

# **ACT Workers' Compensation Review of Scheme Performance to 30 June 2018**

Chief Minister, Treasury and Economic  
Development Directorate

April 2019

## ACT Workers' Compensation Review of Scheme Performance to 30 June 2018

The Chief Minister, Treasury and Economic Development Directorate (CMTEDD) have requested that Finity Consulting (Finity) undertake an actuarial review of the performance of the ACT private sector workers' compensation scheme (the Scheme) in order to inform the CMTEDD on key developments in the scheme experience.

This report includes:

- An investigation of trends in the private sector claims experience to 30 June 2018
- An estimate of reasonable premium rates for the 2019/20 financial year.

The terms of reference for our work are set out in our contract with the Chief Minister and Treasury Directorate (number 2017.28453.210).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Gae Robinson'.

Gae Robinson

A handwritten signature in black ink, appearing to read 'T. Jeffrey'.

Tim Jeffrey

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# ACT Workers' Compensation Review of Scheme Performance to 30 June 2018

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# Part I Executive Summary

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## 1 Introduction & Background

The Chief Minister, Treasury and Economic Development Directorate (CMTEDD) requested that Finity undertake an actuarial review of the performance of the ACT private sector workers' compensation scheme. We investigated trends in the claims experience to 30 June 2018 and estimated reasonable premium rates for the 2019/20 policy year.

Our review includes:

- Identifying major trends in the insured private sector claims experience
- Developing a reasonable premium pool and average premium rate for the insured scheme for the 2019/20 policy year
- Developing premium rates at the ANZSIC Class level for the 2019/20 policy year, using the ANZSIC 2006 classification system

We have used data extracted from the policy and claims system at the end of October 2018.

## 2 Key Scheme Metrics

In 2017/18 around 17,700 policies were written, covering \$9.7 billion (\$10.3 billion in inflated dollars) in wages. Premiums of \$189 million (\$200 million when inflated) were collected in the year.

Written wages increased by more than premiums in 2017/18, leading to a decrease in written premium rates from 2.00% of wages in 2016/17 to 1.94% of wages in 2017/18.

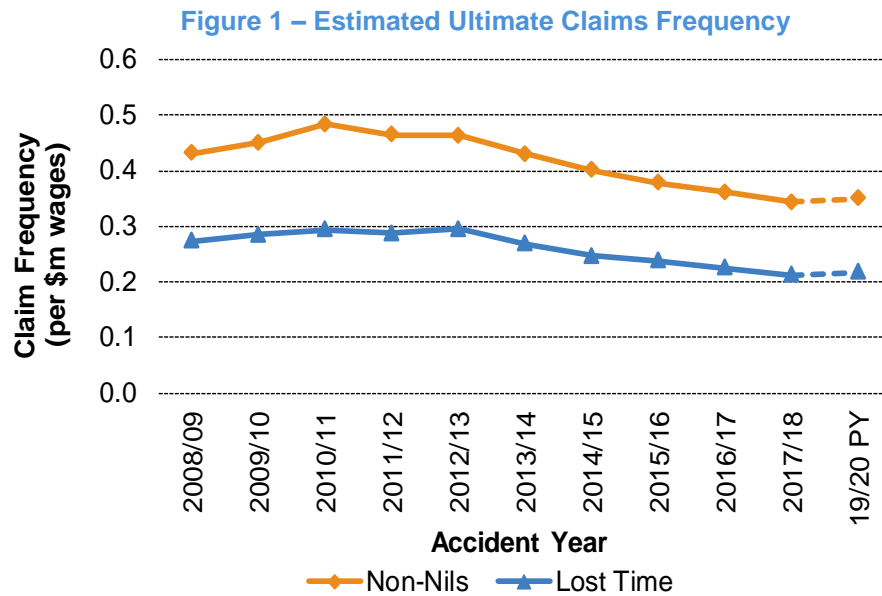
## 3 Claims Experience

Section 2 of our report examines the claims experience that has emerged in the last year. Section 3 details how our actuarial projections respond to this experience. The main features are summarised below.

### Claim Numbers and Frequency

The number of non-nil claims reported in 2017/18 was slightly higher than 2016/17, with 3,353 new non-nil claim reports. The number of new lost time claims also increased slightly, with 2,085 in 2017/18.

Figure 1 shows our estimates of ultimate claim frequencies for the Scheme.



The non-nil claim frequency per \$ million wages has steadily reduced since 2012/13, to an estimated 0.35 claims per million wages for the 2017/18 accident year.

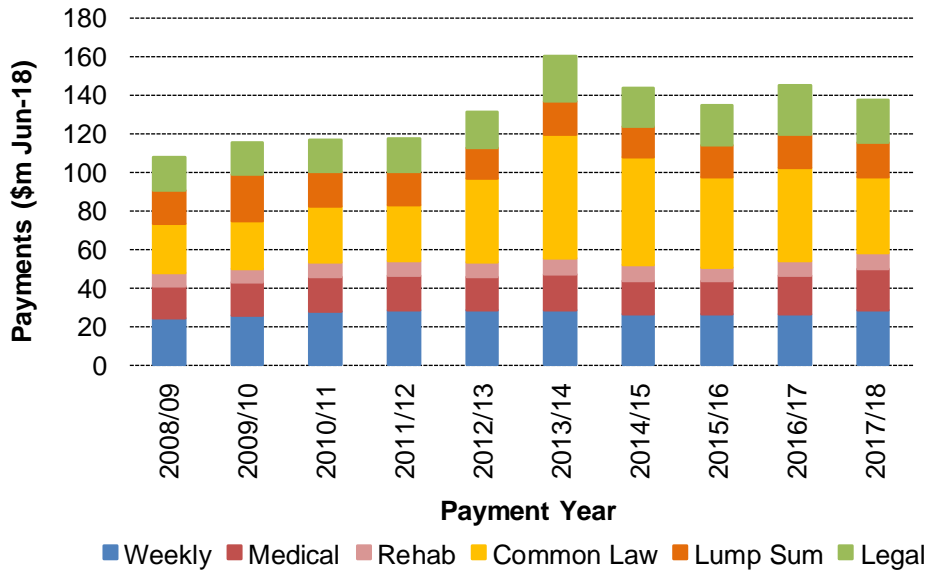
We have adopted a claim frequency for the 2019/20 policy year of 0.35 claims per \$ million of wages, close to our estimate for 2017/18. This is 6% lower (adjusting for actual inflation) than the claim frequency adopted for the 2018/19 policy year in our previous review. Our adopted claim frequency corresponds to 3,608 claims for the 2019/20 policy year.

The frequency of claims receiving weekly benefits has also reduced in recent years. We have adopted a lost time frequency of 0.22 claims per \$ million wages for the 2019/20 policy year.

## Claim Payments

Figure 2 shows total gross claim payments made over the last ten years, broken down by payment type. All payments have been inflated to June 2018 values.

Figure 2 – Gross Payments (June 2018 values)



Just under \$138 million of gross claim payments were made in 2017/18, \$5.9 million (5%) lower than payments in the previous year. Decreases in common law and legal payments were largely offset by increases in weekly, medical and rehabilitation payments.

We have adopted an average claim size per non-nil claim of around \$41,900 (net of recoveries) for the 2019/20 policy year. This is slightly lower than our previous selection of \$42,500 (adjusted to June 2018 dollars), and there has been some reallocation between payment types.

## 4 Non-Claim Assumptions

We have included an expense loading of 22.2% of premium (\$58.9 million) in the reasonable premium rate for 2019/20, up from 21.6% at the previous review. This is driven by (1) increases in insurers' filed administration expenses, which we have reflected in our expense assumptions, and (2) a higher regulatory funding levy.

The reasonable premium rate for 2019/20 includes a profit margin of 13.5% of premium, consistent with that adopted previously.

Our future wage inflation assumption is unchanged at 3.0% per annum, while the adopted discount rate has decreased from 2.5% to 1.8% per annum.

## 5 Average Premium Rate for 2019/20

Our estimate of a reasonable premium pool for 2019/20 is \$265.3 million, as shown below.

**Table 1 –Total Premium Pool**

Premium Rate Component	\$m
Risk Premium Pool	170.6
Expense Loading	58.9
Profit Loading	35.8
Total Premium Pool	265.3
Wages Estimate	10,683.6
Average Risk Premium (% wages)	1.60%
Average Premium Rate (% wages)	2.48%

The reasonable average premium rate for 2019/20 is 2.48% of wages, a decrease of 0.10% from 2018/19 (a 4% proportionate decrease). The overall decrease can be attributed to the following components:

- Allowance for one year's superimposed inflation (to 2019/20) – increase of 0.03%
- Claims cost changes – decrease of 0.20%, comprising:
  - ▶ Continued reductions in underlying claim frequency – decrease of 0.13%
  - ▶ A shift to lower risk/higher wage industries – decrease of 0.06%
  - ▶ Changes in claim size – decrease of 0.01%
- Economic assumptions – increase of 0.05%
- Expense loadings – increase of 0.02%.

## 6 ANZSIC Class Premium Rates

To derive reasonable premium rates at the ANZSIC Class level in the ACT, we have separately considered frequency relativities and cost relativities. Appendix H includes the full schedule of reasonable premium rates. The reasonable rates fall in the range 0.33% to 15.84% of wages.

## 7 Reliances and Limitations

Our reliances and limitations are an important part of this report and are detailed in Section 10.

## Part II Detailed Findings

### 1 Introduction

#### 1.1 Purpose

The Chief Minister and Treasury Directorate (CMTEDD) has requested that Finity Consulting (Finity) undertake an actuarial review of the performance of the ACT private sector workers' compensation scheme (the Scheme), in order to inform CMTEDD about key developments in the Scheme experience. We were required to investigate trends in the claims experience to 30 June 2018, and provide an estimate of a reasonable premium rate for the 2019/20 policy year.

Our previous Scheme review was summarised in the report "ACT Workers' Compensation Review of Scheme Performance to 30 June 2017" dated 23 April 2018.

#### 1.2 Scope

The scope of our review is limited to the insured private sector workers' compensation scheme; it does not include self-insured employers or the ACT public sector.

Our review encompassed:

- Identifying trends in the private sector experience that impact on Scheme cost, including consideration of:
  - ▶ Claim numbers and frequency for non-nil claims, lost time claims and lump sums
  - ▶ Injury type
  - ▶ Claim payments, average claim sizes and payment patterns by benefit type.
- Estimating future claim costs for past accident years
- Developing a reasonable premium pool and average premium rate for the insured scheme as a whole for the 2019/20 policy year
- Developing reasonable premium rates at the ANZSIC Class level for the 2019/20 policy year
- Looking at claim trends by injury type
- Investigating return to work rates and trends

Appendix B of this report summarises the various historical legislative reforms that have had a significant impact on the cost of the Scheme.

#### 1.3 Data

We have prepared this advice using data as at October 2018 sourced from CMTEDD's Workers Compensation Management System (WCMS) that commenced late 2015.

The last full financial year of data is for the year ending 30 June 2018, and many of the graphs and commentary in this report are prepared using experience to 30 June 2018 only. We have also specifically used the claims data for the three months to 30 September 2018 in projecting ultimate claim numbers and in forming our lump sum assumptions.



We remain concerned about the reliability of case estimates in WCMS for older years, where it appears case estimates have not been set to zero when claims are closed. We have therefore sourced case estimates from summarised data provided directly by each insurer.

Wages and premium information for recent years appears to be of a higher quality than the data captured on AIMS (the previous data system) for older years. When looking at long-term trends (such as claim frequency) we have continued to rely on the summarised data provided by insurers to ensure consistency across all years; however for ANZSIC class relativities (for which we generally analyse accidents in the last three or five years) we have relied on WCMS data as it contains more granular information.

Further details of the data supplied and reconciliations carried out are set out in Section 8.

## 1.4 Structure of Report

The details of our review are set out in the following report sections:

### Part II – Scheme Review and Reasonable Premium Rates

Section 2	Overview of trends in claims experience
Section 3	Our assessment of Scheme claim number and payment experience, including the assumptions required to estimate ultimate claim costs
Section 4	Other assumptions adopted: economic, expense and profit assumptions
Section 5	Estimated ultimate costs for each past accident year, and comparison to insurer reserves
Section 6	Estimates of a reasonable premium pool and the average premium rate
Section 7	Selected relativities and reasonable premium rates by ANZSIC Division

### Part III – Further Information

Section 8	Describes the data we were supplied with
Section 9	Compliance with relevant professional standards and our approach to the analysis
Section 10	Reliances and limitations

### Part IV – Appendices

## 2 Overview of Claims Experience

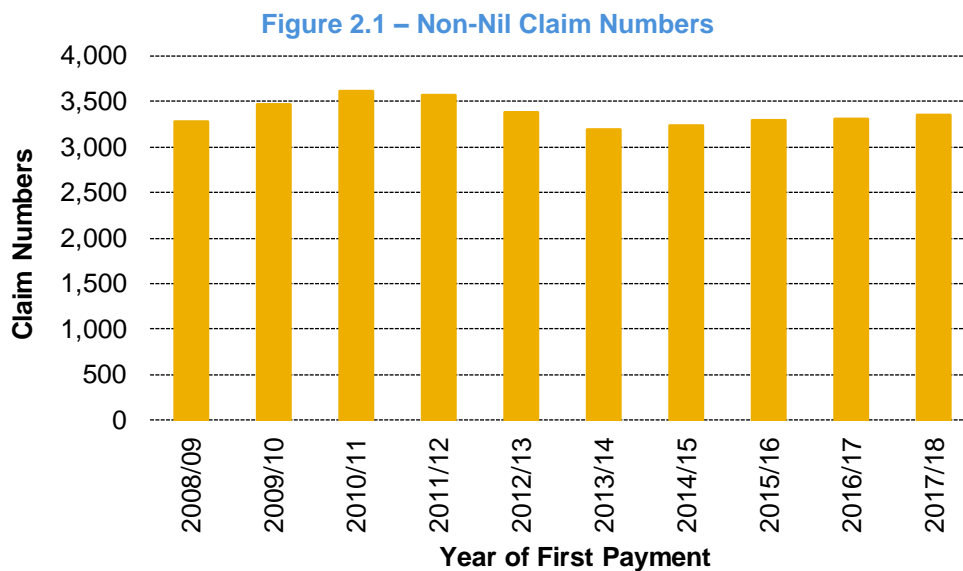
This section summarises trends in the Scheme claims experience. Further detail relating to claim frequency and average claim size, including projections by payment type, follow in Section 3.

### Key Findings

- The number of non-nil claims reported increased slightly in 2017/18, to just over 3,350.
- The number of new lost time claims increased by 1%, with around 2,090 in 2017/18.
- There were just under \$134m in gross payments in 2017/18, which is similar to 2016/17. Statutory benefit payments increased, while lump sums and legal spend decreased.
- First lump sum numbers decreased by 15% in 2017/18 to 413. These numbers tend to exhibit volatility from year to year.

### 2.1 Numbers of Claims Reported

The following graph shows the number of non-nil claims in each year (counted in the year of first payment).



Between 2011/12 and 2013/14 the number of non-nil claims reduced by around 5% per annum to a low of just under 3,200. We understand that the reduction in 2013/14 may have been related to a safety review of the Construction industry conducted in 2012/13 and subsequent improvements in WHS practices. Since then non-nil claims have increased at just over 1% per annum, with around 3,350 claims reported in 2017/18; however, exposure has grown at a faster rate – meaning the claim frequency has continued to improve over this period.

Table 2.1 compares the number of non-nil claims reported in 2017/18 with the expected experience from our previous review.

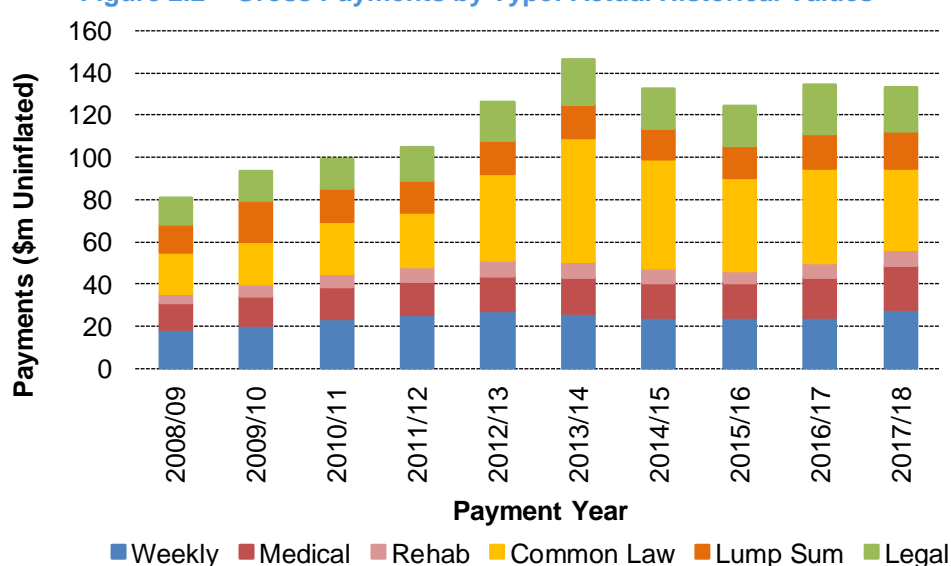
**Table 2.1 – Actual vs Expected Claims Reported in 12 months to 30 June 2018**

Accident Year	Non-nil claims reported			
	Actual	Expected	Difference	Difference
Prior	9	14	-5	-36%
2014/15	9	9	0	-5%
2015/16	26	20	6	29%
2016/17	440	419	21	5%
2017/18	2,869	2,955	-86	-3%
Total	3,353	3,418	-65	-2%

Non-nil claim reports in the year were lower than expectations by 2%. This was driven by the 2017/18 accident year, which suggests our previously adopted frequency was too high. The numbers of late reports were higher than expected for 2015/16 and 2016/17 accidents.

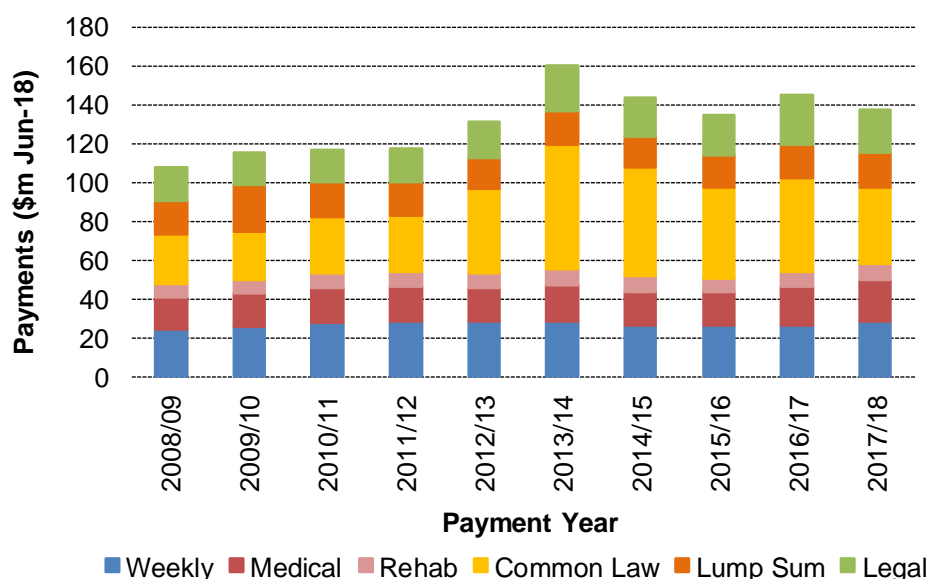
## 2.2 Claim Payments

The following two graphs show the mix of claim payments by year and type. Figure 2.2 shows the payments in actual historical values, while Figure 2.3 shows payments inflated to June 2018 values.

**Figure 2.2 – Gross Payments by Type: Actual Historical Values**

After peaking at just over \$145 million in 2013/14, payments have been between \$125 million and \$135 million for the last four years. Payments for the 2017/18 year decreased by 1% (to \$134 million), with decreases in common law and legal payments largely offset by increases in weekly, medical and rehabilitation payments.

Insurers received around \$4 million in non-reinsurance recoveries in 2017/18, bringing net payments in the year to around \$130 million.

**Figure 2.3 – Gross Payments by Type: Inflated to June 2018 values**

After adjusting for historical wage inflation, payments averaged just under \$120 million until 2011/12, but then increased significantly to around \$160 million in 2013/14, driven by higher common law costs. Payments reduced in 2014/15 and since then have averaged around \$140 million. The reduction in payments from the peak in 2013/14 is again driven by common law costs; total payments remain significantly higher than pre 2012/13 levels.

The following table compares net payments in the 12 months to 30 June 2018, by payment type, to the expected payments from our previous review.

**Table 2.2 – Actual vs Expected Payments in 12 months to 30 June 2018**

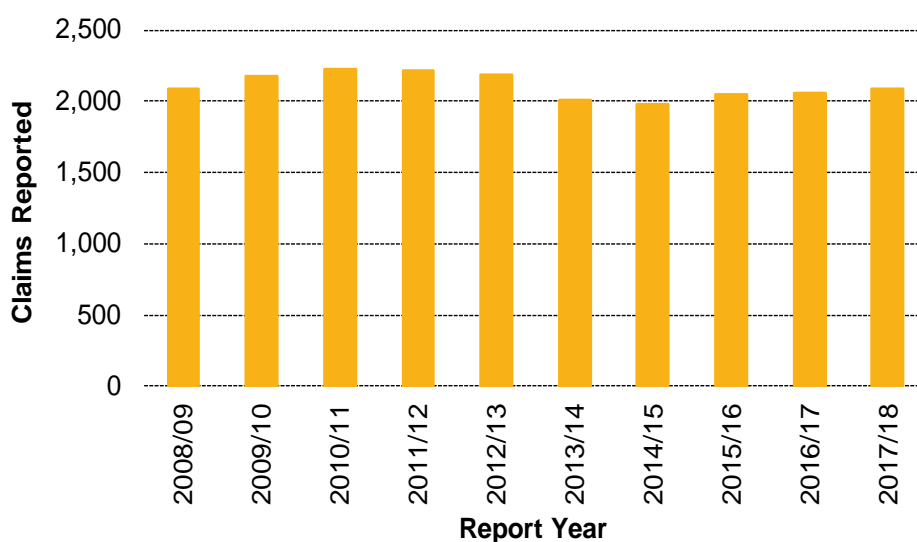
Payment Type	Actual \$m	Expected \$m	Difference \$m	Difference %
Weekly	27.8	25.6	2.2	9%
Medical	20.8	18.7	2.1	11%
Rehab	7.8	7.2	0.6	9%
Lump sums <sup>1</sup>	56.0	61.1	-5.1	-8%
Legal	21.2	21.6	-0.4	-2%
Recoveries	-3.8	-4.9	1.1	-22%
<b>Total</b>	<b>129.7</b>	<b>129.2</b>	<b>0.4</b>	<b>0%</b>

<sup>1</sup>Includes Common Law

Total payments in 2017/18 were in line with expectations in aggregate. At a payment type level, statutory benefits were higher than expected (due to higher than expected costs at earlier durations), while lump sum payments and legal expenditure were lower than expected.

## 2.3 Claims Involving Lost Time

Figure 2.4 below shows the number of new weekly benefit claims (i.e. claims involving lost time) in each year. We count a claim as a “new” lost time claim in the year when it first receives a weekly benefit payment.

**Figure 2.4 – New Lost Time Claims**

Following a safety review of the Construction industry, claim numbers fell by 8% in 2013/14 and again by 1% in 2014/15 to a low of around 1,980. Since then lost time claims have increased slowly to 2,085 in 2017/18, up 1.1% from the previous year.

Table 2.3 shows the number of new lost time claims in 2017/18 was 1% below expectations.

**Table 2.3 – Actual vs Expected Lost Time Claims Reported in 12 months to 30 June 2018**

Accident Year	Lost time claims reported			
	Actual	Expected	Difference	Difference
Prior	2	3	-1	-39%
2014/15	7	6	1	18%
2015/16	25	24	1	2%
2016/17	499	466	33	7%
2017/18	1,552	1,613	-61	-4%
Total	2,085	2,113	-28	-1%

The pattern by accident year is similar to that of overall non-nil claim numbers.

## 2.4 Common Law and Other Lump Sums

### Numbers of Lump Sums Paid

Injured workers may choose to pursue either:

- A common law claim (damages awarded under Chapter 9 of the Act)
- A negotiated settlement (claimant signs a common law release but no writ is issued)
- A redemption of statutory entitlements (a 'commutation')
- A statutory permanent impairment benefit.

Pursuing either a common law claim or a commutation results in finalisation of the claim; all of the worker's entitlements are settled via this path. However, payment of a statutory permanent impairment benefit results in the settlement of the impairment benefit component only – the worker continues to have

an entitlement to receive future weekly benefits and medical costs. The number of claimants pursuing statutory permanent impairment benefits is small relative to common law and commutations.

Figure 2.5 shows the number of claims that have received common law, negotiated settlement, commutation, statutory impairment benefits or death benefits for the first time in each payment year (referred to as “lump sum claims reported”). Note that around 4% of claimants receive both a common law (including negotiated settlement) and lump sum payment (commutation, statutory benefit or death), with the bulk of these claims (around 80%) receiving both a common law and a commutation payment. For the purpose of this graph we have counted claims using the following hierarchy:

- If a claim has a common law payment it is counted as common law.
- If a claim has no common law payment but has a negotiated settlement payment, it is a settlement.
  - ▶ In the previous claims database (prior to 2013/14) there was no ability to distinguish between common law awards and negotiated settlements; all matters have been deemed to be negotiated settlements.
- If a claim has neither of the above payments but has a commutation payment, it is counted as a commutation lump sum.
- If a claim has none of the above payments but has a statutory impairment payment, it is counted as a statutory impairment benefit.
- If a claim has none of the above payments but has a death benefit, it is counted as a death lump sum.

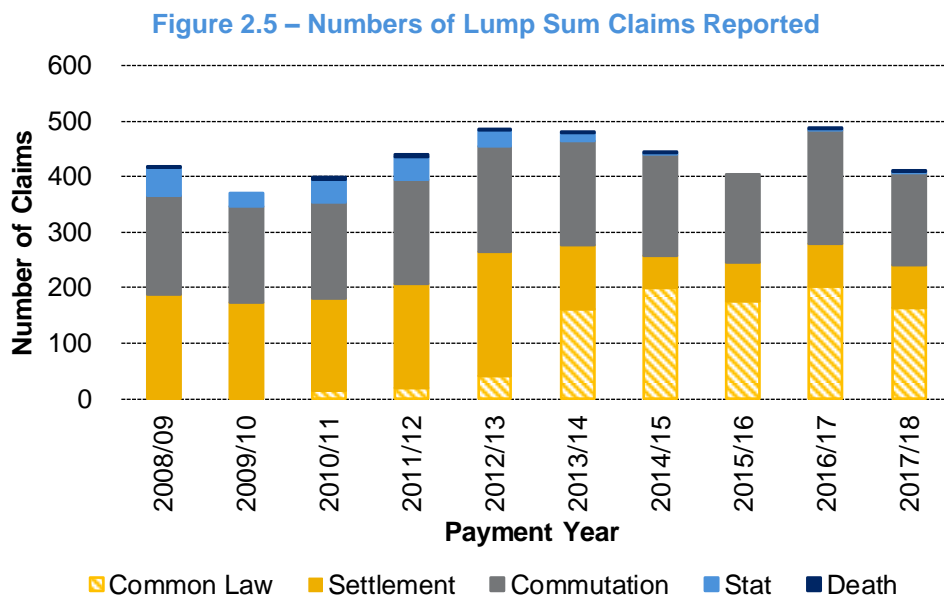


Figure 2.5 shows:

- 413 claims received a lump sum payment in 2017/18, which is around 15% lower than 2016/17 but roughly in line with the 2015/16 year. The number of lump sum claims can be volatile from year to year. It is possible that, following the high number of first lump sum payments in 2016/17, fewer claims were awaiting a lump sum payment at the beginning of 2017/18.

- The number of claimants receiving either common law or negotiated settlement damages has not shown a clear trend since the increase in 2012/13, although 2017/18 has the lowest number since that point.
- Between 2011/12 and 2014/15, the number of commutations was stable at around 190. Since then, the number has been more variable (160 commutations in 2015/16, 205 in 2016/17 and 170 in 2017/18).
- Only three claims received only a statutory permanent impairment benefit in 2017/18; the average was 30-40 for periods prior to 2012/13. This may indicate that almost all claimants who receive a permanent impairment lump sum now also receive a lump sum benefit of another nature (common law, negotiated settlement or commutation).
- There was one new death benefit claim in 2017/18.

Table 2.4 shows the numbers of lump sums reported in 2017/18 compared with expectations from our previous review.

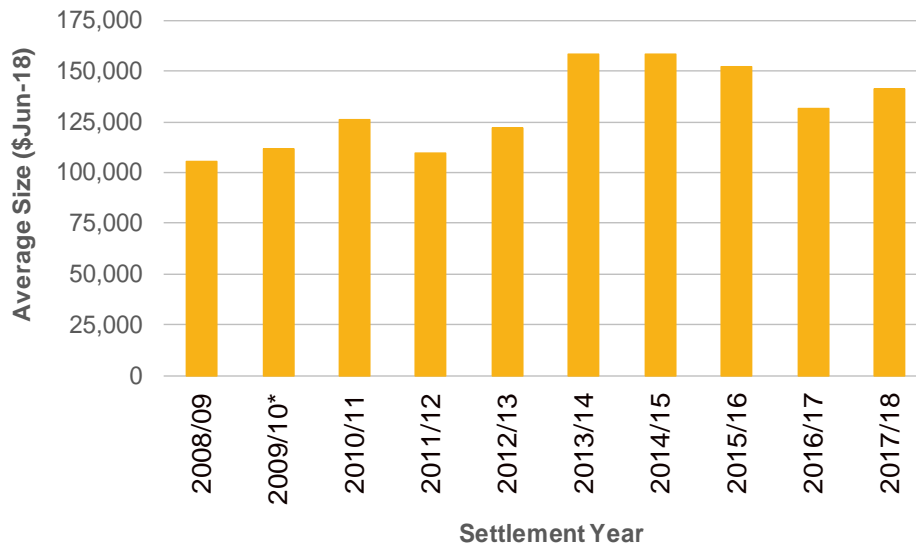
**Table 2.4 – Actual vs Expected Lump Sums Reported in 12 months to 30 June 2018**

Accident Year	Lump sum claims reported			
	Actual	Expected	Difference	Difference
Prior	7	9	-2	-23%
2009/10	1	4	-3	-77%
2010/11	6	7	-1	-10%
2011/12	7	12	-5	-44%
2012/13	24	25	-1	-2%
2013/14	50	57	-7	-12%
2014/15	92	98	-6	-6%
2015/16	121	130	-9	-7%
2016/17	95	103	-8	-8%
2017/18	10	11	-1	-6%
Total	413	456	-43	-9%

The number of lump sum claim reports in 2017/18 was below expectations across all accident years shown; overall, lump sum claims were 9% below expectations. Given the low number of lump sum claims each year (relative to total claims) this number can be volatile from year to year. As noted above, our view is that the lower number of new lump sums in 2017/18 cannot confidently be interpreted as a reduction in 'underlying' lump sum numbers, given the higher than expected lump sum numbers in 2016/17 (It may relate to timing of payments).

### Average Size of Lump Sums (Lump Sum Component)

Figure 2.6 shows the average size of lump sum claims (inflated to June 2018 dollars) by year of settlement.

**Figure 2.6 – Average Size of Lump Sum Settlements**

\* 2009/10 has been adjusted to exclude a single large jockey claim  
(these claims are no longer covered by the scheme)

After averaging over \$156,000 from 2013/14 to 2015/16, the average size of lump sum settlements reduced to around \$132,000 in 2016/17. In 2017/18, the average size increased by 7% to \$140,000.

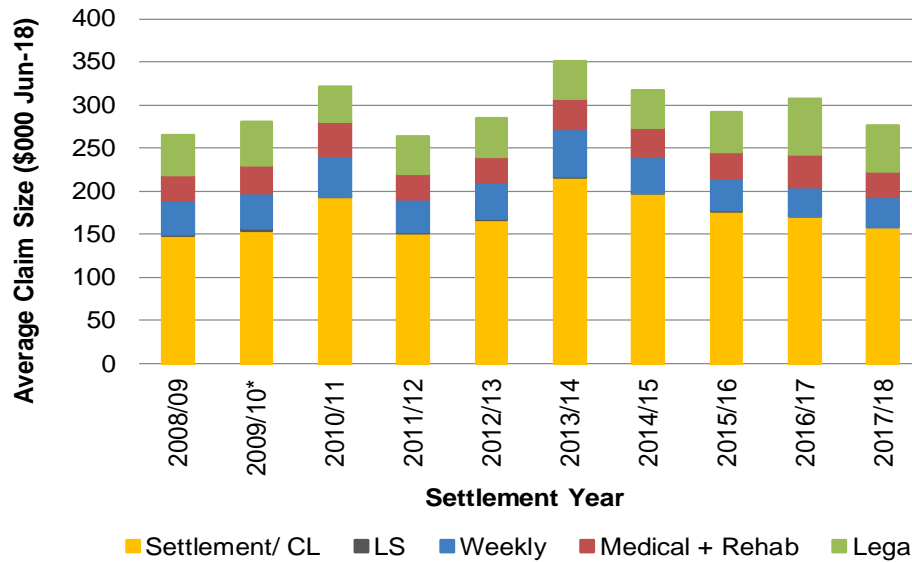
### Average Size of Lump Sums (Total Claim Cost)

We have also investigated the total average cost of claims that receive common law or commutations (i.e. for claims receiving a common law, negotiated settlement or commutation payment, the average across all benefit payments received, not just the lump sum component).

Figures 2.7 to 2.9 show the average amount received for the following claims:

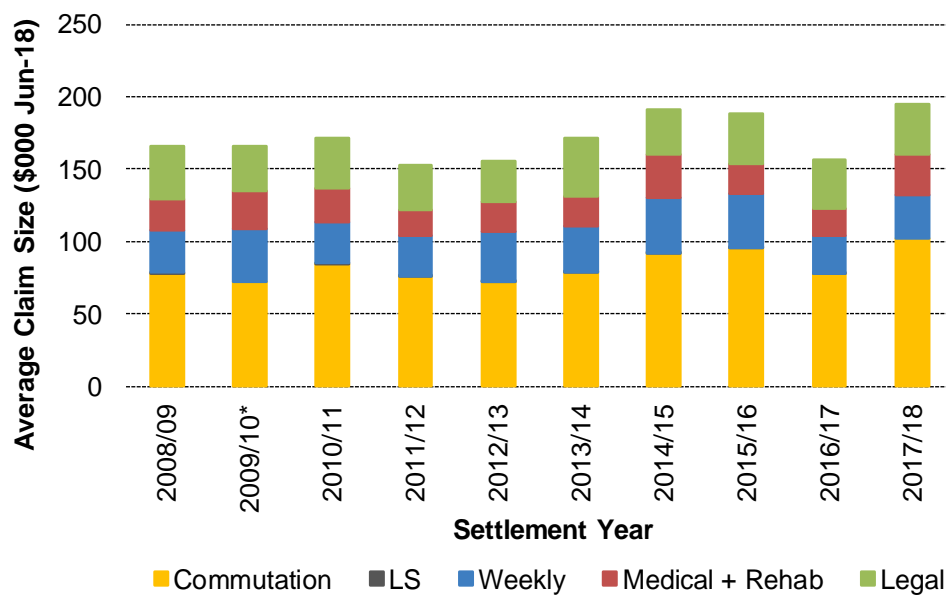
- Those receiving common law or negotiated settlement
- Those receiving a commutation benefit but no common law or settlement
- Those receiving both a common law/negotiated settlement amount and a commutation.



**Figure 2.7 – Average Size of Claims Receiving Common Law or Negotiated Settlement**

In 2013/14, the overall average cost of claims receiving common law payments (or negotiated settlements) peaked at around \$350,000. The average size in 2017/18 was \$280,000, which is made up as follows (in round terms):

- Common law component: around \$160,000
- Weekly benefits: about \$35,000
- Medical and rehabilitation costs: around \$30,000
- Legal costs: about \$55,000.

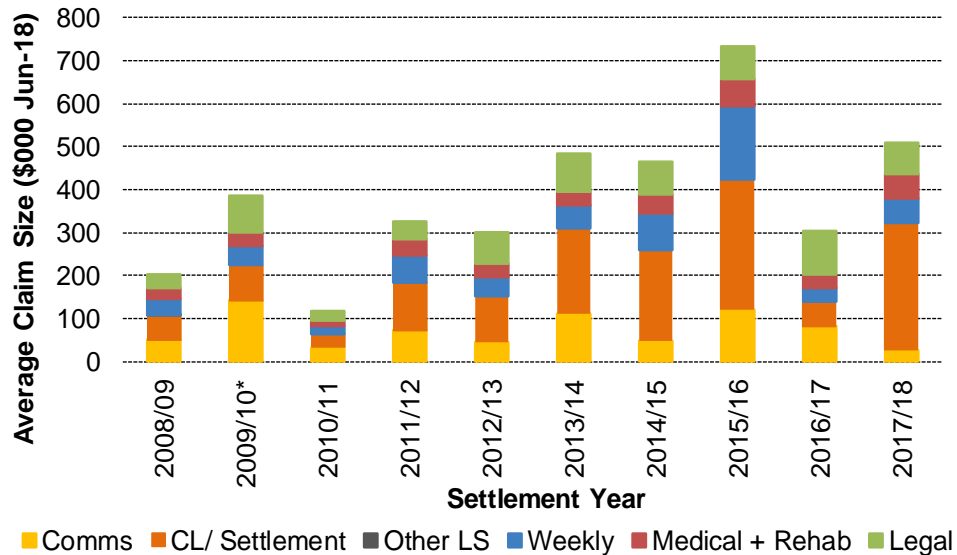
**Figure 2.8 – Average Size of Claims Receiving Commutations**

\* 2009/10 has been adjusted to exclude large jockey claim

Figure 2.8 shows that the overall average cost of claims receiving commutations (but no common law) increased to \$190,000 in 2017/18 from around \$160,000 in 2016/17, and is now roughly in line with the average over the 2014/15 and 2015/16 years. The average claim size is broken down as follows:

- Commutation component: around \$100,000; this is around two-thirds the amount that common law claims receive as a common law component
- Weekly benefits: about \$30,000
- Medical and rehabilitation costs: around \$30,000
- Legal costs: about \$30,000.

**Figure 2.9 – Average Size of Claims Receiving both Common Law & Commutation**



The overall average cost for claims receiving both a common law and commutation is variable from year to year, noting that there are only 10-25 such claims each year. The average size for these claims is much higher than claims receiving only a common law or commutation. In the last five years (here, we consider a longer average due to the lower numbers) the average size of \$500,000 has been made up as follows:

- Common law component: around \$220,000
- Commutation component: about \$80,000 (total common law plus commutation \$300,000)
- Weekly benefits: around \$80,000
- Medical and rehabilitation costs: around \$45,000
- Legal costs: about \$80,000.

All cost components for these claims are at least as large as for claims who receive only a common law or commutation payment (when lump sum costs are combined).

### Claim Size Distribution

Table 2.5 shows the claim size distribution of all common law and other lump sum claims recorded in WCMS (in June 2018 values). This includes all benefit payments made on these claims, not just the lump sum component.

**Table 2.5 – Claim Size Distribution**

Common Law				Other Lump Sums		
Size of Settlement \$Jun-18	Number of Claims	Proportion	Average claim size in band (\$000 Jun-18)	Number of Claims	Proportion	Average claim size in band (\$000 Jun-18)
0-50k	338	8%	32,000	864	18%	30,000
50k-100k	509	13%	76,000	1,116	24%	74,000
100k-150k	597	15%	124,000	816	17%	123,000
150k-200k	496	12%	174,000	576	12%	174,000
200k-300k	772	19%	246,000	661	14%	246,000
300k-400k	526	13%	343,000	316	7%	343,000
400k-500k	288	7%	443,000	161	3%	439,000
500k-1m	449	11%	662,000	144	3%	633,000
>1m	82	2%	1,434,000	25	1%	2,215,000

Around half of common law claims settle for more than \$200,000, and 13% settle for \$500,000 or more. The distribution of other lump sums is skewed to lower cost claims.

### 3 Claim Analysis and Assumptions

This section describes our findings in relation to trends in exposure measures, claim numbers and frequency, claim payments and average claim size. We also document the assumptions required to estimate ultimate claim costs.

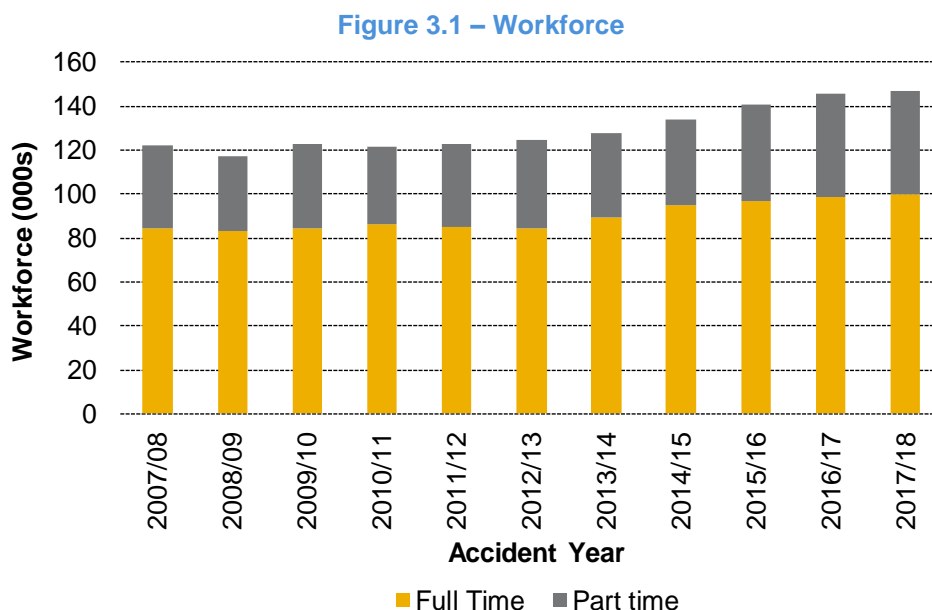
#### Key Findings

- Earned wages grew by 5% in real terms to \$9.8 billion in 2017/18.
- We estimate there will ultimately be around 3,360 non-nil claims for the 2017/18 accident year, roughly similar to the previous year. This represents a decreased claim frequency, as wages continue to grow while claim numbers remain stable.
- We have adopted a non-nil claim frequency of 0.35 claims per \$ million of wages for the 2019/20 policy year, 6% lower (adjusting for actual inflation) than adopted for the 2018/19 policy year. This results in a projection of 3,608 claims.
- Our selected average claim size per non-nil claim is around \$41,900 for the 2019/20 policy year, a slight decrease from our previous average size of \$42,500 (inflated to June 2018).

#### 3.1 Exposure

##### Number of Employees

Employee numbers are used as a measure of exposure in the calculation of ultimate claim frequency. Figure 3.1 shows the estimated ACT private sector workforce relevant to each accident year, split between full time and part time workers. The number of employees is calculated as the ACT total (as shown in ABS figures), less the number of Commonwealth and ACT Government employees (provided by CMTEDD).



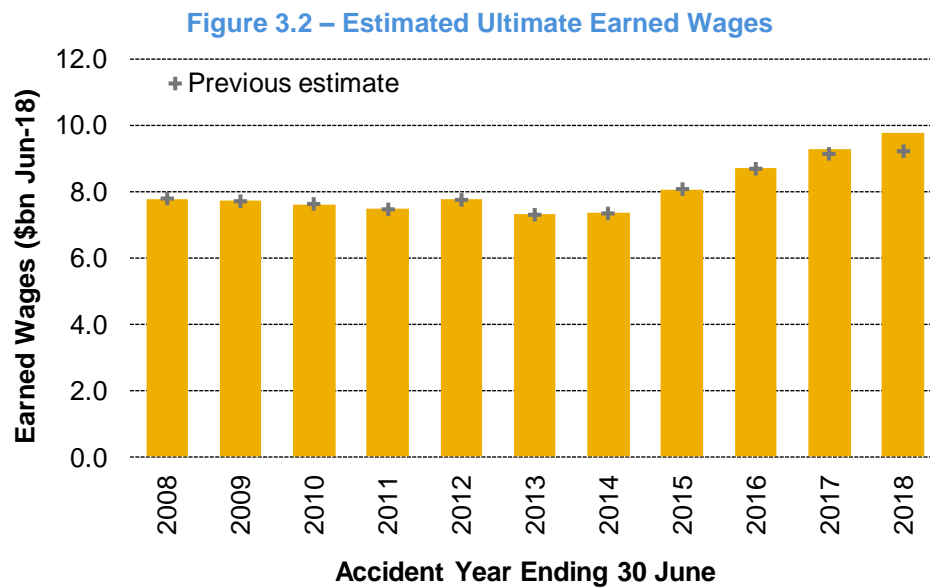
Total employee numbers grew by 0.8% in 2017/18; a 1.5% increase in full time employees was partially offset by a 0.6% decrease in the number of part time employees. In our calculation of ultimate claim

frequency, we have used the number of **full time** ACT private sector employees as the measure of exposure.

As these employee figures are not provided by the insurers, and are compiled from two different sources of data, in our premium estimates we rely more heavily on frequency measured relative to wages rather than employee numbers.

## Earned Wages

As noted, wages are used as the primary measure of exposure. Figure 3.2 shows earned wages by accident year. The wages have been adjusted for historical wage inflation (amounts are expressed in June 2018 values), which means that an increase here represents real growth in total wages. These figures are estimates based on information to September 2018; wages are often revised from initial estimates to actual figures at the end of the policy year (see Appendix G). We have also shown our estimates from last year, adjusted for differences in inflation.

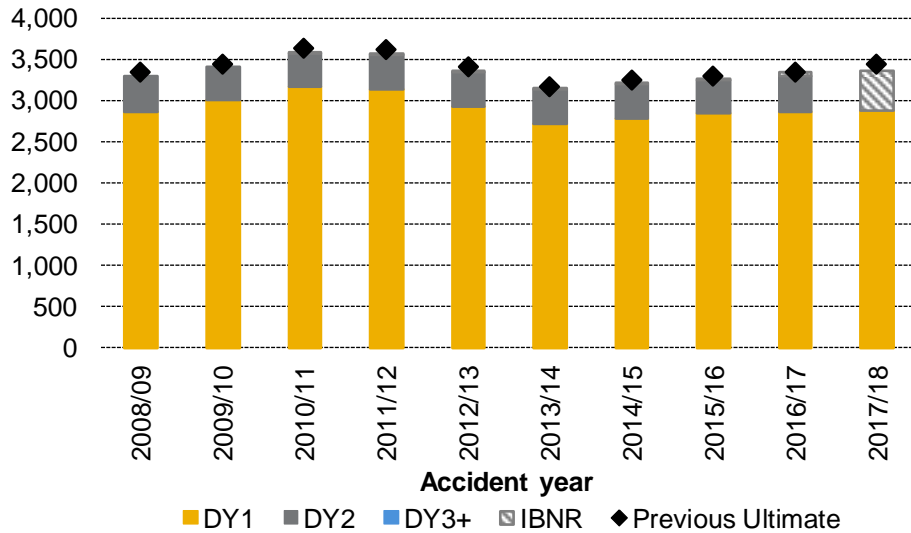


Earned wages increased by 5.4% in real terms in 2017/18, and are estimated to be around \$9.8 billion in June 2018 values. This is about 6% higher than our previous estimate of wages for 2017/18.

## 3.2 Total Claim Numbers and Frequency

Figure 3.3 shows the number of non-nil claims that have been reported to the insurers to 30 June 2018 as well as our estimate of ultimate numbers of claims for each accident year. We have shown claims reported by duration, or “development years” following the accident; “DY1” represents claims reported within one year of the accident, “DY2” represents claims reported between 1 to 2 years after the accident and so on.

**Figure 3.3 – Ultimate Number of (Non-Nil) Claims**

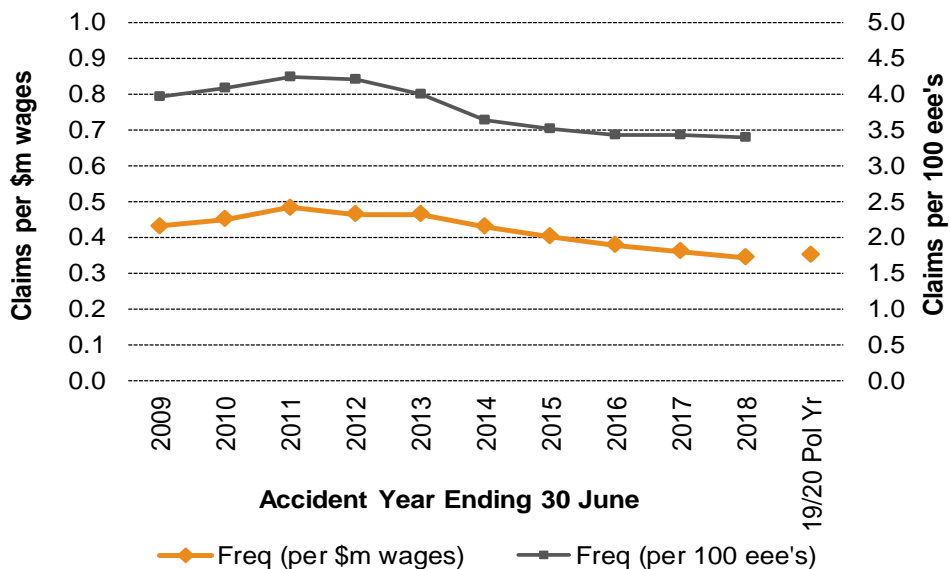


There are generally very few claims reported more than two years after the accident, and the number of Incurred But Not Reported (IBNR) claims is therefore small for all but the most recent accident year.

The projected number of non-nil claims for 2017/18 is 3,362 – an increase of 0.4% from 2016/17.

The estimated ultimate number of non-nil claims is divided by both earned wages and full time employee numbers to arrive at measures of the ultimate claim frequency; see Figure 3.4.

**Figure 3.4 – Ultimate Non-Nil Claim Frequency**



The non-nil claim frequency per \$ million wages was reasonably stable from 2007/08 to 2012/13. Since then it has steadily reduced, to an estimated 0.34 claims per \$ million wages for the 2017/18 accident year. The initial reduction appears to be related to the safety review of the Construction industry, but then appears to be due to a mix of underlying frequency improvements and a shift to lower risk industries (e.g. Professional, Scientific and Technical Services, which is the lowest risk industry, has increased its share of wages over the last five years from 32% to 36%).

The trend in recent years in the claim frequency relative to employee numbers is also reducing, with a slightly different shape. We assess that this is at least partly related to the change in industry mix:

- Lower risk industries (in particular Division M) have higher than average wages
- Frequency measured relative to wages will therefore reduce due to both a lower frequency per employee and higher average wages per employee
- Frequency measured relative to employee numbers is not responsive to changes in the average wage.

We have adopted a claim frequency for the 2019/20 policy year of 0.35 claims per \$ million of wages, close to our estimate for 2017/18. This is 6% lower (after adjusting for actual inflation) than the claim frequency adopted for the 2018/19 policy year in our previous review.

Our adopted claim frequency corresponds to 3,608 claims for the 2019/20 policy year.

Appendix E provides further details of our claim number analysis.

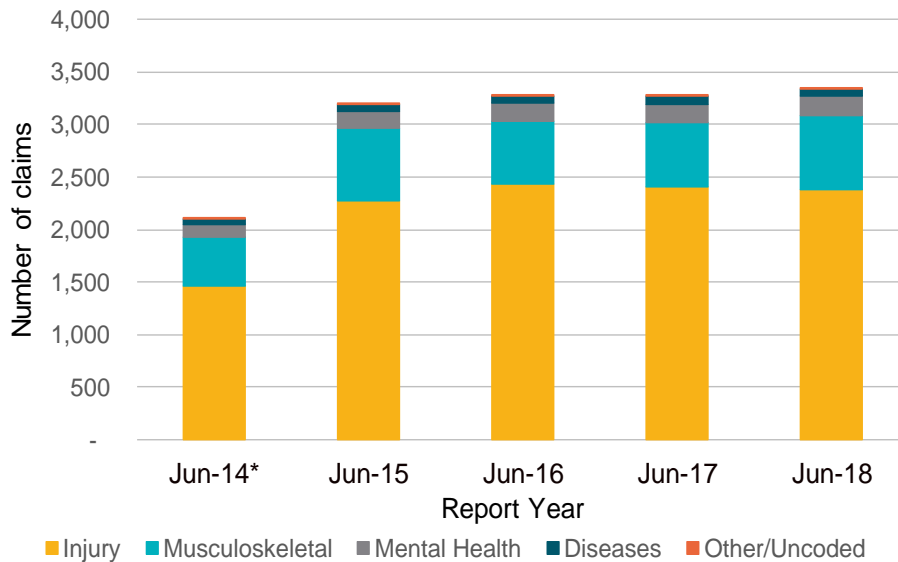
### 3.3 Injury Trends

We have analysed trends in claim numbers by injury type to see whether there are any changes to the types of injuries occurring. We have grouped claims into the following categories:

- Injury
- Musculoskeletal
- Mental Health
- Diseases
- Other/Uncoded.

Claims have been coded under the TOOCS 3.0 classification system since September 2013, so we show data only from this point onwards. A full listing of the injuries under each group is shown in Appendix I.

Figure 3.5 shows the number of claims split by injury.

**Figure 3.5 – Claims by Injury Type**

\*June 2014 has only nine months of coding

Injury claims make up around 70% of total claim numbers, with musculoskeletal claims representing 20%. Since 2015 (the first year fully coded), the proportion of Mental Health claims has gradually increased from 4.8% to 5.4%. Although recent years are still immature in terms of ultimate cost, analysis indicates that Mental Health claims are much more likely to access lump sum benefits – so a higher proportion of these claims is likely to put pressure on average claim sizes.

We note that our data includes only the primary injury; a proportion of claimants with non-mental health injuries will develop secondary mental health issues that will increase the claim duration.

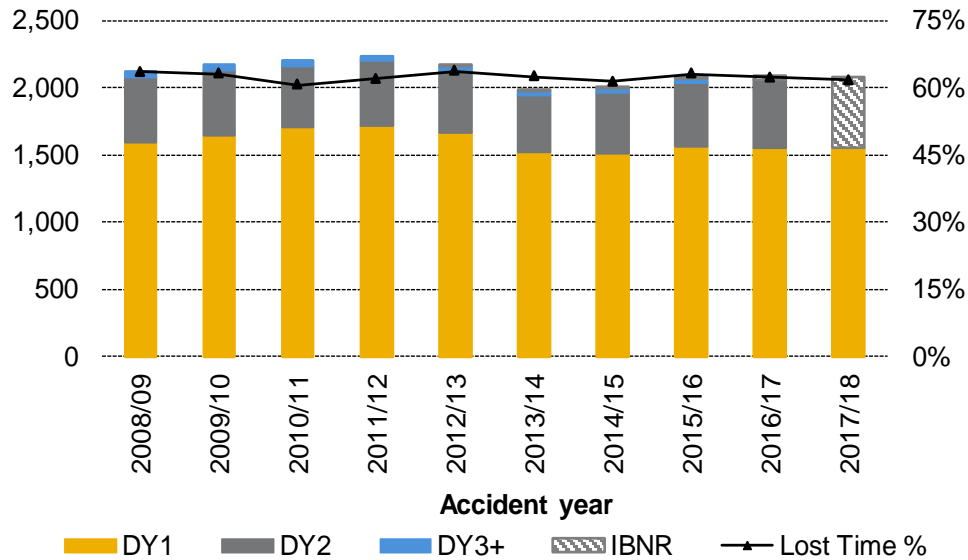
### 3.4 Weekly Benefits

#### Lost Time Claims

In order to understand the trends in the numbers of claimants receiving weekly benefit payments, we have estimated the ultimate number of lost time claims. Figure 3.6 shows our estimated ultimate number of lost time claims and the estimated proportion of non-nil claims that involve weekly benefits.



Figure 3.6 – Estimated Ultimate Lost Time Claims

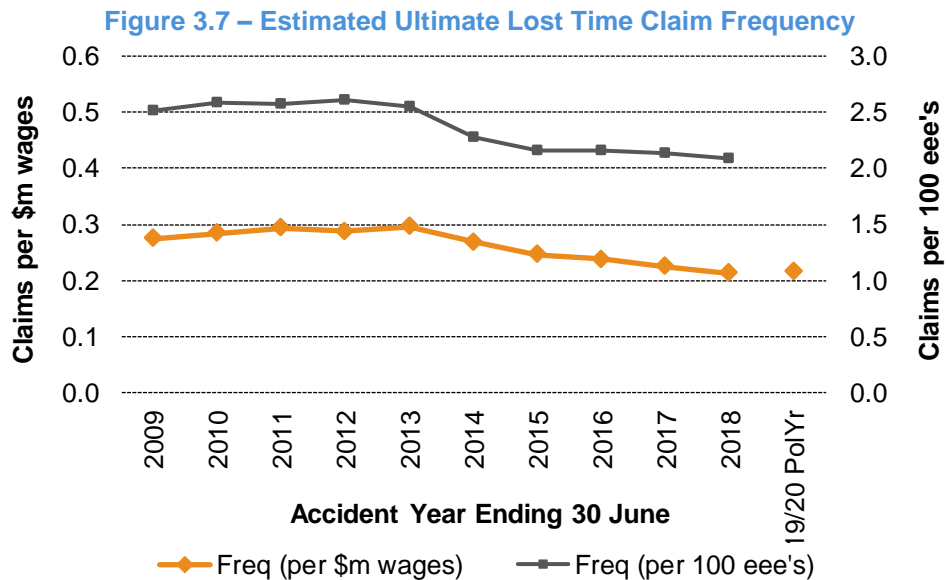


As with non-nil claims, there are very few new lost time claims more than two years after the accident, and therefore the number of IBNR claims is small for all but the most recent accident year.

We project 2,075 lost time claims for 2017/18, a decrease of 0.6% from 2016/17.

The ratio of lost time claim numbers to non-nil claims has been stable over the period shown, averaging 62%. For the 2019/20 policy year, we have adopted a lost time proportion of 62%, unchanged from the previous review.

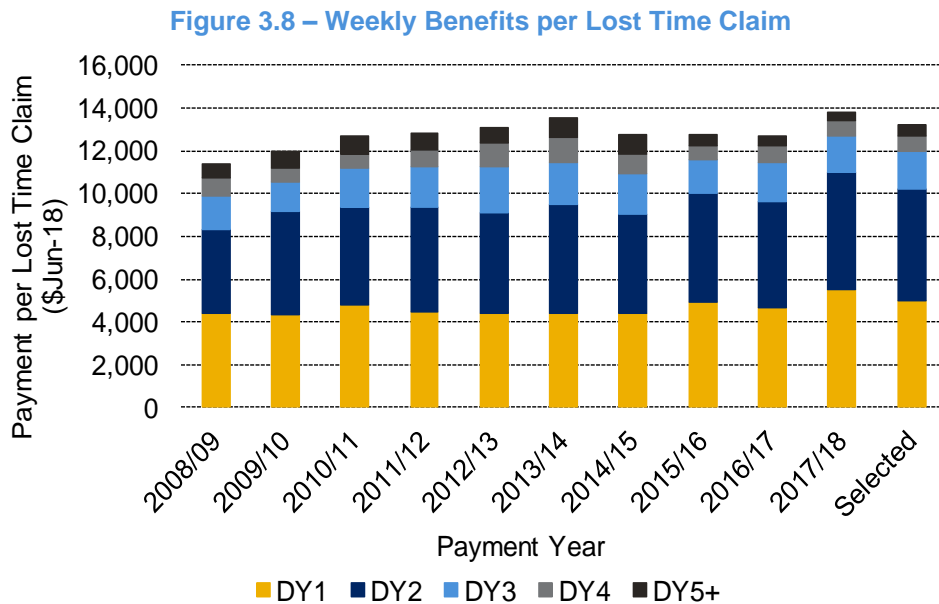
Figure 3.7 shows the ultimate number of lost time claims expressed as a frequency.



The lost time claim frequency (per \$ million of wages) is projected to be 0.23 and 0.21 for 2016/17 and 2017/18 respectively. We have adopted a frequency of 0.22 for the 2019/20 policy year.

## Average Weekly Benefit Payments

Figure 3.8 below shows the average weekly benefits paid per lost time claim by payment year, as well as our adopted average weekly benefit cost for the 2019/20 policy year.



In 2017/18 the average weekly benefits per lost time claim increased overall, with the majority of this increase coming through in development years one and two.

Our selected average claim size for the 2019/20 policy year for weekly benefits is \$13,187 per lost time claim (June 2018 dollars). This is 3.6% higher than the selected average claim size at the previous review (in June 2018 dollars), reflecting the emerging experience.

The adopted average weekly cost per **non-nil** claim (not just lost time claims) is \$8,176. This is also 3.6% higher than selected at our previous review (\$7,888, inflated).

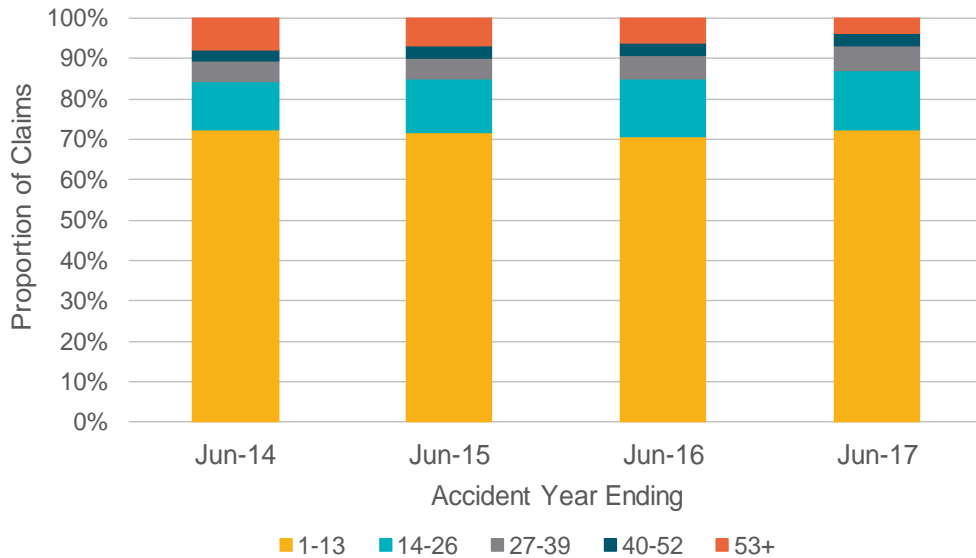
The full analysis of weekly benefit average claim sizes can be found in Appendix F.

## Duration of Weeklies & Return to Work

We have performed some high level analysis of the Scheme's experience in relation to weekly claimants' time off work and their reasons for ceasing weekly payments.

For this analysis, we have defined a week as a "week off work" if the worker has received a weekly payment (full or partial) for that week. We can perform this analysis only for claims with an accident date after 31 October 2013, because it is only from this date that start and end dates are recorded against weekly payments.

Figure 3.9 shows our analysis of the distribution of weeks off work for claimants from each accident year. This analysis includes only those claimants who have 'exited' weekly benefits (i.e. it excludes claimants who are still receiving weekly benefits). We note that because we have less than five years' experience, these figures do not represent the 'final' outcomes. We have excluded the most recent accident year, due to its immaturity.

**Figure 3.9 – Weeks off Work: Claimants no Longer Receiving Weeklies**

On average, claimants for accident years 2013/14 to 2016/17 have received weekly payments for 15 weeks. Around 70% of claimants have received between 1 and 13 weeks of entitlements, and more than 80% of claimants have received 26 weeks or less of entitlements. For the 2013/14 year (the most mature experience), 7% of weekly claims received weekly payments for more than a year.

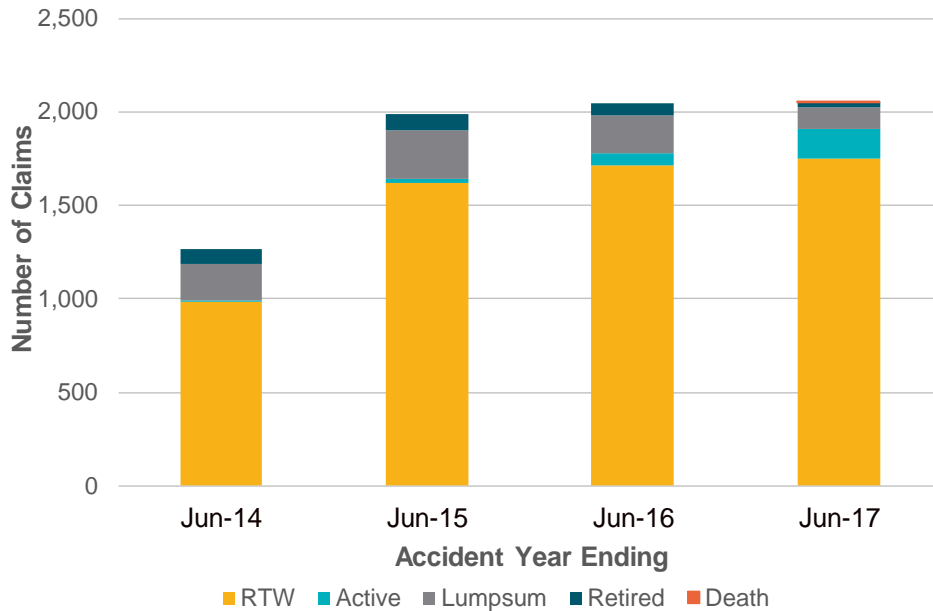
Weekly benefits can cease for a number of reasons, including:

- Payment of commutation/settlement
- Death of claimant
- Retirement of claimant<sup>1</sup>
- Claimant returns to work (RTW)<sup>2</sup>.

We have identified the current state of each claimant who has received a weekly benefit since 31 October 2013.

<sup>1</sup> If a worker is injured after two years prior to retirement age, weekly benefits continue for up to 2 years. If a worker is injured before two years prior to retirement age, weekly benefits cease at retirement age.

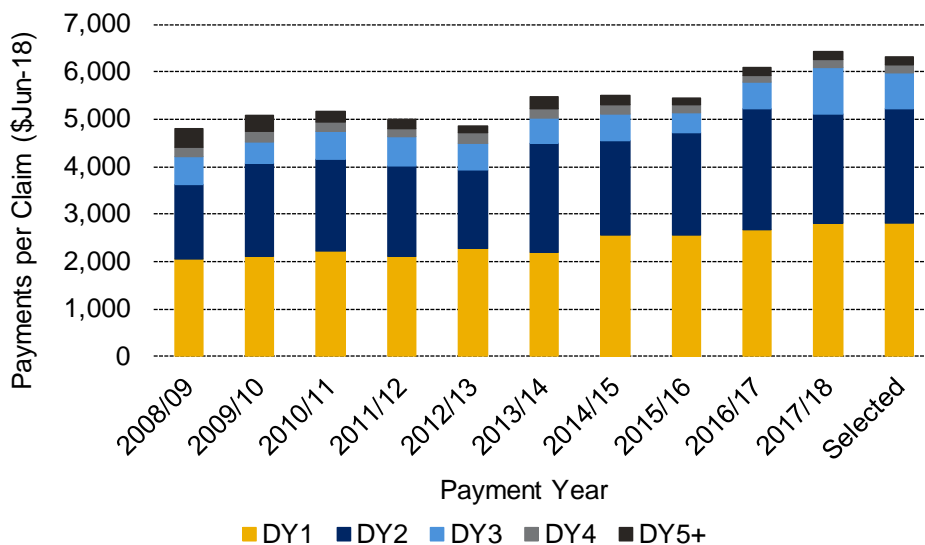
<sup>2</sup> If weekly benefits have ceased for four or more weeks and the worker has not retired, received a lump sum or died we assume the claimant has returned to work.

**Figure 3.10 – Current Status of Claimants with Weekly Benefits**

Most of the claimants who received weekly benefits eventually returned to work. For accident years 2013/14 to 2016/17 combined, around (to date) 11% of claimants have ceased weeklies after payment of a commutation or lump sum, and around 3% received weekly benefits until retirement age<sup>3</sup>.

### 3.5 Medical and Related Payments

Figure 3.11 shows the average medical payments per non-nil claim for each past payment year and our selected average medical claim size for the 2019/20 policy year.

**Figure 3.11 – Medical Benefits per Non-Nil Claim**

After a period of stability in the average medical benefit payment from 2013/14 to 2015/16, the overall average size increased by 12% in 2016/17 and 5% in 2017/18.

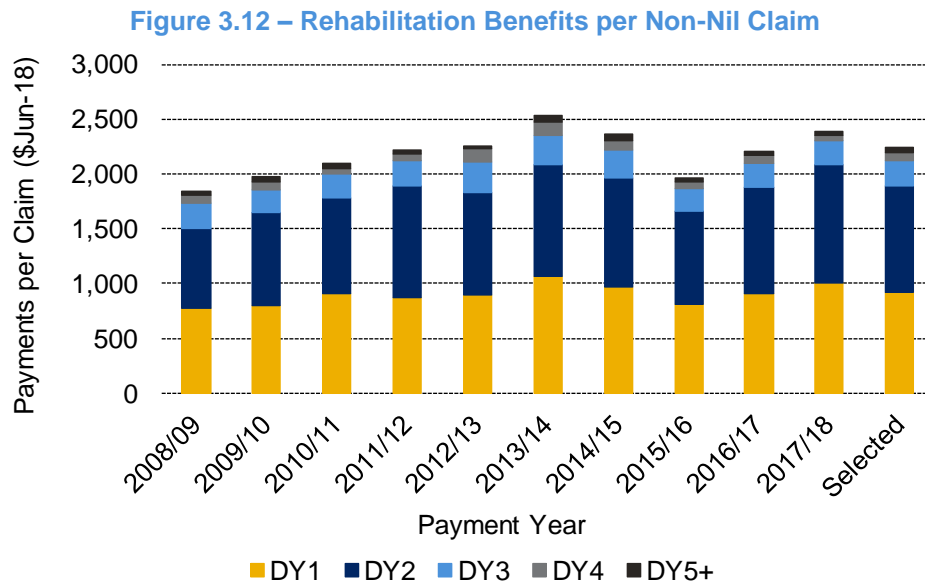
<sup>3</sup> We have observed that some lump sums are paid more than one year after the last weekly payment. This means that some claimants who have not received a weekly for four or more weeks and have a current status 'RTW' may receive a lump sum in future years and therefore be reclassified.

Our selected average rehabilitation cost per non-nil claim for the 2019/20 policy year is \$6,310 (June 2018 dollars). This is 9% higher than that adopted in our previous review (\$5,769, inflated), and reflects the recent increase in medical payments.

The full analysis of medical and related payment average claim sizes can be found in Appendix F.

### 3.6 Rehabilitation

Figure 3.12 shows the average rehabilitation cost per non-nil claim along with our selected average rehabilitation claim size for the 2019/20 policy year.



The average rehabilitation benefit per non-nil claim has varied between \$1,900 and \$2,400 over the past four years. In 2017/18, the average size was \$2,400, around 8% above the size in 2016/17.

Our selected average rehabilitation cost per non-nil claim for the 2019/20 policy year is \$2,239 (June 2018 dollars). This is 2% higher than adopted at our previous review (\$2,206, inflated), and in line with the average over the past four years.

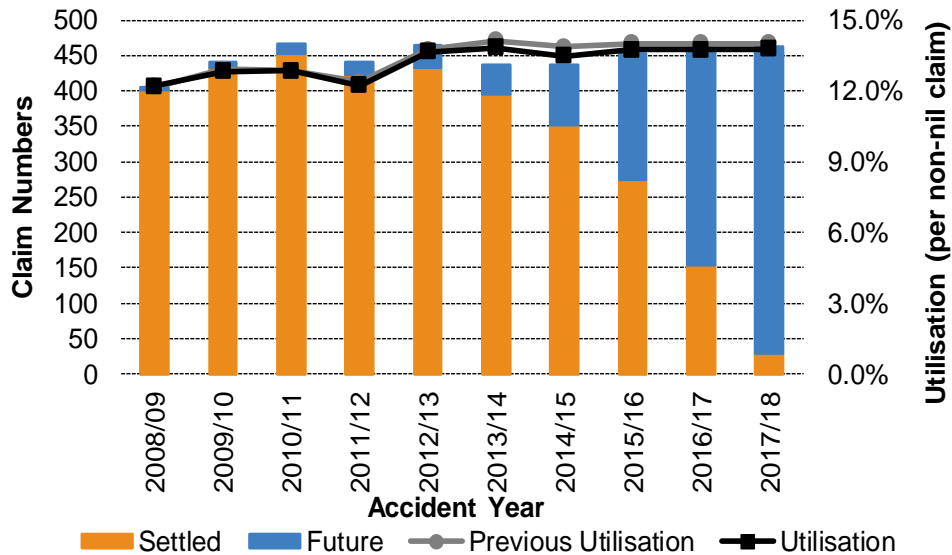
The full analysis of rehabilitation benefit average claim size can be found in Appendix F.

### 3.7 Lump Sums

#### Number of Lump Sums

Due to differing practices in the classification of lump sum payment types between insurers (as discussed in Appendix C.4), we have grouped all lump sum claims together for our analysis.

Figure 3.13 shows the estimated ultimate number of lump sum claims for each past accident year. We also show the lump sum utilisation rate – the ultimate number of lump sum claims as a proportion of the ultimate number of non-nil claims.

**Figure 3.13 – Estimated Ultimate Lump Sum Claim Numbers and Utilisation**

Our estimates of ultimate lump sum numbers have decreased since the previous review for recent accident years, reflecting the claims experience. Given the delay to report for lump sums, we have set ultimate claim numbers for 2015/16 and more recent accident periods by selecting a utilisation rate per non-nil claim. For 2015/16 this is 13.7% (previously 14.0%); we increase this to 13.8% by 2018/19, reflecting the increasing proportion of Mental Health and Musculoskeletal claims, which have a higher propensity to access lump sum benefits.

We estimate the ultimate number of lump sum claims for 2017/18 to be 463. For the 2019/20 policy year, we are projecting 500 lump sum claims.

We note the considerable level of uncertainty in these projections and the large IBNR component, even for accident years up to four years old.

### Settlement Experience and Adopted Average Size of Lump Sums

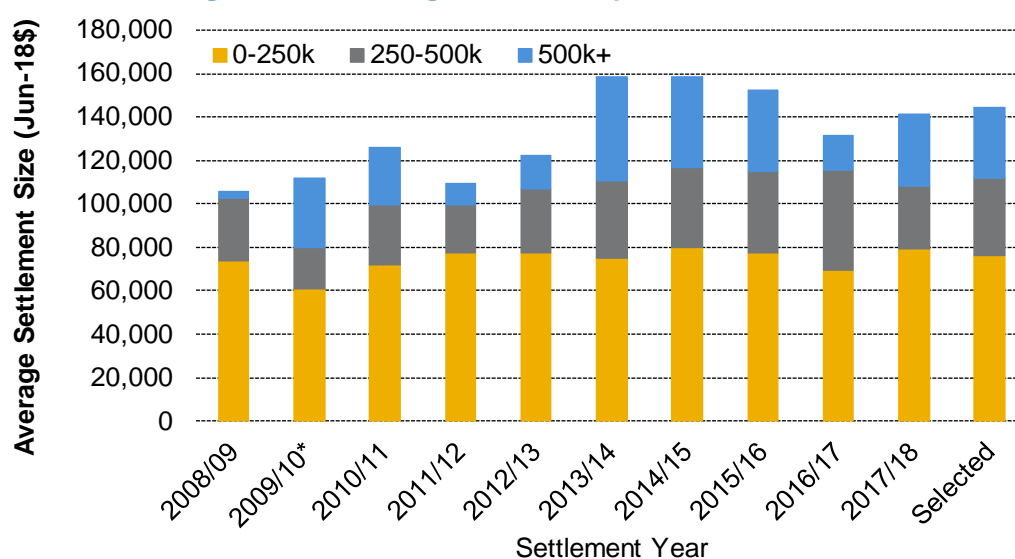
Table 3.1 shows the numbers and average size (in June 2018 dollars) of lump sum claims by year of settlement; it also shows the three months' settlement experience to September 2018. Figure 3.14 shows the information in graphical form, with the sizes broken down into costs attributable to claims less than \$250,000, claims between \$250,000 and \$500,000, and claims above \$500,000.

**Table 3.1 – Average Size of Common Law & Other Lump Sum Settlements**

Year of Settlement	Common Law			Lump Sums			Lump Sums & Common Law		
	Number of Claims	Average size (\$ Jun-18)	Change	Number of Claims	Average size (\$ Jun-18)	Change	Number of Claims	Average size (\$ Jun-18)	Change
2008/09	199	136,999		253	69,657		426	105,613	
2009/10*	157	147,238	7%	211	116,576	67%	350	111,662	6%
2010/11	172	185,727	26%	227	77,546	-33%	389	126,085	13%
2011/12	184	148,986	-20%	249	71,392	-8%	413	109,413	-13%
2012/13	254	161,081	8%	242	67,602	-5%	466	121,767	11%
2013/14	281	216,330	34%	223	79,568	18%	497	159,859	31%
2014/15	291	197,885	-9%	191	86,193	8%	468	158,720	-1%
2015/16	290	181,011	-9%	178	94,892	10%	459	152,278	-4%
2016/17	295	167,837	-7%	217	76,942	-19%	503	131,683	-14%
2017/18	247	166,369	-1%	186	101,327	32%	425	141,414	7%
2018/19 **	113	111,098	-33%	64	52,997	-48%	175	91,740	-35%

\* 2009/10 excludes a single large jockey claim (no longer covered)

\*\* 2018/19 shows settlements in the three months to September 2018 only

**Figure 3.14 – Average Size of Lump Sum Settlements**

\*excludes large jockey claim (no longer covered)

The average size of lump sum settlements increased to \$140,000 in 2017/18, 7% above 2016/17 (\$130,000). However, the average size remains below 2013/14 to 2015/16 levels (between \$150,000 and \$160,000).

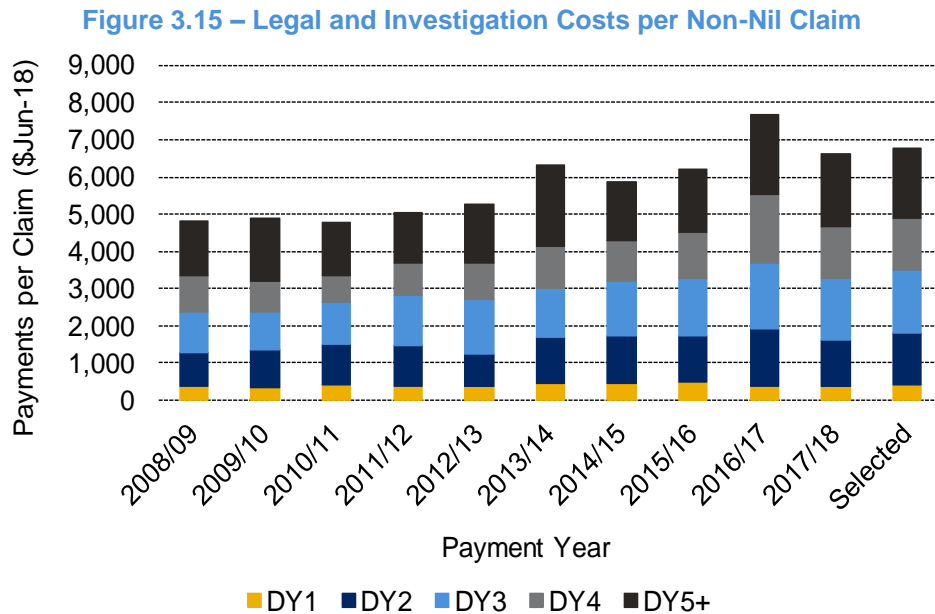
We have adopted an average settlement size of \$144,000 (June 2018 values) for lump sum claims in the 2019/20 policy year. This is below our previous selection of \$150,000 (inflated), reflecting the lower average settlement sizes in the last three years. We test the sensitivity to this assumption in Section 6.5.

The average lump sum cost for the 2019/20 year for all non-nil claims (not just lump sum claims) is \$19,900. This is lower than in the previous review (\$21,400, inflated).

The full analysis of average claim size for lump sum benefits can be found in Appendix F.

### 3.8 Legal and Investigation

Figure 3.15 shows legal and investigation costs per non-nil claim, along with our adopted average size for the 2019/20 policy year.



Average legal and investigation costs have generally trended upwards since 2010/11. Discussions with some of the insurers indicated that the 25% increase in 2016/17 was partially a result of delayed payment of legal fees relating to previous large settlements, which they do not expect to be repeated. This is consistent with the experience in 2017/18, where the average size (\$6,600) is consistent with the longer-term upward trend excluding 2016/17.

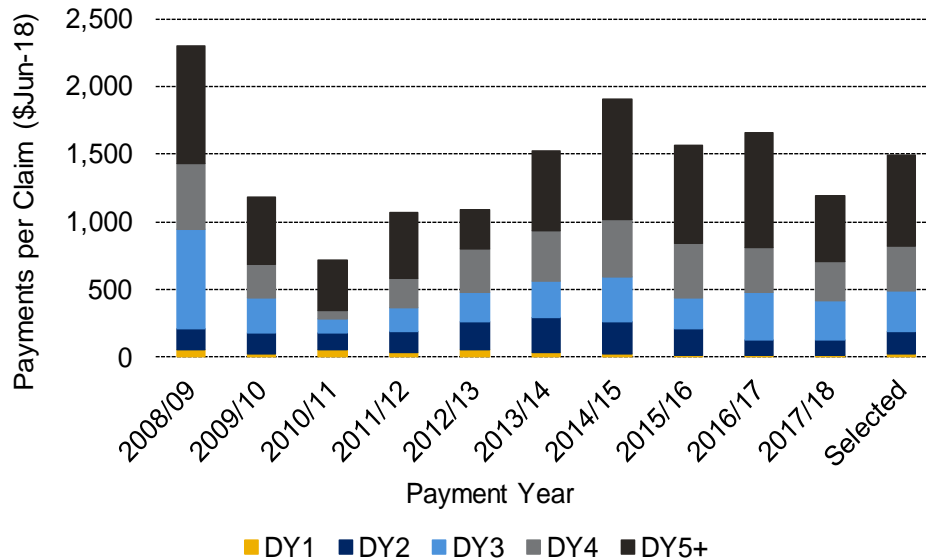
Our selected average claim size for the 2019/20 policy year for legal and investigation costs is \$6,800 per non-nil claim (June 2018 dollars). This is 1% higher than the average claim size adopted in the previous review (\$6,730, inflated).

The full analysis of the average claim size for legal and investigation costs can be found in Appendix F.

### 3.9 Recoveries

Figure 3.16 shows the amount recovered by insurers per non-nil claim, along with our selection for the 2019/20 policy year. Recoveries include recoveries from other insurers (sharing), employers (excess) and other sources.



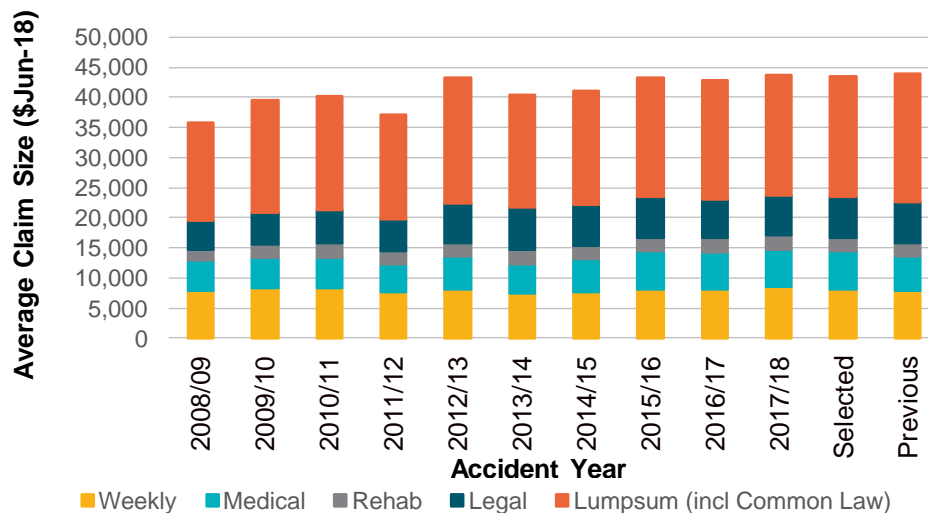
**Figure 3.16 – Recoveries per Non-Nil Claim**

Recovery levels between 2014/15 and 2016/17 were fairly high, with an average of around \$1,700 per claim. In 2017/18, average recoveries decreased to \$1,200 (a 28% decrease). Our selected average size for the 2019/20 policy year is \$1,490 per non-nil claim (June 2018 dollars), which is roughly in line with the past three years and 3% lower than our selection from the previous review (\$1,530, inflated).

The full analysis of the average size of recoveries can be found in Appendix F.

### 3.10 Overall Average Claim Size

Figure 3.17 summarises the adopted gross average claim sizes for each past accident year, and our selection for the 2019/20 policy year.

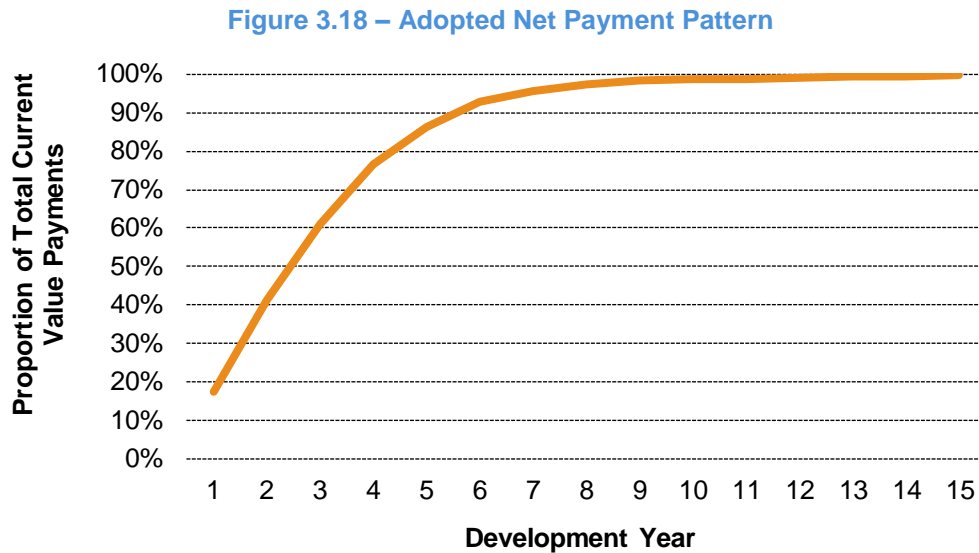
**Figure 3.17 – Adopted Gross Average Claim Size (per Non-Nil Claim) by Payment Type**

Our selected gross average claim size for the 2019/20 policy year is around \$43,400; after allowing for recoveries, this reduces to about \$41,900. This is slightly lower than the selected size in our previous review (\$42,500, inflated), which is due to a reduction in claim frequency and the assumed proportion of

claims that will access lump sum benefits (13.8% vs 14.0% at the previous review), partly offset by increases in the average statutory benefits amount.

### 3.11 Payment Pattern

Our valuation methods incorporate assumptions about the pattern of payments by development year, and our payment pattern analysis is done by payment type. The adopted payment pattern for all payment types combined is shown in Figure 3.18. Full details of each of the selected payment patterns can be found in Appendix F.



The majority of payments are made within the first few years after the accident, with 86% of payments assumed to be made within five years.

### 3.12 Summary of Assumptions for 2019/20 Policy Year

Table 3.2 summarises the adopted claim number and average claim size assumptions for estimating reasonable premium rates for the 2019/20 policy year.

**Table 3.2 Claim Assumptions for 2019/20 Policy Year**

Payment Type	Number basis	Claim Frequency (per \$m) <sup>1</sup>	Ultimate Claim Numbers	Average Claim Size (\$Jun-18)	Average Cost per Non-Nil Claim (\$Jun-18)
Weekly benefits	Lost time claims	0.22	2,223	13,187	8,176
Medical	Non-nil claims	0.35	3,586	6,310	6,310
Rehabilitation	Non-nil claims	0.35	3,586	2,239	2,239
Lump Sums	Lump Sum claims	0.05	495	144,272	19,910
Legal & Investigation	Non-nil claims	0.35	3,586	6,768	6,768
Recoveries	Non-nil claims	0.35	3,586	(1,490)	(1,490)
<b>Total</b>	<b>Non-nil claims</b>	<b>0.35</b>	<b>3,586</b>		<b>41,913</b>

<sup>1</sup>Per \$ million of wages in \$Jun-18

### 3.13 Benefit Changes

The Workers Compensation Amendment Bill 2017 result in two changes to the benefit structure:

- Cessation of weekly benefits was aligned with the Commonwealth retirement age (previously 65)
- Death benefits were aligned with the Comcare scheme.

It is unlikely that these changes will have had any meaningful impact on the payment experience to date, due to the gradual increase in the retirement age and the low level of death benefits per year, although they are likely to be a factor for the 2019/20 premium year. We have therefore assumed that our selected average size based on historical payments has no allowance for these benefit changes.

In order to allow for the benefits changes, we have increased our average claim size assumption by 1.02% from \$41,913 to \$42,339. The need for this explicit loading will reduce over time.

## 4 Economic, Expense and Profit Assumptions

This section outlines the economic assumptions, expense assumptions and insurer margins incorporated into our assessment of a reasonable premium pool.

### 4.1 Summary of Assumptions

Table 4.1 summarises the assumptions adopted in our estimates of a reasonable premium for the 2019/20 policy year, along with the assumptions adopted in our previous review.

**Table 4.1 – Summary of Economic, Expense and Profit Assumptions**

Assumption	Adopted	Previous
Discount Rate (p.a.) - valuation assumption	2.25%	1.70%
Discount Rate (p.a.) - premium rate assumption	1.80%	2.50%
Wage Inflation (p.a.)	3.00%	3.00%
Economic growth (p.a.)	0.50%	0.50%
Superimposed Inflation (p.a.) <sup>1</sup>	1.00%	1.00%
Expenses (% of premium)	22.2%	21.6%
Insurer margin (% of premium)	13.5%	13.5%

<sup>1</sup> Average across all payment types

### 4.2 Discount Rate

Discounted claims costs are used to estimate outstanding claims liabilities and insurer profitability. We have calculated the discount rate based on yields available on Commonwealth Government bonds at 30 June 2018 (the 'valuation' date) corresponding to the duration of the ACT workers' compensation claim payments.

The discount rate adopted for this review is 2.25% per annum, 0.55% higher than the previous valuation.

We also allow for the time value of money when estimating a reasonable premium rate for 2019/20. For this purpose we have used a risk free rate based on forward rates implied by yields available on Commonwealth Government bonds as at 28 February 2018. Any margin above the risk free rate earned by the licensed insurers from their actual investments contributes to profits and is taken into account in deriving an appropriate insurer margin.

The discount rate adopted for the 2019/20 policy year is 1.8% per annum, a decrease of 0.7% from the rate used for 2018/19 premiums. When estimating historical risk premiums, we have used this discount rate so that comparisons made between historical years and the 2019/20 policy year are on a consistent basis.

To discount past payments to the premium receipt date in calculating hindsight risk premiums, we have used the actual average historical cash rates (as published by the Reserve Bank of Australia) applicable in each year from 1999 to 2018.

### 4.3 Inflation

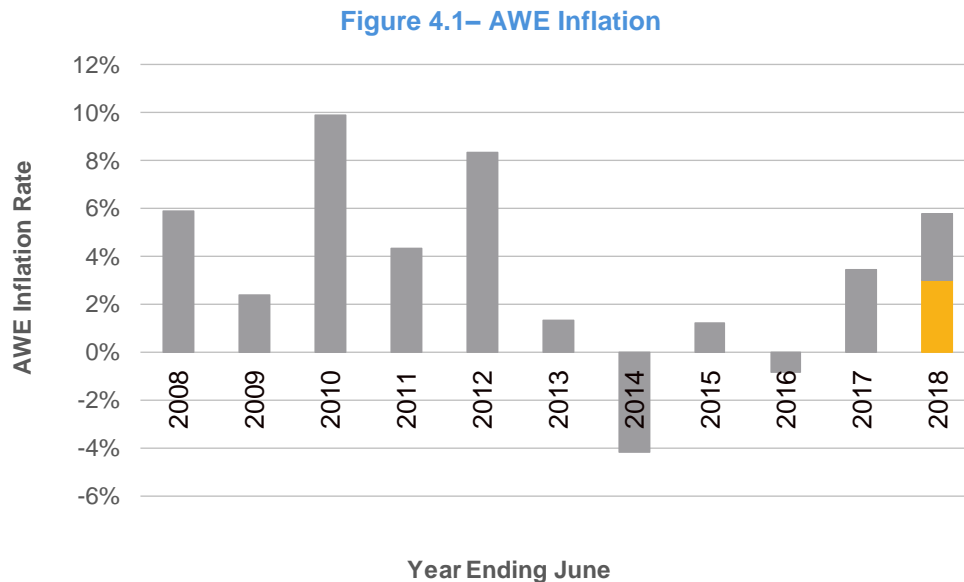
Two types of inflation are incorporated into our cost models:

- Normal economic inflation (in this case wage inflation, based on AWE increases, since the workers' compensation benefits are income-related)

- Superimposed inflation.

## Wage Inflation

Figure 4.1 shows the historical rate of change in the Australian Bureau of Statistics' Average Weekly Earnings (AWE) in the ACT. The grey bars show the actual rate of change (wage inflation in the period) and the orange bar segment shows the wage inflation rate adopted at our previous review.



AWE inflation was roughly 2.8% higher than expected for 2017/18.

Independent forecasts for wage inflation over the next few years are in the range 2.30% to 3.25% per annum, with lower rates forecast for shorter durations and higher rates for longer durations. We have adopted a uniform assumption of 3.0% per annum for all future periods relevant to the 2019/20 underwriting year, unchanged from our assumption last year for the 2018/19 policy year.

The implied gap between the discount rate and inflation rate of -1.2% per annum (1.8% per annum discount rate less 3.0% per annum inflation rate), compares to -0.5% for our 2018/19 policy year estimates.

## Superimposed Inflation

Superimposed inflation is the tendency for payments to increase at a higher rate than normal economic inflation. Some examples of the forms superimposed inflation can take are:

- Changes to the average severity of claims
- Longer periods of payment – for example, in the case of weekly benefits and medical costs
- More claims for particular heads of damage – for example, more claimants seeking lump sum benefits.

We analysed the experience of the ACT workers' compensation portfolio in order to detect any evidence of superimposed inflation; this was done for each payment type. We observed evidence of superimposed inflation over the longer term across all payment types.

As shown in Figure 3.4, the claim frequency has been trending downward for a number of years. As we noted in our previous review, in cases where there have been sustained frequency improvements, it is common for lower severity claims to be removed – leading to a gradual increase in the average size.

In response to this, we have adopted a superimposed inflation assumption of 1.0% per annum across all benefit types, unchanged from our previous assumption.

We believe our assumption takes a balanced view of the likely rates of future superimposed inflation, but we acknowledge that this is one of the more subjective areas in the basis.

The sensitivity to the adopted superimposed inflation rate is demonstrated in Section 6.5.

## 4.4 Economic Growth

In order to project wages for the coming policy year, we need to make an assumption about the growth of the workforce due to general growth in the economy. We have adopted an assumption of 0.5% per annum for economic growth to 2019/20, based on market forecasts available to us at the time of this review.

## 4.5 Expenses

### Commission/Brokerage

Table 4.2 shows the commission/brokerage rates paid by each of the licensed insurers writing workers' compensation insurance in the ACT, as well as the assumptions adopted in each of the insurer's premium rate filings for 2016/17 to 2018/19.

**Table 4.2 – Commission Rates**

Insurer	Achieved		Filed	
	2016/17	2017/18	2017/18	2018/19
AAL	2.8%	2.8%	3.6%	4.4%
IAG	3.4%	3.3%	3.5%	3.5%
QBE	4.0%	4.0%	4.0%	4.0%
SUN	3.0%	3.0%	4.1%	4.1%
ZUR	4.6%	4.6%	4.4%	4.6%
CCI	0.0%	0.0%	0.0%	0.0%
GUI	0.0%	0.0%	0.0%	0.5%
Average <sup>1</sup>	3.1%	3.1%	3.6%	3.8%

<sup>1</sup> Weighted average based on premium volume.

The overall average commission/brokerage paid in 2017/18 of 3.1% of premiums is in line with the previous year. However, this is below the rate assumed in the insurers' filed rates (3.6%). We have allowed for commission/brokerage of 3.15% of premium in our estimated reasonable premium pool for 2019/20, unchanged from our previous assumption.

### Administration Expenses

Table 4.3 shows the expense rates included in the insurers' filed rates over the last three policy years; these rates exclude statutory levies.

**Table 4.3 – Administration Expense Rates**

Insurer	2016/17	2017/18	2018/19
AAL	3.6%	4.9%	4.8%
QBE	16.2%	16.8%	17.8%
SUN	11.4%	13.3%	13.3%
IAG	9.9%	11.6%	12.4%
CCI	30.0%	29.2%	29.2%
GUI	19.4%	21.4%	25.4%
ZUR	21.2%	13.6%	7.1%
Average	11.2%	12.4%	12.7%

<sup>1</sup> Weighted average based on premium volume.

We have adopted an allowance of 12.5% of premium, up from 12.25% at our previous review. This assumption considered the expense rates included in the insurers' filed rates, as well as expense levels in other privately underwritten workers' compensation schemes.

We note that the treatment of statutory levies is not consistent between insurers in the filed rates. Some are implicit within their overall expense loadings, while some are separately identified. There is therefore some uncertainty around the actual level of administration expenses.

## Statutory Charges and Levies

Our recommended premium rates also include the following levies for 2019/20:

- **Magistrates Court Levy:** 0.3% of premium, based on the expected collection during 2019/20 as advised by CMTEDD. This is in line with the 2018/19 year.
- **Default Insurance Fund (DIF) levy:** 2.9% of premium (unchanged from 2018/19), as advised by CMTEDD
- **Regulatory Funding Levy (RFL):** 3.39% of premium (up from 3.07% of premium)
  - ▶ This produces an estimated collected RFL of \$8.912 million (\$9.126 million including self-insurers)
  - ▶ While the target levy collection for 2019/20 is \$9.268 million, the annual increase in the levy is capped at 0.015% of wages (excluding GST for insurers), resulting in a maximum allowable levy collection for insurers of \$8.912 million
  - ▶ The shortfall between target and allowed levy collections is expected to be funded out of ACT Government consolidated revenues.

## Total Expense Loading

Table 4.4 below shows the total expense loading we have adopted, by its component parts.

**Table 4.4 – Adopted Expense Loadings**

	Loading (% premium)	Estimated Amount (\$m)
Commission & Brokerage	3.2%	8.4
Administration	12.5%	33.2
<b>Statutory Charges &amp; Levies</b>		
Magistrates Levy	0.3%	0.7
DIF Levy	2.9%	7.7
Regulatory Funding Levy	3.4%	9.0
<b>Total Expense Loading</b>	<b>22.2%</b>	<b>58.9</b>

Our total expense loading is 22.2% of premium, up from 21.6% adopted at our previous review.

## 4.6 Insurer Margin

In determining an appropriate insurer margin for profit, we have used a model that projects the after-tax profits of the 2019/20 business in each year until the cohort of business has completely run off. In applying this model we have made the following long-term assumptions (in addition to those detailed above):

- Technical provisions will all be invested in risk free assets and will, on average, earn the risk free rate of 1.8% per annum. The duration of these assets is assumed to match the average duration of the technical liabilities (around 3 years).
- Additional capital allocated to the business will be invested in a mix of risk free and riskier assets (equity, property, managed trusts) which earn on average 3.0% per annum above the risk free rate. The duration of these assets is assumed to be longer than the duration of the technical liabilities (around 5 years).
- Claims provisions will incorporate a 12.5% risk margin.
- The capital held will be 1.5 to 2.0 times the APRA Prudential Capital Requirement.
- Shareholders will demand a return on capital of 12% after tax.

The results of our modelling indicate that, using these assumptions, an appropriate insurer margin for this business is 12% to 16% of premium. In determining a reasonable premium pool for the 2019/20 policy year, we have adopted an insurer margin of 13.5% of premium (unchanged from the previous review).

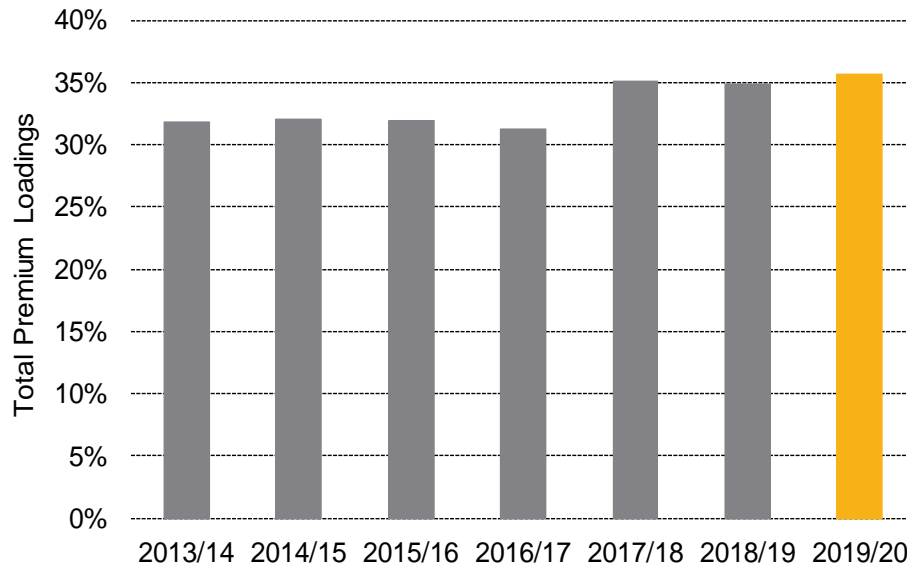
The adopted margin of 13.5% compares to an average margin (weighted by premium volume) of 11.0% of premium adopted in the insurer filed rates for 2018/19.

## 4.7 Overall Loading

We have relied on the insurers' filed rates for deriving our loading assumptions for the 2019/20 premium pool; however (as noted above), the treatment and split of individual expense components is not always consistent or completely transparent between insurers. In Figure 4.2 we compare the overall loadings implied by insurers' filed rates with what we have assumed for the 2019/20 premium pool.



**Figure 4.2 – Total Premium Loadings**



Our adopted total premium loading of 35.7% compares to an implied loading of 34.9% in insurers' filed rates for 2018/19.

## 5 Results of Hindsight Analysis

We have prepared estimates of the future payments for outstanding workers' compensation claims and the ultimate claims cost for each accident year, using valuation methods which are discussed in Section 9, the claim assumptions detailed in Section 3, and the economic and other assumptions described in Section 4. This section summarises these results.

### Key Findings

- For 2017/18, we estimate that ultimate costs will be 7% higher than 2016/17. This compares to nominal wage growth of 9%.
- Insurers as a whole appear to be adequately reserved, given the risk margins they hold.
- The risk premium for the 2017/18 accident year (ultimate claims costs expressed as a proportion of wages) is estimated to be 1.55%.

### 5.1 Estimated Ultimate Cost

Table 5.1 summarises our central estimate of ultimate costs by accident year, split between what has been paid to 30 June 2018 and what we estimate to be outstanding at that date. The ultimate costs are inflated to the time of payment and are undiscounted.

**Table 5.1 – Estimated Ultimate Cost**

Accident Financial Year	Paid to 30-Jun-18	Estimated Outstanding	Estimated Ultimate Claims Cost <sup>1</sup>	Year-on-Year Change
	\$m	\$m	\$m	%
2005/06	87.5	0.9	88.5	
2006/07	81.7	1.0	82.7	-7%
2007/08	76.9	1.2	78.0	-6%
2008/09	95.7	1.9	97.6	25%
2009/10	115.2	2.5	117.8	21%
2010/11	124.5	3.8	128.3	9%
2011/12	113.4	5.7	119.0	-7%
2012/13	123.1	9.1	132.2	11%
2013/14	101.0	15.2	116.2	-12%
2014/15	93.2	30.4	123.6	6%
2015/16	81.8	55.2	136.9	11%
2016/17	54.5	89.1	143.6	5%
2017/18	25.2	127.7	152.9	7%

<sup>1</sup> Net of recoveries, inflated and undiscounted

The ultimate costs shown are inflated but undiscounted, so if there were no trends in claim numbers, average claim sizes or superimposed inflation, we would expect each year's costs to be higher than the previous year by the rate of wage inflation.

The movement from year to year in ultimate costs is variable, but over the last four years the growth has averaged 7% per annum, which is in line with nominal wage growth. For 2017/18, we estimate that ultimate costs will be 7% higher than 2016/17, reflecting the 0.4% increase in ultimate claim numbers,

the 4% increase in average size (largely in line with our wage and superimposed inflation assumptions) and the relatively high level of statutory benefits that has been already paid for 2017/18.

## 5.2 Comparison to Insurer Central Estimates

Table 5.2 compares our estimated outstanding claims cost (inflated to date of payment and discounted to 30 June 2018) and the central estimate of insurer reserves (case estimates plus IBNR/ER reserves) at 30 June 2018.

**Table 5.2– Comparison to Insurer Central Estimates**

Accident Financial Year	Finity Central Estimate	Insurer Case Estimates	Insurer IBNR/ER	Insurer Central Estimate	Difference (Insurer less Finity)	% Difference
	\$m	\$m	\$m	\$m	\$m	%
Prior	10	3	2	5	-5	-49%
2010/11	4	0	2	2	-2	-48%
2011/12	5	1	1	2	-3	-55%
2012/13	9	4	3	7	-1	-13%
2013/14	14	8	3	11	-4	-25%
2014/15	29	20	9	28	-1	-2%
2015/16	53	47	12	58	6	11%
2016/17	85	52	30	82	-3	-3%
2017/18	121	70	37	107	-14	-11%
Total	329	205	98	304	-25	-8%

Our central estimate of the outstanding claims liability is \$329 million. Insurer case estimates plus IBNR/ER reserves of \$304 million are therefore \$25 million (8%) lower than our central estimate.

The insurer estimates are considerably lower (in percentage terms) than the Finity estimates for 2011/12 and earlier accident years, although the amounts involved are small. Allowing for payments to date, the insurer estimates imply there will be a 3% reduction in costs in both 2016/17 and 2017/18, despite exposure increases.

Insurers are required by APRA to hold a risk margin in addition to their reserves, which we expect would be of the order of around 10% to 15% of the insurer central estimates (around \$30 million to \$40 million overall). On this assumption, the insurer group is adequately reserved.

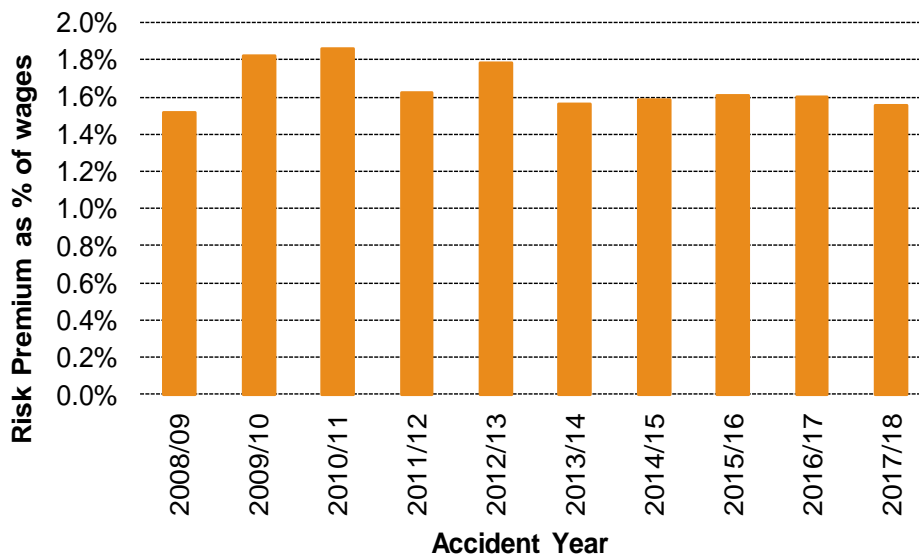
The above estimate of reserve adequacy is performed at a high level, for the scheme as a whole. The adequacy of any individual insurer's reserves will depend on the insurer's own reserving practices.

## 5.3 Scheme Risk Premiums

Table 5.3 and Figure 5.1 show our estimate of the historical risk premium rates. Historical risk premiums are calculated from actual past payments plus our latest estimates of outstanding claims. Claims costs are then discounted to the beginning of the accident year and expressed as a proportion of earned wages for that year.

**Table 5.3 – Risk Premiums**

Accident Financial Year	Estimated Ultimate Claims Cost <sup>1</sup>	Earned Ultimate Wages <sup>2</sup>	Cost as % of Earned Wages
	\$m	\$m	%
2008/09	86.3	5,693	1.52%
2009/10	104.9	5,752	1.82%
2010/11	115.7	6,215	1.86%
2011/12	109.0	6,715	1.62%
2012/13	122.5	6,865	1.78%
2013/14	108.9	6,988	1.56%
2014/15	116.4	7,356	1.58%
2015/16	129.3	8,026	1.61%
2016/17	135.2	8,469	1.60%
2017/18	143.3	9,237	1.55%

<sup>1</sup> Net of recoveries, inflated and discounted to beginning of accident year<sup>2</sup> Discounted to beginning of accident year**Figure 5.1 – Risk Premiums**

After four relatively high years between 2009/10 and 2012/13, the estimated risk premium has been stable at around 1.55-1.6% for the past five years. The estimated risk premium for 2017/18 is 1.55%.

## 6 Premium Pool for 2019/20

This section brings together the analysis of previous sections, establishing our estimate of a reasonable premium pool and the average premium rate.

### Key Findings

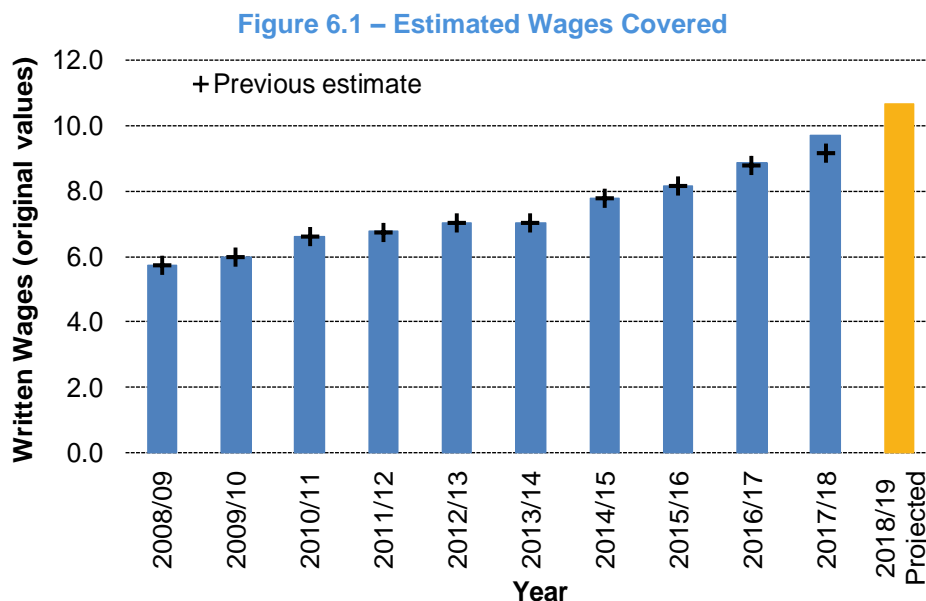
We estimate a reasonable premium rate for the 2019/20 policy year of 2.48% of wages. This is 0.10% lower than last year's estimate of 2.58% for the 2018/19 policy year (a proportionate decrease of 4%). The 0.10% reduction is made up of a range of offsetting movements:

- Allowance for one year's superimposed inflation (to 2019/20) – increase of 0.03%
- Claims cost changes – decrease of 0.20%, comprising:
  - ▶ Continued reductions in underlying claim frequency – decrease of 0.13%
  - ▶ A shift to lower risk/higher wage industries – decrease of 0.06%
  - ▶ Changes in claim size – decrease of 0.01%
- Economic assumptions – increase of 0.05%
- Changes in expenses and levies – increase of 0.02%.

### 6.1 Wages

Consistent with the assumptions used in our estimate of the risk premium pool, we have assumed wage inflation of 3.0% per annum between 2017/18 and 2019/20 and employment growth of 0.5% per annum.

We project written wages of around \$10.7 billion in the 2019/20 policy year, as shown in Figure 6.1.



Written wages in 2017/18 were higher than our previous projection; this appears to be driven by stronger than expected growth in the average wage for both part time and full time employees (around 7.5-10% compared to 3.0% expected), as well as stronger growth in the number of full time employees compared to part time employees. We believe that some of the increase in average wage is the result of a changing industry mix. This has led to an increase in the expected wages for the 2019/20 year.

## 6.2 Average Renewal Date

Based on past patterns of wages covered and earned wages, we have estimated that the average renewal date for workers' compensation policies in the ACT is mid-September.

Hence the key dates we have assumed for the 2019/20 policy year are:

- 15 September 2019 – average renewal date, and average premium receipt date
- 15 March 2020 – average accident date, and average date of first year's claim payments
- 15 March 2021 – average date of second year's claim payments, etc.

As we have selected our average claim size in June 2018 values, the above dates mean that claims payments in the first year will need 20.5 months of inflation (including superimposed inflation) added, payments in the second year need 32.5 months inflation, etc. All payments are then discounted back to the average date of renewal, 15 September 2018.

## 6.3 Reasonable Premium Pool

The total Scheme risk premium for 2019/20 represents the total expected claims costs, and is derived as the adopted number of non-nil claims times the adopted average claim size (see Section 3.12), plus allowance for inflation and discounting (Sections 4.2 and 4.3). This results in a risk premium of \$170.6 million, or 1.60% of wages. This is higher than Table 5.3, predominantly due to the average accident date being over two years later than the 2017/18 accident year, and over this period superimposed inflation causes projected costs to increase faster than wages.

When expenses (Section 4.5) and insurer profit margins (Section 4.6) are added to the risk premium, our estimate of a reasonable premium pool for 2019/20 is \$265.3 million. Table 6.1 shows the breakdown into its components.

**Table 6.1 – Total Premium Pool**

Premium Rate Component	\$m
Risk Premium Pool	170.6
Expense Loading	58.9
Profit Loading	35.8
Total Premium Pool	265.3
Wages Estimate	10,683.6
Average Risk Premium (% wages)	1.60%
Average Premium Rate (% wages)	2.48%

The estimated reasonable average premium rate for the 2019/20 policy year is 2.48% of wages. This compares to last year's estimate for 2018/19 of 2.58%.

## 6.4 Comparison with 2018/19 Premium Rate

The reasonable premium rate has decreased by 0.10% of wages. Table 6.2 breaks the movement down.

**Table 6.2 – Movement in Reasonable Premium Rate**

	Average Premium Rate	Increase/ Decrease (% wages)
Last year's suggested rate for 2018/19	2.58%	
Project to 2019/20 - 1 yr of superimposed inflation	2.61%	0.03%
Change in underlying frequency	2.48%	-0.13%
Industry mix impact	2.42%	-0.06%
Change in average size assumption	2.41%	-0.01%
Change in economic assumptions	2.46%	0.05%
Change in levies, loadings and margin	2.48%	0.02%
<b>Total Change - this year's suggestion for 2019/20</b>	<b>2.48%</b>	<b>-0.10%</b>

Allowing for one year's superimposed inflation (to 2019/20) increases the reasonable rate from 2.58% to 2.61%. Other changes in the reasonable rate are:

- **Claims cost assumptions – decrease of 0.2%**
  - ▶ The underlying claim frequency continued to reduce in 2017/18, and future claim frequency assumptions have been revised accordingly, reducing the reasonable rate by 0.13%
  - ▶ There has been a shift towards lower risk industries that have higher than average wages (i.e. total wages are increasing faster than exposure and published AWE indices), reducing the reasonable rate by 0.06%
  - ▶ The average size has been increasing as claim frequency has reduced – once actual inflation over the year is accounted for, this decreases the reasonable rate by 0.01%
- **Economic assumptions – increase of 0.05%**
  - ▶ Yields on Commonwealth government bonds have decreased
- **Expenses and levies – increase of 0.02%**
  - ▶ Filed administration expenses have increased in 2017/18 and we have reflected this in our expense assumptions, increasing the reasonable premium rate by 0.01%
  - ▶ The Regulatory Funding Levy increased by almost 20% (after capping), increasing the reasonable premium rate by 0.01%.

Other changes had very minor impacts on the premium rate.

## 6.5 Sensitivity Analysis

The estimate of the average premium rate is sensitive to the assumptions used, and the selection of our assumptions is subject to uncertainty. The effect on the average premium rate of changing each of the key assumptions is shown below. Note that the scenarios tested do not indicate the full range of possible outcomes. Each scenario is independent of the others shown.

**Table 6.3 – Sensitivity Analysis**

Scenario	Best Estimate Value	Sensitivity Assumption	Premium Rate	Difference	Difference as Proportion
Base Case			2.48%		
Claim frequency up 10%	0.348	0.383	2.73%	0.25%	10%
Average claim size up 10%	41,913	46,104	2.73%	0.25%	10%
Lump sum numbers up 10%	495	544	2.60%	0.12%	5%
Lump sum average size up 10%	144,272	158,699	2.60%	0.12%	5%
Discount rate up 1% p.a.	1.79%	2.79%	2.41%	-0.07%	-3%
Superimposed inflation at 2% p.a.	1.0%	2.0%	2.59%	0.10%	4%
Expense loadings up 1%	22.2%	23.2%	2.52%	0.04%	2%
Insurer margins up 1%	13.5%	14.5%	2.52%	0.04%	2%

The scenarios presented show that:

- A 10% increase in frequency or a 10% increase in overall average claim size would result in a 10% increase in the average premium rate
- If the number of claims receiving lump sum benefits were to increase by 10%, or the average cost of these claims were to increase by 10%, the average premium rate would increase by 5%
- A 1% per annum increase in the risk-free discount rate would result in a 3% reduction in our estimate of the average premium rate
- An increase in the superimposed inflation rate to 2% per annum increases our estimate of the average premium rate by around 4%
- If expenses or insurer margins were to increase by 1% of premium, the average premium rate required would be 2% higher.



## 7 Suggested Relativities and Reasonable Premium Rates

This section documents our suggested relativities and average premium rates by ANZSIC Division, and provides some comparisons with insurer achieved rates.

### Key Findings

- The experience across the range of ANZSIC Classes shows considerable variation, with our reasonable rates falling in the range 0.33% to 15.84% of wages
- We have adopted an improved approach to estimating ANZSIC class relativities, which has a stronger statistical basis (less judgement involved). This has led to much more change in the relativities than usual. To reduce the level of movement, we have capped changes in relativities from the previous review at 15%. This means the impact of the methodology change will be spread out over a number of years for some classes.

### 7.1 Relativities

Our approach to calculating the relativities is explained in Section 9.5. Appendix H contains a summary of the results of our analysis for each ANZSIC Class with non-nil wages in the ACT. The table shows:

- ANZSIC Class and description
- Observed claim frequency relativities – average for latest three years
- Observed capped claims cost relativities – average for latest five years
- Our selected relativity
- Our estimate of a reasonable premium rate.

### 7.2 Reasonable Premium Rates

The following example (for ANZSIC Code 7000 – Computer System Design and Related Services) shows how we have applied the selected relativities shown above to determine the ANZSIC premium rates:

1. Average risk premium for Scheme = 1.60% of wages (see Section 6.3)
2. Suggested relativity for ANZSIC 7000 = 13 (see Appendix H)
3. Average risk premium for ANZSIC 7000 = 0.2%  
 $[1.60\% * 13/100]$
4. Average premium rate for ANZSIC 7000 = 0.33% of wages  
 $[(0.2\%)/(1 - 22.2\% - 13.5\%) * 1.05 \text{ which is } (avg \text{ risk premium for } 7000)/(1 - \text{expenses as \% of premium} - \text{insurer margin}) * \text{scaling factor}].$

The scaling factor (1.05 at this review) is applied to ensure that the overall average premium rate is achieved. We followed this process to derive an average premium rate for each ANZSIC Class.

The experience across the range of ANZSIC Classes shows considerable variation, with our reasonable rates falling in the range 0.33% to 15.84% of wages.

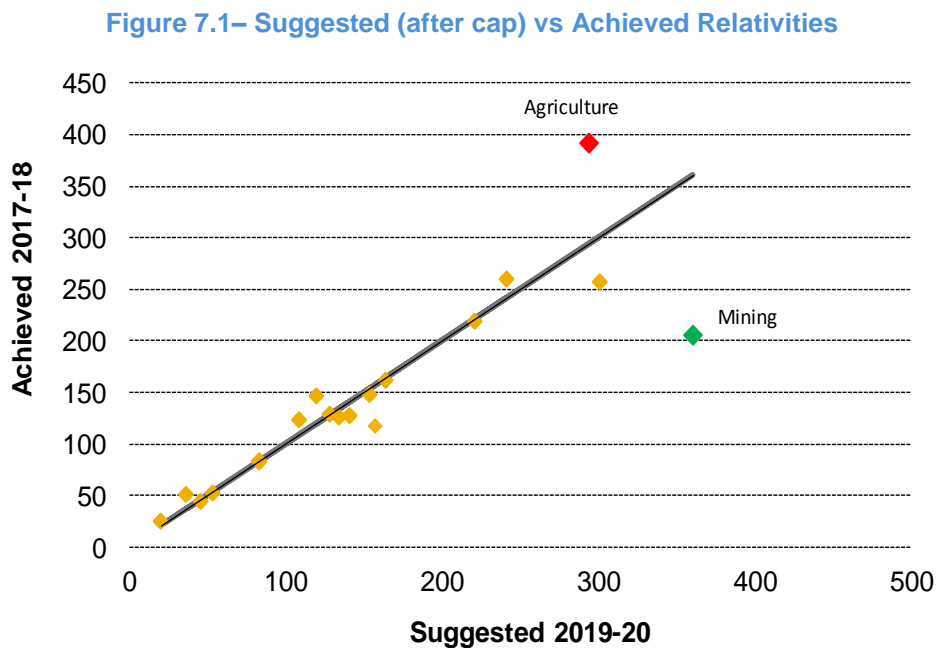
The rates shown in Appendix H are indicative of the average rates that we consider to be appropriate for the employers at ANZSIC Class level, consistent with a target average rate of 2.48% of wages overall. The actual rates charged by insurers to individual employers would be expected to differ from these rates, reflecting the following:

- The actual expense loadings and profit requirements will differ from insurer to insurer
- The experience of an individual employer will be taken into account by the insurer in determining the appropriate rate to be charged; inferior risks will likely be charged additional premiums, while superior risks may be given discounts (compared with the average)
- The rates are determined on the basis of an assessment of the profitability for a single year's business; insurers who write business over a period of years may increase or decrease rates in response to accumulated profitability and competitive positioning
- The application by insurers of minimum premiums (reflecting administrative costs which are incurred independent of the claims cost or 'riskiness').

### 7.3 Comparison with Insurer Relativities

The following graph compares the relativities (after the 15% cap on movement is applied) of the 2019/20 reasonable rates with the relativities of licensed insurers' achieved rates for 2017/18. Each point on the graph represents one of the 19 ANZSIC Divisions.

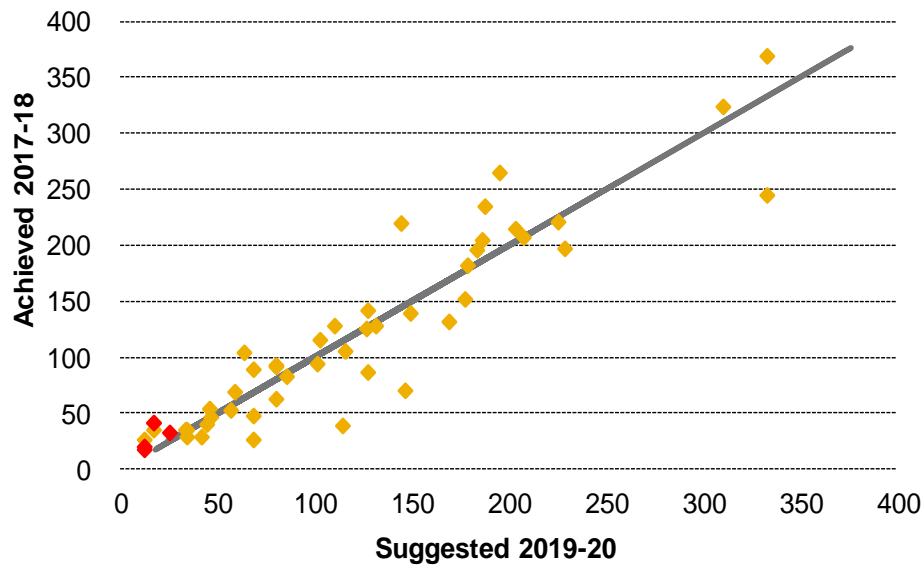
The 45-degree line indicates where suggested relativities are equal to the achieved relativities. A point above the 45-degree line indicates our suggested relativity is lower than the achieved relativity, and for points below the line our suggested relativity is higher than the achieved relativity.



At the Division level, the achieved relativities tend to be close to our suggested relativities. There are two notable outliers: Agriculture, where the achieved relativity is significantly higher than our suggested relativity, and Mining where the achieved relativity is significantly lower than our suggested relativity; these industries account for less than 1% of total wages covered in 2017/18 and can be subject to year on year volatility in their achieved rates.

There is greater variability between recommended and achieved relativities at ANZSIC Class level. Figure 7.2 shows the achieved and recommended relativities for the top 50 ANZSIC Classes (as measured by wage volume in 2017/18).

**Figure 7.2 – Suggested (after cap) vs Achieved Relativities – Top 50 ANZSIC Classes**



The largest four ANZSIC Classes (shown in red) make up 30% of ACT private sector wages, and each of these has a suggested relativity that is lower than the achieved relativity. This suggests that these classes are generally cross-subsidising higher risk ANZSICs.

## Part III Further Information

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### 8 Data

This section describes the data items we were supplied with for this investigation, the results of our reconciliations and the data summaries produced.

#### 8.1 Data Supplied

CMTEDD administers the ACT Workers Compensation Management System (WCMS). WCMS was established in 2015 and contains workers' compensation premium and claim information from all insurers and self-insurers operating in the Scheme. As part of our review, CMTEDD supplied us with the following information from WCMS:

- Individual claim file showing the accident and report date, insurer code, current liability status, total payments to date and estimated future payments outstanding for each claim reported or having had a payment between 1 July 1999 and October 2018
- Claim payment transaction file with payments made (by type and month) between 1 July 1999 and October 2018
- Individual policy files, with the ANZSIC Division and insurer codes for each policy written or renewed between 1 July 1999 and October 2018.

In addition to the information provided, we also received the following summarised data from each of the insurers:

- Policies, premiums and wages written in each year
- Earned premiums and wages in each year, split by ANZSIC Division
- Triangulations of claims reported and claim payments to 30 September 2018
- Case estimates and IBNR/ER allowances as at 30 June 2018.

We have also compiled workforce figures from information available from the Australian Bureau of Statistics (ABS) and the Australian Public Service Employment Database (APSED), as well as information on the number of ACT public sector employees supplied by CMTEDD.

Refer to Appendix A for a more detailed listing of the data.

#### 8.2 Reinsurance and Other Recoveries

The data supplied for the purposes of our review did not include details of reinsurance recovery amounts. Therefore, all data and projections contained in this review are gross of any reinsurance recoveries, but net of all other recoveries.

## 8.3 Reconciliation

### Key findings

- Claim number information on WCMS is fairly reliable and is satisfactory for the purposes of our actuarial review.
- Claim payment information on WCMS for 2001/02 and later years is of reasonable quality and is satisfactory for the purposes of our actuarial review.
- Premium and wages information on WCMS cannot be used at this time, because the previous system did not adequately capture policy adjustments for historical periods. We have instead relied on information sourced directly from insurers.
- Case estimates from WCMS are around 10% lower for accident years after 2013/14, and much higher for prior years. We have not relied on case estimates in our analysis of ultimate claim size or costs. However when assessing ANZSIC level relativities we place some reliance on case estimates, limited to the post-2014 accident years

As a result of the reconciliation differences observed in older years, we do not rely on case estimates in our analysis of ultimate claim size or costs, and use case estimates supplied directly by insurers instead of that in WCMS when comparing to our projected central estimates. However, when assessing ANZSIC level relativities we place some reliance on case estimates as our analysis for this is limited to post-2014 accident years where differences are less material.

In preparing this advice we have relied on the claims information supplied by CMTEDD, premium and wages from both CMTEDD and insurers depending on the period being analysed and case estimate information supplied by the insurers.

We have compared the WCMS data provided for this review with the data provided for our previous review (see Appendix C.3). The data from the two extracts matched reasonably well for payments and non-nil claim numbers but not for case estimates.

We have also reviewed and checked the WCMS data for reasonableness and consistency. Reliance was placed on, but not limited to, the accuracy of the information described in this report.

## 8.4 Data Summaries & Adjustments

### Scheme Performance Analysis

In performing our claims analysis we have identified and separately considered claims which have zero payments made to date ("nil claims").

Further, in determining the number of claims receiving common law and lump sum benefits, we have excluded from those claims which received total common law or lump sum benefits of less than \$500. We have excluded these from lump sum claim counts on the basis that the payment will most likely reflect a small investigation or administration expense rather than a lump sum payment; the costs of such claims continue to be included in our claim payment summaries.

## Workforce Information

We have calculated an approximate private sector workforce as follows:

- Total workforce in the ACT
- Less ACT public sector employees
- Less Commonwealth public sector employees.

We do not have a 'full time equivalent' number of workers, and have used the numbers of full time workers to approximate the total ACT private sector workforce; see Appendix G.

## Relativities Analysis

For the premium relativities analysis, we have:

- Calculated claim frequency based on non-nil claims only
- Calculated burning cost relativities using both
  - ▶ Wage-inflation adjusted payments
  - ▶ Wage-inflation adjusted payments to date plus current case estimates (incurred costs).

Due to limitations with the case estimate information in WCMS, we have relied on payment based cost relativities rather than the incurred cost relativities at this review.

## 9 Compliance with Standards and Approach

This section describes our compliance with relevant standards, and the approach used for the projection of ultimate costs and premium rates.

### 9.1 Compliance with Relevant Australian Standards

The purpose of this review is to provide an overview of the performance of the Scheme, not to advise any individual entity on the financial reporting of its workers' compensation liabilities. Accordingly, Professional Standard 300 "Valuations of General Insurance Claims" (PS 300) issued by the Institute of Actuaries of Australia does not apply to this review. In the absence of any other applicable professional standard, we have used PS 300 for guidance on our approach to the review, but our review and report are not intended to comply with all requirements of PS 300.

This report has been prepared in accordance with the Institute of Actuaries of Australia's Code of Professional Conduct for the provision of actuarial advice.

### 9.2 Basis of Estimates

The estimates of future claims costs provided in this report are intended to be central estimates, which means they are based on assumptions selected without deliberate bias towards either over-estimation or under-estimation.

The premium rate estimates have been developed on the basis of the following principles:

- Estimates of expected claims costs should be central estimates, incorporating allowance for both 'normal' and 'superimposed' inflation
- Claims costs are to be discounted to allow for the time value of money
- Estimates of claims costs should take into account any amounts recoverable
- Premiums should allow for the expenses of writing the business and administering claims
- Premiums should include an appropriate allowance for profit.

### 9.3 Methodology for Actuarial Analysis

For the purpose of analysis, all data has been grouped by accident years – the year of occurrence of the injury which gave rise to the claim. Development of this data is then analysed and projected by development year – a measure of the number of years since the accident occurred, e.g. development year 2 is the year after the accident year. All analysis has been carried out on a financial year basis (years ending 30 June).

In conducting our analysis of the Scheme experience, we have followed the same approach as in the previous review. This involved examining claim numbers and frequency, and average size by benefit type. The development analysis allows us to project future claim reports and costs in respect of injuries which have already occurred, from which we can estimate the ultimate number and cost of claims arising from each accident year. This allows analysis of the underlying trends in Scheme experience and provides a basis for assessing a reasonable level of premium.

## Claim Numbers

In order to estimate ultimate numbers of claims we use the Chain Ladder method to estimate the number of claims that are yet to be reported (Incurred But Not Reported or “IBNR” claims). The estimated ultimate number of claims (reported to date plus IBNR claims) is then expressed as a claim frequency by dividing the ultimate number of claims in each accident year by a measure of exposure.

Claim numbers were modelled by the following groups:

- Non-nil claims – we analysed the ultimate number of claims that are expected to result in a payment by the insurer, and estimated frequency relative to both ultimate inflation-adjusted wages earned in the period and full time employee numbers in the period. Further detail on the calculation of ultimate inflation-adjusted wages can be found in Appendix G
- Lost time – we analysed the numbers of claims receiving weekly benefits (“lost time”) and the frequency of lost time claims relative to non-nil claims
- Lump sums – we analysed the numbers of lump sum claims (common law, statutory impairment, commutations and death benefits, excluding claims with total lump sum payments less than \$500) and utilisation rate (the ultimate number of lump sum claims divided by ultimate number of non-nil claims).

## Claim Duration

We examined trends in duration of weekly benefit claims by analysing the number of claims that remain active in each development quarter. A claim received an ‘active’ flag and was counted if it received a weekly payment in the quarter. We excluded from our active count any claims where total weekly payments to date were negative or where the weekly payments made in a quarter totalled zero.

## Average Claim Size

Claim payments were analysed and projected using the following benefit type groupings:

- Weekly benefits – modelled using a Payments Per Claim Incurred (PPCI) approach, where the claim count used is the estimated ultimate number of lost time claims. We supplemented this primary model with a Payments Per Active Claim (PPAC) model
- Medical and related benefits – modelled using a PPCI approach, where the claim count used is the estimated ultimate number of non-nil claims
- Rehabilitation benefits – modelled using a PPCI approach, where the claim count used is the estimated ultimate number of non-nil claims
- Lump sums – modelled using a Payments Per Claim Settled (PPCS) approach, where the claim count used is the ultimate number of lump sum claims
- Legal and other benefits – modelled using a PPCI approach, where the claim count used is the estimated ultimate number of non-nil claims
- Recoveries – modelled using a PPCI approach, where the claim count used is the estimated ultimate number of non-nil claims.

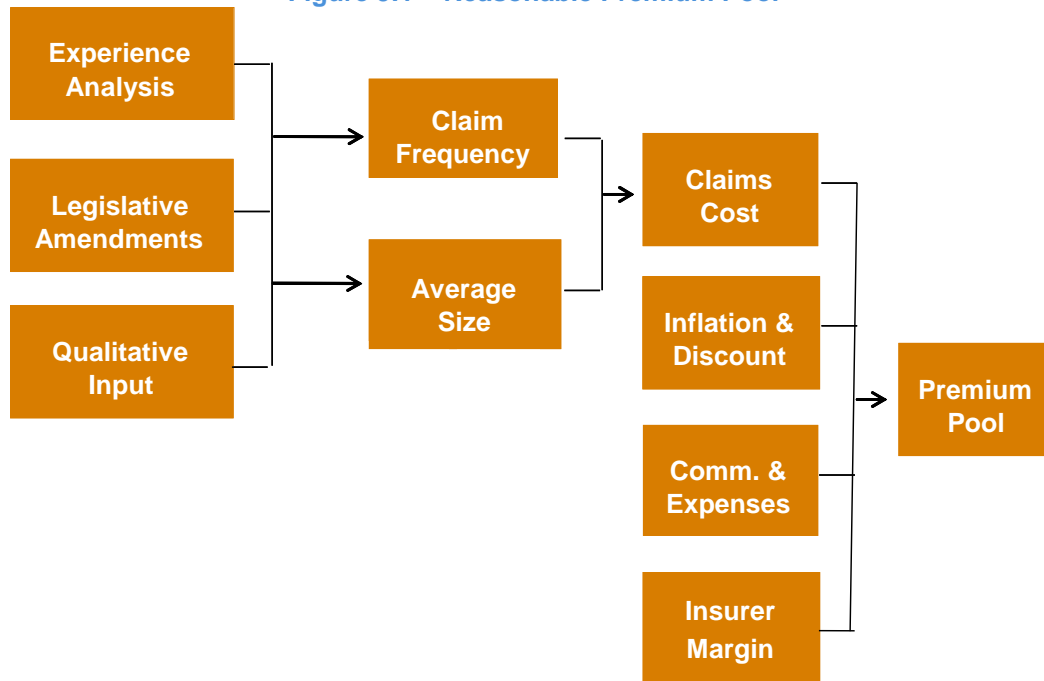
An explanation of these methods can be found in Appendix D.



From each of the above models we estimate the average payment, by payment type and development year. The overall average claim size for each accident year is the result of adding our estimated payments for each payment type and dividing by the projected ultimate number of claims.

## **9.4 Reasonable Premium Pool**

The estimation of a reasonable premium pool includes allowance for claims, expenses and profit. Diagrammatically this can be represented as follows:

**Figure 9.1 – Reasonable Premium Pool**

We have assessed each element separately, and then tested the reasonableness of the estimated premium pool resulting from the combination of all assumptions.

The estimate of the total premium pool, which includes allowances for expenses, levies and reasonable insurer profit margins, is divided by insured wages to derive a reasonable Scheme average premium rate. The derived rate for past years can be compared with the actual rates charged by insurers.

### Claims Cost

The claims cost assumptions come from the actuarial analysis of the historical Scheme claims experience discussed in Section 3.

### Inflation and Discount

The long-tailed nature of workers' compensation means that it is appropriate to allow for both future inflation and the time value of money in assessing the premium rate.

For the purpose of establishing the average rates for this report we have based our assumptions on the following:

- Discount rate – expected returns on Australian government bonds over the period in which claim payments are made
- Normal economic inflation – current economic forecasts for medium term wage inflation
- Superimposed inflation – analysis of recent Scheme experience, together with expectations for the future (necessarily judgemental).

## Commission and Expenses

We were supplied with average commission rates currently paid by each of the licensed insurers writing workers' compensation insurance in the ACT. Based on their market shares (as measured by premium volume), we have estimated the overall average commission paid by the Scheme as a whole.

We have allowed for other administration costs based on insurer information, along with expense rates included in the insurer's rates, and our knowledge of expense rates in other state workers' compensation schemes. We have also allowed for the Regulatory Funding Levy, Default Insurance Fund (DIF) Levy and Magistrates Court Levy.

## Insurer Margin

In determining an appropriate margin for profit, we have used a model that projects the after tax profits of a single underwriting year's business in each future year until the cohort of business has completely run off. On the basis of a series of assumptions regarding investment returns earned by insurers, the capital required to support this business, and the return on capital required by the insurer shareholders, we have derived an insurer margin we view as appropriate for this business.

## 9.5 ANZSIC 2006 Division Premium Rates

The ANZSIC 2006 codes have a 'tree' structure comprising categories at four levels, namely Divisions (1 digit level), Subdivisions, Groups and Classes (4 digit level). There are 19 Divisions within the ANZSIC coding, each identified by an alphabetical character (A is agriculture, B is mining, etc.).

The determination of a reasonable premium rate for each ANZSIC Division proceeds from the estimate of the total premium pool. The past claims experience is analysed to determine claims cost relativities between Divisions. The resulting relativities are then applied to the Scheme average premium rate to determine a set of rates for each ANZSIC Division, which should add to produce the total premium pool. These rates will spread total premium costs across ANZSIC Divisions in proportion to each industry's contribution to the costs of the workers' compensation scheme.

## Relativities

At the current Scheme Review we have revised our approach to setting relativities at the ANZSIC Class level.

The previous approach grouped similar ANZSIC classes (to overcome exposure issues for smaller ANZSIC Classes) and calculated frequency and claim cost relativities (i.e. the frequency or claim cost for that group relative to the scheme as a whole). The process to select an appropriate relativity for each ANZSIC Class was then as follows:

- Start with the selected ANZSIC groupings and relativities for 2018/19 and examine the ANZSIC Classes within each group to decide whether any needed to move to another group, bearing in mind the experience which has emerged in 2017/18
- For the larger ANZSIC Classes, calculate a 'default' relativity by weighting the average claim frequency relativity and the average paid cost relativity. Judgement is then used to determine whether the default relativity is appropriate or whether last year's relativity remains appropriate

- For the smaller ANZSIC Classes, calculate default relativity based on the experience for the group rather than the individual code. Judgement is then used to determine whether the default relativity is appropriate for the group or whether last year's relativity remains appropriate
- Check that the selected relativities are comparable with the relativities implied by the current premium rates charged by ACT insurers.

There are several subjective elements to this process, which we have sought to minimise under the new methodology which is as follows:

- Replace the previous ANZSIC Class groupings with the hierarchical ANZSIC 'tree' structure (i.e. each ANZSIC Class belongs to their respective group, which in turn belongs to a subdivision and so on)
- Use statistical methods to calculate predicted claim frequencies and average claim sizes at the ANZSIC class level. The process used takes advantage of the hierarchical tree structure by first calculating portfolio level estimates, then assessing the statistical significance of deviations at the ANZSIC Division level relative to the portfolio level, then deviations from the ANZSIC Subdivision level relative to the Division level and so on. Applying statistical methods to this process removes the subjectivity around the level of information needed to respond to deviations of ANZSIC Classes within our previous groups (i.e. is there sufficient evidence that ANZSIC Classes within a group are not homogenous)
- Combine the predicted frequency and average size to give a predicted cost at the ANZSIC Class level per dollar of wages
- Weight this by earned wages in 2017/18 to give a predicted cost per dollar wages for the Scheme as a whole
- Divide the predicted cost for each ANZSIC Class by the Scheme predicted cost to calculate relativities by ANZSIC Class.

This change in methodology has resulted in a higher level of change to relativities than in previous years. We have therefore capped movements in relativities at 15% to limit the impact due to this change.

## 10 Reliances & Limitations

### 10.1 Data

We have relied on the accuracy and completeness of all data and other information (qualitative, quantitative, written and verbal) provided to us by CMTEDD and private insurers for the purpose of this report. We have not independently verified or audited the data but we have reviewed it for general reasonableness and consistency. It should be noted that if any data or other information is inaccurate or incomplete, we should be advised, so that our advice can be revised, if warranted.

Specific data limitations identified and the impact of these on our review are discussed further in Appendix B.

### 10.2 Uncertainty

The estimates of future claims costs are intended to be a central estimate and are based on assumptions selected without deliberate bias towards either over-estimation or under-estimation. Please note however, that it is not possible to put a value on future claims cost with certainty. As well as difficulties caused by limitations on the historical information, outcomes remain dependent on future events, including legislative, social, and economic forces. Although we have prepared estimates in conformity with what we believe to be the likely future experience, actual experience could vary considerably from our estimates. Deviations are normal and are to be expected.

We have generally assumed that the payment of claims will proceed as in the recent past, and we have not anticipated any extraordinary changes to the legal, social or economic environment that might affect the cost, frequency or future reporting of claims.

In our judgement, we have employed techniques and assumptions that are appropriate, and the conclusions presented herein are reasonable, given the information currently available. However, it should be recognised that future claim emergence will likely deviate, perhaps materially, from our estimates.

### 10.3 Distribution and Use

This report is being provided for the use of CMTEDD for the purposes stated in Section 1.1 of this report. It is not intended, nor necessarily suitable, for any other purpose. This report should only be relied on by CMTEDD for the purpose for which it is intended. No other use of, or reference to, this report may be made without the prior written consent of Finity, nor should any part of the report be disclosed to any other person. The report should be considered as a whole.

Third parties, whether authorised or not to receive this report, should recognise that the furnishing of this report is not a substitute for their own due diligence and should place no reliance on this report or the data contained herein which would result in the creation of any duty or liability by Finity to the third party.

Finity has performed the work assigned and has prepared this report in conformity with its intended utilisation by a person technically competent in the areas addressed and for the stated purposes only. Judgements about the conclusions drawn in this report should be made only after considering the report in its entirety, as the conclusions reached by a review of a section or sections on an isolated basis may be incorrect.

## Part IV Appendices

### A Glossary of Terms

The terms described below may have different meanings ascribed to them in other actuarial reports.

Term	Definition
Accident Year	The year (years ending 30 June) in which the injury occurred which gave rise to a claim. E.g. a claim occurring on either 30 September 2008 or 30 March 2009 is said to belong to the 2008/09 accident year.
Active claim	A claim which has received a weekly payment in the quarter, excluding any claims where total weekly payments to date were negative or where the weekly payments made in the quarter total zero.
Central Estimate	An estimate of the liability which is intended to contain no deliberate bias to either over- or under-estimation and does not include allowance for claims handling expenses.
Claim Frequency	Estimated ultimate number of claims divided by a measure of exposure (either wages or employees).
Continuance Rate	The number of claimants in receipt of weekly benefits in one quarter divided by the number in receipt of weekly benefits in the preceding quarter. For example, the rate for development quarter 1:2 is calculated as the number of claimants receiving weekly benefits the second quarter after the accident quarter, compared with the number receiving weekly benefits in the accident quarter.
Development Year	The number of years since the year in which the accident occurred, e.g. development year 1 is the same as the year of accident, development year 2 is the year following the accident year, etc.
Earned Premium	Policy-year premiums spread over the period of cover. All premiums shown are exclusive of GST and inclusive of brokerage/commissions.
Earned Wages	Policy-year wages spread over the period of cover. All wages shown are exclusive of superannuation, but include salary, overtime, shift and other allowances, over-award payments, bonus, commissions, payments for public and annual holidays (including loadings), payments for sick and long service leave, value of board/lodging provided by employer, reimbursement for expenses incurred by the worker due to employment, any amount expended on behalf of the worker, directors' fees, and fringe benefits costs.
Loss Ratio	Estimated ultimate cost (net of recoveries) divided by gross earned premium for that year. Ultimate costs have been discounted to the mid-point of the relevant accident year.
IBNR	Incurred but Not Reported Claims – i.e. claims that have occurred at the review date but have not yet been reported.

Nil claims	Claims which have no payments made to date. Some nil claims will always remain nil ("report only claims") while others will become non-nil claims as payments are made
Outstanding Claims Costs	Includes the costs of IBNR claims and allowance for further payments on already reported claims.
PPCF	Payment per Claim Finalised
PPCI	Payment per Claim Incurred
PPCS	Payment per Claim Settled
Premium Pool	Estimated claims costs plus allowance for expenses and insurer margins.
Premium Rate	Premiums divided by wages. The premium rate may be calculated on either a written or earned basis.
Risk Premium	Total expected claim costs divided by wages. Historical risk premiums are calculated from actual past payments plus our estimate of outstanding claims.
Superimposed Inflation	The tendency for claims costs to increase at a higher rate than normal economic inflation (i.e. wage inflation).
Ultimate Claim Numbers	The total expected number of claims for an accident year. This will include all claims reported to the review date together with any IBNR claims for the accident year.
Ultimate Claims Costs	The total expected claim costs for an accident year. This includes all amounts paid to the review date (net of recoveries) plus outstanding claims costs.

## B Scheme Background

This section covers the background to the workers' compensation scheme in the ACT, including the impacts of the major legislative amendments.

### B.1 Introduction

The ACT workers' compensation scheme (Scheme) is a privately underwritten scheme, operating under the Workers' Compensation Act 1951 (the Act). CMTEDD is responsible for the administration of the Act.

Under the Act, employers are required to take out a workers' compensation insurance policy with an approved insurer (approved by the Minister) or be granted an exemption to self-insure these risks by the Minister. There are currently seven licensed insurers providing workers' compensation insurance in the ACT:

- QBE (including the run-off of Mercantile Mutual Insurance)
- Allianz
- IAG (including the run-off of CGU, FAI, HIH, NZI and VACC)
- Suncorp (written through the GIO licence and including the run-off of Vero)
- Zurich
- Guild
- Catholic Church Insurance (CCI).

#### B.1.1 The Default Insurance Fund

The Default Insurance Fund (DIF) is a body established under the Act to cover the cost of claims for compensation where the employer is uninsured, bankrupt or insolvent. The DIF is funded by a levy on premiums, and on notional premiums in the case of self-insurers. We have excluded the cost of claims covered by the DIF from the analysis of claim performance of the Scheme and have included an allowance for the DIF levy in determining the reasonable premium pool.

### B.2 Compensation Types

Under the Act, a worker is entitled to compensation as described below.

#### B.2.1 Weekly Benefits

Compensation is provided to a worker who is incapacitated for work as a result of an injury or disease arising out of, or in the course of, the worker's employment. Weekly payments may continue for the duration of the incapacity, or to Commonwealth retirement age. The level of the weekly payment ("the replacement ratio") varies by duration of incapacity as shown in Table B.1 below.



**Table B.1 – Weekly Benefit Entitlements**

Weeks on Benefit	Total Incapacity	Partial Incapacity
0-26 weeks	100% of average pre-incapacity weekly earnings.	100% of the difference between average pre-incapacity weekly earnings and average weekly amounts the worker is being paid or could earn in reasonably available suitable employment.
26 weeks +	<p>* 100% of average pre-incapacity weekly earnings, if average pre-incapacity weekly earnings are less than the pre-incapacity floor (i.e. the federal minimum wage immediately before the incapacity); <b>or</b></p> <p>* Maximum of either 65% of average pre-incapacity weekly earnings and the statutory floor.</p>	A percentage of the difference between average pre-incapacity weekly earnings (subject to the minimum statutory floor and maximum statutory ceiling of 150% of AWE) and average weekly amounts the worker is being paid or could earn in reasonably available suitable employment, with this percentage varying depending on the weekly hours worked relative to pre-incapacity hours of the employer.

The weekly benefits described above have been in place since 1 July 2002, with the exception of the alignment of benefits ceasing with the Commonwealth retirement age.

### **B.2.2 Medical and Rehabilitation Benefits**

The Act provides for compensation to the injured worker for costs associated with medical treatment (including hospital), rehabilitation services, alterations to the worker's place of residence, wages lost by the worker whilst attending treatment, transport to/from treatment, accommodation (including meals) while at treatment, repair/replacement of damaged clothing, etc. The total amount of medical costs relating to repair or replacement of contact lenses, crutches, prosthesis, spectacles, artificial aids and for loss or damage to a worker's clothing is capped at \$500 (currently around CPI indexed to approximately \$751).

### **B.2.3 Death Benefits**

Death benefits were aligned to the Comcare scheme in December 2017, leading to around a doubling in the benefit scale. Currently, dependants are entitled to lump sum compensation on the death of the worker, capped at approximately \$550,000. In addition, dependants may be entitled to receive weekly payments of approximately \$150 per week and funeral expenses of around \$12,000.

### **B.2.4 Impairment Lump Sums**

Workers who suffer a permanent impairment from a work-related injury or disease are entitled to receive a maximum lump sum payment of \$100,000 (CPI indexed to approximately \$150,000) for a single injury or \$150,000 (CPI indexed to approximately \$225,000) for multiple injuries. The level of the lump sum payment varies between 2% and 100% of the maximum amount for a total loss as shown in Schedule 1 of the Act. For partial losses, the claimant is entitled to a proportionate reduction on the Schedule 1 amount. In most cases, a claim for an impairment lump sum cannot be made earlier than two years after the injury. Weekly benefits may continue to be payable despite payment of a lump sum benefit, subject to negotiation between the injured worker and employer or insurer.

### **B.2.5 Redemption of Statutory Entitlements**

In certain circumstances, subject to negotiation between the injured worker and the employer or insurer, claimants may commute their statutory benefits. The redemption may include amounts for the worker's entitlement to weekly benefits, medical and other expenses. Throughout the report we refer to the redemption of statutory entitlements as "commutations".

### B.2.6 Common Law

A worker may be entitled to seek compensation damages under common law where the work-related injury or disease was caused or contributed to by the negligence of a third party. Damages awarded are reduced by the amount of compensation already paid to the worker. Access to common law and the maximum amount of compensation available are unlimited under the Act.

Common law payments may include either damages awarded at court or negotiated lump sum settlements (a lump sum payment accompanied by a common law release).

### B.2.7 Legal Costs

An injured worker may also seek reimbursement for the costs of legal and other expenses incurred as a result of pursuing common law damages or negotiating a settlement of their statutory entitlement.

## B.3 Journey Claims

Workers are covered for injuries arising out of journeys both to and from work and undertaken for work purposes.

## B.4 Employer Excess

The level of employer excess is not prescribed under the Act, but can be negotiated between the employer and the insurer.

## B.5 Legislative Reform

This section summarises the legislative reforms that have had a significant impact on our review. The reader is referred to the relevant legislation for full details of the changes.

### B.5.1 2002 Amendments

The Workers' Compensation Amendment Act 2001 came into effect on 1 July 2002, and applies to injuries where the accident occurred on or after this date.

The amendments from the previous legislation may be summarised as follows:

- Weekly benefits
  - ▶ Benefits cease upon return to work or pension age (previously death)
  - ▶ Benefits depend on average pre-injury earnings including overtime (previously did not include overtime or allowances)
  - ▶ Benefits for incapacity post 26 weeks drop to 65% of pre-injury earnings (previously based on a statutory rate) subject to a minimum of a statutory floor
  - ▶ Benefits for partial incapacity subject to a minimum of a statutory floor (the federal minimum wage) and statutory ceiling (150% of AWE) (previously based on a statutory amount).
- Lump sums
  - ▶ Introduction of 6% threshold for access to compensation for hearing loss
  - ▶ Expanded the Table of Maims

- ▶ Increased maximum impairment, death and funeral benefits
- ▶ Introduction of a two year waiting period before a worker could claim for permanent impairment benefits.
- Medical benefits
  - ▶ Increased maximum amount for specified medical costs.
- Common Law
  - ▶ Reduced statute of limitations for common law to 3 years (previously 6 years).
- Other
  - ▶ Definition of worker expanded to include volunteers
  - ▶ Definition of employment-related diseases tightened
  - ▶ Definition of journey claims tightened
  - ▶ Increased focus on injury management processes, including the strengthening of requirements for employers to provide suitable return to work
  - ▶ Encouraged early notification of claims.

### **B.5.2 Civil Law (Wrongs) Act 2002**

The amendments introduced as part of the Civil Law (Wrongs) Act 2002 came into force in late 2002 and resulted in changes to legal proceedings in the ACT. In September 2003, the legislation was amended to exclude workers' compensation claims from the Wrongs Act.

### **B.5.3 2006 Amendments**

The Workers' Compensation Act 2006 and Workers' Compensation Amendment Act 2006 (No 2) became effective 1 July 2006 and resulted in the:

- Establishment of the Default Insurance Fund
- Change in definition of maximum duration of weekly compensation to 65 years of age
- Categorisation of some 'carers' as workers
- Encouragement of early reporting of injury
- Specific mention of rehabilitation costs.

### **B.5.4 2009 Amendments**

The Workers' Compensation Amendment Act 2009 introduced a range of amendments that:

- Allowed the appointment of a rehabilitation service provider in the event that an injured worker had been unable to return to work in their pre-injury hours and duties within 4 weeks
- Introduced new offences and penalties for non-compliance by employers.

### **B.5.5 2011 Amendments**

The Workers' Compensation Amendment Regulation 2011 came into effect on 1 September 2011 and introduced amendments requiring compliance audits of Approved Insurers and Self-Insurers.

### **B.5.6 2013 Amendments – Regulatory Levy**

The Workers Compensation Amendment Bill 2013, passed in October 2013, amends the Act to enable funding of Work Health and Safety regulatory costs via an insurer levy.

### **B.5.7 2015 Amendments – Cross Border Arrangements**

The Workers Compensation (Cross-border Workers) Amendment Bill 2015 aligned cross-border state of connection to employment with updated national guidelines. These amendments provide guidance in the event of dispute regarding relevant jurisdiction and connection to employment in the ACT.

### **B.5.8 2017 Amendments – Retirement Age and Death Benefits**

The Workers Compensation Amendment Bill 2017:

- Aligned the cessation of weekly benefits with the Commonwealth retirement age (previously weekly benefits ceased at age 65)
- Aligned death benefits with the Comcare scheme.

## C Data

This section summarises the data provided to us for this review and documents the reconciliations performed.

### C.1 WCMS Data

The WCMS data provided to us by CMTEDD is detailed below.

#### C.1.1 Claim File

We received an individual claim file listing all claims reported or having had a payment between 1 July 1999 and October 2018, which included the following variables:

1. Claim ID (WCMS assigned)
2. Claim number (insurer assigned)
3. Policy number
4. Coverage ID and reference (unique identifiers to link to the coverage file)
5. Accident date
6. Report date, the date claim was notified to the insurer by the employer
7. Lodgement date, the date claim was lodged with employer
8. ANZSIC 1993 and 2006
9. Type of injury ("Injury")
10. Mechanism of injury ("Mechanism")
11. Part of body injured ("Body Location")
12. Agency causing the injury ("Agency")
13. Worker details (date of birth, gender, duty status, employment status, hours worked, pre-injury earnings)
14. Whole Person Impairment (WPI) percentage
15. Claim finalised date
16. Date reopened
17. Claim status
18. Total estimated payments
19. Total estimate lost time.

#### C.1.2 Payment Transaction File

We received a claim payment transaction file with payments made (by payment type and month) between 1 July 1999 and October 2018, which included the following variables:

1. Payment ID (WCMS assigned)

2. Payment reference (insurer assigned)
3. Claim ID and reference (unique identifiers to link to the claim file)
4. Insurer number and name
5. Date of transaction
6. Service date
7. Payment type
8. Payment amount
9. Payment Source (i.e. employer or insurer)
10. Time Lost in Minutes.

### **C.1.3 Case Estimate File**

We received an individual claim file listing all claims reported or having had a payment between 1 July 1999 and October 2018, which included the following variables:

1. Claim ID (WCMS assigned)
2. Claim number (insurer assigned)
3. Insurer Name
4. Total estimated payments
5. Total payments to date
6. Total outstanding amounts.

### **C.1.4 Policy File**

We received an individual policy file for all policies written or renewed between 1 July 1999 and October 2018, which contained the following variables:

1. Policy ID (WCMS assigned)
2. Policy number (insurer assigned)
3. Insurer number and name
4. Employer ABN
5. Employer name
6. Employer postcode.

### **C.1.5 Coverage File**

We received an individual premium file for all policies exposed from 1 July 1988 that included the variables listed below:

1. Policy ID (WCMS assigned)
2. Policy number (insurer assigned)

3. Cover ID (WCMS assigned)
4. Coverage reference (insurer assigned)
5. Insurer number and name
6. Employer ABN
7. ANZSIC 1993 and ANZSIC 2006
8. Start date of period of cover ("Effective Date")
9. End date of period of cover ("Expiry Date")
10. Number of workers ("Estimated Workers" and "Actual Workers")
11. Wages in dollars ("Estimated Wages" and "Actual Wages")
12. Premiums charged ("Initial Deposit", "Adjusted Amount" and "Actual Final")
13. Lapse reason code
14. Coverage type (e.g. new policy, adjustment, renewal, etc)
15. Policy type (e.g. normal, burning cost, minimum premium).

## C.2 Information Provided by Insurers

Each of the insurers of workers' compensation in the ACT provided us with summarised premium, wages and claims information, including:

- Written policies for policy years ending 30 June 2004 to 30 June 2019, separately for burner and all other policies
- Written wages for policy years ending 30 June 2004 to 30 June 2019. Insurers provided both initial (i.e. that initially estimated at the start of the policy period) and final adjusted written wages, separately for burner and all other policies
- Written premium for policy years ending 30 June 2004 to 30 June 2019. Insurers provided both initial and adjusted written premiums, separately for burner and all other policies
- Earned wages for accident years ending 30 June 2004 to 30 June 2019, and by ANZSIC Division. Insurers provided adjusted earned wages
- Earned premium for accident years ending 30 June 2004 to 30 June 2019, and by ANZSIC Division. Insurers provided adjusted earned premiums.
- Numbers of claims reported, subdivided by accident year and report year
- Claim payments made, subdivided by accident year and payment year
- Case estimates and IBNR/ER allowances as at 30 June 2019, subdivided by accident year.

In order to improve the comparability and consistency of the information supplied by insurers, the data required adjustment in some cases so that:

- Premiums include brokerage and commissions (for Allianz)
- Wages exclude superannuation (for Guild).

We compared the premium and wages information supplied for this review with that supplied for the previous review and found some increases in wages and premiums recorded for more recent policy years. This reflects expected development on policies as information is updated with final wages estimates and changes to burner policies reflect emerging claims experience. The differences were not unexpected.

We compared the claim number, claim payment and case estimate information supplied by the insurers to that on WCMS. The reconciliations are detailed in Appendix C.3 below. Our findings were:

- There are some significant differences between WCMS claim number data and insurer records arising from differences in recording and reporting of nil claims and notifications for one insurer. This is not expected to impact our analysis as our average payment models are based on the number of non-nil claims.
- There were some substantial differences in the case estimate information between WCMS and insurer data, relating primarily to one insurer. There were also some less material differences relating to three other insurers.

We have utilised case estimate information directly from the insurers.

### C.3 Data Reconciliations

We compared the WCMS data provided for this review with the data provided for our previous review. The following table summarises the comparison of claim reports and claim payments to 30 June 2017 from the two data sources.

**Table C.1 – Reconciliation to Previous Data**

Accident Year	Claim Numbers				Claim Payments (\$m)			
	Current Dataset	Previous Dataset	Difference	% Difference	Current Dataset	Previous Dataset	Difference	% Difference
2007/08	3,499	3,498	1	0%	76.8	76.8	0.0	0%
2008/09	3,329	3,329	0	0%	95.0	95.0	0.0	0%
2009/10	3,436	3,436	0	0%	114.4	114.4	0.0	0%
2010/11	3,625	3,625	0	0%	123.7	123.1	0.6	0%
2011/12	3,601	3,601	0	0%	112.7	112.7	-0.1	0%
2012/13	3,388	3,389	-1	0%	113.1	112.4	0.6	1%
2013/14	3,155	3,157	-2	0%	88.4	85.7	2.7	3%
2014/15	3,229	3,228	1	0%	74.2	72.6	1.7	2%
2015/16	3,243	3,243	0	0%	55.2	54.1	1.2	2%
2016/17	3,081	3,069	12	0%	21.8	21.8	0.1	0%
<b>Total</b>	<b>33,586</b>	<b>33,575</b>	<b>11</b>	<b>0%</b>	<b>875.3</b>	<b>868.6</b>	<b>6.7</b>	<b>1%</b>

The data from the two sources matched closely.

We also received summaries of claim and policy data from the insurers operating in the Scheme in response to our request to confirm the validity of the WCMS data.

Table C.2 shows a reconciliation of the number of non-nil claims on the WCMS database to those supplied by insurers.



**Table C.2 – Non-nil Claim Numbers Reported: WCMS vs Insurer Data**

Accident Year	WCMS Data	Insurer Data	Difference	% Difference
2007/08	3,499	3,482	17	0%
2008/09	3,329	3,304	25	1%
2009/10	3,436	3,425	11	0%
2010/11	3,626	3,602	24	1%
2011/12	3,601	3,579	22	1%
2012/13	3,391	3,368	23	1%
2013/14	3,157	3,136	21	1%
2014/15	3,235	3,246	-11	0%
2015/16	3,273	3,267	6	0%
2016/17	3,308	3,296	12	0%
2017/18	3,046	3,084	-38	-1%

All analysis relies only on non-nil claims; hence we have shown this comparison here. The data from the two sources matched closely.

Table C.3 shows a reconciliation of claim payments in WCMS to that supplied by insurers.

**Table C.3 – Claim Payments: WCMS vs Insurer Data**

Payment Year	WCMS Data	Insurer Data	Difference	Difference
	\$000	\$000	\$000	%
2007/08	76,052	74,564	1,487	2%
2008/09	74,841	73,183	1,658	2%
2009/10	89,984	89,322	663	1%
2010/11	97,203	96,279	924	1%
2011/12	101,774	100,290	1,484	1%
2012/13	122,375	118,833	3,542	3%
2013/14	139,532	136,320	3,212	2%
2014/15	126,240	126,905	-665	-1%
2015/16	119,690	123,523	-3,834	-3%
2016/17	129,273	132,353	-3,080	-2%
2017/18	129,668	130,677	-1,009	-1%

Differences in payments between the insurer data and WCMS database between 2004/05 to 2017/18 years are sufficiently close for actuarial analysis. As such, our view is that the claim payment data on the WCMS database reconciles satisfactorily to the insurer data.

Table C.4 shows a reconciliation of case estimates in WCMS to that supplied by insurers.

**Table C.4 – Case Estimates: WCMS vs Insurer Data**

Accident Year	WCMS Data	Insurer Data	Difference	Difference
	\$000	\$000	\$000	%
Prior	19,440	1,556	17,884	1149%
2008/09	6,816	239	6,577	2750%
2009/10	13,327	201	13,125	6525%
2010/11	15,655	362	15,293	4227%
2011/12	19,936	1,288	18,648	1448%
2012/13	24,901	3,664	21,237	580%
2013/14	6,863	6,212	651	10%
2014/15	19,321	17,139	2,182	13%
2015/16	37,997	45,199	-7,202	-16%
2016/17	44,381	52,831	-8,450	-16%
2017/18	68,622	75,925	-7,303	-10%

The case estimates from WCMS are understated relative to insurer data by approximately \$7 million, however this is not uniform with older years being significantly overstated in the WCMS data, while more recent years are understated. For more recent years, differences in the timing of the WCMS data versus the date insurers supplied case estimates could explain some of the discrepancies, however for older periods it appears that some claims are not having their case estimates reduced to nil when they are closed. The WCMS data system was only on place from 2014 onwards, therefore we believe that the very high level of discrepancy prior to this period is likely to be a legacy issue from the AIMS data system.

As a result of the reconciliation differences observed in older years, we do not rely on case estimates in our analysis of ultimate claim size or costs, and use case estimates supplied directly by insurers instead of that in WCMS when comparing to our projected central estimates. However, when assessing ANZSIC level relativities we place some reliance on case estimates as our analysis for this is limited to post-2014 accident years where differences are less material.

Table C.5 shows a reconciliation of the WCMS wages data to that supplied by insurers.

**Table C.5 – Wages & Premiums: WCMS vs Insurer Data**

Policy Year	Wages				Premiums				Premium Rate			
	WCMS Data	Insurer Data	Difference		WCMS Data	Insurer Data	Difference		WCMS Data	Insurer Data	Difference	
	\$m	\$m	\$m	%	\$m	\$m	\$m	%	%	%	%	%
2006/07	4,973	5,238	-265	-5%	159	151	8	5%				
2007/08	5,384	5,788	-404	-7%	152	151	1	0%	2.81%	2.61%	0.21%	8%
2008/09	5,596	5,668	-72	-1%	146	140	5	4%	2.60%	2.48%	0.13%	5%
2009/10	5,750	6,059	-309	-5%	150	148	3	2%	2.62%	2.44%	0.18%	7%
2010/11	6,281	6,522	-240	-4%	156	154	2	2%	2.49%	2.36%	0.13%	5%
2011/12	6,773	6,837	-63	-1%	168	163	4	3%	2.47%	2.39%	0.09%	4%
2012/13	6,982	6,976	6	0%	162	164	-3	-2%	2.32%	2.36%	-0.04%	-2%
2013/14	7,178	7,053	126	2%	159	164	-5	-3%	2.22%	2.33%	-0.11%	-5%
2014/15	7,541	7,791	-250	-3%	161	160	1	1%	2.14%	2.06%	0.08%	4%
2015/16	8,246	8,264	-18	0%	166	167	-1	-1%	2.01%	2.02%	-0.01%	0%
2016/17	8,995	8,768	227	3%	177	170	7	4%	1.97%	1.94%	0.03%	1%
2017/18	9,254	9,747	-493	-5%	176	187	-11	-6%	1.91%	1.92%	-0.01%	-1%

The reconciliation between the data captured on WCMS and sourced directly from the insurers has improved in recent years with only small discrepancies, although the discrepancy in 2017/18 is slightly higher than previous years. Although there are some larger differences at an individual insurer level, we have also checked the distribution of wages by ANZSIC Class on both WCMS and from insurers and they are very similar. We have therefore relied on insurer information for aggregate level wage and premium information, but for ANZSIC Class information we have partially relied on WCMS data as it allows for a more granular assessment of performance.

## C.4 Coding of Data on WCMS

### C.4.1 Common Law, Commutations and Impairment Benefits

Discussions with CMTEDD have revealed historical differences in coding practices of common law, commutation and impairment benefit payments. Specific examples include:

- For claims where a common law action is commenced and is subsequently settled out of court, some insurers code the payments as common law while others code the payment as a commutation
- Some insurers are negotiating commutations with the claimant and having the claimant sign a common law deed of release. These are being coded as common law rather than commutations
- Some insurers are coding what are essentially impairment benefit payments as commutations.

As a result of these differences in practices, we have grouped all common law, commutation and impairment benefit payments together in undertaking our review.

### C.4.2 GST and ITCs

We understand that all claim payments made in the post-GST environment are reported inclusive of GST for all insurers. However, practices vary in relation to the treatment of ITC recoveries – some insurers net them off in payments captured on WCMS while others do not. We understand that the WCMS data specification is in the process of being amended to offer greater clarity to insurers on the treatment of ITCs. However, historical information will not be amended.

As we have analysed payment data net of ITC recoveries, we have had to adjust the data for those insurers who have not netted off the ITC recoveries. Given that the majority of workers' compensation payments do not attract GST, we have only netted off estimated ITC amounts from legal and investigation costs for these insurers. Some elements of medical and rehabilitation payments will also attract GST (e.g. home modifications, vocational rehabilitation services) and hence should have ITC recoveries netted off. However we do not know what proportion of medical and rehabilitation payments attract GST, and have therefore not adjusted these payments. We believe this is immaterial in the context of our review.

### C.4.3 Incident Notifications

We understand that some insurers are submitting incident notifications as well as claim records to WCMS, and that the treatment of this varies by insurers.

By looking at the numbers of non-nil claims, we should effectively capture the true number of actual claims involving workers compensation claim payments and the differences in reporting of notifications is therefore not expected to have a material impact on our analysis.

## D Valuation Approach

### D.1 Chain Ladder Method

The chain ladder method estimates the ultimate number of claims incurred in each accident year by analysing past claim reporting patterns and estimating a pattern for the future.

The chain ladder method can be applied to any cumulative data triangle that summarises the experience by accident year and development period.

Chain ladder ratios are calculated from the data triangle by taking, for each accident period:

Cumulative Number of Claims reported to Development Period  $t$

Cumulative Number of Claims reported to Development Period  $(t - 1)$

Ratios for projection are selected taking into account the observed ratios in recent periods and changes expected in the future. The ratios generated are then applied to the most recent cumulative claim figures (separately for each accident period) to project reported claims to ultimate.

### D.2 Payments Per Claim Incurred

The Payments Per Claim Incurred (PPCI) method models the claim process by assuming that the payments in respect of a group of claims will develop in a predictable pattern over a period of years. This pattern is defined by:

- An average claim size
- The proportion of claim payments that will be made in each development year.

The PPCI method proceeds as follows:

- (i) Estimate the ultimate number of claims incurred in each accident year by using the Chain Ladder method.
- (ii) Inflate past claim payments, subdivided by accident and payment years, to the monetary values of the latest accident year using an appropriate measure of past inflation.
- (iii) For each accident year divide the inflation adjusted claim payments [derived in (ii)] by the estimated ultimate number of claims incurred [calculated in (i)] to obtain an historical PPCI pattern of payments.
- (iv) Taking into account the result for (iii) and expectations for the future, select the average claims size together with the proportion of the payments made in each development year.
- (v) Using an assumed future rate of claim inflation calculate projected future payments for each accident year by multiplying together:
  - (a) The estimated ultimate number of claims incurred
  - (b) The average claim size in current dollars
  - (c) The proportion of payments by development year
  - (d) The assumed inflation factor.

The present value of liabilities is calculated by discounting projected payments to the valuation date at the assumed discount rate.

### D.3 Payments Per Claim Settled

This method models the claims process by assuming that the payments in respect of a group of claims will develop in a predictable pattern over a period of years. This pattern is often expressed as the payments per claim settled together with the proportion of claims which will be settled in each development year.

There can sometimes be a timing mismatch between the date a claim first receives a lump sum payment and the date of final payment, and we note that a small amount of common law and lump sum claims do involve multiple common law or lump sum payments. We therefore define date of settlement to be the date of last payment. We note that the method may be susceptible to changes in data due to re-openings and payment of further benefits, but this is not expected to materially alter the results of our analysis providing the rate of such re-openings remains stable over time.

In order to use this method, we need to make assumptions about:

- The number of claims incurred in each accident year
- The average payment per claim settled in the monetary values of the latest accident year (not necessarily the same average cost for all accident years)
- The proportion of claims settled in each development period, before allowance for claim inflation
- Rates of future claim inflation and investment earnings.

Future payments are projected by multiplying together:

- The number of claims outstanding
- The payment per claim settled in current dollars
- The proportion of claims settled by development period
- The proportion of future settlements paid by development period
- The inflation index based on projected rates of claims inflation.

The present value of liabilities is then calculated by discounting projected payments to the valuation date at the assumed discount rate.

### D.4 Continuance model

The continuance model is in effect a Payments Per Active Claim ("PPAC") model which assumes that the payments in respect of a group of claims will develop in a predictable pattern over a period of years. This pattern is defined by:

- An average claim size
- The proportion of claims will remain active and receiving benefits in each development year.

The PPAC method proceeds as follows:

- (i) Estimate the ultimate number of active claims incurred in each accident year by using the Chain Ladder method, taking into account the number of claims active in the most recent period and assumed continuance rates in future.
- (ii) Inflate past claim payments, subdivided by accident and payment years, to the monetary values of the latest accident year using an appropriate measure of past inflation.
- (iii) For each accident year divide the inflation adjusted claim payments [derived in (ii)] by the estimated ultimate number of active claims [calculated in (i)] to obtain an historical pattern of average weekly benefits per continuing claim.
- (iv) Taking into account the result for (iii) and expectations for the future, select the average claims size together with the proportion of the payments made in each development year.
- (v) Using an assumed future rate of claim inflation, calculate projected future payments for each accident year by multiplying together:
  - (a) The estimated ultimate number of active claims incurred
  - (b) The average claim size in current dollars
  - (c) The proportion of payments by development year
  - (d) The assumed inflation factor.

The implied payments were then converted into PPCIs for comparison with the PPCI model.

## **E Claim Number Analysis**

All Claims  
Excludes Nil Claims  
Chain Ladder Model

E1.2		Chain Ladder Factors																											
Accident	Quarter	Development Quarter (delay to first payment)																											
	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29	29-30	
Sep-11	1.6406	1.0431	1.0098	1.0075	1.0000	1.0032	1.0000	1.0011	1.0032	1.0021	1.0000	1.0011	1.0011	1.0000	1.0000	1.0000	1.0011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-11	1.5338	1.0539	1.0174	1.0057	1.0034	1.0034	1.0011	1.0045	1.0022	1.0000	1.0011	1.0000	1.0000	1.0011	1.0011	1.0011	1.0011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-12	1.7354	1.0450	1.0120	1.0071	1.0059	1.0093	1.0005	1.0000	1.0012	1.0000	1.0000	1.0035	1.0011	1.0034	1.0000	1.0011	1.0023	1.0000	1.0011	1.0011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-12	1.5340	1.0339	1.0038	1.0000	1.0012	1.0000	1.0023	1.0011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-12	1.4749	1.0404	1.0194	1.0012	1.0036	1.0000	1.0024	1.0035	1.0035	1.0000	1.0012	1.0000	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-12	1.5216	1.0623	1.0128	1.0126	1.0122	1.0025	1.0025	1.0012	1.0000	1.0000	1.0000	1.0000	1.0012	1.0005	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-13	1.5855	1.0444	1.0094	1.0082	1.0046	1.0000	1.0035	1.0023	1.0000	1.0000	1.0011	1.0000	1.0011	1.0000	1.0011	1.0000	1.0011	1.0011	1.0011	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-13	1.5913	1.0421	1.0033	1.0024	1.0024	1.0036	1.0012	1.0036	1.0024	1.0000	1.0024	1.0000	1.0012	1.0012	1.0024	1.0012	1.0012	1.0012	1.0012	1.0000	1.0012	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-13	1.5600	1.0410	1.0148	1.0061	1.0036	1.0024	1.0000	1.0000	1.0012	1.0000	1.0024	1.0012	1.0012	1.0012	1.0000	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-13	1.5257	1.0551	1.0203	1.0057	1.0042	1.0056	1.0096	1.0000	1.0000	1.0014	1.0000	1.0014	1.0014	1.0000	1.0000	1.0014	1.0000	1.0000	1.0014	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-14	1.6807	1.0330	1.0120	1.0039	1.0066	1.0000	1.0026	1.0000	1.0013	1.0026	1.0000	1.0026	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-14	1.5221	1.0486	1.0113	1.0074	1.0029	1.0012	1.0049	1.0000	1.0012	1.0049	1.0024	1.0000	1.0024	1.0000	1.0024	1.0000	1.0024	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-14	1.5084	1.0297	1.0193	1.0071	1.0012	1.0035	1.0047	1.0012	1.0023	1.0000	1.0023	1.0000	1.0012	1.0000	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-14	1.5511	1.0444	1.0082	1.0054	1.0041	1.0000	1.0027	1.0040	1.0013	1.0000	1.0013	1.0027	1.0000	1.0000	1.0013	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-15	1.5944	1.0404	1.0122	1.0102	1.0076	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	1.0050	
Jun-15	1.6078	1.0461	1.0246	1.0076	1.0013	1.0025	1.0013	1.0025	1.0000	1.0000	1.0012	1.0012	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-15	1.5295	1.0306	1.0168	1.0025	1.0025	1.0000	1.0038	1.0025	1.0025	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-15	1.4959	1.0578	1.0130	1.0090	1.0013	1.0064	1.0000	1.0013	1.0038	1.0025	1.0013	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-16	1.5296	1.0376	1.0168	1.0013	1.0038	1.0051	1.0025	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-16	1.5009	1.0456	1.0153	1.0023	1.0098	1.0023	1.0035	1.0046	1.0004	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-16	1.6168	1.0365	1.0138	1.0112	1.0025	1.0012	1.0000	REF1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-16	1.6168	1.0365	1.0138	1.0112	1.0025	1.0012	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-17	1.6552	1.0324	1.0163	1.0124	1.0110	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-17	1.6041	1.0527	1.0098	1.0121	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Sep-17	1.5266	1.0486	1.0166	1.0082	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Dec-17	1.5824	1.0611	1.0170	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Mar-18	1.6263	1.0462	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
Jun-18	1.6277	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	

E1.4			Incremental Projected Number of Claims																														Ultimate Claims
Accident Quarter	Development Quarter (delay to first payment)																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total		
Sep-11	537	344	38	9	7	0	3	0	1	3	2	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	947	
Dec-11	532	284	44	15	5	3	3	1	4	2	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	898	
Mar-12	461	339	36	10	6	0	8	3	0	1	0	0	3	1	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	876	
Jun-12	545	285	30	11	7	0	1	2	2	3	0	0	0	0	3	7	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	882	
Sep-12	537	255	32	16	1	3	0	0	0	2	3	3	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	856	
Dec-12	485	253	46	10	10	1	2	2	1	0	0	0	0	1	2	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	816	
Mar-13	489	322	46	8	13	4	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	877	
Jun-13	492	291	33	3	8	2	3	1	3	2	0	0	0	1	1	2	1	0	1	1	0	0	1	0	0	0	0	0	0	0	0	0	847
Sep-13	500	280	32	12	5	3	2	0	1	-1	1	0	2	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	842
Dec-13	428	225	36	14	1	3	4	-1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	719
Mar-14	430	297	24	9	3	5	0	2	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	777
Jun-14	478	283	37	9	6	2	1	4	2	0	0	0	2	0	0	0	0	-1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	825
Sep-14	535	272	24	16	6	1	3	4	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	870
Dec-14	450	248	31	6	4	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	875
Mar-15	392	351	30	11	8	6	4	4	0	0	0	0	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	812
Jun-15	459	279	34	19	6	1	2	1	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	807
Sep-15	491	260	23	13	2	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	804
Dec-15	486	241	42	10	7	1	5	0	1	3	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	804
Mar-16	425	320	28	13	1	3	4	2	0	0	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	801
Jun-16	547	271	37	13	2	-1	2	3	4	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	882
Sep-16	486	277	37	8	4	1	0	3	8	3	0	0	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	831
Dec-16	475	293	28	11	9	2	1	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	828
Mar-17	463	308	25	13	10	9	0	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	839
Jun-17	485	293	41	8	10	0	1	8	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	850
Sep-17	526	277	39	14	7	3	2	2	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	880
Dec-17	455	265	44	13	6	3	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	798
Mar-18	300	479	35	12	7	9	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	850
Jun-18	470	295	35	12	6	3	2	2	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	835



## ACT Workers' Compensation Scheme Review

Lost Time Claims  
Excludes Nil Claims  
Chain Ladder Model

### E2.1 Cumulative Number of Claims

Accident Year	Development Year (of first Weekly Benefit Payment)								Reported to date
	1	2	3	4	5	6	7	8	
2010/11	1,701	2,157	2,191	2,197	2,199	2,199	2,199	2,199	2,199
2011/12	1,714	2,196	2,221	2,229	2,233	2,233	2,233		2,233
2012/13	1,667	2,121	2,154	2,160	2,161	2,163			2,163
2013/14	1,521	1,944	1,968	1,973	1,973				1,973
2014/15	1,512	1,960	1,983	1,990					1,990
2015/16	1,561	2,040	2,065						2,065
2016/17	1,554	2,053							2,053
2017/18	1,552								1,552

### E2.2 Chain Ladder Factors

Accident Year	Development Year (of first Weekly Benefit Payment)						
	1:2	2:3	3:4	4:5	5:6	6:7	7:8
2010/11	1.2681	1.0158	1.0027	1.0009	1.0000	1.0000	1.0000
2011/12	1.2812	1.0114	1.0036	1.0018	1.0000	1.0000	
2012/13	1.2723	1.0156	1.0028	1.0005	1.0009		
2013/14	1.2781	1.0123	1.0025	1.0000			
2014/15	1.2963	1.0117	1.0035				
2015/16	1.3069	1.0123					
2016/17	1.3211						
2017/18							

### E2.3 Selected Chain Ladder Factors

	Development Year (of first Weekly Benefit Payment)						Tail
	1:2	2:3	3:4	4:5	5:6	6:7	
Jun-18 Selected	1.3150	1.0120	1.0030	1.0010	1.0005	1.0001	1.0000

### E2.4 Incremental Projected Number of Claims

Accident Year	Development Year (of first Weekly Benefit Payment)									Ultimate Claims
	1	2	3	4	5	6	7	8	Tail	
2010/11	1,701	456	34	6	2	0	0	0	0	2,199
2011/12	1,714	482	25	8	4	0	0	0	0	2,233
2012/13	1,667	454	33	6	1	2	0	0	0	2,163
2013/14	1,521	423	24	5	0	1	0	0	0	1,974
2014/15	1,512	448	23	7	2	1	0	0	0	1,993
2015/16	1,561	479	25	6	2	1	0	0	0	2,075
2016/17	1,554	499	25	6	2	1	0	0	0	2,087
2017/18	1,552	489	24	6	2	1	0	0	0	2,075

# ACT Workers' Compensation Scheme Review

## Claim Number Summary

### E3.1 Ultimate Number of Claims

Accident Year	All Claims (excl Nils)			Lost Time Claims		
	Reported	IBNR	Ultimate	Reported	IBNR	Ultimate
2010/11	3,626	0	3,626	2,199	0	2,199
2011/12	3,601	2	3,603	2,233	0	2,233
2012/13	3,392	4	3,396	2,163	0	2,163
2013/14	3,155	8	3,163	1,973	1	1,974
2014/15	3,232	12	3,244	1,992	1	1,993
2015/16	3,270	21	3,291	2,068	7	2,075
2016/17	3,308	40	3,348	2,072	15	2,087
2017/18	3,220	142	3,362	1,950	125	2,075

## ACT Workers' Compensation Scheme Review

Common Law & Lump Sum  
Excludes Nil Claims  
Chain Ladder Model

### E4.1 Cumulative Number of Claims

Accident Year	Development Year (of first Common Law Payment)							Reported to date
	1	2	3	4	5	6	7	
2010/11	13	90	245	349	408	430	446	452
2011/12	14	106	234	334	387	414	421	421
2012/13	9	119	261	343	409	433		433
2013/14	11	106	228	335	385			385
2014/15	9	99	237	329				329
2015/16	11	122	243					243
2016/17	10	105						105
2017/18	10							10

### E4.2 Chain Ladder Factors

Accident Year	Development Year (of first Common Law Payment)						
	1:2	2:3	3:4	4:5	5:6	6:7	7:8
2010/11	6.9231	2.7222	1.4245	1.1691	1.0539	1.0372	1.0135
2011/12	7.5714	2.2075	1.4274	1.1587	1.0698	1.0169	
2012/13	13.2222	2.1933	1.3142	1.1924	1.0587		
2013/14	9.6364	2.1509	1.4693	1.1493			
2014/15	11.0000	2.3939	1.3882				
2015/16	11.0909	1.9918					
2016/17	10.5000						
2017/18							

### E4.3 Selected Chain Ladder Factors

	Development Year (of first Common Law Payment)						
	1:2	2:3	3:4	4:5	5:6	6:7	Tail
Jun-18 Selected	11.0000	2.1800	1.4000	1.1700	1.0600	1.0250	1.0458

### E4.1 Incremental Projected Number of Claims

Accident Year	Development Year (of first Common Law Payment)									Ultimate Claims
	1	2	3	4	5	6	7	8	Tail	
2010/11	13	77	155	104	59	22	16	6	14	466
2011/12	14	92	128	100	53	27	7	6	13	440
2012/13	9	110	142	82	66	24	11	7	14	464
2013/14	11	95	122	107	50	23	10	6	13	437
2014/15	9	90	138	92	56	23	10	6	13	437
2015/16	11	111	121	97	58	24	11	6	13	452
2016/17	10	95	137	101	60	25	11	7	14	460
2017/18	10	104	135	100	59	24	11	7	14	463

## **F Claim Size Analysis**

## ACT Workers' Compensation Scheme Review

Weekly Benefits  
PPCI Model

### F1.1 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Payment)								Acc Yr Total	Pay Yr Total
	1	2	3	4	5	6	7	8		
2010/11	10,584	10,848	4,734	2,549	972	351	90	10	30,138	10,584
2011/12	9,938	10,427	4,359	2,016	518	137	29		27,424	20,786
2012/13	9,587	11,118	4,126	1,369	636	233			27,069	24,749
2013/14	8,654	9,120	3,117	1,527	417				22,836	26,777
2014/15	8,751	10,098	3,589	1,346					23,784	25,963
2015/16	10,223	10,359	3,570						24,152	26,148
2016/17	9,692	11,451							21,143	25,849
2017/18	11,424								11,424	28,062

### F1.2 Inflated Payment Per Claim Incurred

Accident Year	Development Year (of Payment)							
	1	2	3	4	5	6	7	8
2010/11	4,813	4,933	2,153	1,159	442	160	41	5
2011/12	4,451	4,670	1,952	903	232	61	13	
2012/13	4,432	5,139	1,907	633	294	108		
2013/14	4,384	4,620	1,579	774	211			
2014/15	4,390	5,066	1,801	675				
2015/16	4,928	4,993	1,721					
2016/17	4,644	5,486						
2017/18	5,506							

### F1.3 Selected Payments per Claim Incurred

	Development Year (of Payment)								Tail
	1	2	3	4	5	6	7	8	
Jun-18 Selected	5,000	5,200	1,760	725	300	90	40	30	42

### F1.4 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)								Ultimate	
	1	2	3	4	5	6	7	8	Tail	Costs Outstanding
2010/11	9,037	9,617	4,528	2,331	893	324	82	10	97	26,920 97
2011/12	8,989	9,949	3,979	1,850	478	126	28	68	103	25,571 171
2012/13	9,220	10,176	3,786	1,266	587	227	88	69	103	25,522 260
2013/14	7,848	8,367	2,882	1,409	401	181	84	65	98	21,336 428
2014/15	8,039	9,338	3,314	1,302	610	190	88	69	103	23,053 1,060
2015/16	9,409	9,557	3,451	1,534	660	206	95	74	112	25,098 2,681
2016/17	9,028	11,055	3,746	1,605	691	215	100	78	117	26,635 6,551
2017/18	11,185	11,003	3,873	1,659	714	223	103	80	121	28,962 17,776

## ACT Workers' Compensation Scheme Review

Medical & Related Costs (excl. rehab)

PPCI Model

### F2.1 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Payment)								Acc Yr Total	Pay Yr Total
	1	2	3	4	5	6	7	8		
2010/11	8,105	6,861	1,997	733	348	83	16	2	18,144	8,105
2011/12	7,649	5,952	1,877	631	267	41	11		16,427	14,510
2012/13	7,759	7,832	1,929	602	404	163			18,689	15,707
2013/14	6,963	6,336	1,339	504	290				15,433	18,728
2014/15	8,285	7,008	1,809	601					17,704	18,202
2015/16	8,411	8,376	3,168						19,955	18,180
2016/17	8,956	7,766							16,722	20,203
2017/18	9,429								9,429	21,140

### F2.2 Inflated Payment Per Claim Incurred

Accident Year	Development Year (of Payment)							
	1	2	3	4	5	6	7	8
2010/11	2,235	1,892	551	202	96	23	4	0
2011/12	2,123	1,652	521	175	74	11	3	
2012/13	2,285	2,306	568	177	119	48		
2013/14	2,202	2,003	423	159	92			
2014/15	2,554	2,161	558	185				
2015/16	2,556	2,545	963					
2016/17	2,675	2,319						
2017/18	2,804							

### F2.3 Selected Payments per Claim Incurred

	Development Year (of Payment)								
	1	2	3	4	5	6	7	8	Tail
Jun-18 Selected	2,800	2,425	750	175	104	31	10	7	7

### F2.4 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)									Ultimate	
	1	2	3	4	5	6	7	8	Tail	Costs	Outstanding
2010/11	6,911	6,075	1,906	671	319	77	15	2	28	16,003	28
2011/12	6,887	5,671	1,719	579	247	38	11	27	29	15,208	56
2012/13	7,454	7,180	1,769	557	374	157	36	26	28	17,582	91
2013/14	6,319	5,811	1,240	466	280	101	35	25	27	14,304	188
2014/15	7,611	6,484	1,669	581	344	107	37	27	29	16,890	545
2015/16	7,745	7,725	3,052	587	363	113	39	29	31	19,684	1,163
2016/17	8,332	7,478	2,561	621	384	120	42	30	33	19,601	3,791
2017/18	9,218	8,315	2,675	649	401	125	43	32	34	21,493	12,275

## ACT Workers' Compensation Scheme Review

Rehabilitation  
PPCI Model

### F3.1 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Payment)								Acc Yr	Pay Yr
	1	2	3	4	5	6	7	8	Total	Total
2010/11	3,281	3,670	1,010	436	123	39	15	1	8,574	3,281
2011/12	3,148	3,399	950	319	63	28	10		7,917	6,818
2012/13	3,033	3,455	890	211	81	28			7,698	7,442
2013/14	3,387	3,142	648	233	70				7,480	7,975
2014/15	3,134	2,759	704	183					6,780	7,226
2015/16	2,674	3,210	725						6,609	6,449
2016/17	3,030	3,586							6,616	7,250
2017/18	3,399								3,399	7,932

### F3.2 Inflated Payment Per Claim Incurred

Accident Year	Development Year (of Payment)							
	1	2	3	4	5	6	7	8
2010/11	905	1,012	278	120	34	11	4	0
2011/12	874	943	264	88	18	8	3	
2012/13	893	1,017	262	62	24	8		
2013/14	1,071	994	205	74	22			
2014/15	966	851	217	56				
2015/16	812	975	220					
2016/17	905	1,071						
2017/18	1,011							

### F3.3 Selected Payments per Claim Incurred

	Development Year (of Payment)								
	1	2	3	4	5	6	7	8	Tail
Jun-18 Selected	925	970	229	70	25	9	5	3	3

### F3.4 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)								Tail	Ultimate	
	1	2	3	4	5	6	7	8		Costs	Outstanding
2010/11	2,802	3,250	964	399	113	36	14	0	13	7,589	13
2011/12	2,847	3,240	869	292	59	26	10	13	13	7,369	26
2012/13	2,916	3,167	817	195	75	27	16	12	13	7,238	41
2013/14	3,071	2,882	599	215	67	29	15	12	13	6,903	69
2014/15	2,880	2,553	649	176	83	31	16	13	13	6,414	156
2015/16	2,461	2,957	698	235	87	33	17	13	14	6,516	400
2016/17	2,821	3,453	781	249	92	35	18	14	15	7,479	1,204
2017/18	3,328	3,326	816	260	96	37	19	15	16	7,913	4,584

## ACT Workers' Compensation Scheme Review

Legal & Investigation Costs  
PPCI Model

### F4.1 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Payment)								Acc Yr Total	Pay Yr Total
	1	2	3	4	5	6	7	8		
2010/11	1,566	3,913	5,265	4,096	2,804	1,455	615	245	19,959	1,566
2011/12	1,367	3,166	4,734	3,975	3,071	1,911	425		18,647	5,280
2012/13	1,272	4,153	4,934	4,131	4,010	2,148			20,648	9,702
2013/14	1,475	4,012	4,853	5,779	3,297				19,416	14,494
2014/15	1,512	4,072	5,802	4,528					15,913	17,297
2015/16	1,617	5,103	5,444						12,164	20,146
2016/17	1,214	4,146							5,361	23,184
2017/18	1,246								1,246	18,183

### F4.2 Inflated Payment Per Claim Incurred

Accident Year	Development Year (of Payment)							
	1	2	3	4	5	6	7	8
2010/11	432	1,079	1,452	1,129	773	401	170	68
2011/12	379	879	1,314	1,103	852	530	118	
2012/13	374	1,223	1,453	1,216	1,181	633		
2013/14	466	1,269	1,534	1,827	1,043			
2014/15	466	1,255	1,789	1,396				
2015/16	491	1,551	1,654					
2016/17	363	1,238						
2017/18	371							

### F4.3 Selected Payments per Claim Incurred

	Development Year (of Payment)								
	1	2	3	4	5	6	7	8	Tail
Jun-18 Selected	420	1,375	1,720	1,375	1,000	500	160	70	148

### F4.4 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)								Tail	Ultimate	
	1	2	3	4	5	6	7	8		Costs	Outstanding
2010/11	1,338	3,495	5,043	3,741	2,574	1,343	567	238	602	18,940	602
2011/12	1,237	3,031	4,316	3,648	2,841	1,766	410	257	622	18,128	879
2012/13	1,224	3,786	4,530	3,812	3,704	2,065	554	252	610	20,536	1,416
2013/14	1,338	3,683	4,479	5,354	3,185	1,613	537	244	590	21,022	2,984
2014/15	1,389	3,758	5,366	4,384	3,308	1,720	572	260	630	21,387	6,491
2015/16	1,486	4,730	5,287	4,615	3,490	1,815	604	275	665	22,967	11,464
2016/17	1,132	4,025	5,873	4,882	3,693	1,920	639	291	703	23,158	18,001
2017/18	1,225	4,716	6,134	5,100	3,857	2,006	668	304	734	24,743	23,518



## ACT Workers' Compensation Scheme Review

Recoveries  
PPCI Model

### F5.1 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Payment)								Acc Yr Total	Pay Yr Total
	1	2	3	4	5	6	7	8		
2010/11	-201	-546	-792	-1,319	-847	-709	-760	-40	-5,214	-201
2011/12	-139	-721	-1,001	-1,513	-1,155	-825	-45		-5,399	-685
2012/13	-207	-846	-1,154	-1,401	-977	-589			-5,173	-1,720
2013/14	-128	-750	-724	-1,043	-435				-3,081	-3,237
2014/15	-71	-628	-1,140	-933					-2,772	-4,213
2015/16	-41	-398	-935						-1,374	-5,075
2016/17	-38	-384							-423	-5,072
2017/18	-59								-59	-2,985

### F5.2 Inflated Payment Per Claim Incurred

Accident Year	Development Year (of Payment)							
	1	2	3	4	5	6	7	8
2010/11	-55	-151	-218	-364	-234	-196	-210	-11
2011/12	-39	-200	-278	-420	-321	-229	-13	
2012/13	-61	-249	-340	-412	-288	-173		
2013/14	-41	-237	-229	-330	-138			
2014/15	-22	-194	-351	-288				
2015/16	-13	-121	-284					
2016/17	-11	-115						
2017/18	-18							

### F5.3 Selected Payments per Claim Incurred

	Development Year (of Payment)								
	1	2	3	4	5	6	7	8	Tail
Jun-18 Selected	-21	-166	-300	-330	-250	-175	-100	-60	-87

### F5.4 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)								Tail	Ultimate	
	1	2	3	4	5	6	7	8		Costs	Outstanding
2010/11	-172	-486	-758	-1,200	-779	-660	-697	-38	-338	-5,127	-338
2011/12	-127	-692	-910	-1,386	-1,068	-767	-43	-220	-349	-5,562	-570
2012/13	-200	-768	-1,060	-1,286	-905	-577	-346	-216	-342	-5,701	-905
2013/14	-116	-688	-670	-964	-416	-564	-335	-209	-331	-4,294	-1,441
2014/15	-65	-579	-1,053	-903	-873	-602	-358	-223	-354	-5,009	-2,409
2015/16	-38	-369	-899	-1,108	-873	-635	-378	-236	-373	-4,908	-3,602
2016/17	-36	-375	-1,024	-1,172	-923	-672	-399	-249	-395	-5,246	-4,835
2017/18	-58	-571	-1,070	-1,224	-964	-702	-417	-260	-412	-5,679	-5,621

## ACT Workers' Compensation Scheme Review

Common Law & Lump Sum

Excludes Nil Claims

PPCS Model

### F6.1 Incremental Number of Claims Settled as Lump Sum or Common Law

Accident Year	Development Year (of Last LS_CL Payment)								Settled to date
	1	2	3	4	5	6	7	8	
2010/11	9	53	144	109	72	35	23	7	452
2011/12	10	75	121	106	67	30	10		419
2012/13	4	85	134	104	78	25			430
2013/14	7	77	134	112	51				381
2014/15	8	79	134	103					324
2015/16	9	102	123						234
2016/17	7	88							95
2017/18	7								7

### F6.2 Lump Sum/Common Law Proportion Settled (% of Ultimate Lump Sums/Common Law)

Accident Year	Development Year (of Last LS_CL Payment)							
	1	2	3	4	5	6	7	8
2010/11	1.9%	11.4%	30.9%	23.4%	15.5%	7.5%	4.9%	1.5%
2011/12	2.3%	17.0%	27.5%	24.1%	15.2%	6.8%	2.3%	
2012/13	0.9%	18.3%	28.9%	22.4%	16.8%	5.4%		
2013/14	1.6%	17.6%	30.6%	25.6%	11.7%			
2014/15	1.8%	18.1%	30.6%	23.5%				
2015/16	2.0%	22.6%	27.2%					
2016/17	1.5%	19.1%						
2017/18	1.5%							

### F6.3 Selected Proportion Settled

	Development Year (of Last LS_CL Payment)								Tail
	1	2	3	4	5	6	7	8	
Jun-18 Selected	1.45%	19.22%	27.87%	23.06%	14.06%	6.53%	3.63%	1.09%	3.09%

### F6.4 Incremental Projected Number of Claims Settled as Lump Sum or Common Law

Accident Year	Development Year (of Last LS_CL Payment)								Ultimate Tail	Finalised
	1	2	3	4	5	6	7	8		
2010/11	9	53	144	109	72	35	23	7	14	466
2011/12	10	75	121	106	67	30	10	6	16	440
2012/13	4	85	134	104	78	25	16	5	14	464
2013/14	7	77	134	112	51	26	14	4	12	437
2014/15	8	79	134	103	56	26	14	4	12	437
2015/16	9	102	123	98	60	28	15	5	13	452
2016/17	7	88	128	106	65	30	17	5	14	460
2017/18	7	89	129	107	65	30	17	5	14	463

## ACT Workers' Compensation Scheme Review

Common Law & Lump Sum

Excludes Nil Claims

PPCS Model

### F6.5 Incremental Inflated Payments (\$000 Jun-18)

Accident Year	Development Year (of Last LS_CL Payment)								Acc Yr Total	Pay Yr Total
	1	2	3	4	5	6	7	8		
2010/11	272	3,271	17,122	19,575	12,327	7,989	4,098	618	65,272	272
2011/12	356	5,333	15,184	16,743	15,050	4,183	797		57,647	3,628
2012/13	193	6,558	16,537	18,149	13,541	8,554			63,533	22,648
2014/15	282	5,992	16,019	15,170	9,146				46,609	41,600
2014/15	426	6,677	15,825	15,221					38,149	52,025
2015/16	382	9,109	16,077						25,568	64,267
2016/17	451	7,143							7,594	62,377
2017/18	250								250	57,806

### F6.6 Inflated Payments per Claim Settled in \$Jun-18 (\$000)

Accident Year	Development Year (of Last LS_CL Payment)							
	1	2	3	4	5	6	7	8
2010/11	30	62	119	180	171	228	178	88
2011/12	36	71	125	158	225	139	80	
2012/13	48	77	123	175	174	342		
2013/14	40	78	120	135	179			
2014/15	53	85	118	148				
2015/16	42	89	131					
2016/17	64	81						
2017/18	36							

### F6.7 Selected Payments per Claim Settled in \$Jun-18 (\$000)

	Development Year (of Last LS_CL Payment)								Tail
	1	2	3	4	5	6	7	8	
Jun-18 Selected	50.8	84.7	121.8	155.0	185.0	220.0	220.0	220.0	220.0

### F6.8 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)									Ultimate	
	1	2	3	4	5	6	7	8	Tail	Costs	Outstanding
2010/11	277	4,068	17,379	17,387	11,602	5,772	3,492	593	3,419	63,989	3,419
2011/12	546	5,468	14,611	16,309	11,957	4,033	293	1,930	3,182	58,330	5,112
2012/13	213	6,777	16,405	15,803	11,498	8,170	2,798	2,037	3,359	67,061	8,195
2013/14	294	6,369	14,143	14,059	9,112	5,718	2,478	1,804	2,974	56,950	12,974
2014/15	411	6,384	16,102	13,445	8,507	7,078	3,067	2,233	3,681	60,908	24,566
2015/16	512	9,037	14,955	14,966	9,728	8,093	3,507	2,553	4,210	67,561	43,057
2016/17	537	7,038	16,126	16,771	10,901	9,070	3,930	2,861	4,718	71,950	64,376
2017/18	303	7,476	16,964	17,643	11,468	9,541	4,135	3,010	4,963	75,503	75,200

ACT Workers' Compensation Scheme Review

All Payments

F7.1 Actual & Projected Payments Inflated to Payment Date (\$000)

Accident Year	Development Year (of Payment)																													Acc Yr Ultimate	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Tail	
2010/11	20,193	26,020	29,062	23,328	14,722	6,892	3,473	805	1,283	401	398	385	395	195	203	187	97	89	92	95	0	0	0	0	0	0	0	0	0	0	128,315
2011/12	20,381	26,668	24,584	21,292	14,514	5,222	708	2,074	1,201	382	378	362	371	187	194	176	92	83	86	89	0	0	0	0	0	0	0	0	0	0	119,043
2012/13	20,826	30,317	26,247	20,347	15,333	10,069	3,146	2,181	1,264	398	394	380	390	193	201	184	96	87	90	94	0	0	0	0	0	0	0	0	0	0	132,237
2013/14	18,754	26,424	22,672	20,539	12,629	7,078	2,813	1,941	1,123	359	354	339	348	175	182	165	86	77	80	83	0	0	0	0	0	0	0	0	0	0	116,221
2014/15	20,264	27,937	26,047	18,986	11,979	8,525	3,423	2,378	1,381	430	427	413	425	209	217	200	104	96	99	102	0	0	0	0	0	0	0	0	0	0	123,643
2015/16	21,575	33,638	26,543	20,829	13,456	9,626	3,885	2,709	1,575	485	483	469	482	235	244	227	118	109	113	117	0	0	0	0	0	0	0	0	0	0	136,918
2016/17	21,814	32,674	28,062	22,956	14,838	10,688	4,329	3,025	1,761	537	536	523	538	260	270	252	131	122	127	131	0	0	0	0	0	0	0	0	0	0	143,577
2017/18	25,201	34,266	29,392	24,087	15,573	11,230	4,550	3,180	1,852	564	563	550	566	273	284	265	138	129	133	138	0	0	0	0	0	0	0	0	0	0	152,935

F7.2 Actual & Projected Payments Inflated to Payment Date & Discounted to Middle of Accident Year (\$000)

Accident Year	Development Year (of Payment)																													Acc Yr Ultimate	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16	16	17	18	19	20	21	22	23	24	25	26	27	28	29	Tail	
2010/11	20,193	24,898	26,807	20,926	12,891	5,907	2,926	668	1,045	320	310	293	294	142	145	130	66	59	60	61	0	0	0	0	0	0	0	0	0	0	118,143
2011/12	20,381	25,707	23,046	19,484	13,001	4,598	614	1,766	1,000	311	301	282	283	139	141	126	64	56	57	58	0	0	0	0	0	0	0	0	0	0	111,414
2012/13	20,826	29,483	24,916	18,907	14,004	9,059	2,779	1,884	1,068	329	318	300	301	146	148	133	68	60	61	62	0	0	0	0	0	0	0	0	0	0	124,851
2013/14	18,754	25,793	21,663	19,290	11,684	6,428	2,498	1,686	954	298	288	270	270	133	135	120	61	54	54	55	0	0	0	0	0	0	0	0	0	0	110,489
2014/15	20,264	27,346	25,060	17,994	11,144	7,757	3,046	2,070	1,175	358	348	329	331	159	162	146	74	67	67	68	0	0	0	0	0	0	0	0	0	0	117,965
2015/16	21,575	33,062	25,700	19,797	12,508	8,750	3,454	2,355	1,340	403	393	373	375	179	182	165	84	76	77	78	0	0	0	0	0	0	0	0	0	0	130,926
2016/17	21,814	32,188	27,136	21,710	13,724	9,668	3,830	2,617	1,490	445	434	414	417	197	200	183	93	85	86	87	0	0	0	0	0	0	0	0	0	0	136,816
2017/18	25,201	33,636	28,217	22,614	14,299	10,084	3,996	2,731	1,556	463	453	432	435	205	209	191	97	89	90	91	0	0	0	0	0	0	0	0	0	0	145,089

## G Workforce, Wages and Premiums

### G.1 Workforce

We have compiled workforce figures from information available from the Australian Bureau of Statistics (ABS) and the Australian Public Service Employment Database (APSED), plus information on the number of ACT public sector employees supplied by CMTEDD.

We have calculated an approximate private sector workforce as:

- Total full time workforce in the ACT
- Less full time Commonwealth public sector employees
- Less full time ACT public sector employees.

This is shown in Table G.1 below.

**Table G.1 – Calculation of ACT Private Sector Workforce (Full Time Employees)**

Accident Year	ABS	C'wealth Government Public Servants	ACT Government Public Servants	ACT Private Sector Workforce
2008/09	147,755	50,739	13,646	83,370
2009/10	150,447	51,958	13,869	84,620
2010/11	154,018	53,594	14,317	86,107
2011/12	156,509	56,313	14,897	85,299
2012/13	154,597	54,612	15,424	84,561
2013/14	155,117	49,887	16,088	89,141
2014/15	156,935	45,490	16,359	95,085
2015/16	158,748	45,309	16,458	96,981
2016/17	160,538	45,459	16,655	98,424
2017/18	162,423	45,431	17,139	99,853

### G.2 Earned Wages

Recorded wages can change over time as employers update their initial estimate over the course of the policy period. In order to arrive at an estimate of the ultimate earned wages we examined the development of reported wages for older policy years and as a result selected a multiplier to gross up the reported wages for the more recent policy years to ultimate. This is shown in Table G.2 below.

**Table G.2 – Earned Wages Data**

Accident Year	Reported	Gross-up Factor	Estimated Ultimate	Inflated Ultimate <sup>1</sup>
	\$m		\$m	\$m
2008/09	5,693.1	1.000	5,693.1	7,721.7
2009/10	5,752.3	1.000	5,752.3	7,619.8
2010/11	6,215.0	1.000	6,215.0	7,491.3
2011/12	6,715.3	1.000	6,715.3	7,757.9
2012/13	6,865.3	1.000	6,865.3	7,321.8
2013/14	6,987.9	1.000	6,987.9	7,354.6
2014/15	7,355.9	1.000	7,355.9	8,080.6
2015/16	8,025.1	1.000	8,026.0	8,710.2
2016/17	8,466.5	1.000	8,469.2	9,269.5
2017/18	9,224.0	1.001	9,236.6	9,771.2

<sup>1</sup> In 30 June 2018 values

### G.3 Earned Premium

Table G.3 shows the reported earned premium amounts by calendar year. As for wages, they have been inflated and grossed-up to ultimate estimates by analysing the development of reported premiums for older policy years.

**Table G.3 – Earned Premium Data**

Accident Year	Reported	Gross-up Factor	Estimated Ultimate	Inflated Ultimate <sup>1</sup>
	\$m		\$m	\$m
2008/09	141.5	1.000	141.5	191.9
2009/10	145.1	1.000	145.1	192.3
2010/11	150.4	1.000	150.4	181.2
2011/12	158.9	1.000	158.9	183.6
2012/13	166.1	1.000	166.1	177.2
2013/14	165.7	1.000	165.7	174.4
2014/15	162.3	1.000	162.3	178.3
2015/16	161.8	1.004	162.4	176.3
2016/17	169.5	1.004	170.2	186.2
2017/18	182.0	1.007	183.3	193.9

<sup>1</sup> In 30 June 2018 values

### G.4 Historical Premium Rates

Table G.4 shows the calculation of the historical premium rate. The earned premiums and wages have both been grossed up to ultimate as discussed above, and are expressed in June 2018 values.

**Table G.4 – Calculation of Premium Rate**

Accident Year	Gross Earned Premium	Gross Earned Wages	Premium to Wages
	\$m	\$m	
2007/08	148.6	5,426.0	2.74%
2008/09	141.5	5,693.1	2.49%
2009/10	145.1	5,752.3	2.52%
2010/11	150.4	6,215.0	2.42%
2011/12	158.9	6,715.3	2.37%
2012/13	166.1	6,865.3	2.42%
2013/14	165.7	6,987.9	2.37%
2014/15	162.3	7,355.9	2.21%
2015/16	162.4	8,026.0	2.02%
2016/17	170.2	8,469.2	2.01%
2017/18	183.3	9,236.6	1.98%

## **H Recommended Rates by ANZSIC Division**



## ACT Workers' Compensation Scheme Review

### H.1 Premium Rates by ANZSIC Class

ANZSIC	Description	Estimated Wages for 2019/20 (\$m)	Claim Freq Rel - last 3 years	Capped Claim Cost Rel - last 5 years	2019/20 Selected Relativity	2019/20 Suggested Premium Rate
0112	Nursery Production (Outdoors)	1.1	189	616	230	5.98%
0142	Beef Cattle Farming (Specialised)	0.1	0	0	255	6.62%
0144	Sheep-Beef Cattle Farming	0.5	384	264	255	6.62%
0159	Other Crop Growing n.e.c.	0.1	661	30	174	4.52%
0172	Poultry Farming (Eggs)	4.2	0	43	213	5.52%
0191	Horse Farming	0.3	346	72	255	6.62%
0301	Forestry	0.4	0	0	553	14.35%
0302	Logging	0.9	1,174	1,854	610	15.84%
0522	Shearing Services	0.2	0	0	383	9.94%
0529	Other Agriculture and Fishing Support Services	0.5	182	298	232	6.02%
0911	Gravel and Sand Quarrying	1.2	0	4	340	8.83%
0919	Other Construction Material Mining	9.1	333	545	366	9.50%
1090	Other Mining Support Services	1.2	0	0	196	5.08%
1133	Cheese and Other Dairy Product Manufacturing	6.1	33	139	213	5.52%
1140	Fruit and Vegetable Processing	0.1	0	0	213	5.52%
1171	Bread Manufacturing (Factory based)	4.2	410	406	288	7.47%
1174	Bakery Product Manufacturing (Non-factory based)	17.3	66	71	101	2.62%
1199	Other Food Product Manufacturing n.e.c.	2.0	164	321	274	7.12%
1211	Soft Drink, Cordial and Syrup Manufacturing	1.3	135	296	260	6.76%
1212	Beer Manufacturing	0.4	347	2,067	233	6.07%
1213	Spirit Manufacturing	0.1	0	0	213	5.52%
1214	Wine and Other Alcoholic Beverage Manufacturing	1.2	0	0	213	5.52%
1331	Textile Floor Covering Manufacturing	0.1	0	0	204	5.30%
1333	Cut and Sewn Textile Product Manufacturing	0.8	0	915	184	4.78%
1334	Textile Finishing and Other Textile Product Manufacturing	0.2	313	67	207	5.38%
1351	Clothing Manufacturing	0.1	0	0	153	3.97%
1491	Prefabricated Wooden Building Manufacturing	0.6	352	122	383	9.94%
1492	Wooden Structural Fitting and Component Manufacturing	25.0	245	306	276	7.17%
1499	Other Wood Product Manufacturing n.e.c.	0.6	0	61	205	5.34%
1510	Pulp, Paper and Paperboard Manufacturing	0.3	0	0	104	2.69%
1523	Paper Stationery Manufacturing	0.4	0	0	104	2.69%
1611	Printing	16.1	82	122	104	2.69%
1612	Printing Support Services	0.1	0	0	104	2.69%
1709	Other Petroleum and Coal Product Manufacturing	0.9	0	0	230	5.96%
1811	Industrial Gas Manufacturing	0.2	0	0	204	5.30%
1831	Fertiliser Manufacturing	0.3	0	0	230	5.96%
1841	Human Pharmaceutical and Medicinal Product Manufacturing	2.1	55	50	69	1.79%
1912	Rigid and Semi-Rigid Polymer Product Manufacturing	0.7	0	0	204	5.30%
1915	Adhesive Manufacturing	0.2	0	0	204	5.30%
2010	Glass and Glass Product Manufacturing	2.3	645	287	425	11.04%
2032	Plaster Product Manufacturing	0.8	288	19	161	4.18%
2033	Ready-Mixed Concrete Manufacturing	0.9	361	58	265	6.87%
2034	Concrete Product Manufacturing	4.3	395	758	265	6.87%
2090	Other Non-Metallic Mineral Product Manufacturing	5.3	104	208	196	5.08%
2142	Aluminium Rolling, Drawing, Extruding	0.2	0	0	161	4.18%
2221	Structural Steel Fabricating	9.4	228	149	298	7.75%
2222	Prefabricated Metal Building Manufacturing	0.3	0	93	383	9.94%
2223	Architectural Aluminium Product Manufacturing	18.4	184	218	230	5.96%
2224	Metal Roof and Guttering Manufacturing (except Aluminium)	0.1	0	7	230	5.98%
2229	Other Structural Metal Product Manufacturing	8.1	551	349	311	8.07%
2239	Other Metal Container Manufacturing	0.1	0	0	230	5.98%
2240	Sheet Metal Product Manufacturing (except Metal Structural and Container Products)	4.0	175	251	230	5.98%
2291	Spring and Wire Product Manufacturing	0.1	661	4,587	311	8.07%
2293	Metal Coating and Finishing	0.5	215	568	311	8.07%
2299	Other Fabricated Metal Product Manufacturing n.e.c.	4.4	621	406	311	8.07%
2311	Motor Vehicle Manufacturing	0.1	0	0	163	4.25%
2312	Motor Vehicle Body and Trailer Manufacturing	0.1	0	0	170	4.42%
2393	Railway Rolling Stock Manufacturing and Repair Services	0.3	0	0	170	4.41%
2394	Aircraft Manufacturing and Repair Services	6.6	196	141	173	4.48%
2411	Photographic, Optical and Ophthalmic Equipment Manufacturing	0.1	0	0	69	1.79%
2412	Medical and Surgical Equipment Manufacturing	1.3	0	0	64	1.66%
2419	Other Professional and Scientific Equipment Manufacturing	3.1	74	7	69	1.79%
2421	Computer and Electronic Office Equipment Manufacturing	1.3	0	1,256	69	1.79%
2422	Communications Equipment Manufacturing	0.7	39	20	69	1.79%
2429	Other Electronic Equipment Manufacturing	1.4	0	0	69	1.79%
2431	Electric Cable and Wire Manufacturing	0.1	0	0	170	4.42%
2432	Electric Lighting Equipment Manufacturing	1.5	87	28	170	4.42%
2439	Other Electrical Equipment Manufacturing	2.5	111	45	170	4.42%
2452	Fixed Space Heating, Cooling and Ventilation Equipment Manufacturing	1.7	181	2	121	3.13%
2462	Mining and Construction Machinery Manufacturing	0.3	0	0	128	3.31%
2469	Other Specialised Machinery and Equipment Manufacturing	0.5	254	20	137	3.56%
2491	Lifting and Material Handling Equipment Manufacturing	14.7	125	228	230	5.98%
2499	Other Machinery and Equipment Manufacturing n.e.c.	0.5	97	319	161	4.18%
2511	Wooden Furniture and Upholstered Seat Manufacturing	12.8	271	278	230	5.98%
2512	Metal Furniture Manufacturing	1.1	0	95	383	9.94%
2513	Mattress Manufacturing	1.1	288	78	161	4.18%
2519	Other Furniture Manufacturing	1.6	323	261	161	4.18%
2591	Jewellery and Silverware Manufacturing	0.7	0	0	69	1.79%

## H.1 Premium Rates by ANZSIC Class

ANZSIC	Description	Estimated Wages for 2019/20 (\$m)	Claim Freq Rel - last 3 years	Capped Claim Cost Rel - last 5 years	2019/20 Selected Relativity	2019/20 Suggested Premium Rate
2592	Toy, Sporting and Recreational Product Manufacturing	0.1	0	0	142	3.70%
2599	Other Manufacturing n.e.c.	1.2	0	0	204	5.30%
2619	Other Electricity Generation	0.1	0	0	150	3.88%
2630	Electricity Distribution	107.7	84	139	147	3.82%
2700	Gas Supply	6.2	169	4	60	1.55%
2811	Water Supply	56.8	81	109	69	1.79%
2812	Sewerage and Drainage Services	6.3	194	138	69	1.79%
2911	Solid Waste Collection Services	10.1	530	832	460	11.95%
2919	Other Waste Collection Services	0.9	183	726	460	11.95%
2921	Waste Treatment and Disposal Services	11.6	367	436	340	8.83%
2922	Waste Remediation and Materials Recovery Services	2.9	890	192	311	8.07%
3011	House Construction	77.1	187	209	196	5.08%
3019	Other Residential Building Construction	45.9	159	188	196	5.08%
3020	Non-Residential Building Construction	110.2	105	155	145	3.77%
3101	Road and Bridge Construction	22.7	472	301	332	8.61%
3109	Other Heavy and Civil Engineering Construction	34.7	365	184	180	4.67%
3211	Land Development and Subdivision	7.1	41	36	46	1.20%
3212	Site Preparation Services	66.3	232	265	311	8.07%
3221	Concreting Services	38.0	129	320	425	11.04%
3222	Bricklaying Services	12.3	276	774	575	14.94%
3223	Roofing Services	13.1	327	582	575	14.94%
3224	Structural Steel Erection Services	22.3	187	558	488	12.69%
3231	Plumbing Services	81.0	178	216	184	4.79%
3232	Electrical Services	161.8	175	90	150	3.88%
3233	Air Conditioning and Heating Services	66.7	205	134	188	4.89%
3234	Fire and Security Alarm Installation Services	54.2	63	51	111	2.87%
3239	Other Building Installation Services	30.0	120	286	119	3.09%
3241	Plastering and Ceiling Services	19.2	221	342	308	8.01%
3242	Carpentry Services	64.1	303	379	334	8.66%
3243	Tiling and Carpeting Services	16.8	190	266	247	6.40%
3244	Painting and Decorating Services	40.0	126	195	247	6.40%
3245	Glazing Services	8.2	207	472	328	8.51%
3291	Landscape Construction Services	56.0	222	212	334	8.66%
3292	Hire of Construction Machinery with Operator	4.4	240	471	311	8.07%
3299	Other Construction Services n.e.c.	37.1	239	445	270	7.03%
3312	Cereal Grain Wholesaling	0.1	0	30	115	2.99%
3319	Other Agricultural Product Wholesaling	0.6	210	456	115	2.99%
3321	Petroleum Product Wholesaling	3.4	104	55	81	2.09%
3322	Metal and Mineral Wholesaling	10.9	254	429	184	4.78%
3323	Industrial and Agricultural Chemical Product Wholesaling	2.2	77	25	81	2.09%
3331	Timber Wholesaling	1.9	358	580	184	4.78%
3332	Plumbing Goods Wholesaling	11.5	245	53	184	4.78%
3339	Other Hardware Goods Wholesaling	22.2	107	249	179	4.64%
3411	Agricultural and Construction Machinery Wholesaling	0.2	346	381	115	2.98%
3419	Other Specialised Industrial Machinery and Equipment Wholesaling	4.6	79	171	138	3.59%
3491	Professional and Scientific Goods Wholesaling	10.5	43	29	59	1.54%
3492	Computer and Computer Peripheral Wholesaling	56.5	21	6	17	0.45%
3493	Telecommunication Goods Wholesaling	4.2	98	173	69	1.79%
3494	Other Electrical and Electronic Good Wholesaling	60.8	49	93	64	1.66%
3499	Other Machinery and Equipment Wholesaling n.e.c.	9.3	72	29	114	2.96%
3501	Car Wholesaling	0.6	182	51	115	2.98%
3504	Motor Vehicle New Parts Wholesaling	3.4	149	6	115	2.98%
3505	Motor Vehicle Dismantling and Used Parts Wholesaling	1.7	0	0	115	2.98%
3601	General Line Grocery Wholesaling	29.1	339	233	288	7.47%
3602	Meat, Poultry and Smallgoods Wholesaling	1.1	135	367	213	5.52%
3604	Fish and Seafood Wholesaling	0.1	0	0	213	5.52%
3605	Fruit and Vegetable Wholesaling	2.7	258	139	213	5.52%
3606	Liquor and Tobacco Product Wholesaling	8.2	82	229	155	4.03%
3609	Other Grocery Wholesaling	9.6	85	116	115	2.98%
3711	Textile Product Wholesaling	0.3	0	0	115	2.98%
3712	Clothing and Footwear Wholesaling	3.4	41	17	115	2.98%
3720	Pharmaceutical and Toilet Goods Wholesaling	12.8	115	154	155	4.03%
3731	Furniture and Floor Covering Wholesaling	5.9	82	8	155	4.03%
3733	Kitchen and Diningware Wholesaling	0.4	496	1,748	155	4.03%
3734	Toy and Sporting Goods Wholesaling	0.2	0	0	155	4.03%
3735	Book and Magazine Wholesaling	0.9	109	89	155	4.03%
3736	Paper Product Wholesaling	2.8	73	406	184	4.78%
3739	Other Goods Wholesaling n.e.c.	1.2	114	202	184	4.78%
3800	Commission-Based Wholesaling	7.7	14	1	56	1.45%
3911	Car Retailing	112.5	113	96	128	3.31%
3912	Motor Cycle Retailing	6.2	97	387	128	3.31%
3913	Trailer and Other Motor Vehicle Retailing	0.7	0	0	128	3.31%
3921	Motor Vehicle Parts Retailing	14.3	148	198	207	5.38%
3922	Tyre Retailing	9.1	278	646	173	4.48%
4000	Fuel Retailing	10.5	36	17	153	3.97%
4110	Supermarket and Grocery Stores	141.9	216	214	226	5.86%
4121	Fresh Meat, Fish and Poultry Retailing	9.5	209	451	173	4.48%
4122	Fruit and Vegetable Retailing	6.8	61	162	115	2.99%
4123	Liquor Retailing	4.1	93	183	115	2.99%
4129	Other Specialised Food Retailing	11.0	137	90	115	2.99%
4211	Furniture Retailing	42.6	354	257	207	5.38%

## H.1 Premium Rates by ANZSIC Class

ANZSIC	Description	Estimated Wages for 2019/20 (\$m)	Claim Freq Rel - last 3 years	Capped Claim Cost Rel - last 5 years	2019/20 Selected Relativity	2019/20 Suggested Premium Rate
4212	Floor Coverings Retailing	6.7	201	193	207	5.38%
4213	Houseware Retailing	39.5	146	181	176	4.58%
4214	Manchester and Other Textile Goods Retailing	6.4	111	38	170	4.42%
4221	Electrical, Electronic and Gas Appliance Retailing	34.1	48	39	55	1.42%
4222	Computer and Computer Peripheral Retailing	2.9	0	0	51	1.32%
4229	Other Electrical and Electronic Goods Retailing	4.1	163	199	69	1.79%
4231	Hardware and Building Supplies Retailing	19.9	208	347	230	5.98%
4232	Garden Supplies Retailing	7.5	115	92	197	5.11%
4241	Sport and Camping Equipment Retailing	25.5	95	82	69	1.79%
4242	Entertainment Media Retailing	2.1	0	52	69	1.79%
4243	Toy and Game Retailing	6.2	77	127	69	1.79%
4244	Newspaper and Book Retailing	14.4	71	75	69	1.79%
4251	Clothing Retailing	57.6	103	119	127	3.30%
4252	Footwear Retailing	12.0	124	85	111	2.87%
4253	Watch and Jewellery Retailing	12.5	54	88	69	1.79%
4259	Other Personal Accessory Retailing	5.3	546	165	230	5.98%
4260	Department Stores	20.6	236	120	150	3.88%
4271	Pharmaceutical, Cosmetic and Toiletry Goods Retailing	58.4	102	69	69	1.79%
4272	Stationery Goods Retailing	0.7	109	9	69	1.79%
4273	Antique and Used Goods Retailing	5.9	86	33	69	1.79%
4274	Flower Retailing	2.4	157	361	181	4.71%
4279	Other Store-Based Retailing n.e.c.	33.5	165	205	170	4.42%
4310	Non-Store Retailing	16.5	88	122	69	1.79%
4320	Retail Commission-Based Buying and/or Selling	1.6	148	296	69	1.79%
4400	Accommodation	128.5	192	111	128	3.31%
4511	Cafes and Restaurants	255.6	133	111	116	3.01%
4512	Takeaway Food Services	90.7	150	115	132	3.43%
4513	Catering Services	13.3	169	187	133	3.45%
4520	Pubs, Taverns and Bars	29.1	94	124	111	2.87%
4530	Clubs (Hospitality)	86.1	208	156	170	4.41%
4610	Road Freight Transport	35.4	336	558	529	13.74%
4621	Interurban and Rural Bus Transport	7.6	332	644	512	13.30%
4623	Taxi and Other Road Transport	2.0	265	499	264	6.85%
4720	Rail Passenger Transport	0.5	0	0	168	4.38%
4900	Air and Space Transport	22.5	117	157	149	3.88%
5010	Scenic and Sightseeing Transport	1.8	101	323	170	4.42%
5021	Pipeline Transport	4.3	0	0	179	4.64%
5029	Other Transport n.e.c.	5.3	203	495	173	4.48%
5101	Postal Services	14.5	35	75	69	1.79%
5102	Courier Pick-up and Delivery Services	11.7	187	404	357	9.26%
5219	Other Water Transport Support Services	2.1	54	1	111	2.87%
5220	Airport Operations and Other Air Transport Support Services	11.8	137	179	172	4.46%
5292	Freight Forwarding Services	2.6	179	268	188	4.89%
5299	Other Transport Support Services n.e.c.	4.7	311	341	242	6.27%
5309	Other Warehousing and Storage Services	8.2	134	62	153	3.97%
5411	Newspaper Publishing	36.0	45	53	77	1.99%
5412	Magazine and Other Periodical Publishing	2.6	0	0	77	1.99%
5413	Book Publishing	0.7	0	0	77	1.99%
5419	Other Publishing (except Software, Music and Internet)	1.7	0	0	77	1.99%
5420	Software Publishing	52.4	16	6	13	0.33%
5511	Motion Picture and Video Production	5.2	146	141	58	1.49%
5512	Motion Picture and Video Distribution	0.3	0	0	52	1.36%
5513	Motion Picture Exhibition	10.6	81	20	54	1.39%
5514	Post-production Services and Other Motion Picture and Video Activities	0.4	0	0	53	1.37%
5521	Music Publishing	1.0	0	0	77	1.99%
5522	Music and Other Sound Recording Activities	1.5	0	0	52	1.35%
5610	Radio Broadcasting	18.9	44	53	43	1.10%
5621	Free-to-Air Television Broadcasting	15.2	24	87	58	1.49%
5622	Cable and Other Subscription Broadcasting	0.2	0	0	48	1.25%
5700	Internet Publishing and Broadcasting	1.7	87	3	46	1.20%
5801	Wired Telecommunications Network Operation	1.3	74	128	46	1.20%
5802	Other Telecommunications Network Operation	4.7	0	0	34	0.88%
5809	Other Telecommunications Services	32.5	33	34	46	1.20%
5910	Internet Service Providers and Web Search Portals	0.3	0	0	61	1.59%
5921	Data Processing and Web Hosting Services	5.4	43	7	51	1.32%
5922	Electronic Information Storage Services	20.9	19	9	34	0.88%
6020	Other Information Services	0.3	67	4	45	1.16%
6221	Banking	15.1	57	90	46	1.20%
6222	Building Society Operation	2.1	157	297	46	1.20%
6223	Credit Union Operation	1.4	152	122	115	2.99%
6229	Other Depository Financial Intermediation	0.1	0	0	46	1.20%
6230	Non-Depository Financing	0.1	0	0	46	1.20%
6240	Financial Asset Investing	2.1	0	0	42	1.09%
6310	Life Insurance	1.1	0	0	46	1.20%
6321	Health Insurance	2.5	98	116	46	1.20%
6322	General Insurance	17.2	117	134	115	2.99%
6330	Superannuation Funds	9.3	25	38	38	0.98%
6411	Financial Asset Broking Services	18.8	24	15	17	0.45%
6419	Other Auxiliary Finance and Investment Services	76.2	22	29	17	0.45%
6420	Auxiliary Insurance Services	25.2	19	35	34	0.88%
6611	Passenger Car Rental and Hiring	4.7	115	224	170	4.42%

## H.1 Premium Rates by ANZSIC Class

ANZSIC	Description	Estimated Wages for 2019/20 (\$m)	Claim Freq Rel - last 3 years	Capped Claim Cost Rel - last 5 years	2019/20 Selected Relativity	2019/20 Suggested Premium Rate
6619	Other Motor Vehicle and Transport Equipment Rental and Hiring	2.2	144	7	170	4.42%
6631	Heavy Machinery and Scaffolding Rental and Hiring	9.3	193	124	207	5.37%
6632	Video and Other Electronic Media Rental and Hiring	0.1	0	0	58	1.49%
6639	Other Goods and Equipment Rental and Hiring n.e.c.	6.9	114	264	154	3.99%
6711	Residential Property Operators	20.5	72	60	46	1.20%
6712	Non-Residential Property Operators	63.8	44	40	46	1.20%
6720	Real Estate Services	152.4	26	37	35	0.90%
6910	Scientific Research Services	72.1	50	19	34	0.88%
6921	Architectural Services	54.7	6	19	13	0.33%
6922	Surveying and Mapping Services	17.9	23	57	34	0.88%
6923	Engineering Design and Engineering Consulting Services	278.4	23	29	17	0.45%
6924	Other Specialised Design Services	15.6	53	25	59	1.53%
6925	Scientific Testing and Analysis Services	16.7	15	21	46	1.20%
6931	Legal Services	155.5	39	42	45	1.18%
6932	Accounting Services	323.6	11	12	13	0.33%
6940	Advertising Services	21.1	25	7	26	0.66%
6950	Market Research and Statistical Services	27.0	12	11	26	0.66%
6961	Corporate Head Office Management Services	219.4	37	28	43	1.10%
6962	Management Advice and Related Consulting Services	499.0	21	23	26	0.66%
6970	Veterinary Services	37.3	315	95	85	2.21%
6991	Professional Photographic Services	1.5	0	0	119	3.09%
6999	Other Professional, Scientific and Technical Services n.e.c.	11.0	69	133	69	1.79%
7000	Computer System Design and Related Services	2,095.5	9	11	13	0.33%
7211	Employment Placement and Recruitment Services	147.1	56	35	60	1.55%
7212	Labour Supply Services	13.2	396	256	200	5.21%
7220	Travel Agency and Tour Arrangement Services	24.7	18	24	51	1.32%
7291	Office Administrative Services	58.1	119	100	69	1.79%
7292	Document Preparation Services	4.6	119	240	68	1.76%
7293	Credit Reporting and Debt Collection Services	1.0	0	0	51	1.32%
7294	Call Centre Operation	14.4	19	54	51	1.32%
7299	Other Administrative Services n.e.c.	21.9	30	36	51	1.32%
7311	Building and Other Industrial Cleaning Services	138.9	194	238	208	5.40%
7312	Building Pest Control Services	4.4	382	156	272	7.05%
7313	Gardening Services	20.8	250	203	297	7.72%
7320	Packaging Services	0.2	860	54	281	7.29%
7510	Central Government Administration	0.6	0	0	85	2.21%
7530	Local Government Administration	2.3	89	49	85	2.21%
7552	Foreign Government Representation	43.8	126	112	109	2.83%
7600	Defence	0.5	0	0	112	2.91%
7712	Investigation and Security Services	77.1	106	158	178	4.62%
7714	Correctional and Detention Services	8.7	306	232	276	7.17%
7719	Other Public Order and Safety Services	6.3	105	137	115	2.99%
7720	Regulatory Services	0.2	0	0	115	2.99%
8010	Preschool Education	4.2	244	91	114	2.97%
8021	Primary Education	87.4	78	72	102	2.65%
8022	Secondary Education	117.5	117	91	81	2.09%
8023	Combined Primary and Secondary Education	151.4	134	90	81	2.09%
8101	Technical and Vocational Education and Training	47.0	168	94	81	2.09%
8102	Higher Education	37.0	83	62	44	1.14%
8211	Sports and Physical Recreation Instruction	9.3	112	56	58	1.49%
8212	Arts Education	3.8	204	132	81	2.09%
8219	Adult, Community and Other Education n.e.c.	26.8	73	72	77	1.99%
8220	Educational Support Services	13.6	122	70	35	0.90%
8401	Hospitals (Except Psychiatric Hospitals)	117.8	135	116	115	2.99%
8511	General Practice Medical Services	92.3	36	76	58	1.49%
8512	Specialist Medical Services	88.6	30	42	47	1.21%
8520	Pathology and Diagnostic Imaging Services	35.8	81	57	94	2.43%
8531	Dental Services	38.8	111	62	58	1.49%
8532	Optometry and Optical Dispensing	21.9	24	29	23	0.60%
8533	Physiotherapy Services	33.8	30	29	43	1.10%
8534	Chiropractic and Osteopathic Services	7.5	49	52	43	1.10%
8539	Other Allied Health Services	33.1	208	139	104	2.69%
8591	Ambulance Services	1.3	58	13	85	2.21%
8599	Other Health Care Services n.e.c.	74.3	65	64	80	2.09%
8601	Aged Care Residential Services	137.5	296	231	229	5.95%
8609	Other Residential Care Services	84.2	221	253	204	5.30%
8710	Child Care Services	188.5	354	190	179	4.66%
8790	Other Social Assistance Services	122.6	320	188	187	4.86%
8910	Museum Operation	3.1	0	119	23	0.60%
8921	Zoological and Botanical Gardens Operation	2.9	500	718	230	5.98%
8922	Nature Reserves and Conservation Parks Operation	0.3	0	0	230	5.98%
9001	Performing Arts Operation	3.9	78	20	128	3.31%
9002	Creative Artists, Musicians, Writers and Performers	2.7	115	263	142	3.70%
9003	Performing Arts Venue Operation	7.1	168	187	173	4.48%
9111	Health and Fitness Centres and Gymnasias Operation	30.2	106	110	94	2.43%
9112	Sports and Physical Recreation Clubs and Sports Professionals	20.6	58	46	43	1.10%
9113	Sports and Physical Recreation Venues, Grounds and Facilities Operation	21.4	194	62	124	3.22%
9114	Sports and Physical Recreation Administrative Service	15.4	39	7	43	1.10%
9121	Horse and Dog Racing Administration and Track Operation	0.4	239	183	383	9.94%
9129	Other Horse and Dog Racing Activities	1.7	1,021	1,324	518	13.44%
9131	Amusement Parks and Centres Operation	2.6	193	169	170	4.42%
9139	Amusement and Other Recreational Activities n.e.c.	3.7	122	21	170	4.42%
9201	Casino Operation	17.1	67	149	111	2.87%
9202	Lottery Operation	0.2	0	0	46	1.20%
9209	Other Gambling Activities	4.2	82	38	111	2.87%
9411	Automotive Electrical Services	4.1	51	2	128	3.31%
9412	Automotive Body, Paint and Interior Repair	35.8	164	220	173	4.48%

## H.1 Premium Rates by ANZSIC Class

ANZSIC	Description	Estimated Wages for 2019/20 (\$m)	Claim Freq Rel - last 3 years	Capped Claim Cost Rel - last 5 years	2019/20 Selected Relativity	2019/20 Suggested Premium Rate
9419	Other Automotive Repair and Maintenance	43.5	181	200	173	4.48%
9421	Domestic Appliance Repair and Maintenance	4.5	120	193	133	3.46%
9422	Electronic (except Domestic Appliance) and Precision Equipment Repair and Maintenance	34.4	20	17	34	0.88%
9429	Other Machinery and Equipment Repair and Maintenance	4.8	56	140	144	3.75%
9491	Clothing and Footwear Repair	0.5	156	6	128	3.31%
9499	Other Repair and Maintenance n.e.c.	6.1	117	94	69	1.79%
9511	Hairdressing and Beauty Services	56.2	82	130	104	2.69%
9512	Diet and Weight Reduction Centre Operation	0.5	0	0	128	3.31%
9520	Funeral, Crematorium and Cemetery Services	3.6	252	80	119	3.09%
9531	Laundry and Dry-Cleaning Services	5.6	331	234	265	6.87%
9532	Photographic Film Processing	0.4	0	0	147	3.81%
9533	Parking Services	1.0	69	11	150	3.88%
9534	Brothel Keeping and Prostitution Services	0.9	160	103	173	4.48%
9539	Other Personal Services n.e.c.	5.5	123	86	173	4.48%
9540	Religious Services	80.9	104	98	86	2.24%
9551	Business and Professional Association Services	243.4	36	37	35	0.90%
9552	Labour Association Services	11.6	86	104	35	0.90%
9559	Other Interest Group Services n.e.c.	43.6	86	107	111	2.87%
9601	Private Households Employing Staff	1.3	107	24	134	3.48%

# I Injury Codes Groupings

Table I.1 - Injury

Code	Major Group	Description
101	Intracranial injuries	Brain injury
108	Intracranial injuries	Other intracranial injury, not elsewhere classified
109	Intracranial injuries	Intracranial injury, unspecified
111	Fractures	Fractured skull and facial bones
112	Fractures	Fracture of vertebral column without mention of spinal cord lesion
118	Fractures	Other fractures, not elsewhere classified
119	Fractures	Fractures, unspecified
129	Wounds, lacerations, amputations and internal organ damage	Internal injury of chest, abdomen and pelvis
139	Wounds, lacerations, amputations and internal organ damage	Traumatic amputation
145	Wounds, lacerations, amputations and internal organ damage	Injury to major blood vessel
149	Wounds, lacerations, amputations and internal organ damage	Laceration or open wound not involving traumatic amputation
154	Wounds, lacerations, amputations and internal organ damage	Medical sharp/needle-stick puncture
159	Wounds, lacerations, amputations and internal organ damage	Superficial injury
169	Wounds, lacerations, amputations and internal organ damage	Contusion, bruising and superficial crushing
171	Burn	Electrical burn
172	Burn	Chemical burn
173	Burn	Cold burn
174	Burn	Hot burn
175	Burn	Friction burn
178	Burn	Combination burn or burn not elsewhere classified
179	Burn	Burns, unspecified
181	Injury to nerves and spinal cord	Quadriplegia involving spinal cord injury
182	Injury to nerves and spinal cord	Paraplegia involving spinal cord injury
188	Injury to nerves and spinal cord	Injuries to nerves and spinal cord, not elsewhere classified
189	Injury to nerves and spinal cord	Injuries to nerves and spinal cord, unspecified
201	Trauma to joints and ligaments	Dislocation
218	Trauma to joints and ligaments	Trauma to joints and ligaments, not elsewhere classified
219	Trauma to joints and ligaments	Trauma to joints and ligaments, unspecified
222	Trauma to muscles and tendons	Traumatic tearing away part of the muscle/tendon structure, avulsion
223	Trauma to muscles and tendons	Trauma to muscles
224	Trauma to muscles and tendons	Trauma to tendon
228	Trauma to muscles and tendons	Trauma to muscles and tendons, not elsewhere classified
229	Trauma to muscles and tendons	Trauma to muscles and tendons, unspecified
239	mechanisms	information to code elsewhere
301	Other injuries	reproductive tract
302	Other injuries	Poisoning and toxic effects of substances
311	Other injuries	Electrocution, shock from electric current
312	Other injuries	Traumatic deafness from air pressure or explosion
313	Other injuries	Heat stress/heat stroke
314	Other injuries	Hypothermia and effects of reduced temperature
319	Other injuries	elsewhere classified
329	Other injuries	Multiple injuries
349	Other injuries	Other specified injuries, not elsewhere classified
399	Other injuries	Unspecified injuries

**Table I.2 - Musculoskeletal**

Code	Major Group	Description
401	Musculoskeletal and connective tissue diseases	Osteoarthritis/osteoarthritis
402	Musculoskeletal and connective tissue diseases	Inflammatory arthritis/arthropathies
403	Musculoskeletal and connective tissue diseases	Infectious arthritis/arthropathies
404	Musculoskeletal and connective tissue diseases	Arthropathies, not elsewhere classified
405	Musculoskeletal and connective tissue diseases	Arthropathies, unspecified
406	Musculoskeletal and connective tissue diseases	Meniscus degenerate/detached/retained/chronic tear
407	Musculoskeletal and connective tissue diseases	Acquired musculoskeletal deformities
409	Musculoskeletal and connective tissue diseases	Other chronic joint and ligament diseases
418	Musculoskeletal and connective tissue diseases	Joint and other articular cartilage diseases, not elsewhere classified
419	Musculoskeletal and connective tissue diseases	Joint and other articular cartilage diseases, unspecified
422	Musculoskeletal and connective tissue diseases	Disc displacement, prolapse, degeneration or hernia
423	Musculoskeletal and connective tissue diseases	Infectious diseases involving the spine
459	Musculoskeletal and connective tissue diseases	Back pain, lumbago, and sciatica
479	Musculoskeletal and connective tissue diseases	Neck pain, cervicalgia
488	Musculoskeletal and connective tissue diseases	Spinal vertebrae and intervertebral discs diseases, not elsewhere classified
489	Musculoskeletal and connective tissue diseases	Spinal vertebrae and intervertebral discs diseases, unspecified
501	Musculoskeletal and connective tissue diseases	Synovitis and tenosynovitis
503	Musculoskeletal and connective tissue diseases	Ganglion, trigger finger, Dupuytren's contracture
518	Musculoskeletal and connective tissue diseases	Diseases of synovium and related tissue, not elsewhere classified
519	Musculoskeletal and connective tissue diseases	Diseases of synovium and related tissue, unspecified
526	Musculoskeletal and connective tissue diseases	Tendinitis
527	Musculoskeletal and connective tissue diseases	Epicondylitis
531	Musculoskeletal and connective tissue diseases	Frozen shoulder (adhesive capsulitis)
532	Musculoskeletal and connective tissue diseases	Fasciitis
533	Musculoskeletal and connective tissue diseases	Muscle/tendon strain (non-traumatic)
538	Musculoskeletal and connective tissue diseases	Diseases of muscle, tendon and related tissue, not elsewhere classified
539	Musculoskeletal and connective tissue diseases	Diseases of muscle, tendon and related tissue, unspecified
541	Musculoskeletal and connective tissue diseases	Bursitis
542	Musculoskeletal and connective tissue diseases	Occupational overuse syndrome
548	Musculoskeletal and connective tissue diseases	Fibromyalgia, fibrositis and myalgia
557	Musculoskeletal and connective tissue diseases	Complex regional pain syndrome
568	Musculoskeletal and connective tissue diseases	Other specified soft tissue diseases, not elsewhere classified
571	Musculoskeletal and connective tissue diseases	Osteopathies and chondropathies
579	Musculoskeletal and connective tissue diseases	code in groups H3 to H5
599	Musculoskeletal and connective tissue diseases	Musculoskeletal and connective tissue diseases, unspecified

**Table I.3 - Mental Health**

Code	Major Group	Description
702	Mental diseases	Post-traumatic stress disorder
703	Mental diseases	Anxiety/stress disorder
704	Mental diseases	Depression
705	Mental diseases	Anxiety/depression combined
706	Mental diseases	Short term shock from exposure to disturbing circumstances
707	Mental diseases	Reaction to stressors - other, multiple or not specified
718	Mental diseases	Other mental diseases, not elsewhere classified
719	Mental diseases	Mental diseases unspecified

Table I.4 - Diseases

Code	Major Group	Description
721	Digestive system diseases	Hernias
722	Digestive system diseases	Ulcers and gastritis
738	Digestive system diseases	Diseases of the digestive system, not elsewhere classified.
739	Digestive system diseases	Diseases of the digestive system, unspecified.
741	Skin and subcutaneous tissue diseases	Contact dermatitis
742	Skin and subcutaneous tissue diseases	Other and unspecified dermatitis or eczema
758	Skin and subcutaneous tissue diseases	Other diseases of skin and subcutaneous tissue, not elsewhere classified
759	Skin and subcutaneous tissue diseases	Diseases of skin and subcutaneous tissue, unspecified.
761	Nervous system and sense organ diseases	Diseases of the brain, spinal cord and peripheral nervous system
762	Nervous system and sense organ diseases	Diseases of nerve roots, plexuses and single nerves
763	Nervous system and sense organ diseases	Carpal tunnel syndrome
764	Nervous system and sense organ diseases	Diseases of the conjunctiva and cornea
769	Nervous system and sense organ diseases	Other diseases of the eye
771	Nervous system and sense organ diseases	Deafness
772	Nervous system and sense organ diseases	Audio shock, audio shriek
777	Nervous system and sense organ diseases	Other diseases of the ear and mastoid process
778	Nervous system and sense organ diseases	Diseases of the nervous system and sense organs, not elsewhere classified
779	Nervous system and sense organ diseases	Diseases of the nervous system and sense organs, unspecified
781	Respiratory system diseases	Asthma
782	Respiratory system diseases	Legionnaires' disease
783	Respiratory system diseases	Asbestosis
784	Respiratory system diseases	Silicosis
785	Respiratory system diseases	Pneumoconiosis due to coal dust
786	Respiratory system diseases	Pneumoconiosis excluding asbestosis, silicosis and coal workers' pneumoconiosis
787	Respiratory system diseases	Other respiratory conditions due to substances
788	Respiratory system diseases	Chronic bronchitis, emphysema and allied conditions
798	Respiratory system diseases	Other diseases of the respiratory system, not elsewhere classified
799	Respiratory system diseases	Other diseases of the respiratory system, unspecified
801	Circulatory system diseases	Ischaemic heart disease
802	Circulatory system diseases	Other heart disease excluding ischaemic heart disease
803	Circulatory system diseases	Cerebrovascular disease
804	Circulatory system diseases	Arterial disease
805	Circulatory system diseases	Vibration white finger - secondary Raynaud's Disease
806	Circulatory system diseases	Hypertension
807	Circulatory system diseases	Venous thromboembolism
808	Circulatory system diseases	Venous disease, not elsewhere classified
818	Circulatory system diseases	Other diseases of the circulatory system, not elsewhere classified
819	Circulatory system diseases	Other diseases of the circulatory system, unspecified
821	Infectious and parasitic diseases	Intestinal infectious diseases
822	Infectious and parasitic diseases	Anthrax
823	Infectious and parasitic diseases	Brucellosis
824	Infectious and parasitic diseases	Q-fever
825	Infectious and parasitic diseases	Leptospirosis
826	Infectious and parasitic diseases	Other zoonoses, not elsewhere classified
827	Infectious and parasitic diseases	Protozoal diseases
828	Infectious and parasitic diseases	Specified sexually transmitted diseases excluding HIV/AIDS
831	Infectious and parasitic diseases	Hepatitis A
832	Infectious and parasitic diseases	Hepatitis B
833	Infectious and parasitic diseases	Hepatitis C
834	Infectious and parasitic diseases	Viral hepatitis, not elsewhere classified or unspecified
835	Infectious and parasitic diseases	Human immunodeficiency virus (HIV)/AIDS
837	Infectious and parasitic diseases	Fungal conditions (mycoses)
836	Infectious and parasitic diseases	Viral diseases, not classified elsewhere.
838	Infectious and parasitic diseases	Meningococcal disease
848	Infectious and parasitic diseases	Infectious and parasitic diseases, not elsewhere classified
849	Infectious and parasitic diseases	Infectious and parasitic diseases, unspecified
861	Neoplasms (cancer)	Malignant neoplasm of mesothelium (mesothelioma)
862	Neoplasms (cancer)	Malignant melanoma of skin
863	Neoplasms (cancer)	Other malignant neoplasm of skin
864	Neoplasms (cancer)	Malignant neoplasm of lymphatic and haematopoietic tissue
865	Neoplasms (cancer)	Carcinoma in situ of skin
866	Neoplasms (cancer)	Other malignant neoplasms and carcinomas
867	Neoplasms (cancer)	Benign neoplasm of skin
868	Neoplasms (cancer)	Other benign neoplasms
879	Neoplasms (cancer)	Neoplasm, not specified as benign or malignant
941	Other diseases	Other diseases, not elsewhere classified
949	Other diseases	Unspecified diseases



**Table I.5 - Other**

Code	Major Group	Description
951	Other claims	Exposure to substances without current injury or disease apparent
961	Other claims	Damage to artificial aid(s)
999	Other claims	Not Known