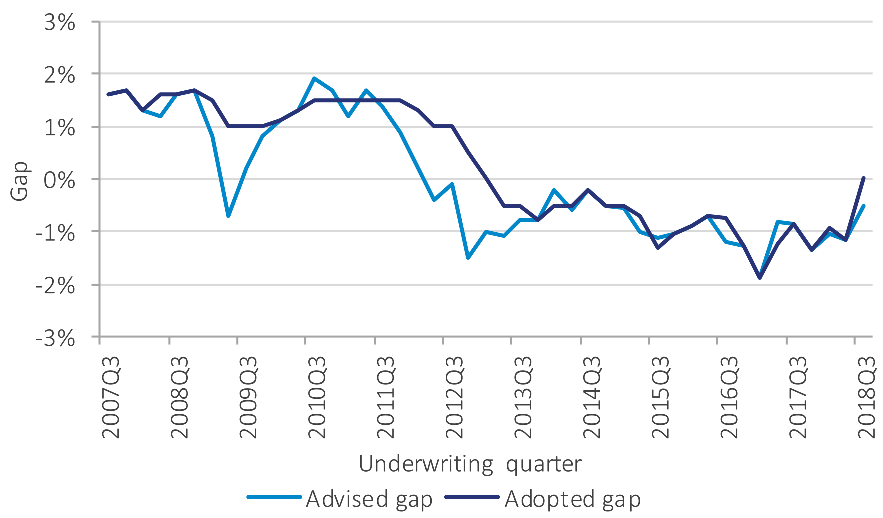
Economic assumptions

Taylor Fry advises on the economic gap (the difference between risk-free investment return and QLD AWE inflation rate) and monitors superimposed inflation each quarter.

Economic gap

The economic gap is the difference between the projected risk-free investment return and the projected QLD AWE inflation rate up to the time of claim payment. This is derived from prevailing Australian Government bond yield curves and Deloitte Access Economic inflation forecasts available at the time of premium setting. A higher economic gap translates to a lower CTP premium.

Figure 6 Economic gap



For the 2018Q3 underwriting quarter, **the advised economic gap is -0.50%.** This is made up of:

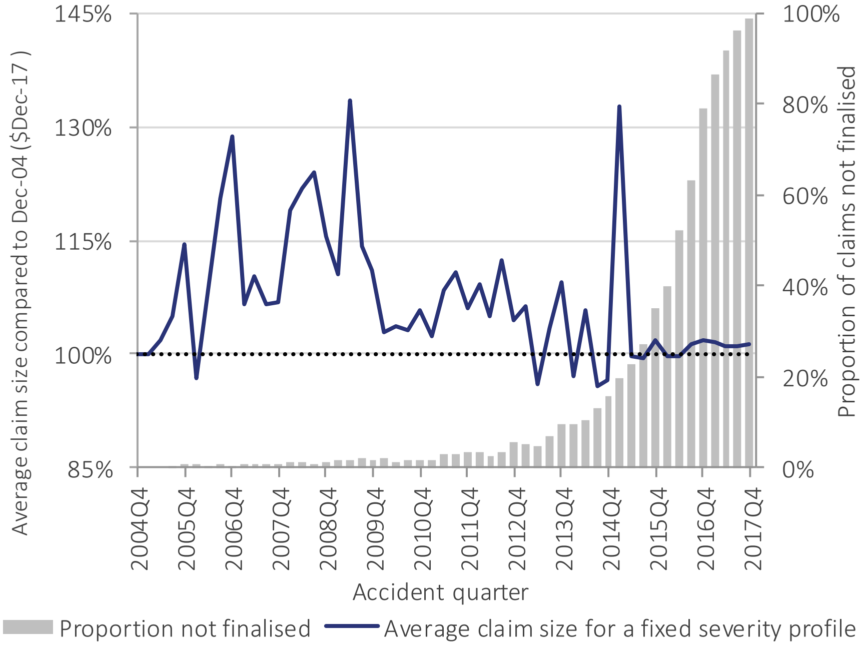
- Wage inflation of 2.94% p.a.
- Discount rate of 2.45% p.a.

The economic gap increased from -1.18% advised at the previous review primarily due to a decrease in the forecast inflation rate.

Superimposed inflation

In the premium setting process, superimposed inflation is the growth in average claim size above the QLD AWE inflation rate that cannot be explained by changes in the severity mix. Currently, MAIC set the future superimposed inflation assumption at 1% p.a.

Figure 7 Superimposed inflation illustration (adjusted for AWE inflation) assuming 0% p.a. *future* superimposed inflation



Superimposed inflation has been benign over the past decade. That is, average claim size has not increased at a materially faster rate than QLD AWE inflation.

With a high proportion of claims not finalised, there is potential for the average claim size for accidents in 2016 and 2017 quarter to exhibit superimposed inflation before finalisation:

- At 0% p.a. future superimposed inflation, the 5-year change in average claim size to Dec-17 is -0.6% p.a.
- At 1% p.a. future superimposed inflation, the 5-year change to Sep-17 is -0.1% p.a.

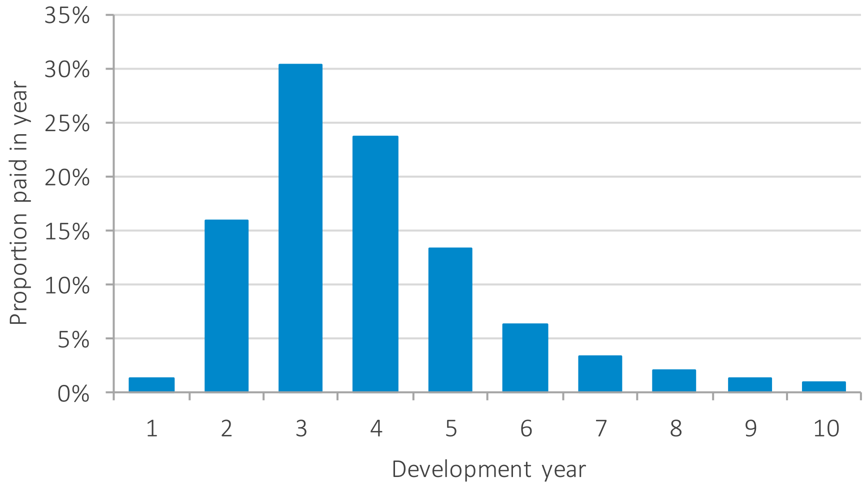
Other premium components

Taylor Fry advises on the costs transferred to the NIISQ, the pattern of future payments for applying the economic assumptions, and the vehicle class relativities.

Payment pattern

The payment pattern shows when claim payments are expected to be made following underwriting.

Figure 8 Payment pattern



We have updated the payment pattern assumption at this annual review. The mean term from underwriting to payment has slightly shortened to 3.54 years from the 3.67 years advised at Dec-16.

NIISQ reduction

Some expected costs associated high severity claims have been transferred to the NIISQ from 2016Q3. Each quarter, we update the estimate of these costs to be consistent with the updated economic assumptions. In addition, at this annual review we have reduced our estimate of the cost transferred to the NIISQ. This change has occurred so that the estimate is consistent with the lower risk cost we are now projecting for higher severity claims.

We advise a **NIISQ reduction of $13.00** from the *inflated and discounted* risk premium.

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