TAYLOR FRY

Queensland CTP Market Briefing

Review of the risk premium for the 2020Q2 underwriting quarter

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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. We have also made a separate combined allowance across core, WC and IS claims to recognise the significant fall in claims notified with a NSW accident postcode since the NSW CTP reforms in Dec-17. Insurers are confident that these claims have not disappeared, but rather their reporting has just been delayed.

Each component is separated into the frequency of claim per registered vehicle and average claim size.

Taylor Fry's baseline estimate of the risk premium is **$187.29**. This risk premium estimate is before the application of inflation and discounting and is based on modelling net costs to the CTP scheme after removing costs expected to be transferred to the National Injury Insurance Scheme Queensland (NIISQ). This estimate is **$3.90 lower** than our baseline estimate of risk premium made at the previous review (see Figure 1). Readers should note the risk premium scenarios detailed later in this briefing and in particular the scenario resulting from the application of our claims mix model.

Major contributors of the change in risk premium are:

- Favourable frequency experience. We have reduced our frequency estimate in response.
- An increase in QLD Average Weekly Earnings (AWE) of 1.02% since the previous quarterly review.

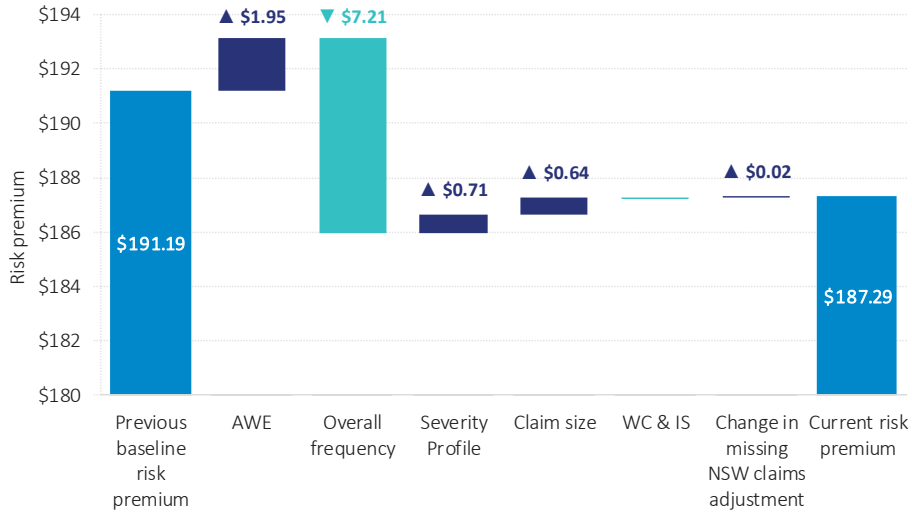
Risk premium

Table 1 Baseline estimate of risk premium at 30 September 2019

	Risk premium component		
	Frequency	Average claim size ($)	Risk premium ($)
Core claims	0.1720%	103,748	178.45
IS claims	0.0042%	58,972	2.48
WC claims	0.0116%	10,585	1.23
Missing NSW claims allowance	0.0042%	123,808	5.14
Net headline risk premium	**0.1920%**	**97,547**	**187.29**

Change in baseline risk premium estimate since the previous review

Figure 1 Change in baseline risk premium since the Jun-19 review



The main driver of the decrease in risk premium relative to the advised premium at the Jun-19 review is a reduction in the advised frequency following from the recent favourable frequency experience. This has decreased the risk premium by $7.21.

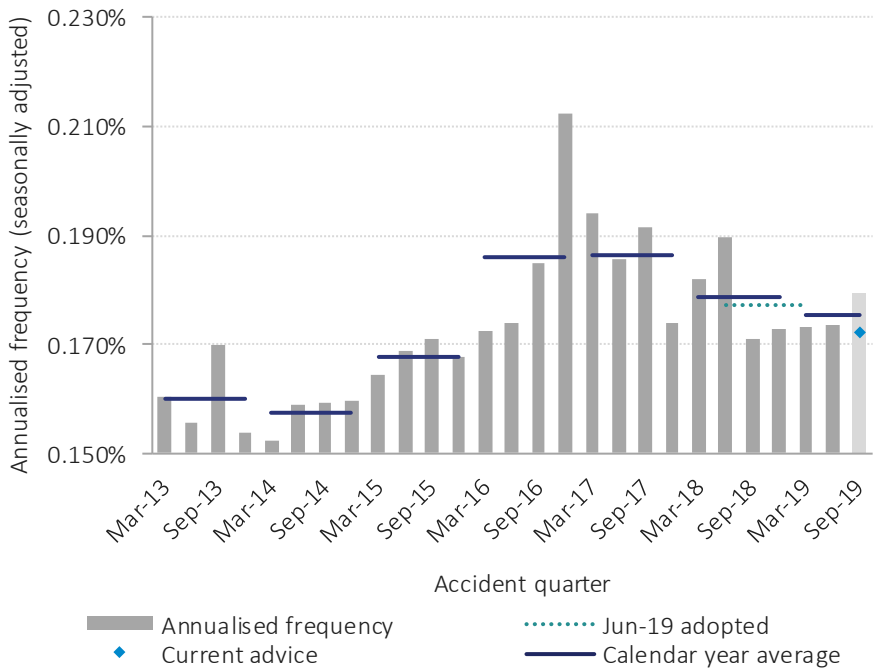
Partially offsetting the above increase are the increase in QLD AWE of 1.02% since the previous quarterly review, minor changes in the severity profile and a mild strengthening in the average claim size assumption.

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 are made if necessary. In this quarterly review, we have updated the core claim frequency and made a minor revision to the severity profile. The frequency assumption and severity profile were previously revised in Jun-19. This section outlines the assumptions for core claim frequency and severity profile excluding the allowance for missing NSW claims.

Overall core claim frequency

Figure 2 Estimated annualised core claim frequency as at 30 September 2019



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

We have observed an overall decreasing trend from the peak in late 2016. The total number of notifications was 8% lower than expected in the Jun-19 quarter. The 2019 accident year notifications were 8% below the baseline forecast.

For future accident quarters we now advise a frequency assumption (excluding an allowance for missing NSW claims) of 0.1720%, which is based on the four quarter average to Jun-19. This is a 4% decrease from the advised frequency at Jun-19.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 69% of core claim notifications and 51% 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	8.4%	0.0144%
1Y	68.5%	0.1179%
2	12.2%	0.0210%
3	5.3%	0.0090%
4	0.9%	0.0015%
5	0.4%	0.0007%
6	1.1%	0.0020%
9NA	3.2%	0.0055%
Total	**100%**	**0.1720%**

There has been a minor revision to the severity profile at this review.

The claim frequencies for severities 4-6 have remained unchanged despite the decrease in overall frequency, as the historical frequencies for severities 4-6 tend to be independent of movements in the overall claim frequency. The frequencies of other severities, on the other hand, tend to move together with the overall claim frequency.

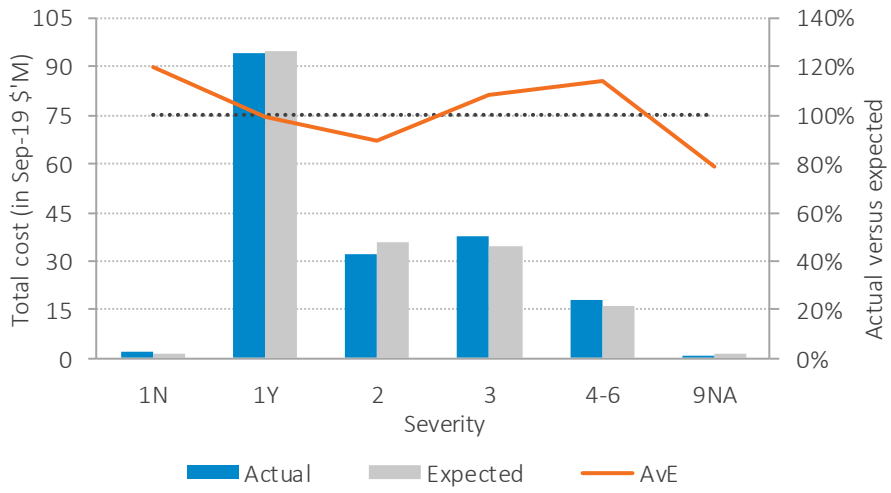
Finalised average claim size

Taylor Fry reviews the average claim size by severity every quarter based on finalised claims. The average finalised claim sizes used for modelling are on a net of NIISQ basis and have been adjusted to align gratuitous care coding across insurers. This section outlines the assumptions for finalised average claim size excluding the allowance for missing NSW claims.

Total cost of claims by severity

We compare the total cost of finalised claims in the Sep-19 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 Sep-19 quarter by severity



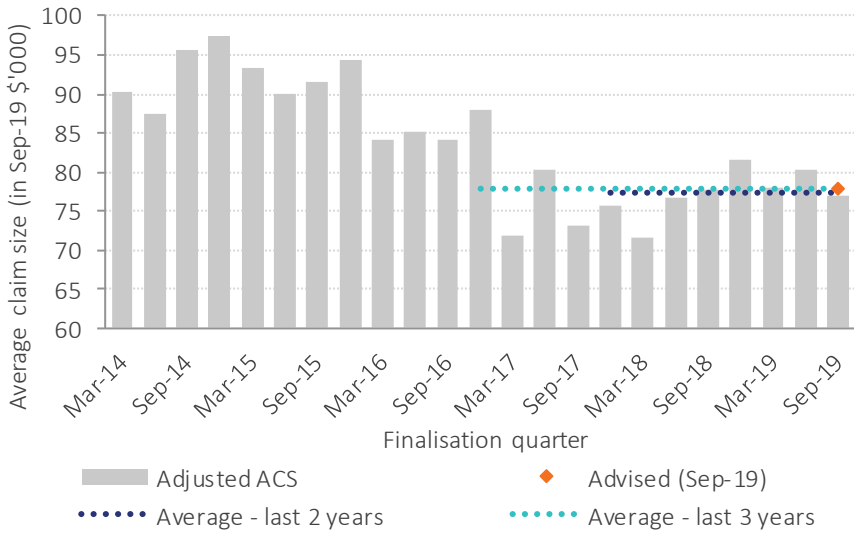
Overall, the average size for claims finalised over the quarter was in line with expected.

The average finalised claim size in severity 1Y was 1% lower than forecast at the Jun-19 review. This result is particularly important as severity 1Y claims comprise 51% of the total cost, and outcomes are less volatile than higher severities.

Severity 3 and 4-6 claims have finalised for higher amounts than expected. The less favourable finalisation experience for severity 4-6 claims is mainly attributable to the finalisation of two large severity 5 claims with a total net cost of $6.6M.

Severity 1Y average finalised claim size

Figure 5 Severity 1Y average claim size



We have **increased the baseline average claim size for severity 1Y by 0.2% to $77,889**.

The advised baseline average claim size is in line with the average over the past three finalisation years and a little higher than the average over the past two finalisation years.

We have also slightly increased baseline average claim sizes for severities 1N, 3, 4 and 6. Together with the slight adjustment to the severity profile, this leads to an **increase in the overall baseline average claim size of 0.8%.**

Change in advised baseline average claim size (excluding missing NSW claims allowance) since the previous review

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

	Severity								All
	1N	1Y	2	3	4	5	6	9NA	
Advised at Jun-19	7	78	154	333	647	1,049	246	15	103
Advised at Sep-19	7	78	153	339	649	1,048	248	14	104
Change	+4.4%	+0.2%	-0.5%	+1.8%	+0.3%	-0.1%	+0.7%	-2.1%	+0.8%

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 2020Q2 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.

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 until the 2017 accident year and an established decreasing trend in the size of all legally represented, non-serious claims[2]. This suggests that further drops in claim size, beyond those reflected in our finalised claim models, are likely. We have reflected this 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 and across accident years. 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 independent scenario was to occur, we estimate the impact to be approximately additive.

Table 3 Change in risk premium for plausible alternative scenarios

Risk premium scenarios	Impact on risk premium
Frequency scenarios	
Increase by 5% (excluding severities 4-6)	*+$8*
Decrease by 5% (excluding severities 4-6)	*-$8*
Average claim size scenarios	
AY2015 developed incurred cost	*+$9*
AY2016 developed incurred cost	*-$1*
AY2017 developed incurred cost	*-$4*
Baseline adjusted for established trends in non-serious claims[1]	***-$6***

Notes:

1. *'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.*

There is a considerable variation in risk premium indicated by a number of realistic scenarios. We think it is reasonable for MAIC to consider the 'Baseline adjusted for established trends' scenario indicated in bold above as a central estimate for pricing purposes.

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

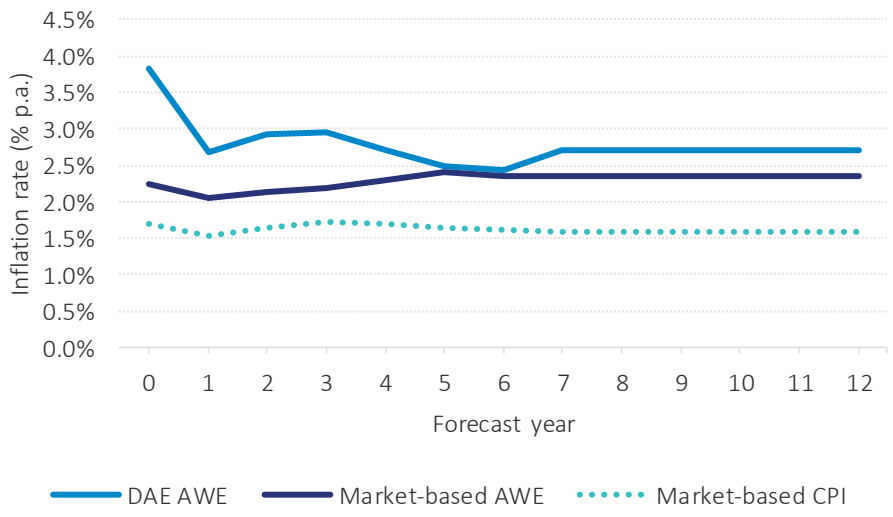
The economic gap is the difference between the projected risk-free investment return and the projected QLD AWE inflation rate up to the time of claim payment. A higher economic gap translates to a lower CTP premium.

The projected risk-free investment return is derived from prevailing Australian Government bond yield curves available at the time of premium setting.

At the Sep-19 review, we have provided two projected QLD AWE inflation rates based on information available at the time of premium setting:

- One is derived from Deloitte Access Economic (DAE) inflation forecasts (consistent with previous reviews) and
- Another is derived using a market-based model based on the shape of current nominal and inflation-linked bond yield curves, the QLD unemployment rate and long run assumptions of CPI and the gap between AWE and CPI. Full details of this model are outlined in the discussion paper "An alternative approach to forecasting wage inflation" dated 29 July 2019 by Richard Brookes and Nelson Vasconcelos.

Figure 6 Projected wage inflation rates

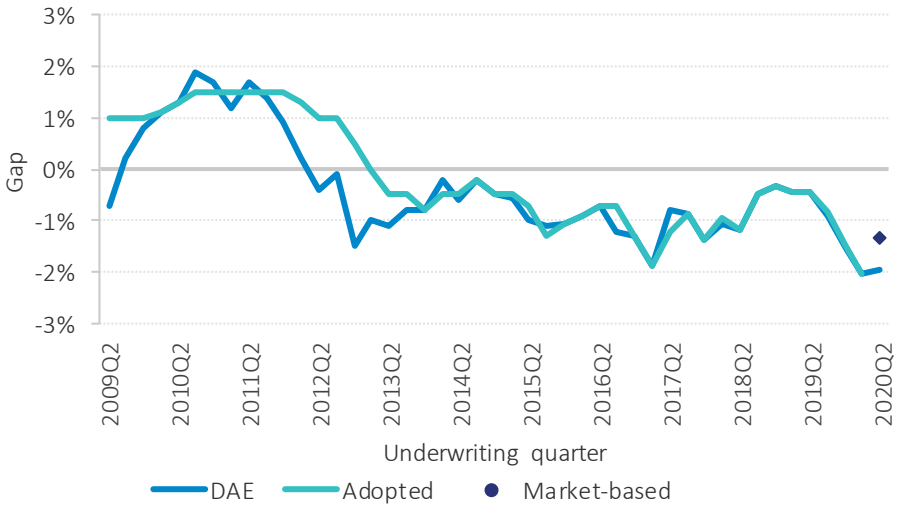


For the 2020Q2 underwriting quarter, the projected flat wage inflation rates are:

- **2.89% p.a.** based on DAE inflation forecasts
- **2.26% p.a.** based on the market-based model

The market-based estimate of Consumer Price Index (CPI) inflation rates has also been shown for reference.

Figure 7 Economic gap



For the 2020Q2 underwriting quarter, **the economic gap based on the DAE forecast is -1.96%.** This is made up of a:

- Discount rate of 0.93% p.a. and
- Wage inflation of 2.89% p.a.

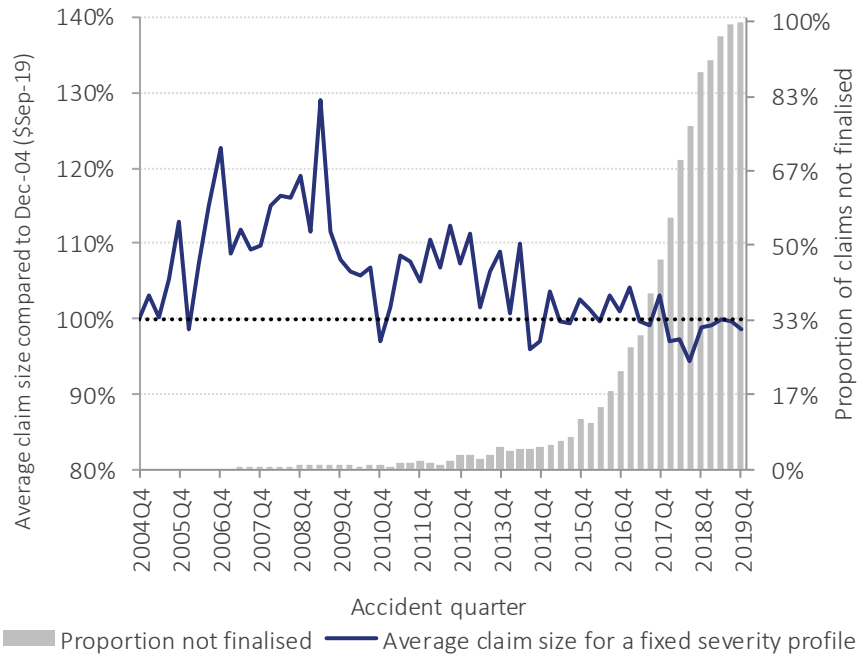
The economic gap increased slightly from -2.02% advised at the previous review.

The economic gap for the 2020Q2 underwriting quarter **based on the market-based model is -1.32%**.

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 0.5% p.a. We consider that the analysis of past superimposed inflation in the Scheme supports a future superimposed inflation assumption in the range 0% p.a. to 2% p.a.

Figure 8 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 2018 and 2019 to exhibit superimposed inflation before finalisation:

- At 0% p.a. future superimposed inflation, the 5-year change in average claim size to Sep-19 is 0.72% p.a.

At 1% p.a. future superimposed inflation, the 5-year change to Sep-19 is 1.26% p.a.

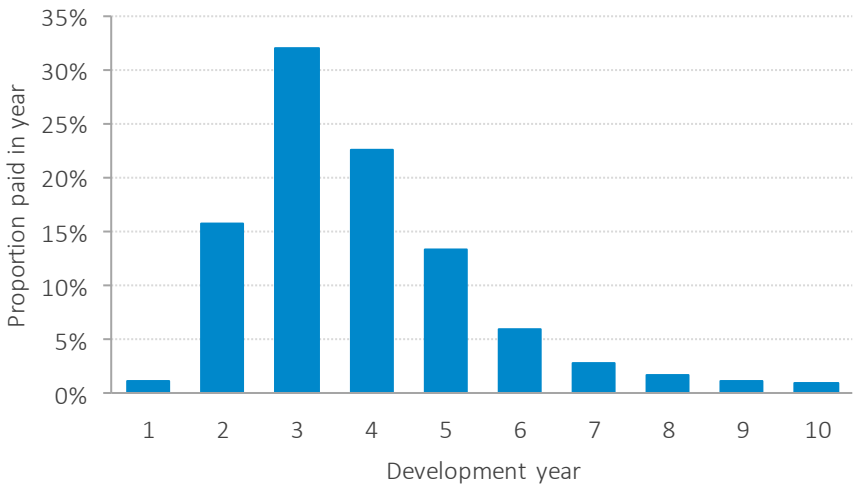
Other premium components

Taylor Fry advises on 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 9 Payment pattern



The payment pattern assumption has remained unchanged since the Dec-18 annual review. **The mean term from underwriting to payment is 3.50 years.**

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