Queensland CTP Market Briefing

Review of the risk premium for the 2019Q2 underwriting quarter

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10 December 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 **$179.76**. 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 **$1.75 higher** than our estimate of risk premium made at the previous review (see Figure 1).

The increase is the result of inflation and the finalisation of two large claims in severity 1Y. The actual average finalised claim size for the last quarter was **3% higher** than expected in the Jun-18 review mainly due to those large finalisations. This led to an increase to the claim size assumption in this quarter's review. Otherwise, the claims experience was consistent with the expected experience. As a result, the core claim frequency and severity profile assumptions were unchanged from those used for the previous review. Additionally, we did not update our estimate of the cost transferred to the NIISQ, except to allow for one quarter of inflation.

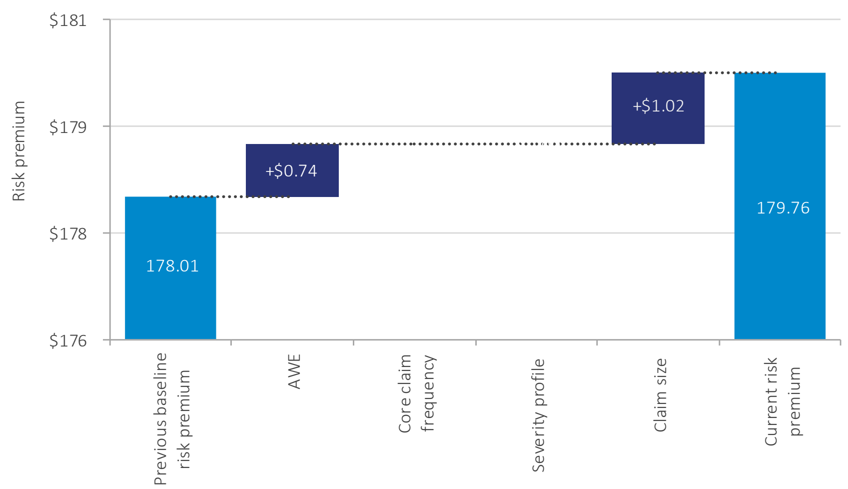
Risk premium

Table 1 Estimate of risk premium at 30 September 2018

	Risk premium component		
	Frequency	Average claim size ($)	Risk premium ($)
Core claims	0.184%	102,100	187.86
WC claims	0.010%	10,556	1.10
IS claims	0.005%	54,294	2.55
Gross headline risk premium	**0.199%**	**96,238**	**191.51**
NIISQ offset			11.75
Net headline risk premium			**179.76**

Change in estimated risk premium since the previous review

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



The main cause of the increase in risk premium relative to the estimate made at the Jun-18 review is an increase in the advised claim size. This increase is in response to large finalisations in the severity 1Y segment.

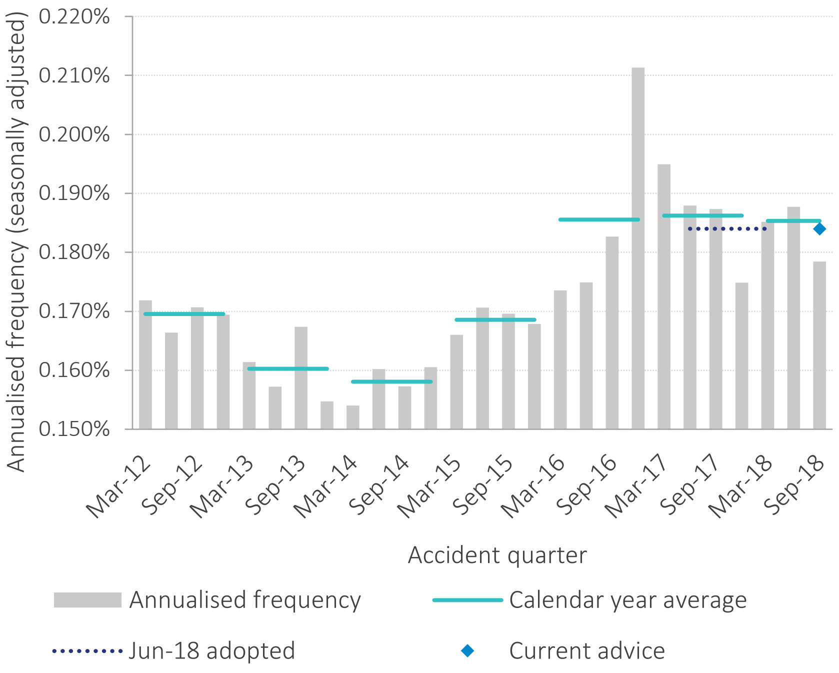
We have kept the frequency and severity profile assumptions unchanged from last quarter's review.

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 actual notifications and the severity profile over the Sep-18 quarter were in line with the forecast as at 30 June 2018, both the core claim frequency and severity profile assumptions used to set the risk premium remain unchanged since the Jun-18 review.

Overall core claim frequency

Figure 2 Estimated annualised core claim frequency as at 30 September 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 and 2018, there are early signs of plateauing in frequency.

For future accident quarters we have advised a frequency assumption of 0.184%, consistent with our advised frequency assumption at the Jun-18 review.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 69% of core claim notifications and 49% 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%**

This quarter's experience has been consistent with the severity profile assumptions set at Jun-18 review.

We have kept the severity profile assumptions unchanged from Jun-18 review.

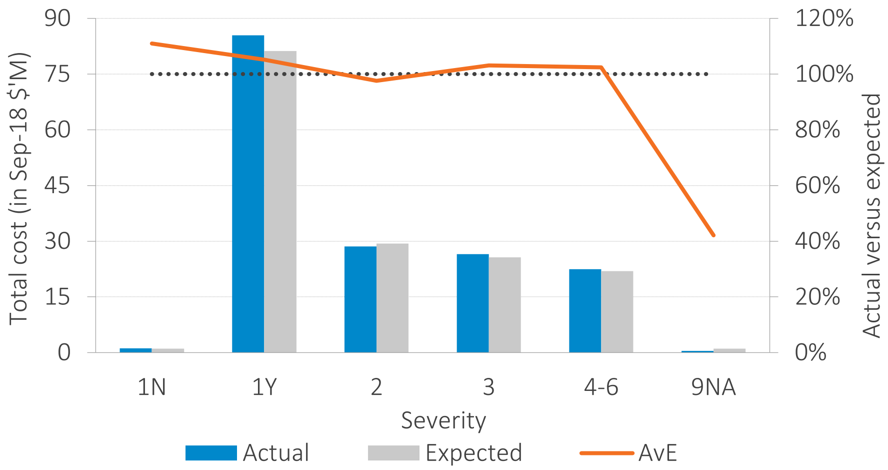
Finalised average claim size

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 Sep-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 the Sep-18 quarter by severity



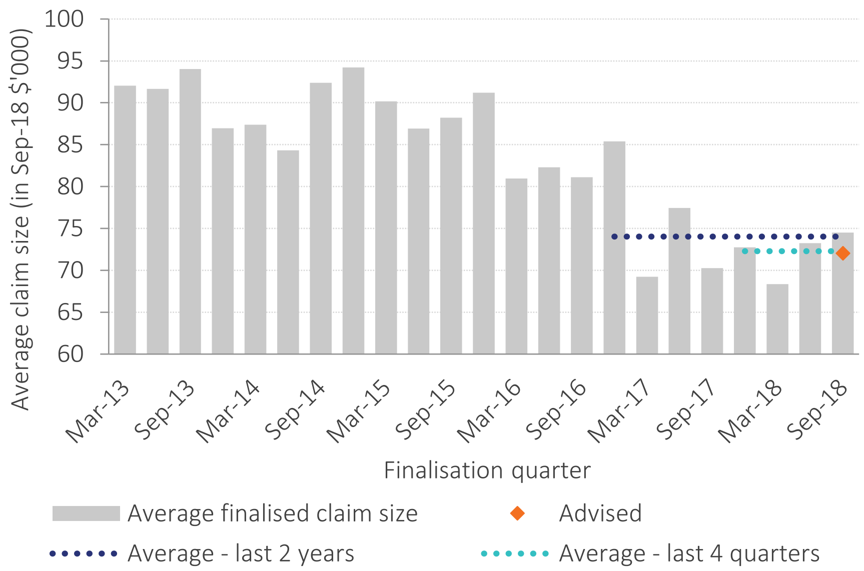
The average finalised claim size in severity 1Y was 5% higher than expected at the Jun-18 review, however, **4% of this increase is attributed to the finalisation of two large claims in Sep-18**. This result is particularly important because severity 1Y claims comprise 49% of the total cost, and outcomes are less volatile than higher severities.

The experience for severities 2-6 was consistent with the forecast at the Jun-18 review.

Severity 1Y average finalised claim size

Severity 1Y average claim size experience appears to have stabilised since December 2016 following consistent reductions over the previous five years.

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



We have **increased the baseline average claim size for severity 1Y by 1.1% to $72k**. The Sep-18 average finalised claim size was influenced by unfavourable experience for mature claims, particularly, the emergence of large finalisations. Mature claim outcomes are relatively volatile, so we have responded to the high experience cautiously.

The advised average claim size is consistent with 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 Jun-18	7	71	149	331	824	1,887	247	16	102
Advised at Sep-18	7	72	147	333	825	1,905	247	15	102
Change	+2%	+1%	-1%	+0%	+0%	+1%	-0%	-2%	+1%

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 2019Q2 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	*+$19*
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	*+$4*
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	*-$15*
Claim size emerges at the levels indicated by insurer case estimates for accident year 2017	*-$19*

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.

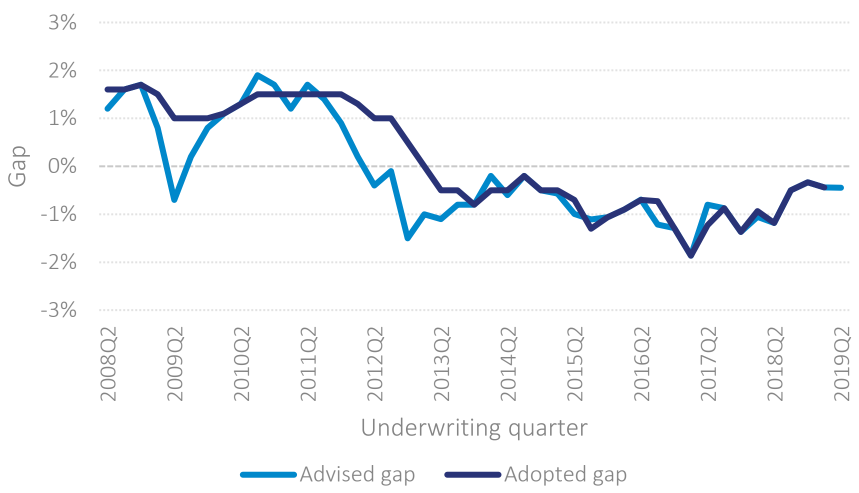
Economic assumptions

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 2019Q2 underwriting quarter, **the advised economic gap is -0.44%.** This is made up of:

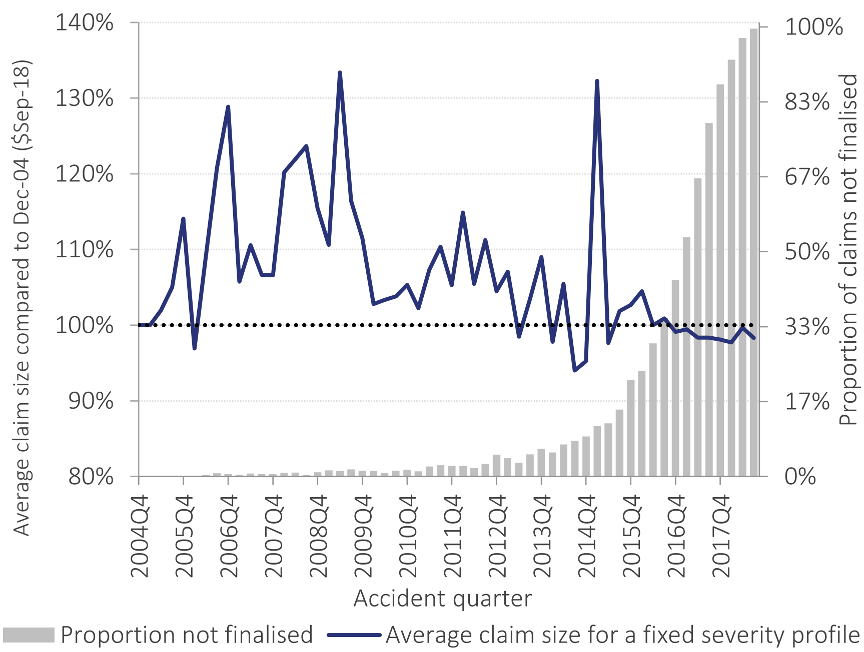
- Wage inflation of 2.72% p.a.
- Discount rate of 2.28% p.a.

The current economic gap is consistent with the advised figure at the previous review.

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 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 Sep-18 is -1.03% p.a.
- At 1% p.a. future superimposed inflation, the 5-year change to Sep-18 is -0.51% p.a.

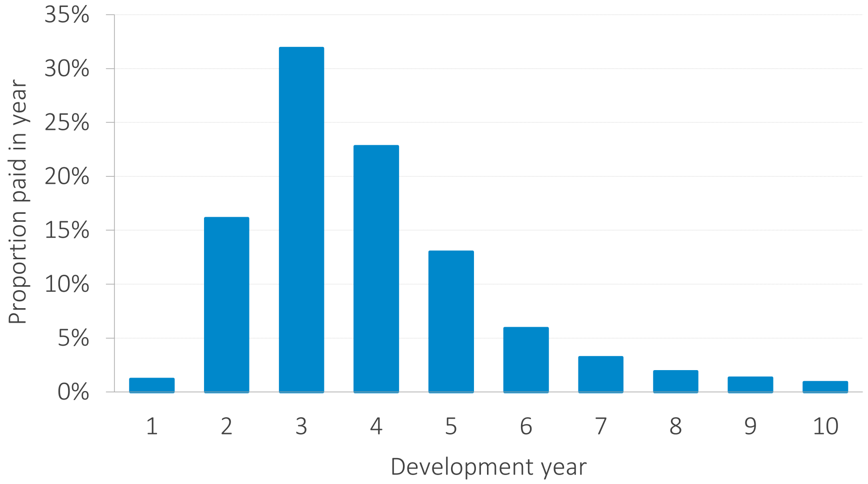
Other premium components

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



The payment pattern assumption has remained broadly consistent with the Jun-18 review. **The mean term from underwriting to payment is 3.51 years.**

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