



Queensland CTP Market Briefing

Review of the risk premium for the 2020Q4 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.

Due to COVID-19 related shutdowns, we expect a reduction in claim frequency and a potential change in the severity profile of claims for the upcoming accident months. We also expect operational changes including changes to notification patterns and finalisations. Experience in the Mar-20 quarter indicates that notifications do not yet seem to be materially affected. However, finalisation volumes have been low and sizes for higher severities have been very low, suggesting that the finalisation of higher value claims may have been delayed.

The risk premium is the expected future cost of claims made to insurers. We consider “core” claims separately from workers’ compensation recovery (WC), interstate sharing (IS) and NSW accident postcode (NSW) claims. Each component is separated into the frequency of claim per registered vehicle and average claim size. These components make up the baseline risk premium.

As for the last few quarters, we have incorporated adjustments for the Claims Mix model trends and trends of increasing number of claims with a psychological injury into our advice. Given the unusually low claim size experience this quarter and the potential for it to be impacted by operational changes due to COVID-19, we recommend holding the severity specific average claim size assumptions and overlay adjustments constant in real terms.

Taylor Fry’s **advised** risk premium is **\$190.67**. The 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 **\$3.22 lower** than our advised risk premium made at the previous review (see Figure 1). The major contributor of the change in advised risk premium is a 2% reduction in advised frequency.

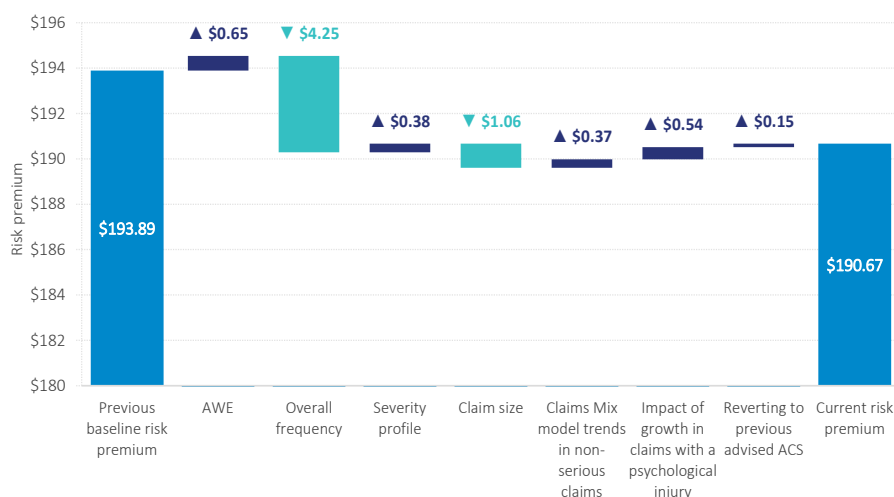
Risk premium

Table 1 Baseline estimate of risk premium at 31 March 2020

	Risk premium component		
	Frequency	Average claim size (\$)	Risk premium (\$)
Core claims			
Baseline	0.1680%	105,836	177.80
Overlay: claims mix trend		-3,441	-5.78
Overlay: Psychological claims		5,144	8.64
Adjustment: Retaining previous advised ACS		89	0.15
Advised core claims	0.1680%	107,628	180.82
NSW accident postcode claims	0.0056%	123,450	6.96
Interstate sharing	0.0026%	65,225	1.70
Workers’ compensation recovery	0.0123%	9,708	1.19
Advised risk premium at 31 Mar 2020	0.1890%	100,884	190.67

Change in advised risk premium estimate since the previous review

Figure 1 Change in advised risk premium since the Dec-19 review



The main driver of the decrease in risk premium relative to the advised premium at the Dec-19 review is a decrease in overall frequency since the previous review. This has decreased the advised risk premium by \$4.25.

This decrease is partially offset by the increase in QLD AWE of 0.33% since the previous review and minor changes in the severity profile.

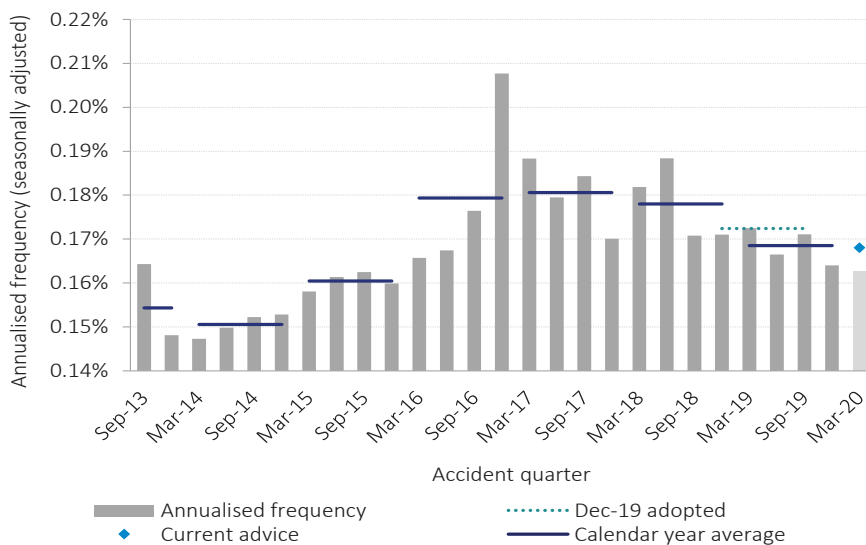
Core claim frequency and severity

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 consequential revision to the severity profile. The frequency assumption and severity profile were previously revised in Dec-19. This section outlines the assumptions for core claim frequency and severity profile.

Overall core claim frequency

The total number of notifications in the quarter was **12%** lower than expected at Dec-19. There have been some changes to the claim notification process as a consequence of the recent anti claim farming legislation. These have the potential to reduce and/or slow down notifications. Until we see more post-reform experience, we have elected to treat this reduction as due to a genuine reduction in frequency rather than a delay.

Figure 2 Estimated annualised core claim frequency as at 31 March 2020



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. There has been no significant reduction in notifications in the Mar-20 notification month after allowing for seasonality so we do not think notifications to end March have been significantly impacted by COVID-19.

For future accident quarters we now advise a frequency assumption of **0.1680%**, which is based on the 4-quarter average to Dec-19. This advised frequency represents a **2%** reduction since the last quarter.

Severity profile

The majority of claims are legally represented severity 1 claims (severity 1Y). These contribute 69% of core claim notifications and 50% of the core risk premium. While there are relatively few high severity claims, these have higher average claim sizes.

Table 2 Severity-specific frequency

Severity	Proportion	Advised frequency
1N	8.5%	0.0142%
1Y	68.5%	0.1151%
2	12.8%	0.0215%
3	5.3%	0.0089%
4	0.9%	0.0014%
5	0.4%	0.0007%
6	0.9%	0.0016%
9NA	2.7%	0.0045%
Total	100%	0.1680%

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

We have left the projected claim frequencies of severity 4-6 claims unchanged since the Dec-19 review, despite the decrease in overall frequency. The rationale for this is that claim frequencies of severity 4-6 claims tend to be independent of movements in overall claim frequency.

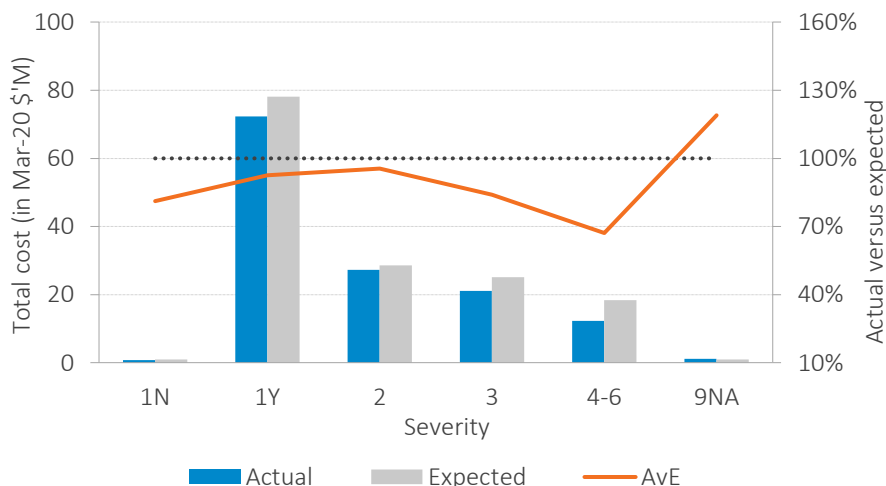
Finalised baseline average claim size

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. This section outlines the assumptions for our **baseline** average claim size.

Total cost of claims by severity

We compare the total cost of finalised claims in the Mar-20 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 3 Total cost of finalised core claims in Mar-20 quarter by severity



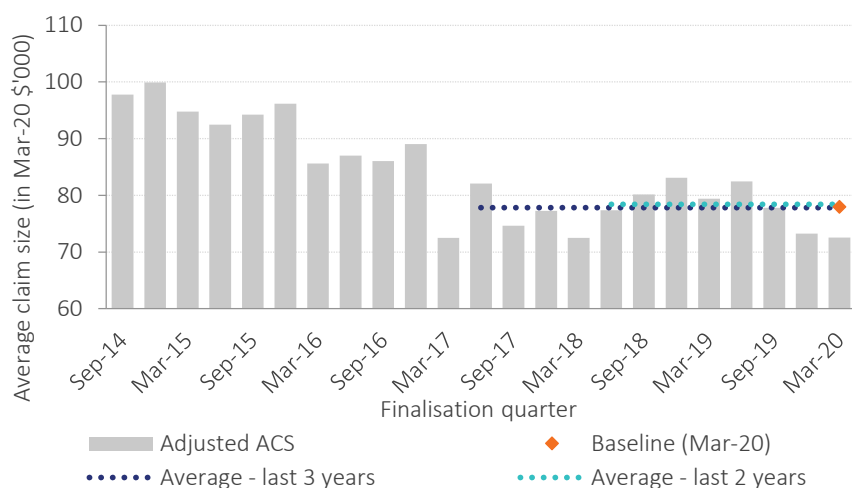
Overall, the average size for claims finalised over the quarter was **11%** lower than expected at the Dec-19 quarterly review, mainly driven by the more severe claims.

The average finalised claim size in severity 1Y was **7%** lower than forecast at the Dec-19 review. This result is particularly important as severity 1Y claims comprise half the total cost, and outcomes are less volatile than higher severities.

The actual number of finalisations in the quarter was 10% lower than expected. This together with the low finalisation size experience for higher severities suggest that the finalisation of higher value claims may have been delayed as a result of COVID-19.

Severity 1Y average finalised claim size

Figure 4 Severity 1Y average claim size



The projected average claim size for severity 1Y has reduced by **0.7%** to **\$77,940**. The baseline average claim size is in line with the last two year and three year averages.

The projected average claim size has decreased for all severities except for severities 2 and 9NA. The overall projected average claim size has reduced by **0.4%** as a result.

Given the low finalisation volumes and the unusually low experience, especially for higher value claims, we recommend adopting the Dec-19 severity specific claim size assumptions, adjusted for inflation over the quarter.

Change in baseline average claim size since the previous review

Table 3 Change in baseline average claim size by severity (\$'000, adjusted for inflation)

	Severity								Total
	1N	1Y	2	3	4	5	6	9NA	
Baseline at Dec-19	7	78	157	346	652	1,138	305	13	106
Projected at Mar-20	7	78	157	344	652	1,122	295	13	106
Change in baseline	-0.9%	-0.7%	+0.0%	-0.6%	-0.0%	-1.4%	-3.4%	+1.0%	-0.4%

Lead indicators of claim size

We use lead indicators of claim size to validate our average claim size assumption. Two lead indicators are used as overlays to form our **advised average claim size**. These indicators are claims mix model trends in non-serious claims and the possible impact of a growth in claims with a psychological injury code.

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 three 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; insurers' case estimates of open claims; and the emerging proportion of psychological 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 claims¹. This suggests that further drops in claim size, beyond those reflected in our finalised claim models, are likely. We advise reducing our baseline average claim size by 3% to allow for this trend.

There was a decreasing trend in the proportion of claims with a psychological injury code up to accident year 2015. Since then it has been increasing, with expected proportion for accident years 2018 and 2019 much higher than 2017. Psychological claims are historically finalised for higher costs compared to non-psychological claims. While the incurred average claim sizes for psychological claims for accident years 2017-2019 are lower than for accident years 2011-2016, this is not enough to offset the increasing proportion. This suggests a potential increase in the overall average claim size.

Based on historical trends, the average claim size for accident year 2018 could develop to 10% above the baseline average claim size. There are several reasons the increase may be lower than 10%. For instance, the higher proportion of psychological claims in recent years may be due to an acceleration of recognition of psychological injuries or, to the extent that the increased proportion is due to claims which would not in previous years have been classed as psychological claims, we would expect these new claims to be of a lower size. There is also a very small proportion of claim cost for accident year 2018 which has been finalised. There is considerable uncertainty about the potential increase we have identified but there is also considerable scope for insurers to intervene and exercise control over the increasing costs.

On balance, we advise increasing our baseline average claim size by 5% for pricing purposes. We will monitor experience as it emerges and update our advice accordingly.

Advised core average claim size

The **previous advised** average claim size incorporating the claims mix model trends in non-serious claims and potential impacts of psychological claims is \$107,375 (\$Mar-20). Given the low finalisation volumes and the unusually low experience, especially for higher value claims over the quarter, we recommend holding the severity specific average claim size assumptions and overlay adjustments constant in real terms. This results in an overall advised average claim size of **\$107,628**.

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.

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 2020Q4 underwriting quarter turn out to be different to our assumed values. The table below shows the impact on the advised risk premium for some plausible scenarios with alternative sets of risk premium assumptions.

We have constructed scenarios with different assumptions for core claim frequency and **advised** 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. There is considerable variation in risk premium indicated by a number of realistic scenarios.

Table 4 Change in advised risk premium for plausible alternative scenarios

Risk premium scenarios	Impact on advised risk premium
Frequency scenarios	
Increase by 5% (excluding severities 4-6)	+\$8
NSW post reform claim frequency 20% lower than expected	-\$1
AY2015 claim frequency and severity profile	-\$5
Frequency decrease by 5% (excluding severities 4-6)	-\$8
Average claim size scenarios	
Developed AY2018 psychological claims proportion	+\$9
Reverse adjustment for established trends in non-serious claims	+\$6
Reduction in Sev1Y claim size sustained	-\$6
AY2016 developed incurred cost	-\$6
Nil RP impact from psychological claims proportion change	-\$9
AY2017 developed incurred cost	-\$10

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 (as at 3rd June 2020).

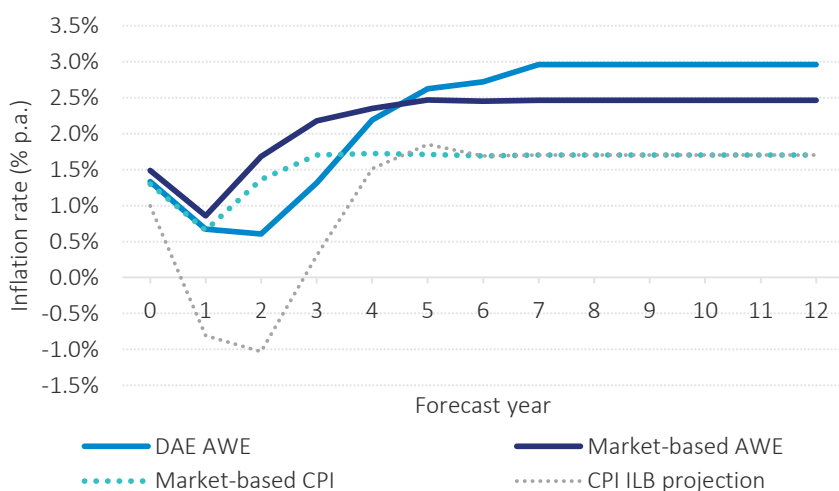
At the Mar-20 review, we have provided two projected QLD AWE inflation rates based on information available at the time of premium setting:

- » One is derived using a market-based model based on
 - o The shape of current nominal and inflation-linked bond yield curves
 - o the QLD unemployment rate and
 - o 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.

- » Another is derived from Deloitte Access Economic (DAE) inflation forecasts.

Figure 5 Projected wage inflation rates



The market-based model has been recalibrated to account for the impact of COVID-19 on the economic outlook. However, the current unprecedented economic environment has led to the inflation linked bonds predicting a negative future CPI rate. The market-based model has not been tested in such circumstances.

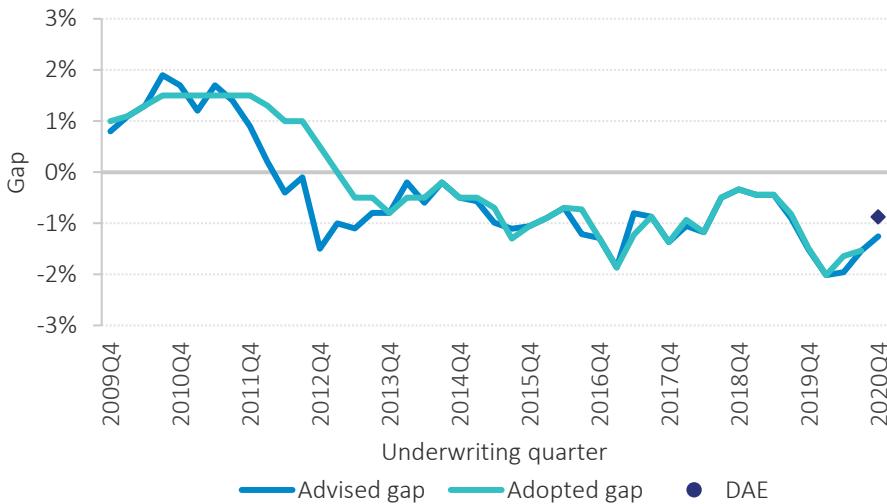
DAE has made a revision down to short to medium term inflation rates to account for the low inflation environment caused by COVID-19. These are lower for longer than the market-based model which only responds to 50% of forecast of the short-term projections of inflation.

For the 2020Q4 underwriting quarter, the projected flat wage inflation rates are:

- » **1.77% p.a.** based on the market-based model
- » **1.41% p.a.** based on DAE inflation forecasts

Last quarter, MAIC relied on the market-based model in full. Although we consider that relying on one model consistently would be ideal, there is a wide range of uncertainty in current economic forecasts and in our view it is open to MAIC to revert to the DAE model for a time.

Figure 6 Economic gap



For the 2020Q4 underwriting quarter, the economic gap based on the market-based forecast is **-1.20%**. This is made up of a:

- » Discount rate of 0.57% p.a. and
- » Wage inflation of 1.77% p.a.

The economic gap tightened from -1.54% advised at the previous review.

The economic gap for the 2020Q4 underwriting quarter based on the DAE forecast is **-0.84%**.

There is a wide range of uncertainty in current economic forecasts. The market-based model only responds to around 50% of the immediate short-term forecasts of inflation and we are reluctant to make an ad hoc change. In our view it is open to MAIC to revert to the DAE model for a time.

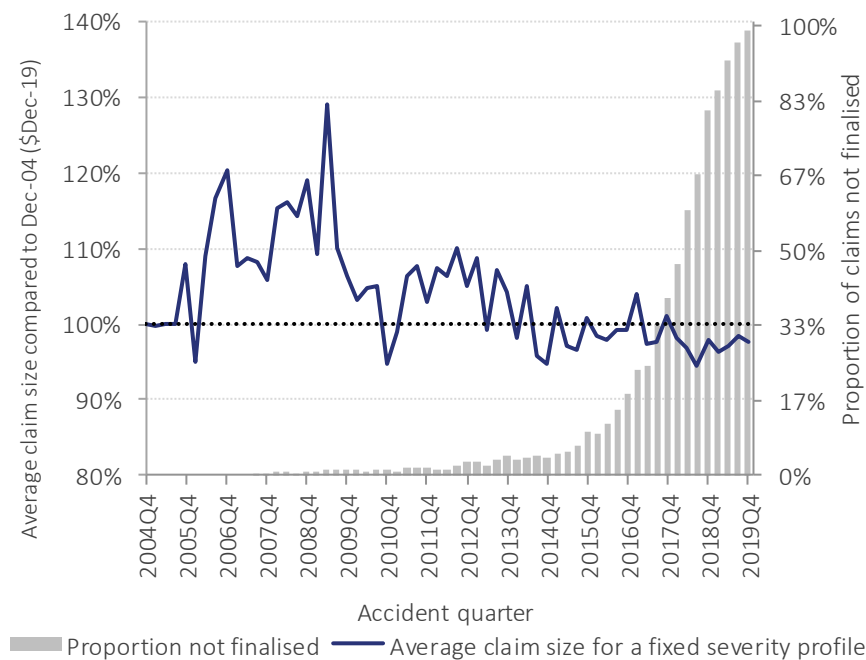
Superimposed inflation

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.

Finalisation experience over this quarter has been low likely due to COVID-19 related operational issues for insurers. We believe this low experience is potentially not representative of the superimposed inflation (SI) effect within the scheme. Therefore, we have not updated our SI estimate and considered the Dec-19 SI estimates still appropriate.

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 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 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 Dec-19 is 0.08% p.a.
- » At 1% p.a. future superimposed inflation, the 5-year change to Dec-19 is 0.64% p.a.

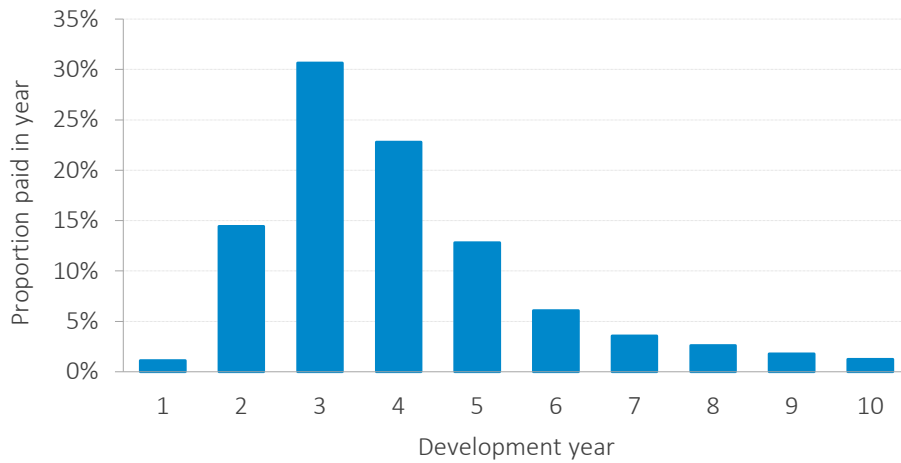
Other premium components

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 8 Payment pattern



The payment pattern at this review has remained unchanged to the payment pattern advised at Dec-19. The mean term from underwriting to payment is 3.71 years.



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