TAYLOR FRY

Queensland CTP Market Briefing

Review of the risk premium for the 2018Q1 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.

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.

Recent experience has shown a sharp increase in claim frequency, but we continue to observe downward pressure in average claim size. As such, we present a more responsive risk premium in addition to our usual baseline risk premium to acknowledge that the environment is changing rapidly:

- The **baseline risk premium** uses our traditional approach of two-year average frequency and average finalised claim size. We have updated the frequency estimate to accommodate deterioration in 2016 claim frequency experience.
- The **responsive risk premium** uses a one-year average frequency and makes an adjustment to average claim size to acknowledge the trend towards lower cost claims.

The baseline estimate of the headline risk premium is **$197.80**. The responsive estimate of the headline risk premium is **$199.60**. These risk premium estimates are before the application of inflation and discounting, and before the reduction due to the costs transferred to the National Injury Insurance Scheme Queensland (NIISQ).

In our opinion, the responsive risk premium adequately balances the pace of change in claim frequency with the downward pressure on average claim size.

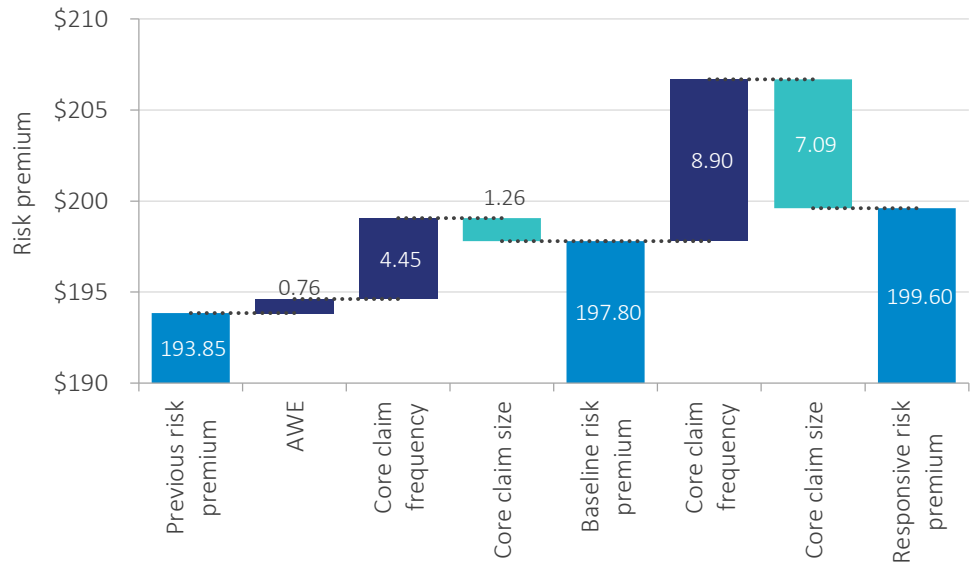
Risk premium

Table 1 Estimates of risk premium at 30 June 2017

	Baseline risk premium			Responsive risk premium		
	Frequency	Average claim size ($)	Risk premium ($)	Frequency	Average claim size ($)	Risk premium ($)
Core claims	0.1760%	110,498	194.48	0.1840%	106,673	196.28
WC claims	0.0113%	10,756	1.22	0.0113%	10,756	1.22
IS claims	0.0044%	47,846	2.11	0.0044%	47,846	2.11
Headline risk premium	**0.192%**	**103,021**	**197.80**	**0.200%**	**99,800**	**199.60**

Change in estimated risk premium(s) since the previous review

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



The baseline risk premium as at 30 June 2017 is **$3.95 higher** than the baseline risk premium as at 31 March 2017. The responsive risk premium is a further **$1.80 higher**.

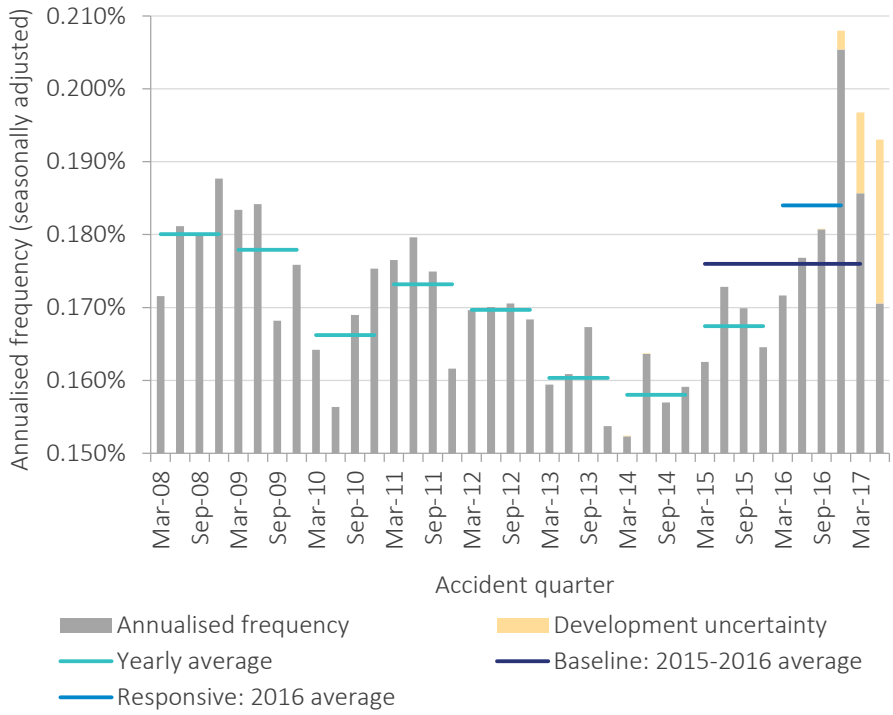
We have left the assumptions of baseline severity profile, WC and IS claims unchanged from the previous review.

Core claim frequency and severity

Typically, Taylor Fry reviews the core claim frequency and severity profile each year, but the experience is monitored quarterly. Given the sharp increase in claim frequency, we have chosen to review the core claim frequency assumption this quarter. The frequency and severity profile were previously revised in Dec-16.

Overall core claim frequency

Figure 2 Estimated annualised core claim frequency as at 30 June 2017



We have illustrated the uncertainty in the estimates of ultimate core claim frequency for recent accident quarters in the yellow section of each column.

Our core claim frequency estimate for AY2015-2016 has increased from 0.172% at the Dec-16 review to 0.176%. This is mainly caused by the further deterioriation of the Dec-16 accident quarter.

We adopt:

- A baseline frequency assumption of 0.176%, equal to our current estimate of the core claim frequency for 2015-2016.
- A responsive frequency assumption of 0.184%, equal to our current estimate of the core claim frequency for 2016.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 63% of core claim notifications and 45% of the core risk premium. While there are relatively few higher severities claims, these have higher average claim sizes (p.3).

Figure 3 Severity-specific frequency

Severity	Proportion	Baseline frequency
1N	10%	0.0181%
1Y	63%	0.1111%
2	15%	0.0257%
3	6%	0.0102%
4	1%	0.0017%
5	1%	0.0010%
6	1%	0.0015%
9NA	4%	0.0067%
Total	100%	0.1760%

At this quarterly review, we have kept the baseline severity profile unchanged from the Dec-16 annual review.

There is some evidence suggesting a possible weakening of the severity profile along with the increased core claim frequency in 2015 and 2016. This would mean a lower severity 4 and 5 claim frequencies and a higher severity 1Y claim frequency than advised in the current severity profile. We continue to monitor this closely.

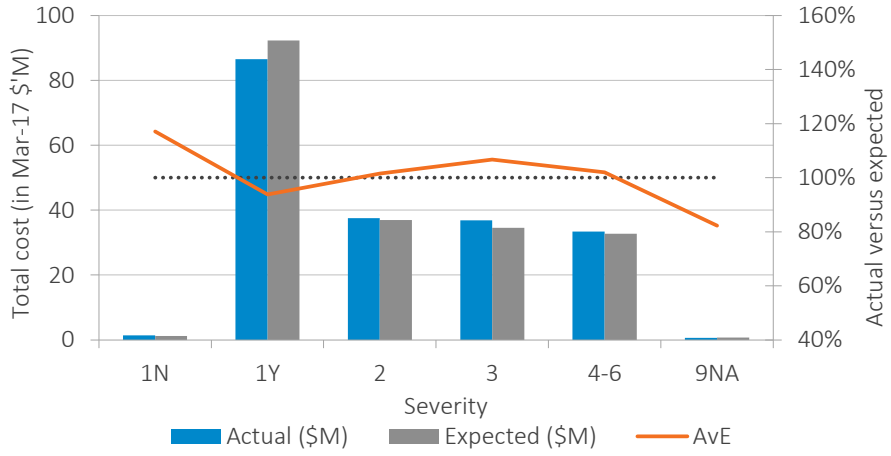
Finalised average claim size

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-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 Jun-17 quarter by severity

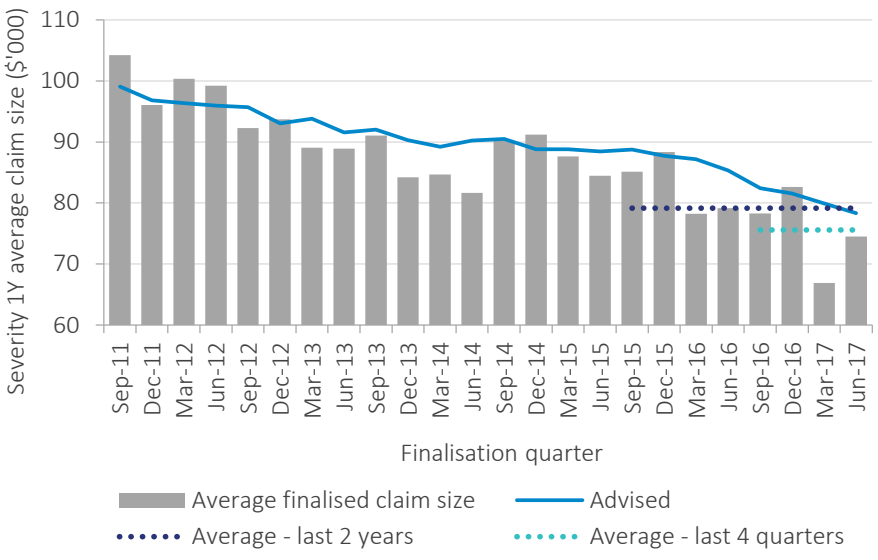


Average finalised claim size in severity 1Y was 6% lower than forecast at the previous quarterly review. This result is particularly important because severity 1Y claims comprise 45% of the total cost, and outcomes are less volatile than higher severities. This severity 1Y result is a continuation of a downward trend, which we discuss below.

Severity 1Y average finalised claim size

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

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



We have **reduced the baseline average claim size for severity 1Y by 2% to $78k**. The Jun-17 average finalised claim size was caused 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 similar to the average over the past two finalisation years. The one-year average finalised claim size is lower as a consequence of the low result for Mar-17.

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 Mar-17	6	80	146	320	834	1,701	205	17	111
Advised at Jun-17	6	78	147	323	796	1,751	216	17	110
Change	1%	-2%	0%	1%	-5%	3%	5%	2%	-1%

Emerging average claim size

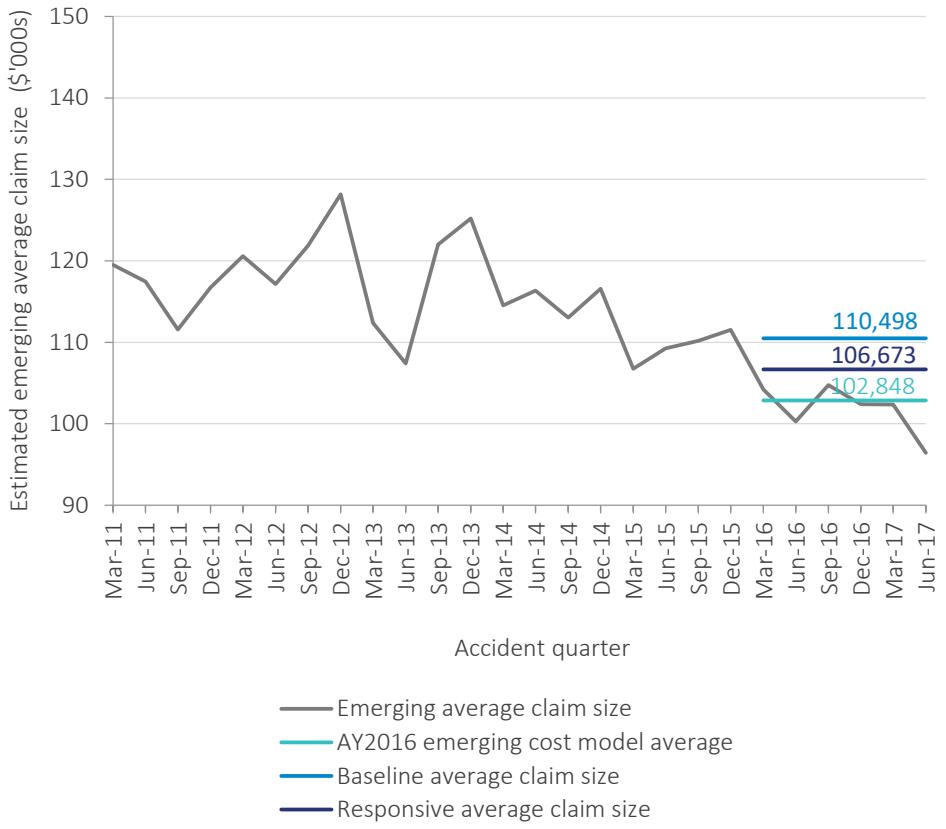
We monitor the emerging mix of claims as a leading indicator of the future finalisations. The size assumption in the responsive risk premium incorporates the emerging average claim size estimate.

Emerging costs model

As a leading indicator of average claim size, we analyse expected claim size at notification by characteristics of claimants. These characteristics include, but are not limited to:

- Registration characteristics such as vehicle class
- Incident characteristics such as accident circumstance and claimant role
- Injury characteristics such as hospitalisation, ambulance and treatment
- Claimant characteristics such as employment, weekly earnings and claimant age
- Location characteristics.

Figure 6 Estimated emerging average claim size



The estimated emerging average claim size has decreased since AY2014: the **emerging average claim size for AY2016 is $103k, 7% lower than the advised baseline core average claim size**. 2017H1 remains undeveloped.

The emerging average claim size is based on historical claim size by characteristics of claimants. The downward trend in the emerging average claim size indicates a weakening of the mix of claims, including relative increases in:

- Claimants medical certificates saying short or medium treatment length
- Claimants not attending hospital
- Accidents between vehicles travelling in the same direction (e.g. rear-enders).

The downward trend in the emerging average claim size may indicate that the eventual average claim size for 2016 will be materially lower than the advised baseline average claim size.

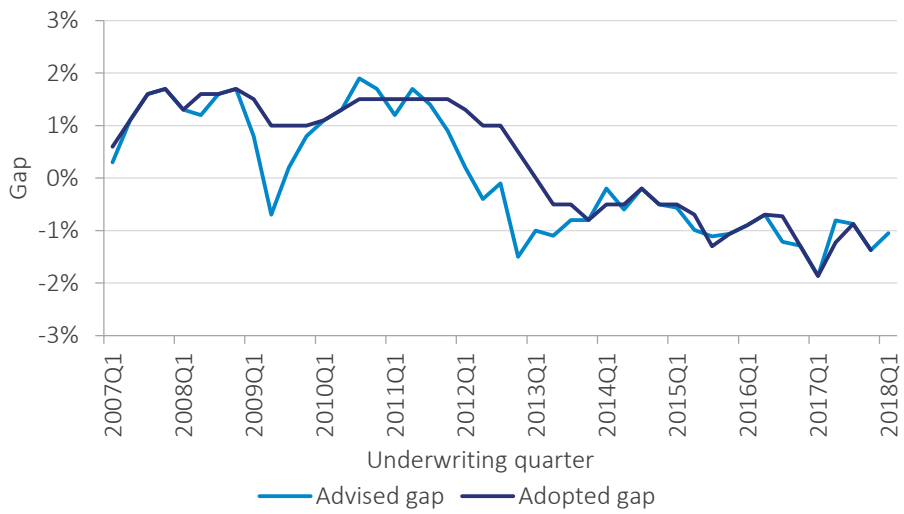
In the responsive risk premium, the claim size assumption is set at $106,673. This estimate equally weights the average of AY2016 average emerging claim size and the baseline claim size. The responsive claims size estimates remain 4% higher than the emerging average claim size for AY2016 and **6% higher than developed insurers' average incurred costs**.

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.



For the 2018Q1 underwriting quarter, **the advised economic gap is -1.05%.** This is made up of:

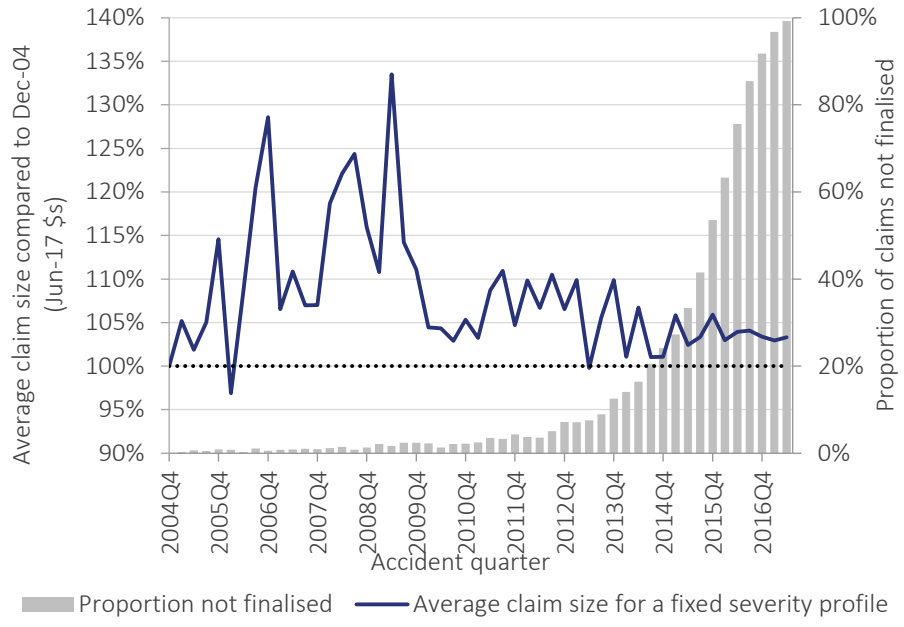
- Wage inflation of 3.33% p.a.
- Discount rate of 2.28% p.a.

The economic gap increased from -1.37% set at the previous review due to an increase in the 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 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 Jun-17 is -0.6% p.a.
- At 1% p.a. future superimposed inflation, the 5-year change to Jun-17 is -0.1% p.a.

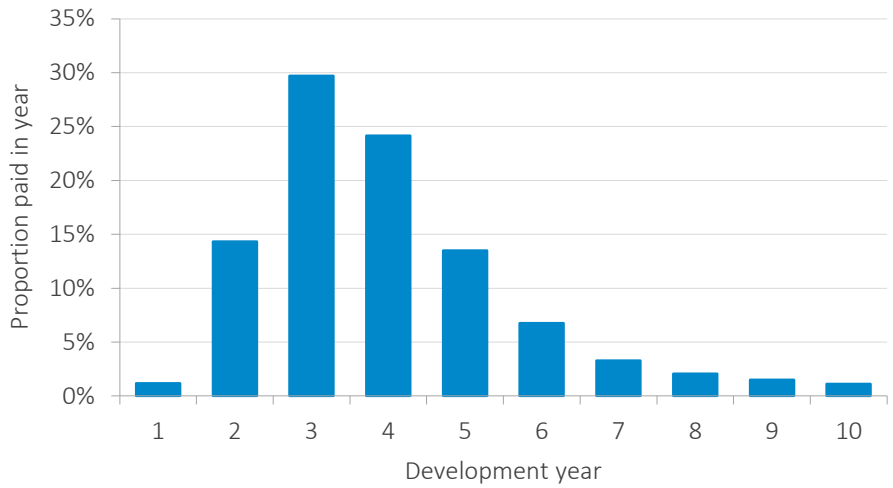
Other premium components

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



The payment pattern assumption has not been changed since the Dec-16 review. **The mean term from underwriting to payment is 3.67 years.**

NIISQ reduction

Some expected costs associated with 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. Other than economic assumptions, the expected costs of transferred risks are not updated.

We advise a **NIISQ reduction of $16.15** from the *discounted* risk premium.

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