TAYLOR FRY

Queensland CTP Market Briefing

Review of the risk premium for the 2019Q1 underwriting quarter

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21 September 2018

Risk premium

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 net headline risk premium is **$178.01**. This risk premium estimate is before the application of inflation and discounting. It includes the reduction due to the costs transferred to the National Injury Insurance Scheme Queensland (NIISQ). This estimate is **$4.48 lower** than our estimate of risk premium made at the previous review (see Figure 1).

The reduction is the result of three main changes. Claim notifications in the June 2018 quarter were much lower than expected – a continued reversal of the trend observed over 2017. In response, we have decreased our advised core claims frequency. In addition, we continued to respond to the weakening severity profile and decreasing average claim size which have also resulted in a lowering of our risk premium estimate.

This quarter, we did not update our estimate of the cost transferred to the NIISQ, except to allow for one quarter of inflation.

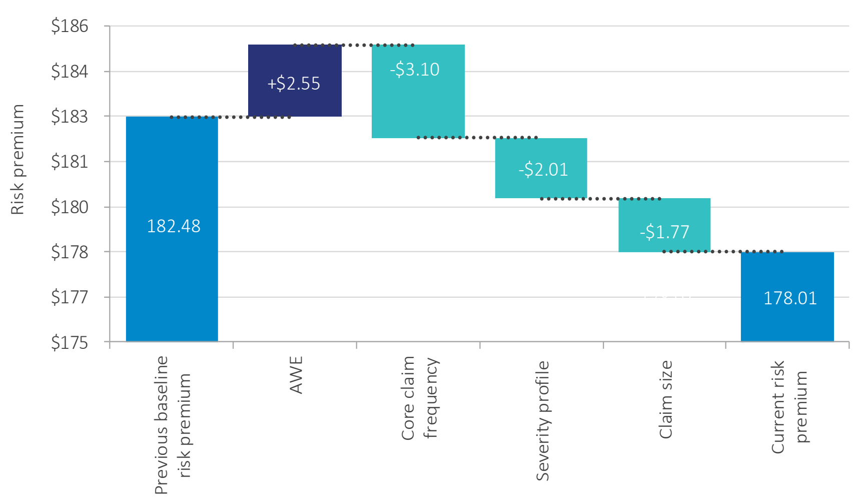
Risk premium

Table 1 Estimate of risk premium at 30 June 2018

	Risk premium component		
	Frequency	Average claim size ($)	Risk premium ($)
Core claims	0.184%	101,129	186.08
WC claims	0.010%	10,513	1.09
IS claims	0.005%	54,069	2.54
Gross headline risk premium	**0.199%**	**95,332**	**189.71**
NIISQ offset			11.70
Net headline risk premium			**178.01**

Change in estimated risk premium since the previous review

Figure 1 Change in net headline risk premium since the Mar-18 review



The main cause of the reduction in risk premium relative to the estimate made at the Jun-18 review is a decrease in the advised core claim frequency. This decrease was in response to claim notifications emerging 11% less than forecast at the Mar-18 review for the 2017 accident year.

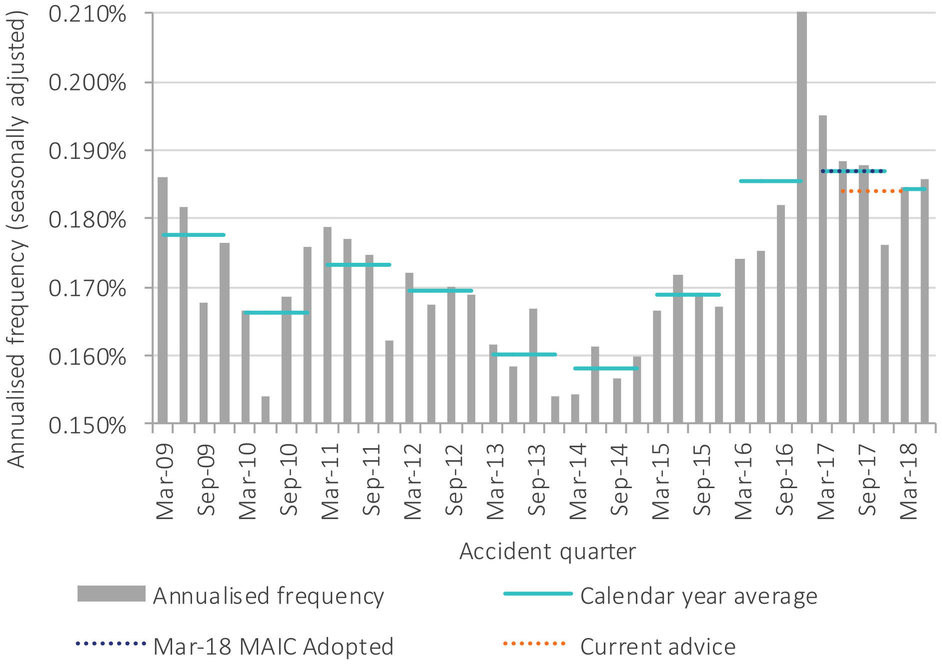
In addition, we also reduced the claim size assumption for core claims in response to the continued weakening of the severity profile. Furthermore, we decrease the claim size of low severity legally represented claims in response to its lower than forecast costs experience over the last year.

Core claim frequency and severity

Typically, Taylor Fry reviews the core claim frequency and severity profile at each annual review, but the experience is monitored quarterly and changes made if necessary. Given the lower than forecast number of core claim notification over the June 2018 quarter and continued weakening in severity profile, we have updated both the core claim frequency and severity assumptions used to set the risk premium. The severity profile was previously revised in Dec-17 and the frequency assumption was last updated in Mar-18.

Overall core claim frequency

Figure 2 Estimated annualised core claim frequency as at 30 June 2018



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 Dec-16. Over 2017, there are early signs of plateauing in frequency or perhaps a decreasing trend.

For future accident quarters we now advise a frequency assumption of 0.184% equal to our current estimate of the average core claim frequency from accident quarter Jun-17 to Mar-18. This is a 2% decrease over the 0.187% we advised at Mar-18.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 67% 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	8%	0.0150%
1Y	69%	0.1278%
2	12%	0.0214%
3	5%	0.0097%
4	1%	0.0015%
5	0%	0.0007%
6	1%	0.0020%
9NA	3%	0.0060%
Total	**100%**	**0.1840%**

At this mid-year review, we have updated the severity profile assumptions:

We continued to respond 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

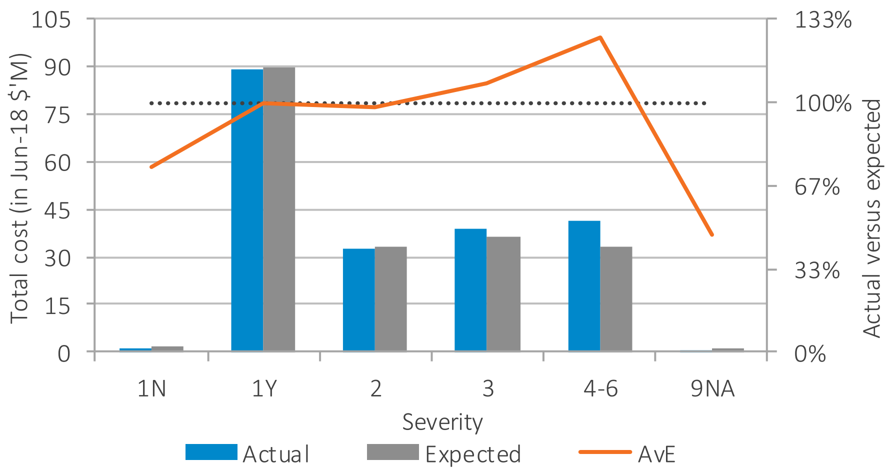
Finalised average claim size

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 Jun-18 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 Jun-18 quarter by severity



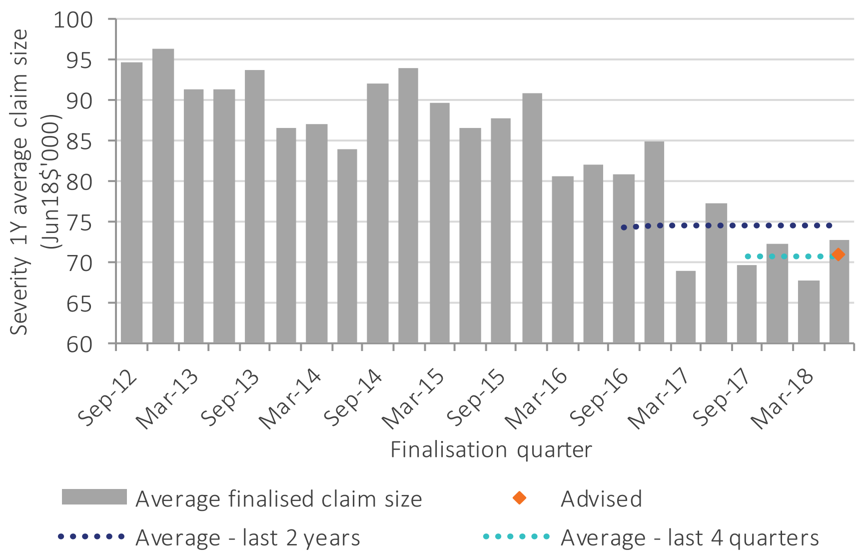
The average finalised claim size in severity 1Y was 1% lower than expected at the Mar-18 quarterly review. This result is particularly important because severity 1Y claims comprise 49% of the total cost, and outcomes are less volatile than higher severities. This result is a continuation of a downward trend that will be discussed below.

The high severity 4-6 experience relative to forecasts is caused by a couple of particularly large finalisations this quarter.

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 3.0% to $71k**. The Jun-18 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 average claim size is at the same level of the average finalised claim size over the past four quarters.

Change in advised average claim size since the previous review

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

	Severity								All
	1N	1Y	2	3	4	5	6	9NA	
Advised at Mar-18	7	73	147	327	818	1,834	228	17	103
Advised at Jun-18	6	71	148	330	820	1,880	246	16	101
Change	-3%	-3%	+1%	+1%	+0%	+2%	+8%	-5%	-2%

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 2019Q1 underwriting quarter turn out to be significantly 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.

Lead indicators of claim size

At the current time, our advice regarding emerging claim size is informed primarily by the size of finalised claims. This is a proven and robust methodology and is established actuarial practice. However, it can be slow to recognise changes to the mix of claims or changes to the management/settlement environment, especially when the claims affected have not yet finalised. Therefore, we monitor two lead indicators of claim size: a separate claims' mix model which responds to the mix of claims yet to be finalised, such as legal representation, accident circumstance and hospitalisation; and insurers' case estimates of open claims.

Our claims' mix model indicates a growing frequency of legally represented, non-serious, same direction claims and an established decreasing trend in the size of all legally represented, non-serious claims[2]. Insurer case estimates for the 2017 accident year, although as yet undeveloped, indicate a further substantial drop in the claim size for open claims. Although the 2017 accident year is immature, much of this drop is concentrated in the legally represented, non-serious claims where we have not historically observed much case estimate development at the Scheme level. These suggest that further drops in claim size, beyond those reflected in our finalised claim models, are possible. We have reflected these possibilities in our risk premium scenarios below.

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.

Table 3 Change in risk premium in plausible alternative scenarios

Risk premium scenarios	Impact on risk premium
Frequency scenarios	
Increase by 5%[1]	*+$8*
Decrease by 5%[1]	*-$8*
Average claim size scenarios	
Incurred cost emerges at the levels of accident year 2015	*+$18*
Severity 4 and 5 claims revert to previous frequency	*+$6*
Claim size emerges at the levels indicated by insurer case estimates for accident year 2016	*+$1*
Trends in severity profile continue	*-$1*
Baseline adjusted for established trends in non-serious claims[2]	*-$3*
Baseline adjusted for accelerated decrease in non-serious claims as indicated by insurer case estimates	*-$18*
Claim size emerges at the levels indicated by insurer case estimates for accident year 2017	*-$26*

Notes :
1. A 5% deviation in frequency of all severities except for 4 and 5
2. 'Non-serious claims' refers to claims that are not fatal, do not result in brain and spinal cord injuries and do not require an overnight hospital stay.

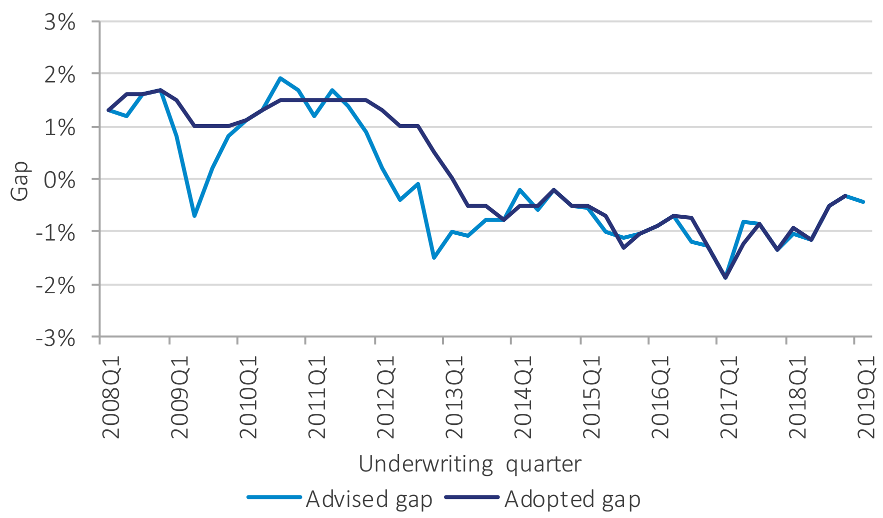
Economic assumptions

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 2019Q1 underwriting quarter, **the advised economic gap is -0.44%.** This is made up of:

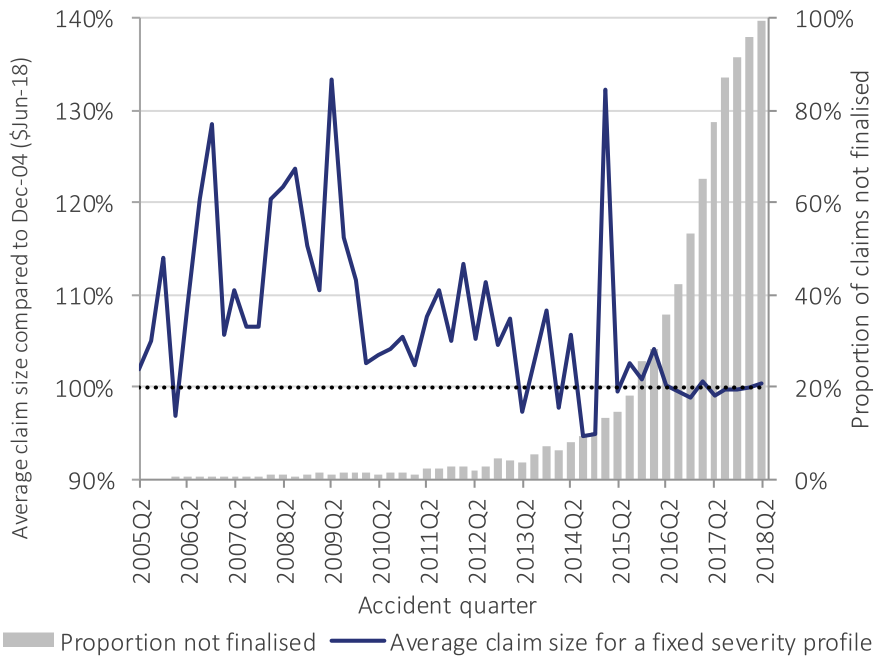
- Wage inflation of 2.68% p.a.
- Discount rate of 2.24% p.a.

The economic gap decreased from -0.34% advised at the previous review primarily due to a decrease in the forecast discount 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, 2017 and 2018 to exhibit superimposed inflation before finalisation:

- At 0% p.a. future superimposed inflation, the 5-year change in average claim size to Jun-18 is 0.5% p.a.
- At 1% p.a. future superimposed inflation, the 5-year change to Jun-18 is 1.1% p.a.

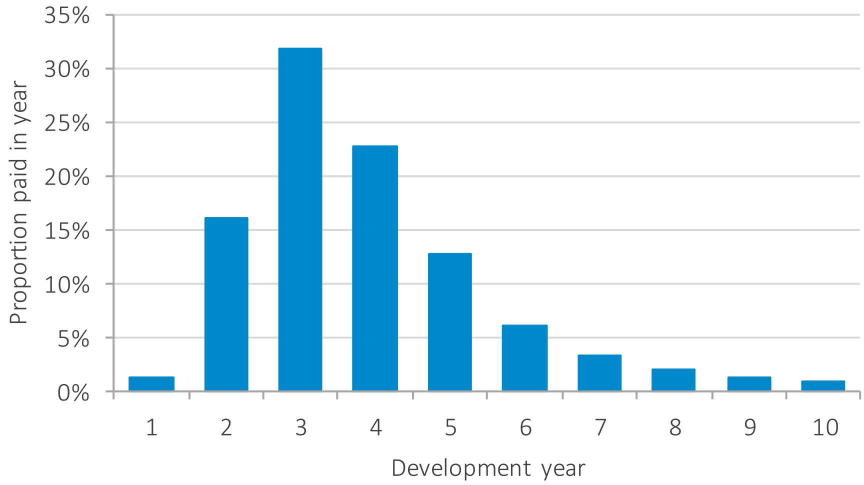
Other premium components

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



There has been a minor update to the payment pattern assumption this quarter to ensure consistency with the severity profile update. **The mean term from underwriting to payment is 3.52 years.**

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