

WorkCover WA

2019/20 recommended
premium rates

April 2019



Mr Greg Joyce
Board Chairperson
WorkCover WA
2 Bedbrook Place
Shenton Park WA 6008

2 April 2019

Dear Greg

Please find enclosed our report on 2019/20 recommended premium rates.

We recommend a 3.7% increase in the average premium rate to 1.645% of wages.

Yours sincerely

A handwritten signature in black ink that reads 'Kathryn Cannon'.

Kathryn Cannon

A handwritten signature in black ink that reads 'Michael Playford'.

Michael Playford

A handwritten signature in black ink that reads 'Andrew Smith'.

Andrew Smith

Fellows of the Institute of Actuaries of Australia

PricewaterhouseCoopers Consulting (Australia) Pty Limited, ABN 20 607 773 295
Brookfield Place, 125 St Georges Terrace, PERTH WA 6000, GPO Box D198, PERTH WA 6840
T: +61 8 9238 3000, www.pwc.com.au

Liability limited by a scheme approved under Professional Standards Legislation.

Key findings

Context of our review

The purpose of this report is to present the recommended premium rates for the Western Australian workers compensation scheme for the 2019/20 financial year. The recommended premium rates are calculated in line with the following objectives:

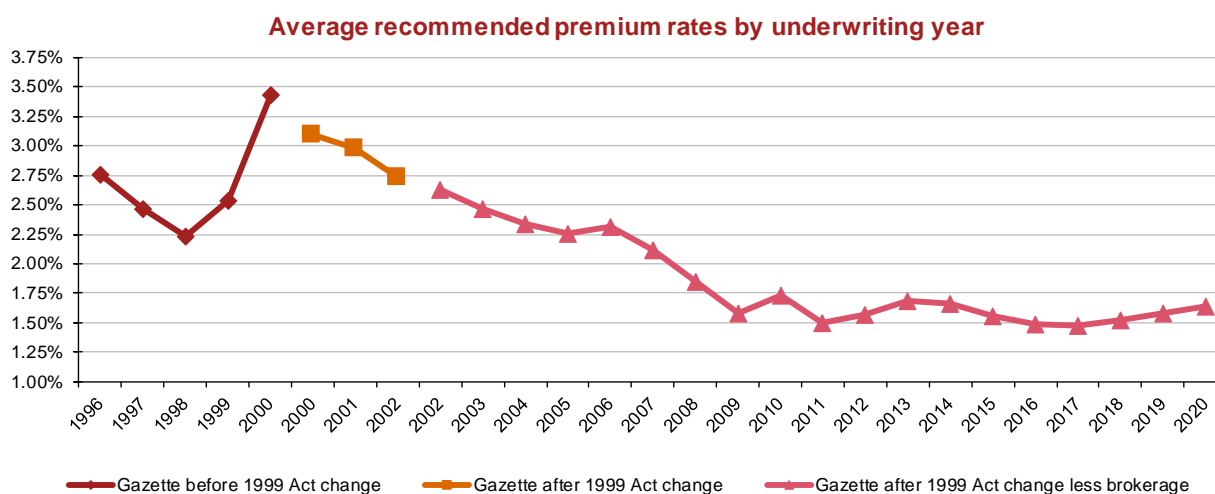
- Calculate the total amount of premium income required to meet the expected cost of claims allowing for expenses, contingency margins and anticipated investment income
- Recommend premium rates that are broadly equitable across different industry classes with no intentional cross subsidy of rates
- Suggest an appropriate overall increase or decrease in relative premium rates
- Use methods, which give relative stability in the rate structure.

A further objective of WorkCover WA is to examine the adequacy of outstanding claims provisions in aggregate.

Our recommendation

We recommend a **3.7% increase in the premium rate for 2019/20 to 1.645% of wages**, excluding allowance for brokerage, from the current rate of 1.585%.

The chart below shows the applicable rates from 1996 onwards:



The average premium rate is based on an unbiased estimate of the future incurred risk cost of claims from our projection model. The average premium rate is unaffected by the change in classification mentioned below.

This is the second year that we have calculated and published the recommended premium rates based on ANZSIC 2006 classifications rather than ANZSIC 1993. The change in classifications does not change the

overall average recommended premium rates, however it does have an effect on the premium rates by class. The recommended premium rates for the 517 premium rating classes based on ANZSIC 2006 classification are detailed in Appendix A. The change in individual class rates is based on the experience for the class, and will differ to the movement in the average premium rate.

Components of average premium rate

The average premium rate is derived by dividing the estimated incurred cost of claims, including expenses but excluding brokerage, by the developed returned earned wages.

The table below shows the key premium rating drivers for the WA scheme for the most recent three premium rating years. These are in appropriate values for that year, i.e. have not been brought into current values.

Key Driver	Premium rating year ending 30 June :				
	2020 (a)	2019 (b)	2018 (c)	% difference (a) / (b) -1 (b) / (c) -1	
Risk cost of claims \$M (d)	915.4	920.6	917.4	-0.6%	0.3%
Expense and margin factor (e)	1.3755	1.3587	1.3423	1.2%	1.2%
Estimated incurred cost of claims \$M (f)	1,268.0	1,259.5	1,231.4	0.7%	2.3%
Earned wages returned \$M (g)	77,097	79,448	80,732	-3.0%	-1.6%
Average premium rate (h)	1.645%	1.585%	1.525%	3.7%	3.9%

Notes :

- (a) from 2.1 of this report
- (b) & (c) from Key Findings of our 20 March 2018 RPR report
- (d) includes allowance for IBNR's and inflated and discounted values
- (e) for grossing up the estimated risk cost of claims for expenses and margins, net of interest credit
- (f) = (d) x (e), for 2019 and 2020 there is an additional 0.7% increase due to the 2018 Amendment Act
- (g) adjusted to include final wage adjustments and employment growth for the half year to 31 December 2018
- (h) = (f) / (g) %

There is a 3.7% increase in the average rate for the premium rating year ending 30 June 2020, driven by:

- **A 0.7% increase in the incurred cost of claims.** The incurred cost increased due to the expenses and margin factor increasing by 1.2% but this was partially offset by the projected risk cost of claims being 0.6% lower than the 2019 premium rating year.

The key drivers of the lower risk cost are:

- Lower incurred claim numbers for 2017/18, although claim numbers are slightly higher in the half year to 31 December 2018

partially offset by:

- Higher average claim size

The higher expenses and margins are driven by an increase in expenses reported by insurers, continuing the trend of increasing expenses since 2012/13.

- **A 3.0% decrease in projected earned returned wages.** This is driven by:
 - A reduction in wages reported and lower development factors than previously

- A smaller increase in the number of employed persons over the six months to 31 December 2018, compared to the increase in the six months to 31 December 2017.

Based on the experience discussed in the report we have made the following assumptions in deriving the recommended premium rates:

Target loss ratio

We have adopted a target loss ratio of 72.7% to calculate the premium rates gross of expenses and margins, including interest credit but excluding brokerage. This is lower than the target loss ratio of 73.6% used last year, due to increases in expenses.

Total expense levels

The adopted expense margin is a three year average of insurers' expenses. The total adopted expense level of 16.6% (15.7%) of premium is made up of 14.9% (14.0%) management expenses and 1.7% (1.7%) for the General Account levy. Figures in brackets are last year's.

WA legislative changes

Workers' Compensation and Injury Management Amendment Act 2018

On 1 July 2018, the Workers' Compensation and Injury Management Amendment Act 2018 commenced. The Act increases the benefits available to dependents for fatality claims, due to a higher lump sum available to dependants and this no longer being reduced based on the level of dependency, and the increase in the child weekly allowance. Last year, we estimated the 2018 Amendment Act would cause a 0.7% increase in the risk cost for 2018/19 onwards. We have used the same allowance for the 2019/20 premium rates.

See Appendix D5 for more details.

Workers' Compensation Amendment Act 2011

The 2019/20 premium rate includes some allowance for the 2011 Amendment Act. The cost of these changes are included in the incurred risk cost of claims derived from the outstanding claims valuation and increases the outstanding claims valuation by 0.2%.

See Appendix D5 for further details.

Superimposed inflation

We have adopted a different rate of superimposed inflation to project from the 2017/18 accident year to the 2019/20 underwriting year than used in the outstanding claims valuation. This is due the high superimposed inflation rate in the outstanding claims valuation being driven by the change in the mix of claims, which is not expected to continue in the projections to the 2019/20 underwriting year.

The adopted superimposed inflation to project from the 2017/18 accident year to the 2019/20 underwriting year is 4.1%, which is the same as last year. We have retained this assumption this year while the superimposed inflation allowance in the outstanding claims valuation is higher than the long term average due to the impact of the change in claims mix.

The total superimposed inflation adopted for the outstanding claims valuation has reduced from 7.5% pa last year to 5.2% pa this year.

Claims experience for the half-year to 31 December 2018

The risk cost of claims for the 2019/20 premium rates includes an allowance for the claims experience for the half year to 31 December 2018. For the 2019 accident year, the number of claims reported were on par to slightly higher than expected while claim payments were less than expected, and claim closure rates were slower than expected.

Employment growth for the half-year to 31 December 2018

The 2019/20 premium rates calculation includes an allowance for change in employment in the half year to 31 December 2018. This is to be consistent with our adjustment for the number of claims in the half year. The number of full time employees increased by 0.2% in the six months to 31 December 2018. In the six months to 31 December 2017 the number of full time employees increased by 0.8%.

Wages to 31 December 2018

In calculating the premium rates, we have used the developed earned wages for the 2017/18 accident year. Claim costs and wages are assumed to be subject to the same inflation rates, and therefore any inflation impacts would offset in the context of the average premium rate. Given this, we do not inflate either to 2019/20.

Economic assumptions

The future inflation assumptions for our outstanding claims review are based on the wage inflation assumptions produced by the WA Treasury for the *2018/19 WA Government Mid-year Financial Projections Statement*.

As per last year, we have used a stepped inflation rate for future periods. For initial periods this is based on the WA Treasury forecasts, while for longer term periods it is based on a 'gap' to discount rates. The overall impact is a decrease in the real rates of return, which increases the liabilities. This is mainly due to decreases in the interest rates from year two onwards.

See Appendix D1 for further information.

Recommended premium rates by class

We have adopted minimum and maximum rates of \$0.25 and \$12.00 per \$100 of wages respectively, when calculating the premium rates. These are the same minimum and maximum rates as last year.

Premium rates for 14 classes were capped at the minimum rate of \$0.25 per \$100 of wages and all other premium rates reduced by 0.4% as a result of the premium respread. This is lower than the 0.5% reduction for the 2018/19 premium rates.

This is the second year we have recommended rates on an ANZSIC 06 classification basis. Last year, at the request of the Board to smooth the transition from ANZSIC 1993 to ANZSIC 2006 and to reduce any large movement that may occur for a policy due to the change in classifications, we capped the movement to 15% for

each class, both upwards and downwards. This year, the Board have requested we cap the movement in rates to 25% for each class, both upwards and downwards.

The capping of movement at 25% from the 2018/19 Gazette rates affected 62 of the 517 classes (12%). All other premium rates increased by 1.3% because of the premium respread, which is lower than the 2.2% increase last year.

For more details on the capping of rates, see section 5.2.

The Recommended Minimum Premiums per policy for the 2019/20 financial year are as follows:

Recommended Minimum Premium			
	Last year's Gazette	Indexed since last change	2019/20 recommended
Householder Policies	\$80.00	\$83.78	\$80.00
All Other Policies	\$240.00	\$246.63	\$245.00

Outstanding claim liabilities

The outstanding claim liabilities (inflated but not discounted) as at 30 June 2018 are estimated to be \$1,278 million, excluding the 2010 and earlier accident years. This is \$38.0 million (2.9%) lower than the aggregate outstanding claims estimates returned by applicable insurers of \$1,316 million. Last year we were 4.0% lower than insurers' estimates excluding the 2009 and earlier years.

This year, we have changed the payment type groupings for the outstanding claims analysis with six payment groups compared to seven last year. This is to align with the NIDS data specification and WorkCover WA reporting. The change in payment groupings is estimated to be minimal as most groups are similar to previously except all lump sums are combined and miscellaneous and fatal payments are no longer included with weekly benefits.

A detailed reconciliation of the build-up of inflated and discounted estimates over the year is shown in section 3.3. This shows a net release of reserves over 2017/18 of \$82 million (5.8%) on our inflated and discounted projections including expenses. Insurers provide inflated estimates and these had a release of reserves of \$144 million (8.7%) on all accident years to 30 June 2017. On an inflated basis, our estimates had a release of \$114 million (7.7%). Our estimates showed a smaller release on an inflated basis across all accident years except 2017, mainly due to us adopting lower estimates than the insurers for 2012 to 2016 accident years last year.

Uncertainty

The main sources of uncertainty in the projected premium rate for 2019/20 include:

- Silicosis claims
- The reduction in the number of small claims in the scheme, and associated change in claims mix
- The current economic environment
- Legal and settlement costs
- Impact from the 2018 Amendment Act.

See section 7.3 for more details on these.

Form and quality of data used

The form of the data supplied for the 2017/18 year is similar to the data supplied last year, except that we use the payment type information supplied by WorkCover WA from their database rather than the insurers Form WC101.

The 2019/20 recommended premium rates are calculated using the 2017/18 returns together with information provided by WorkCover WA for the split by payment types and the six months to 31 December 2018.

This is the second year that we have relied on Form WC12 to calculate the premium rates at a class level as this form includes policies with their ANZSIC 06 classification. Previously we used the Form WC11, which included aggregate information by class on an ANZSIC 93 classification basis.

The overall quality of the data this year was acceptable for our premium rate projections, once the data validation process was completed.

We encourage insurers to continue to compare their form submissions with the prior year's final version and proactively provide explanations for any large differences.

Contents

Key findings	i
1 About this report	1
1.1 Context for our review	2
1.2 Objectives for our review	3
1.3 Disclaimer	3
1.4 Compliance with standards	4
2 Premium rates analysis	5
2.1 Overall premium rate variation	6
2.2 Premium rates by division	12
2.3 Movement in relative premium rates	13
2.4 Minimum premiums	14
2.5 Financial performance of WA workers compensation	15
3 Outstanding claims results	18
3.1 Outstanding claims liability	19
3.2 Actual vs expected claims experience	21
3.3 Reconciliation of provisions	22
4 Data used in the review	24
4.1 Insurer data	25
4.2 Other data	25
4.3 Data quality	26
4.4 Data enhancements	26
4.5 General data considerations	27
5 Calculation methods	29
5.1 Projection methods	30
5.2 Relative premium rates methods	31
6 Assumptions	34

Contents	PwC
6.1 Financial assumptions	35
6.2 Superimposed inflation	36
6.3 Expenses	37
6.4 Contingency margin	37
6.5 Combined loadings and loss ratio	38
6.6 Premium rating caps	38
6.7 WA legislative changes	39
6.8 Board directives	39
7 Uncertainty	41
7.1 Uncertainty in the estimates	42
7.2 Determination of provisions	42
7.3 Additional sources of uncertainty	45
Appendix A Premium rates	50
Appendix B Detailed data description	63
Appendix C Detailed methods description	69
Appendix D Assumptions	76
Appendix E Outstanding claim valuation	88
Appendix F Claims experience	102
Appendix G Claims statistics	108
Appendix H Comparative statistics	117
Appendix I Analysis of lump sum claim experience	127
Appendix J Additional data analysis	130
Appendix K Glossary	132

1 About this report

Key points of this section

- This report has been prepared as specified in tender document WCWAT31718
 - No one other than WorkCover WA should rely on this report for any purpose
 - We have complied with actuarial and accounting standards.
-

1.1 Context for our review

The purpose of this report is to recommend premium rates for the Western Australian workers compensation scheme over the 2019/20 financial year and to document the analysis undertaken to reach that recommendation. This report has been prepared for WorkCover WA in accordance with the actuarial services as specified in detail in tender document WCWAT31718.

We have prepared the recommended premium rates report for the WA workers compensation scheme for a number of years. Our most recent report was *2018/19 recommended premium rates* dated 20 March 2018.

The Board of WorkCover WA is ultimately responsible for the determination of recommended premium rates.

This is the second year that we have calculated and published the recommended premium rates by class based on ANZSIC 2006 classifications (517 classes). Previously, we have calculated and published the recommended premium rates by class based on ANZSIC 1993 classifications (480 classes). This change in basis does not change the overall average recommended premium rate increase. The recommended premium rates on the class level will however be impacted by this change in basis.

This is the second year of the transition from ANZSIC 1993 to ANZSIC 2006 classifications. Last year, we capped the movement between the 2017/18 rates (based on ANZSIC 1993) to the 2018/19 Gazette rates (based on ANZSIC 2006) to be 15% for each class, both upwards and downwards. This capping is designed to smooth the transition to ANZSIC 2006 and to reduce any large movement that may occur for policies due to the change in classifications.

The transition to the true rates may take a number of years and hence this year, the Board has requested us to further allow for a movement capping of 25%, between the 2018/19 Gazette rates and the recommended rates for 2019/20.

Insurers have the discretion to discount the recommended rate by any amount, or surcharge up to 75% of the applicable rate as detailed under section 152 of the Workers' Compensation and Injury Management Act 1981. An insurer may surcharge the recommended premium rate by more than 75% if the claims experience warrants it, subject to the approval of the WorkCover WA Board.

The analyses and recommended premium rates presented in this report are based on claim data to 30 June 2018 as supplied by applicable approved private insurers and the Insurance Commission of Western Australia (ICWA). Our recommendations also consider the half yearly data to 31 December 2018. The insurers supplying data are collectively known as premium rate returning entities. All self-insurers, other than RiskCover, are excluded from these analyses. See section 4 for a discussion on the data provided for this report.

We used a hierarchical credibility experience rating method to calculate the relative premium rates for each class, based on a weighted average over six accident years. This method relies on the claims experience of each class and the extent of this reliance increases with the size/exposure of the class.

The premium rating method has been adjusted for:

- Our projection of the ultimate incurred cost of claims

- Returned wages, adjusted to reflect the extent to which past returned wages have increased or decreased in future years
- Emerging claims and economic trends.

The method and assumptions are described in greater detail in sections 5 and 6 respectively.

We have continued to include an allowance for the 2011 Amendment Act, however this is lower than prior years due to the increased experience base. We have also made an allowance for the 2018 Amendment Act, which commenced on 1 July 2018. The data used for our recommended premium rates is as at 30 June 2018 and therefore the impact from the Act change is not yet present in the claims costs. See Appendix D for more information.

As specified in WCWAT31718, we have examined the adequacy of insurers' outstanding claim provisions in total. See section 3.1.2 for more detail.

1.2 Objectives for our review

This report details our recommended premium rates to apply in the Western Australian workers compensation scheme in the 2019/20 financial year. The main objectives of this exercise are to:

- Calculate the total amount of premium income required to meet the expected cost of claims plus expenses and margins with anticipated investment income
- Recommend rates that are broadly equitable across different industry classes with no intentional cross subsidy of rates
- Suggest an appropriate overall increase or decrease in relative premium rates
- Use methods, which give relative stability in the rate structure.

A further objective of WorkCover WA is to examine the adequacy of outstanding claims provisions in aggregate.

1.3 Disclaimer

Report and Advice

This report has been prepared for the sole use and benefit of the WorkCover WA Board. It should not be used or relied upon by any other person for any purpose.

You agree to use this report only in connection with the purpose in respect of which this report is provided, being to present the recommended premium rates for the Western Australian workers compensation scheme over the 2019/20 financial year. We therefore accept no liability or responsibility for any loss or damage arising from use of the report for any other use or purpose.

Judgements based on the contents of this report should be made only after studying the report and the appendices in their entirety, as conclusions reached by a review of an aspect or section in isolation may be misleading.

The advice contained in this report has been prepared on the instructions of WorkCover WA in accordance with the terms of reference in the tender document referred to in section 1.1 above and is based on the information and data provided to us.

The conclusions reached in this report are reliant on the completeness and accuracy of information compiled and provided by WorkCover WA and by insurers to WorkCover WA. Other than preliminary data checks, we have not conducted an independent review of this information. We do not accept any liability or responsibility for errors or omissions arising from the provision of inaccurate or incomplete information to us.

Third Parties

This report and the advice contained in it are confidential. You agree not to disclose the report and/or our advice to third parties by any means (including orally or in writing) without our prior written consent. We may, at our discretion, withhold or give our consent subject to conditions, including:

- The report is to be released in its entirety in response to a request, including all appendices
- We accept no liability or responsibility to any other person or entity other than WorkCover WA in relation to this report and
- No one other than WorkCover WA should rely on this report for any purpose.

1.4 Compliance with standards

1.4.1 Premium rates

Our advice to you constitutes a Professional Service as defined in the Code of Professional Conduct (the Code) issued by the Institute of Actuaries of Australia and our advice complies with the Code in this respect.

1.4.2 Outstanding claims liabilities

The approach for calculating the outstanding claims liabilities is consistent with that required by the Accounting Standards for private and State Government general insurers (AASB1023), and APRA's prudential standard GPS320 for liability valuations for general insurance. It also complies with the Institute of Actuaries of Australia's Professional Standard PS300, with the exception that we have not performed a valuation of asbestos liabilities. As agreed with WorkCover WA, an asbestos liability valuation is not necessary in the context of setting premium rates.

2 Premium rates analysis

Key points of this section

- The 1.645% average rate is obtained by dividing the \$1,268 million estimated target premium by developed wages of \$77,097 million
 - The average premium rate has increased by 3.7% due to:
 - Reduction in wages compared to the wages used in last year's rates, after allowing for wage inflation
 - An increase in expensespartially offset by:
 - Lower claim numbers for 2017/18
 - A decrease in superimposed inflation for the outstanding claims valuation, which more than offset the increase in the average claim size above the rate of wage inflation
 - For the 2018 accident year, the estimated insurer profitability is a 7% loss, based on insurers' actual rates, which are significantly discounted compared to recommended premium rates. This is lower than the 3% profit for 2016 and the 3% loss for 2017 and the contingency margin included in the 2017/18 Gazette rates of 11%. Based on the recommended premium rates the equivalent profit levels for 2018 and 2017 are expected to be 8% and 15% respectively.
-

2.1 Overall premium rate variation

2.1.1 Incurred cost of claims in inflated and discounted values

The estimated number of claims incurred by the premium rate returning entities is:

Claims incurred	
2017/18 accident year (a)	25,656
2018/19 accident year (b)	25,701
2019/20 underwriting year (c)	25,701

- Notes:**
- (a) From our analysis of the 2017/18 data
 - (b) = (a) x 0.2% increase as indicated by the experience in the half year to 31 December 2018
 - (c) Assumed equal to the 2018/19 accident year

The adopted average claim size is:

Average claim size	Inflated and	
	Current values	discounted (d)
2017/18 accident year (a)	33,265	33,178
2018/19 accident year (b)	34,641	34,550
2019/20 underwriting year (c)	35,711	35,617

- Notes:**
- (a) As per the adopted actuarial assessment model
 - (b) = (a) x superimposed inflation from external analysis (4.1%)
= (a) x 1.041
 - (c) = (a) x superimposed inflation from external analysis (4.1%) ^ 1.75
= (a) x 1.041 ^ 1.75
 - (d) = current values including Act changes x inflation and discount factor
The inflation and discount factor used is 0.9974 (0.9918 last year). This allows for projected future cashflow to be inflated and discounted using the financial assumptions stated in section 6.1

The rate of superimposed inflation (SII) allowed for in the premium rating calculation is derived from an analysis separate to the outstanding claims valuation. This considers and generally excludes the experience post 2013, where appropriate, as the high levels of SII observed in more recent years are driven by a reduction in small claims and change in claim mix more than ongoing cost increases. We have adopted a future superimposed inflation of 4.1%, as per last year. See section 4 for more details.

SII is applied to the midpoint of the claims incurred period. For the 2019/20 underwriting year, this is 1.75 years after the 2017/18 accident year, which is the mid-point to which the premium rates apply. These are notional forward average claim sizes. Normal wage inflation is not included for consistency with the total wages used to calculate the average premium rate.

We have not included an explicit additional allowance for the ongoing costing impacts of the removal of age limits and extended common law entitlements to employed contractors legislative changes. The impact of these changes are already incorporated in the adopted 2017/18 average claim size.

The above average claim sizes do not contain an allowance for the 2018 Amendment Act.

The estimated risk premium is shown in the table below. The estimated risk premium is equivalent to the number of claims incurred multiplied by the average claim size.

Number of claims x average claim size = Risk premium (\$M)		
2017/18 accident year	25,656 x 33,178 =	851.2
2018/19 accident year	25,701 x 34,550 =	888.0
2019/20 underwriting year	25,701 x 35,617 =	915.4

2.1.2 Impact on overall premium levels

Gross premium is the risk premium with appropriate allowance for expenses (excluding brokerage), contingency margins and interest earned. The estimated gross premium for the premium rate returning entities is shown in the table below:

Risk premium x loading factor = Gross premium (\$M)		
2017/18 accident year	851.2 x 1.3755 =	1,170.8
2018/19 accident year	888.0 x 1.3755 x (1 + 0.70%) =	1,230.0
2019/20 underwriting year	915.4 x 1.3755 x (1 + 0.70%) =	1,268.0

The adopted loading factor of 1.3755 is higher than the 1.3587 adopted for our previous valuation due to higher expenses. The factor is defined as the inverse of the target loss ratio. More detail is presented in section 6.5.

In addition to the factor, we have allowed for a 0.7% increase due to the 2018 Amendment Act.

The average premium rate is derived by dividing the gross premium by developed wages. The estimated wages for the 2019/20 average premium rate is calculated by multiplying the 2017/18 returned wages by a wage development factor, and making an allowance for the change in the number of employed persons in the half year to 31 December 2018.

This is calculated as follows:

Wages (\$M)	
2017/18 returned wages (a)	76,970
Adjustment factor (b)	0.9997
2017/18 developed wages (c)	76,944
Employment growth (d)	1.0020
Earned wages (e)	77,097

- Notes:**
- (a) As supplied by insurers
 - (b) See Appendix C2
 - (c) = (a) x (b)
 - (d) = 1,349 / 1,346, from ABS Cat. 6202.0 Table 8 Labour Force for full time persons for Western Australia at 31 December 2018 and 30 June 2018 respectively
 - (e) = (c) x (d)

This year the adjustment factor is less than one, while in previous years it was above one. The adjustment factor of less than one implies that the estimated wages are higher than what subsequently emerges as actual wages and is based on recent wages development experience. This has occurred in most insurer's data.

Using the information above, the average premium rate for 2019/20, with comparison to the prior two years, is as follows:

Key Driver	Premium rating year ending 30 June :				
	2020	2019	2018	% difference	
	(a)	(b)	(c)	(a) / (b) -1	(b) / (c) -1
Number of claims incurred (d)	25,701	26,026	27,297	-1.2%	-4.7%
Average claim size \$ (e)	35,617	35,371	33,608	0.7%	5.2%
Expense and margin factor (f)	1.3755	1.3587	1.3423	1.2%	1.2%
Earned wages \$M (g)	77,097	79,448	80,732	-3.0%	-1.6%
Estimated incurred cost of claims \$M	1,268.0	1,259.5	1,231.4	0.7%	2.3%
Average premium rate (i)	1.645%	1.585%	1.525%	3.7%	3.9%

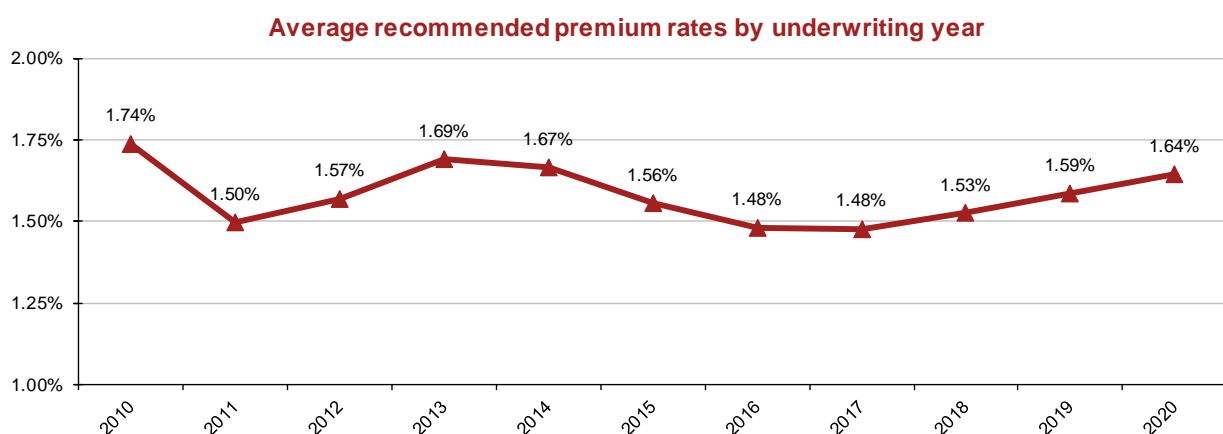
- Notes :
- (a) from 2.1 of this report
 - (b) & (c) from 1.1 of our 20 March 2018 RPR report
 - (d) includes allowance for IBNR
 - (e) in inflated and discounted values
 - (f) for grossing up the estimated risk cost of claims for expenses and margins, net of interest credit
 - (g) adjusted to include final wage adjustments
 - (h) = (d) x (e) x (1 + (f)), for 2019 and 2020 there is an additional 0.7% increase due to the 2018 Amendment Act
 - (i) = (h) / (g) %

The above analyses and discussion suggest that the weighted average Gazette premium rate should increase by 3.7%.

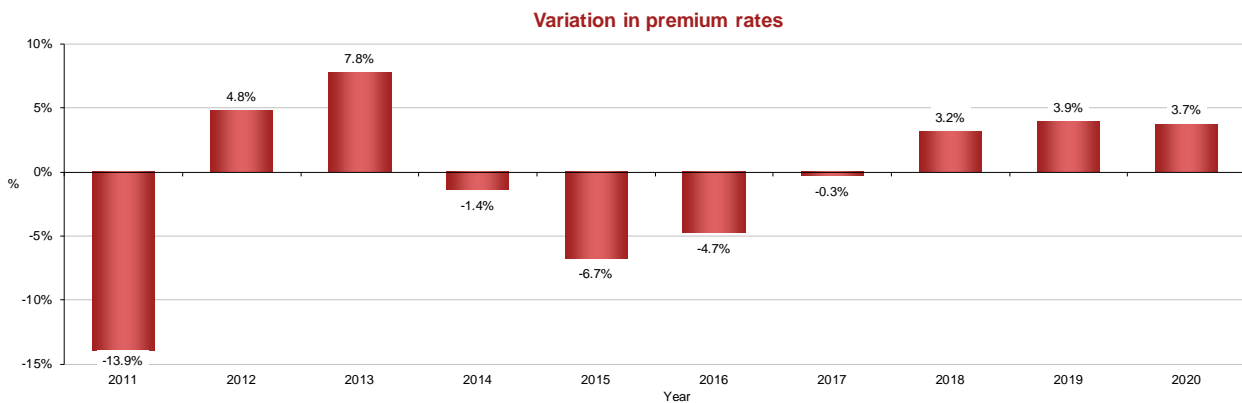
The premium rates do not include brokerage costs or an allowance for the 10% GST on premiums, which is generally recoverable by employers.

2.1.3 Historical aggregate premium rates

The historical aggregate premium rates over the last eleven years are as follows:



The chart below shows the variation in the average Gazetted recommended premium rates over the last ten years:



Overall, premium rates decreased by 5.4% over the period shown.

The key drivers of past changes in the premium rates were as follows:

Year	Increase / decrease	Main drivers
2011	-13.9%	<ul style="list-style-type: none"> Continued but unexpected increase in wages and market rates of interest Partly offset by increasing claims costs
2012	4.8%	<ul style="list-style-type: none"> Increase in the claims experience which exceeded the reduced growth in wages Impact of the removal of age limits within legislation
2013	7.8%	<ul style="list-style-type: none"> Reducing real rates of return Higher number of claims Increase in the contingency margin Extended common law entitlements to employed contractors legislative changes Once off impact to allow for policies that had exposure to the legislation change but were written prior to an allowance being included in the recommended premium rates
2014	-1.4%	<ul style="list-style-type: none"> Base decrease due to wages growth in excess of the wage inflation which exceeded increases in the claims experience Removal of the catch up allowance for the Act change in the 2012/13 premium rates Once-off increase due to changing from using written wages to earned wages
2015	-6.7%	<ul style="list-style-type: none"> Wages growth in excess of wage inflation Decrease in claim numbers <p>Offset by:</p> <ul style="list-style-type: none"> An increase due to an additional allowance in the average claim size for the lengthening duration of claims

Year	Increase / decrease	Main drivers
2016	-4.7%	<ul style="list-style-type: none"> • Lower claims number and lower rate of growth of claims with more than 60 days' time lost as a percentage of total claims • Wages growth in excess of wage inflation combined with higher rate of employment growth over the six months to December 2014 • Decrease in the contingency margin <p>Offset by:</p> <ul style="list-style-type: none"> • Increase in the average claim size including superimposed inflation above the rate of inflation.
2017	-0.3%	<ul style="list-style-type: none"> • Lower claim numbers for 2014/15 and in the half year to 31 December 2015 • Decreases in the future rate of inflation and change in discount rates • Reduction in allowance for long duration claims <p>Offset by:</p> <ul style="list-style-type: none"> • Increase in the average claim size including superimposed inflation above the rate of inflation • Wage growth below wage inflation • Lower rate of employment growth over the six months to 31 December 2016 compared to the six months to 31 December 2015
2018	3.2%	<ul style="list-style-type: none"> • An increase in the average claim size, including superimposed inflation, above the rate of inflation • A reduction in wages • An increase in contingency margin from 10% to 11% • An increase in expenses • A reduction in the number of employed persons over the six months to 31 December 2016 <p>Partially offset by:</p> <ul style="list-style-type: none"> • Lower claim numbers for 2015/16 and in the half year to 31 December 2016 • Decreases in the future rate of inflation
2019	3.9%	<ul style="list-style-type: none"> • Reduction in wages • An increase in the average claim size, including superimposed inflation, above the rate of inflation • An increase in expenses • Allowance for changes in fatalities benefits <p>Partially offset by:</p> <ul style="list-style-type: none"> • Lower claim numbers for 2016/17 and in the half year to 31 December 2017 • An increase in the number of employed persons over the six months to 31 December 2017

The key drivers of the 3.7% increase in premium rates for 2019/20 are:

- Reduction in wages compared to the wages used in last year's rates, after allowing for wage inflation
- An increase in expenses

partially offset by:

- Lower claim numbers for 2017/18
- A decrease in superimposed inflation for the outstanding claims valuation, which more than offset the increase in the average claim size above the rate of wage inflation

The table below shows the detailed 2019/20 premium rate drivers:

Key drivers		
2019/20 average premium rate change		
Internal factors - claims, wages and other		
Decrease in 2017/18 claim numbers	-1.4%	
Increase in December 18 half year claim numbers	0.2%	
Average claim size increase more than inflation	1.7%	
Change in superimposed inflation	-2.7%	
Reduced 2011 Act change allowance	0.0%	
Reduction in wages	3.8%	
Increase in expenses	1.2%	
<i>Total internal factors - claims, wages and other</i>		<u>2.7%</u>
External economic factors		
Change in market interest rates	0.1%	
Change in inflation rates	0.3%	
Change in employment in half year to December 2018	0.6%	
<i>Total external economic factors</i>		<u>1.0%</u>
Total 2019/20 average premium rate change		<u>3.7%</u>

The percentage increases are multiplicative rather than additive.

2.2 Premium rates by division

The recommended premium rates by division are:

Recommended Premium Rates at ANZSIC division level by underwriting year			
Division	2018/19	2019/20	Difference (a)
A - Agriculture, forestry and fishing	5.22	5.47	4.8%
B - Mining	1.32	1.41	6.8%
C - Manufacturing	2.40	2.44	1.5%
D - Electricity, gas, water and waste services	1.34	1.31	-1.8%
E - Construction	1.93	2.01	4.5%
F - Wholesale trade	1.43	1.45	1.9%
G - Retail trade	1.52	1.57	3.4%
H - Accommodation and food services	1.71	1.76	2.5%
I - Transport, postal and warehousing	2.53	2.68	6.0%
J - Information media and telecommunications	0.45	0.45	-0.7%
K - Financial and insurance services	0.30	0.29	-2.4%
L - Rental, hiring and real estate services	0.81	0.84	3.4%
M - Professional, scientific and technical services	0.31	0.33	5.5%
N - Administrative and support services	1.84	2.12	14.9%
O - Public administration and safety	2.12	2.22	4.8%
P - Education and training	1.18	1.23	4.4%
Q - Health care and social assistance	1.97	2.01	1.9%
R - Arts and recreation services	1.78	1.82	2.2%
S - Other services	1.63	1.68	3.5%
Overall	1.59	1.64	3.7%

Notes : (a) = (2019/20 rate) / (2018/19 rate) - 1 as a percentage

There are 16 of the 19 divisions under ANZSIC 2006, which have an increase in the 2019/20 premium rate compared to 2018/19.

The most significant increase is for division *N – Administrative and support services*, which has increased over 10% due to seven of the thirteen classes in this division being capped at a 15% increase last year. These classes had higher wages than the three classes that were capped at a 15% decrease and three classes that were not capped. Therefore, they were expected to have above average increases this year as they continue to increase towards their true rate. In this year's rates, five of the thirteen classes are subject to a 25% increase cap, so it is likely that this division will experience an above average increase next year.

The overall aggregate premium rate is weighted by wages per division. Therefore, the 3.7% increase in the overall premium rate is not a straight average of the percentage differences for each division, since the wages are not uniform by division.

We have not included a specific allowance for silicosis in the 2019/20 premium rates due to the current lack of historical data and uncertainty in number and size of silicosis claims. If the claim frequency in WA of silicosis is as prevalent as reported in Queensland, this could have a significant impact on the rates for particular classes and divisions. See section 7.3 for further discussion regarding silicosis claims.

2.3 Movement in relative premium rates

The tables below show the movement in the recommended premium rates exclusive and inclusive of the 3.7% increase in the aggregate premium rate, as well as pre and post allowance for the 25% movement cap for both upwards and downwards.

2.3.1 Impact on class rates from change in claims experience

The following table compares the premium rates derived from the experience rating method for an unchanged premium pool, to the current 2018/19 Gazette rates, pre the 25% movement capping:

Table of movement in Recommended Premium Rates				
Size of Movement	Number of Recommended Rates which :			Total
	Decrease	Increase	Unchanged	
no. ≤ 5%	125	88	4	217
5% < no. ≤ 10%	95	44	0	139
10% < no. ≤ 15%	40	28	0	68
15% < no. ≤ 20%	12	12	0	24
20% < no.	24	45	0	69
Total	296	217	4	517

Allowing for no increase in premium rates and without movement capping, 15 classes decreased by more than 25%, 43 classes increased by more than 25%.

The following table compares the premium rates derived from the experience rating method for an unchanged premium pool, to the current 2018/19 Gazette rates, post the 25% movement capping:

Table of movement in Recommended Premium Rates				
Size of Movement	Number of Recommended Rates which :			Total
	Decrease	Increase	Unchanged	
no. ≤ 5%	114	105	0	219
5% < no. ≤ 10%	86	52	0	138
10% < no. ≤ 15%	37	25	0	62
15% < no. ≤ 20%	7	18	0	25
20% < no.	24	49	0	73
Total	268	249	0	517

69% of classes have a rate change (up or down) which is less than 10%.

2.3.2 Impact on class rates including aggregate rate increase

The following table is the distribution of the percentage movement in recommended rates allowing for the aggregate 3.7% increase in rates, without a movement capping of 25%:

Table of movement in Recommended Premium Rates				
Size of Movement	Number of Recommended Rates which :			Total
	Decrease	Increase	Unchanged	
no. ≤ 5%	105	109	4	218
5% < no. ≤ 10%	51	79	0	130
10% < no. ≤ 15%	24	40	0	64
15% < no. ≤ 20%	7	21	0	28
20% < no.	20	57	0	77
Total	207	306	4	517

13 classes decreased by more than 25% and 45 classes increased by more than 25%. These classes were capped at a 25% increase or decrease in the table below.

Shown in the table below is the distribution of the percentage movement in recommended rates allowing movement capping of 25%.

Table of movement in Recommended Premium Rates				
Size of Movement	Number of Recommended Rates which :			Total
	Decrease	Increase	Unchanged	
no. ≤ 5%	96	120	0	216
5% < no. ≤ 10%	40	85	0	125
10% < no. ≤ 15%	18	46	0	64
15% < no. ≤ 20%	7	26	0	33
20% < no.	17	62	0	79
Total	178	339	0	517

66% of classes have a rate change (up or down) which is less than 10%.

2.4 Minimum premiums

Revised minimum premiums are calculated each year based on movements in the Perth CPI index, but changes are only made in \$5 multiples. The recommended minimum premiums are:

Recommended Minimum Premium	Last year's Gazette	Indexed since last change	2019/20 recommended
Householder Policies	\$80.00	\$83.78	\$80.00
All Other Policies	\$240.00	\$246.63	\$245.00

Indexing is cumulative irrespective of when recommended minimum premiums were last revised.

2.5 Financial performance of WA workers compensation

The tables below show the performance of the WA workers compensation system on an accident year and financial year basis. The purpose of these tables is to assess the adequacy of premium rates for prior years.

2.5.1 Accident year performance table

Estimated Profit and Loss in the WA Workers' Compensation System (\$M)								
	Accident Year ending 30 June							Estimated 2019
	2012	2013	2014	2015	2016	2017	2018	
Gross earned premium (a)	961.3	1,096.8	1,133.6	1,076.1	1,046.1	983.9	992.2	1,069.3
Cumulative claim payments (b)	767.1	807.0	821.3	787.4	728.7	551.0	223.5	237.2
Outstanding estimate (c)	23.3	30.7	49.8	72.4	132.0	298.7	653.2	693.3
Net claims incurred (d)	790.4	837.7	871.1	859.7	860.7	849.7	876.7	930.6
Underwriting profit/loss (e)	170.8	259.1	262.5	216.3	185.4	134.3	115.5	138.7
Commission (f)	26.2	30.1	31.9	31.8	28.6	30.3	33.0	35.5
Other expenses (g)	127.3	137.3	153.9	162.2	163.3	162.1	175.4	189.0
Estimated investment income (h)	46.7	49.5	42.6	34.9	32.9	33.5	25.5	27.0
Estimated profit/loss - \$ (i)	64.1	141.1	119.3	57.2	26.4	-24.6	-67.4	-58.8
- % of gross EP (i)	7%	13%	11%	5%	3%	-3%	-7%	-5%
Loss ratio (j)	82%	76%	77%	80%	82%	86%	88%	87%
				Total profit/loss (k)		383.566	316.152	257.350
				Total profit/loss % of EP (l)		6%	4%	3%
GWP on Gazette Rates (m)	1,166.7	1,312.3	1,342.5	1,265.5	1,199.4	1,175.5	1,148.2	1,205.2
Est EP on Gazette Rates (n)	1,166.7	1,268.6	1,333.4	1,288.6	1,219.2	1,182.7	1,156.4	1,188.1
Difference in EP (o)	205.4	171.8	199.8	212.5	173.1	198.8	164.2	118.8
Estimated profit/loss on Gazette rates (p)	269.5	312.9	319.2	269.8	199.5	174.1	96.8	60.0
	23%	25%	24%	21%	16%	15%	8%	5%
				Total profit/loss (q)		1,545.029	1,641.854	1,701.863
				Total profit/loss % of EP (r)		21%	19%	17%
Number of active claims by accident year (s)	132	211	388	678	1,530	3,899	10,641	

Notes :

(a), (b) from attachment G4 of this report, estimated for the 2019 accident year. Assumed a 10% discount on Gazette rates in 2019.

(c) = PwC reserves from section 3.1.2 of this report. The 2019 accident year estimated as inflated average claim size x number incurred with 25% assumed paid in DY0 based on the proportion paid for DY0 in 2018. Excludes 5% claim management expense allowance and risk margins.

(d) = (b) + (c)

(e) = (a) - (d)

(f) = brokerage from attachment D3 of report x (a)

(g) = {total expense % from attachment H2.4 in this report x (a)} - (f)

(h) = Assumed investment income based on discount factor calculated for each accident year

(i) = (e) - (f) - (g) + (h), where the % in the row below is of (a). Estimated profit/loss is **after** allowance for superimposed inflation and the rate change in previous years. It is **before** allowance for (ie does not include) risk margins on outstanding claim reserves and the 10% contingency margin adopted for 2012 and 2016 to 2017 and 11% contingency margin for 2013 to 2015 and 2018 accident years

(j) = (d) / (a) %

(k) = sum of (i) in \$ million

(l) = (k) / sum of (a) %

(m) = gross written premium on the Gazette rates which applied for the year

(n) = estimated earned premium on Gazette rates allowing for 30% of GWP to be unearned at each 30 June

(o) = (n) - (a) ie Gazette earned premium minus insurer earned premium

(p) = (o) + (i) ie estimated profit on Gazette rates, where % in row below is of (n)

(q), (r) = defined as for (k) and (l) with reference to (p) and (n)

(s) = the number of open claims from the consolidated Form WC20s supplied by returning entities.

In the table above note that the:

- Results are indicative of actual past and expected future claim trends
- Gross earned premium is different to last year's table as earned premium by accident year develops and becomes more certain as the actual experience of burning cost policies emerges
- Outstanding claim provisions contain no allowance for claims management expenses, as these are included in 'other expenses', or the risk margin

- Estimated profit/loss includes allowance for superimposed inflation, the rate change from previous years, expenses and commission/brokerage
- Estimated investment income credit is a theoretical allowance based on the forward rates implied by the Commonwealth Government Bond yield curve applicable for each year
- Estimated costs for the more recent years (2017 and 2018) comprise mainly uncertain future estimates. For example, of the total claims incurred for 2018 only 25% has actually been paid and 75% is the uncertain future estimate
- The whole of 2019 is an uncertain future estimate. The gross earned premium is subject to external market forces. Claims costs are influenced by market forces, uncertain future claim events and economic, legislative and social conditions.

The key points to note from the experience shown in the above table are:

- Between 2012 and 2014, the estimated profit margin fluctuates between 7% and 13%. This has generally been just below the contingency margins allowed for in the premium rates of 10 to 11%
- Since 2014 there has been a decreasing trend in the estimated profit margin to 5% in 2015, 3% in 2016 and negatives for 2017 and 2018, which are all below the contingency margins of 11% for 2015 and 2018, and 10% for 2016 and 2017
- Compared to last year the estimated profit as a percentage of earned premium has:
 - Slightly decreased by 1% for 2012 due to the decrease in earned premium and increase in incurred cost
 - Remained unchanged for 2013 and 2015
 - Increased by 2% for 2014 due to an increase in earned premium and decrease in claims incurred
 - Increased by 3% for 2016 and 2017, due to the incurred cost reducing by more than the reduction in the earned premium.
- For all accident years, had insurers not discounted the recommended premium rates the estimated profit margin would have been in excess of the relevant contingency margin, with the exception of 2018 which currently has an expected profit of 8%, slightly below the 11% contingency margin.

We provide a very early estimate of the 2019 accident year in the table above. We have considered the experience to December 2018 in our estimate of the incurred cost for 2019, however we did not have any wage information for that period. Assuming Gazette rates are discounted by 10%, we estimate a loss of 5%, which is significantly below the 11% contingency margin assumed in the 2018/19 premium rates. Without discounting Gazette rates, the estimated profit margin is 5%, which is lower than the contingency margin. Given the reliance on estimated experience, this result should be treated with caution as it is likely to change, perhaps significantly, as actual experience emerges.

2.5.2 Financial year performance table

Estimated Profit and Loss in the WA Workers' Compensation System (\$ million)								
	Financial Year ending 30 June							Total
	2012	2013	2014	2015	2016	2017	2018	
Gross earned premium (a)	946.9	1,172.1	1,193.9	1,191.8	1,111.5	1,050.3	1,053.9	7,720.4
Claim payments (b)	674.6	741.9	829.2	866.8	890.0	876.3	848.4	5,727.2
Change in o/s estimate (c)	46.4	45.8	42.8	23.7	(73.9)	(139.0)	(96.3)	(150.6)
Net claims incurred (d)	721.0	787.7	872.0	890.5	816.2	737.3	752.0	5,576.6
Commission (e)	25.8	32.2	33.6	35.2	30.3	32.4	35.0	224.5
Other expenses (f)	125.3	146.7	162.1	179.6	173.6	173.0	186.3	1,146.8
Underwriting result (g)	74.7	205.5	126.2	86.4	91.5	107.7	80.6	772.5
Underwriting result % (h)	8%	18%	11%	7%	8%	10%	8%	10%
Number of active claims (i)	23,081	22,835	22,228	21,080	19,695	18,637	18,002	

Notes :

- (a) = from Form WC30 returns for 2017/18 and prior years
- (b) = from Form WC20 returns for 2017/18 and prior years
- (c) = from Form WC20 returns for 2017/18 and prior years.
- (d) = (b) + (c)
- (e) = commission rate for each financial year x (a) estimated
- (f) = {total expense % from attachment H2.4 in this report x (a)} - (e)
- (g) = (a) - (d) - (e) - (f)
- (h) = (g) / (a) %
- (i) = the number of open claims from the consolidated Form WC20s supplied by returning entities.

The gross earned premium is provided directly by insurers.

The above table is different from the accident year table as it:

- Does not include investment income (as this data is not returned by insurers)
- Does not use the benefit of hindsight for reserving
- Is based purely on data supplied by premium rate returning entities
- Shows the financial year results aggregated across accident years.

The outstanding claim provisions reflect market knowledge and conditions at the end of each year.

The overall underwriting result over the seven year period to 2018 on a financial year basis is 10% of gross earned premium, compared to 4% on an accident year basis.

Over 2012 to 2018 we estimate an aggregate investment return of \$313 million, which would have improved the overall profit over the seven year period to 2018, on a financial year basis, to 14% of gross earned premium. This is estimated using the average funds available for investment and the one year forward Commonwealth Bond rate.

3 Outstanding claims results

Key points of this section

- Our outstanding claim estimates, in inflated undiscounted values, of \$1,278 million (excluding 2010 and earlier years) are 2.9% lower than insurers' estimates of \$1,316 million (excluding 2010 and earlier years) as at 30 June 2018
 - For the most recent accident year, our inflated undiscounted outstanding claims estimate excluding expenses (\$653 million) is 1.8% lower than insurers' (\$665 million)
 - The reconciliation of the outstanding claim reserves from 30 June 2017 to 30 June 2018 shows a 5.8% (\$82 million) release of reserves for 2017 and prior accident years on our inflated and discounted projections
 - Insurers provide inflated estimates and these had a release of reserves of \$144 million (8.7%) on all accident years to 30 June 2017. On an inflated basis, our estimates had a release of \$114 million (7.7%). Our estimates on an inflated basis showed a lower release than insurers across all accident years except 2017, mainly due to us adopting lower estimates than the insurers for 2012 to 2016 accident years last year.
-

3.1 Outstanding claims liability

3.1.1 Central estimate

The projected gross outstanding claims cost for each payment type group *in current values* and including the 2011 Amendment Act is:

Estimates of outstanding claims at 30 June 2018 (\$M) (a) (b)							
Acc yr ending		Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
30-June	Weekly						
2018	217.802	58.559	26.071	24.096	226.957	75.674	629.159
2017	64.172	13.722	6.448	5.235	153.411	43.126	286.115
2016	15.085	3.694	1.886	0.913	80.017	22.735	124.331
2015	4.341	1.504	0.892	0.248	47.316	12.698	66.999
2014	2.447	1.544	0.731	0.129	31.996	8.063	44.910
2013	1.569	0.790	0.364	0.088	19.771	5.217	27.798
2012	1.261	0.623	0.281	0.060	15.669	3.317	21.211
2011	0.928	0.485	0.212	0.044	12.862	2.540	17.070
2010	0.726	0.435	0.185	0.037	11.330	2.157	14.870
2009 & earlier	1.998	1.371	0.519	0.101	28.266	5.033	37.290
Total	310.330	82.728	37.589	30.951	627.594	180.561	1,269.753

To generate the net central estimates, the current value estimates are inflated and discounted, and a claims handling expense margin added. These are as follows:

Total of payment types Estimates at 30 June 2018 (\$M)					
Acc yr ending 30 June	30 June 2018 values (a)	Inflated values (b)	Inf/disc values (b)	Case estimates	Ratio (c)
2018	629.159	685.850	665.058	376.825	167%
2017	286.115	313.618	302.936	236.398	121%
2016	124.331	138.612	132.330	113.131	110%
2015	66.999	75.979	71.710	61.288	109%
2014	44.910	52.244	48.127	42.734	105%
2013	27.798	32.210	30.130	13.490	206%
2012	21.211	24.467	22.957	9.757	217%
2011	17.070	19.318	18.330	3.952	432%
2010	14.870	16.438	15.816	3.643	408%
2009 & earlier	37.290	40.327	39.389	21.023	177%
Total	1,269.753	1,399.064	1,346.783	882.241	144%

- Notes:** (a) from Appendix E4.5, excluding claims expenses
 (b) includes 5% claims expenses
 (c) ratio of actuarial estimates in 30 June 2018 values to case estimates.

The inflated and discounted net central estimate at 30 June 2018 is \$1,347 million, which is \$56 million (4.0%) lower than the \$1,402 million estimated at 30 June 2017.

We have included an allowance for the 2011 Amendment Act for the 2013 to 2018 accident years and for nine months of the 2012 accident year, for development year six and later. No explicit allowance is required for development years zero to five as the adopted factors are based on post-Act change experience. See Appendix D5 for further details.

We have not included an allowance for the 2018 Amendment Act, as this commenced on 1 July 2018 so it will not impact the 2018 and earlier accident years.

The detail in the development of the outstanding claims can be found in Appendix E.

We have not included an explicit allowance for silicosis claims in our outstanding claims liabilities, as there are only two claims in the past ten years, one of which was rejected. We are aware of the significant increase in silicosis claims in Queensland in the past six months. We will monitor any emergence in the scheme for such claims. See section 7.3 for further discussion regarding silicosis claims.

3.1.2 Comparison with insurers

The follow table compares our assessment of the outstanding claim estimates for the last five years to insurers estimates in inflated values without discounting or claims handling expenses and excluding the oldest accident years (for 2018 comparison the 2010 and earlier accident years are excluded, for prior year valuation comparisons one less accident year is excluded (e.g. for 2017 only the 2009 and earlier accident years are excluded, and so on)).:

Infl/Undisc estimates excluding 'earlier years' (\$M)			
Year ending 30 June	Actuarial (a)	Aggregate insurers (b)	% Difference (c)
2018	1,278.4	1,316.4	-2.9%
2017	1,363.7	1,420.5	-4.0%
2016	1,433.9	1,529.3	-6.2%
2015	1,500.2	1,611.6	-6.9%
2014	1,533.6	1,566.6	-2.1%

Notes: (a) = item (b) from Appendix E4.5 in this year and previous year's report divided by 1.05 to remove claims expenses
 (b) = col(d) + col(e) from Form WC20 data supplied by insurers (see Appendix E1.6)
 (c) = (a) / (b) - 1

Our inflated estimates are \$38.0 million (2.9%) lower than the insurers' estimates. Last year our estimates were \$56.8 million (4.0%) lower than the insurers' estimates. This comparison excludes the 'earlier years' valuation category as some insurers include asbestos claims while others do not and we have not done a valuation of asbestos liabilities.

The table below shows an accident year comparison of our estimates and the insurers' estimates as at 30 June 2018:

Comparison of claim estimates as at 30 June 2018					
Accident year ending 30 June	Inflated actuarial o/s claim estimates \$M (a)	Insurers o/s claim estimates \$M (b)	Difference \$M (c)	Difference % (d)	
2018	653.2	665.2	-12.0	-1.8%	
2017	298.7	322.7	-24.0	-7.4%	
2016	132.0	146.3	-14.3	-9.8%	
2015	72.4	77.1	-4.7	-6.1%	
2014	49.8	58.8	-9.0	-15.4%	
2013	30.7	21.9	8.7	39.8%	
2012	23.3	15.3	8.0	52.2%	
2011	18.4	9.0	9.4	105.2%	
earlier	54.1	155.7	-101.7	-65.3%	
Total	1,332.4	1,472.1	-139.7	-9.5%	
Total excluding earlier	1,278.4	1,316.4	-38.0	-2.9%	

Notes :

- (a) = item (b) from attachment E4.5 divided by 1.05 to remove claim expenses
- (b) = from consolidated Form WC20 columns (d) + (e)
- (c) = (a) - (b)
- (d) = $\{(a) / (b) - 1\} \times 100$

Our estimates are less than insurers for all accident years except 2011 to 2013.

In total, our inflated estimates as at 30 June 2018 are lower than our estimates as at 30 June 2017. This is predominantly due to fewer claims reported and fewer active claims. At our previous valuation using data to 30 June 2017 there were 18,637 active claims compared to 18,002 claims at 30 June 2018, a reduction of 635 (3.4%).

The 'earlier' years are a major source of difference due to insurers' reserves for asbestos related claims. Some but not all insurers include asbestos claims on their Form WC20.

Specialised data and methods are required to reserve IBNR dust-disease claims and our central estimate does not include a full asbestos claim valuation. After discussions with WorkCover WA, a full asbestos valuation is not required, as it should not affect the level of recommended premium rates, which depends on the more recent accident years.

3.2 Actual vs expected claims experience

The 2017/18 experience showed that for:

- Claims incurred up to 30 June 2017, claims reported were fewer than expected, claim payments were lower than expected but the claim closure rate was on par with expected
- Claim reports, payments and average case estimates for the 2017/18 accident year were lower than expected but active claims were higher than expected.

Over the six months to 31 December 2018 for the 2017/18 and earlier accident years claim reports were on par with expected, payments were lower than expected, and the claim closure rate was slightly slower than expected. For the 2018/19 accident year, claim reports was slightly higher than expected, claim payments were slightly lower than expected, and claim closures were slower than expected.

See Appendix F for full details.

3.3 Reconciliation of provisions

The tables below show the build-up of inflated and discounted outstanding claim estimates, including claims handling expenses, over 2017/18, for claims incurred to 30 June 2017 for:

- Our actuarial projections
- Insurers outstanding claim estimates.

The reconciliation of our projections is on an inflated and discounted basis while the insurer's reconciliation is on an inflated and undiscounted basis.

Actuarial reconciliation

Reconciliation of actuarial estimates (\$M)									
Accident year ending 30-June	2017	2016	2015	2014	2013	2012	2011	2010 & earlier	Total
A. Estimates at 30 June 2017 (a)	688.9	343.5	151.3	79.3	40.0	24.3	16.3	58.6	1,402.3
B. Gross payments 1 July 2017 to 30 June 2018	334.3	163.9	61.0	25.6	12.0	7.2	2.7	18.1	624.9
C. Expenses (b)	16.7	8.2	3.0	1.3	0.6	0.4	0.1	0.9	31.2
D. Assumed investment return (c)	8.2	4.1	1.9	1.0	0.5	0.3	0.2	0.8	17.1
E. = A-B-C+D	346.0	175.5	89.2	53.4	28.0	17.0	13.7	40.4	763.3
Updated estimates at 30 June 2018									
F. Revised estimates at 30 June 2018 (d)	302.9	132.3	71.7	48.1	30.1	23.0	18.3	55.2	681.7
G. = F-E	-43.1	-43.2	-17.5	-5.3	2.1	6.0	4.6	14.8	-81.5
Change 1 July 2017 to 30 June 2018									
H. Proportion of change attributable to									
Changes in real rates of return	2.0	1.4	1.0	0.8	0.6	0.4	0.2	0.3	6.7
Change in experience	-12.0	-23.6	-14.6	-8.9	-2.4	1.6	-0.2	-4.1	-64.1
Change in actuarial assumptions	-33.1	-21.0	-3.9	2.7	3.9	4.0	4.6	18.7	-24.1
I. Amount incurred and outstanding for 2017/18 accident year (d)									665.1
J. = F + I									1,346.8
Total outstanding liability at 30 June 2018									

- Notes :**
- (a) From Appendix E4.5 of our 20 March 2018 report
 - (b) Assumed to be 5% of claim payments in 2017/18
 - (c) Calculated using 1.6% pa being the one year forward rate from Appendix D1 of our 20 March 2018 report
 - (d) From Appendix E4.5 of this report.

The table shows that:

- Overall, there was a release of reserves of \$81.5 million, which is 5.8% of the opening 30 June 2017 estimates. This is due to changes to:
 - Experience lead to a \$64.1 million (4.6% of opening estimates) release
 - Underlying actuarial estimates caused a release of \$24.1 million (1.7%)

Partially offset by:

- Real rates of return, which lead to a \$6.7 million (0.5% of opening estimates), strain.
- Accident years 2014 to 2017 all had a release of reserves. The main experience driver was fewer claims reported and lower payments than expected. Payments for the 2009 to 2015 accident years were \$13.0 million lower than expected. Our actuarial assumptions reflect this recent experience.

Insurer reconciliation

Reconciliation of insurers' estimates (\$M)									
Accident year ending 30-June	2017	2016	2015	2014	2013	2012	2011	2010 & earlier	Total
A. Inflated estimates at 30 June 2017 (a)	715.3	378.1	183.0	106.1	51.9	30.9	16.1	165.5	1,646.9
B. Gross payments 1 July 2017 to 30 June 2018	334.3	163.9	61.0	25.6	12.0	7.2	2.7	18.1	624.9
C. Expenses (b)	16.7	8.2	3.0	1.3	0.6	0.4	0.1	0.9	31.2
D. = A - B - C	364.3	206.0	119.0	79.2	39.3	23.3	13.2	146.4	990.8
Updated inflated estimates at 30 June 2018									
E. Revised inflated estimates at 30 June 2018 (c)	338.8	153.6	81.0	61.7	23.0	16.1	9.4	163.5	847.2
F. = E - D	-25.4	-52.4	-38.0	-17.5	-16.3	-7.3	-3.8	17.1	-143.5
Change 1 July 2017 to 30 June 2018									
G. Inflated amount incurred and outstanding for 2017/18 accident year (c)									698.5
H. = E + G									1,545.7
Total inflated outstanding liability at 30 June 2018									

- Notes :**
- (a) From columns (d) + (e) on insurers consolidated Form WC20 for 30 June 2017 (see our 20 March 2018 report Appendix E1.5 + E1.6) adjusted for 5% claim management expenses
 - (b) Assumed to be 5% of claim payments in 2017/18
 - (c) From columns (d) + (e) on insurers consolidated Form WC20 for 30 June 2018 (as per Appendix E1.5 + E1.6) adjusted as per notes (a).

This table shows that:

- Overall there was a release of inflated estimates of \$143.5 million, which is 8.7% of the opening estimates
- All accident years had releases, except for accident years 2010 & earlier.

On an inflated basis, our estimates had a release of \$113.7 million (7.7%). Our estimates on an inflated basis showed a lower release than the insurers across all accident years except 2017. Our estimates at 30 June 2017 were lower than insurers for all accident years except 2011 and 2017.

4 Data used in the review

Key points of this section

- The necessary data was supplied to us by insurers and by WorkCover WA
 - This is the second year that we have relied on the Form WC12 to calculate and publish the recommended premium rates based on ANZSIC 2006 classifications
 - This year is the first year we have used the payment type data from WorkCover WA's database. The total payments reconciled well with the payment information previously provided by the insurers.
 - We encourage insurers to continue to compare their form submissions with the prior year's final version and proactively provide explanations for any large differences
-

4.1 Insurer data

We were supplied the following electronic forms as at 30 June 2018:

- Form WC12 – individual policy data with associated claims data for ANZSIC 2006 premium rating classes
- Form WC20 – aggregate claims data for each accident year
- Form WC101 - annual payments by payment type
- Form WC30 - premium and expenses data
- Checklist – performs high level checks on forms.

The data is supplied to WorkCover WA by the premium rate returning entities. WorkCover WA reviews the data using the checklist sheet and then forwards it to us.

All premium rate returning entities completed the Form WC12 for the 2012/13 to 2017/18 underwriting years. This is the second year that we have used Form WC12 and published the average recommended premium rate based on the ANZSIC 2006 classification.

Policy data refers to the number of policies, written premium and written wages and is presented on an underwriting year basis. Form WC12 presents policy-level earned premium and earned wages on a financial/accident year basis based on the ANZSIC 2006 classifications and so matches the claim data exposure period.

Claims data refers to claims reported, active claims (Form WC20 only), payments, case estimates and development, and incurred but not reported (IBNR) estimates (Form WC20 only). Claims data is presented on a financial year basis, subdivided by accident year.

From June 2018 onwards, insurers are no longer required to provide Form WC20 and Form WC101 on a quarterly basis. They have however provided us with a half yearly WC20 to 31 December 2018.

For further details on the insurer data, see Appendix B1.

4.2 Other data

WorkCover WA provided the following data:

- Payment data for the 2014 to 2018 financial years, split into the 12 different payment types and by accident year. This is in replacement of the Form WC101 which was previously used for our valuation by payment type
- Claim payments for the half year to 31 December 2018
- Individual list of claims for each financial year and up to 31 December 2018 to assess any change in the frequency of claims for claimants over 60 years old

- Claims with an incurred cost estimate over \$0.2 million, as at 30 June 2018
- Number of Schedule 2, Redemptions and section 92(f) settlements lodged and payments made per quarter from the WorkCover WA claims system
- Lump sum payments split into lump sum settlements with and without election, Schedule 2 and legal payments
- Number of claims reported each quarter split into duration of days lost of 0, 1 to 4, 5 to 19, 20 to 59, 60 to 119, 120 to 179 and greater than 180 days time lost.

Appendix B2 discusses the form of the data provided in greater detail.

4.3 Data quality

The overall quality of the data was acceptable for our premium rate projections, once the data validation process was completed.

In summary, of 20 (20) returns received:

- 10 (10) required no further action
- 9 (9) insurers had to clarify specific issues or do a first revision
- 1 (1) insurers had to further clarify issues or do a second revision.

Last year's numbers are in brackets.

The data quality was reasonably consistent with previous years. This is the second year that we received and checked the Form WC12 at a policy level. Many of the queries raised were corrected but some were flagged as immaterial and to be corrected prior to submission of data next year. With this additional layer of information, we were able to gain more insight into the drivers of the movement between years and classes.

We encourage insurers to continue to compare their submissions with the prior year's final version, and provide explanations for any large differences. This will reduce the number of queries we have when we review the initial submissions.

This year is the first year we have used the payment type data from WorkCover WA's database. The total payments reconciled well with the payment information previously provided by the insurers. The total payments were within 0.02% for the 2016 and 2017 financial years and within 0.2% for the 2014 and 2015 financial years.

4.4 Data enhancements

This is the first year where we have reviewed and used new groupings for our valuation of the outstanding claims liabilities. The new groupings were developed due to the move to data collection based on the National Insurer Data Specification (NIDS), which has additional payment categories. WorkCover WA provided these payments. An initial review of payment groupings were performed to ensure that payments are grouped based

on similarity in their payment profiles, prior to commencing with the valuation. As all lump sums are grouped together, we no longer had to make any special adjustments in categorising 92(f) settlements.

This is the second year we have calculated and published the recommended premium rates analysis based on ANZSIC 2006. While we are confident that the Gazetted rates based on ANZSIC 2006 are reasonable, we are continuing to work with WorkCover WA to closely monitor the impacts the changes may have. This includes reviewing the timeframe for the transition capping to ensure the transition from ANZSIC 1993 to ANZSIC 2006 is appropriately managed.

Future enhancements to data may be to provide summarised claims data by nature of injury, in order to better understand the size of claims by nature of injury and the impact of asbestos claims for DY10 and later. This will be useful for the sound financial management of the WA workers compensation system in the medium term.

4.5 General data considerations

Former insurers

Even though insurers may surrender their licences to renew or write new policies, they will generally have outstanding and IBNR claims to manage. These claims are a cost to the system and hence need to be reported.

There are guidelines in place for data provision during the claim run-off period and WorkCover WA have advised us that supervisory control of the claim run-off continues once the licence to write premiums is surrendered.

Mergers/takeovers

Where one insurer takes over another on the basis that it manages the claims on a 100% recovery basis, the cost of these managed claims still need to be returned since they are a cost to the system.

Administrative issues

WorkCover WA assists us with the efficient administration of the quarterly and annual statutory returns, by advising us of any changes to the licensing situation of insurers/self-insurers as they occur, e.g.:

- New insurer / self-insurer licences granted
- Insurer / self-insurer licences surrendered
- Purchase / merger of insurers.

Such advice includes information such as the full details of effective dates, and any relevant background detail.

Self-Insurers

Self-insurers supply all the statutory returns submitted by insurers, exclude Form WC12. They renew their licences annually.

RiskCover is the only self-insurer included in the calculation of the recommended premium rates, as requested by WorkCover WA.

LGIS - WorkCare has not been included in the calculation of the recommended premium rates since 2002/03. As a result, the recommended premium rate for ANZSIC code 75300 – Local Government Administration (Applies only to privately insured entities. Excludes all self-insured entities in the Local Government Insurance Service – WorkCare scheme) should be treated with caution as it does not reflect the current experience of the Local Government self-insurance scheme.

The premium rates for other classes, where there is a dominant employer, could be similarly non-reflective of the whole WA experience for that class if that employer is self-insured or changes between being insured and self-insured.

5 *Calculation methods*

Key points of this section

- We projected future cashflows separately for six payment type groups, one less than the seven payment type groups used last year, due to the change in the source of payments this year
 - Appropriate payment per claims incurred, active and finalised methods are used for each payment type
 - A hierarchical credibility method is used to calculate recommended premium rates for the 517 premium classes based on ANZSIC 2006 classification, as per last year.
-

5.1 Projection methods

We assessed the outstanding claims liability by projecting cashflows separately by payment type. The payment types are grouped as follows:

- Weekly
- Medical (Scheduled and Non-Scheduled) and Hospital Expenses
- Allied Health
- Workplace Rehabilitation
- Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)
- Investigation, Legal and Miscellaneous.

This year we changed the payment groups due to changes in the data provided. There are 12 payments types based on the NIDS data, which we have been provided with and we have grouped them into the six payment groups above. These groups are similar to the previous seven groups except that miscellaneous and fatal payments are no longer included with weekly benefits and all the lump sum settlements are in one group (compared to previously where common law was separate to redemptions and schedule 2).

We analysed the payment pattern of each of the payment types above over the five financial years to 2018 and grouped payment types, which have similar payment patterns across development years. We also considered WorkCover WA's grouping of payment types. Based on the payment pattern we considered separating lump sum election registered but given the small percentage of payments in this category we kept all the lump sums together to align with WorkCover WA's grouping. If this payment type increases in size, we may separate it in the future.

The first four groupings listed above were projected using the payments per active claim (PPAC) and payments per claim incurred (PPCI) methods. The Lump Sum and Investigation, Legal and Miscellaneous groups were projected using the payments per claim finalised (PPCF) and PPCI methods.

Appendix C has a description of each of the projection methods.

The above methods calculate the projected liability in current values, including allowances for superimposed inflation.

The estimated liability for outstanding claims is calculated as the present value of the future claim payments allowing for:

- a Future increases prior to payment, due to claims inflation
- b Discounting to take into account the time value of money
- c Expenses associated with claims handling.

This approach is consistent with the standards described in 1.4.

The question of uncertainty in the actuarial estimates and the determination of provisions are discussed in sections 7.1 and 7.2.

5.2 *Relative premium rates methods*

Calculate weighted average rates

The raw premium rate is calculated on an accident year basis for 2012/13 to 2017/18 using the following formula:

$$\frac{\text{developed total estimate (claim payments + outstanding case estimates)}}{\text{developed returned earned wages}}$$

This is done by industry division, subdivision, group and class.

Both the total estimate and returned earned wages are developed on an individual insurer basis and then cumulated to attain the industry totals. Returned earned wages are developed by considering the extent to which individual insurers' returns have developed in the past. The total estimate is developed based on the insurers' expected development, provided on Form WC20, adjusted on an aggregate level to align with our total development expectations.

The weighted average rates (WARs) are calculated from the raw rates by applying the following weightings to each development year (weights for prior rating years are for information only):

Weightings	Development year						
	0	1	2	3	4	5	
30 June 2018	0.6	0.9	1.0	1.0	1.0	0.5	
30 June 2017	0.6	0.9	1.0	1.0	0.5	0.0	

The current accident year experience is given only 60% weighting because of the low level of development. This increases to 90% for development year 1. The rates are then standardised to give an overall weighting of 100% up to development year 4, reducing thereafter due to lower relevance of the older years. The weights sum to five full years.

The weightings for this year include one more year as there is one more year of data available on the Form WC12. This is consistent with the number of years included in the weighting for the 2015/16 recommended premium rates and earlier. We reduced the years included in the rates as part of the transition from ANZSIC 93 to ANZSIC 06.

Partial credibility rates

Partial Credibility Rates (PCRs) are calculated from the WARs using aggregate weighted wages as the exposure measure. PCRs are calculated by industry division, sub-division, group and class progressively, using a system of hierarchical credibility.

To obtain full credibility, the aggregated weighted wages for each class, group, sub-division or division need to be greater than \$2,128 million. This is 8.4% higher than the \$1,963 million from the analysis last year. Note that

last year, the full credibility value of \$1,963 was multiplied by four divided by five to adjust for fewer years in the average compared to prior years. The increase is due to lower claim frequency and higher average wages.

Under this method the following obtained full credibility:

- 19 (19) of 19 divisions
- 39 (40) of 86 sub-divisions
- 45 (51) of 214 groups
- 46 (50) of 517 premium rating classes.

Figures in brackets are last years.

The table below shows the distribution of credibility level achieved by rating classes on their own claims experience:

Credibility Level	This year		Last year	
	No. of Classes	%	No. of Classes	%
$x \leq 25\%$	231	44.7%	224	43.3%
$25\% < x \leq 50\%$	143	27.7%	137	26.5%
$50\% < x \leq 75\%$	61	11.8%	70	13.5%
$75\% < x < 100\%$	36	7.0%	36	7.0%
100%	46	8.9%	50	9.7%
Total	517	100.0%	517	100.0%

Where a class, group or sub-division does not have full credibility the rate is built-up from group level, progressively through sub-division and division level, if necessary.

The wages for some classes were aggregated to calculate the credibility factor. This is done to promote homogeneity of experience where rating classes have claim experience vastly different from the other classes in the same group. See Appendix C for a detailed description of these classes.

Capping large claims

Large claims are capped when calculating relative premium rates to moderate their influence on the rates at a class level.

For the 2017/18 accident year, large claims are capped if the incurred cost estimate is greater than \$6.4 million. The level that large claims are capped at is indexed in line with wage inflation, starting from a base of \$3.0 million for the 2000/01 accident year.

Large claims are also capped based on their size relative to the rating class to which they belong. Claims are capped if the incurred cost is 12% or more of wages for that rating class. For the 2017/18 accident year, the minimum incurred cost for which this capping is applied is \$0.4 million. This has also been indexed in line with wage inflation, starting from a base of \$0.2 million for the 2000/01 accident year.

Large claims are capped only for the purposes of calculating the relative premium rates. They are not capped for the calculation of the Scheme's outstanding claims liability. As such, the cost above the cap is in effect respread over the whole scheme for valuation purposes.

For the 2013 to 2018 accident years, which have a greater than 0% weighting (see above in this section), at class level four (three) claims are capped, while at group, sub-division and division level two (two) claims are capped. The numbers in brackets are last year figures.

Our methodology for capping large claims remained unchanged from our previous recommended premium rates.

The large claims capping method is discussed in further detail in Appendix C2.

Normalise partial credibility rates

The PCRs are normalised such that when they are applied to adjusted accident year returned wages for 2017/18 by class, the aggregate notional premiums are equal to the aggregate notional premiums, based on the same wage data, calculated using the 2018/19 Gazette rates.

The normalised PCRs (NPCRs) are subjected to absolute minimum and maximum rates of \$0.25 and \$12.00 per \$100 of wages. This is the same as last year.

Continued transitory capping of rates from ANZSIC 1993 to ANZSIC 2006

In addition, the normalised PCRs post the absolute minimum and maximum adjustment (above) is then further capped in their total movement from the 2018/19 Gazetted rates (both upwards and downwards) by 25%. This is in order to allow for a smoother transition from ANZSIC 1993 to ANZSIC 2006 classifications. This approach is similar to last year where we applied a 15% movement capping between comparable 2017/18 rates (under ANZSIC 1993) and 2018/19 rates.

Having applied these limits, the NPCRs are normalised once again to the aggregate notional premiums at Gazette rates.

Weighted loss ratio

The weighted loss ratio in Appendix A, is calculated as follows:

$$\frac{\text{estimated risk cost of claims (based on this year's Gazette rates times wages)}}{\text{premium on last year's Gazette rates}}$$

The weighted loss ratio is not directly used when calculating recommended premium rates. However, one divided by the weighted loss ratio is equivalent to the combined loadings factor, which is used (see section 6.5).

6 *Assumptions*

Key points of this section

- For this valuation, there has been a decrease in the real rate of return for all future years, which increases the liabilities. This is mainly due to decreases in the interest rates from year two onwards
 - The rate of superimposed inflation applied in the outstanding claims valuation decreased to 5.2% from 7.5%. This decrease was driven by decreases for a majority of payment groups
 - The superimposed inflation used to estimate the 2019/20 incurred risk cost is unchanged from last year at 4.1%
 - The contingency margin adopted for the valuation is 11%. This is the same as per previous valuation
 - The 2019/20 recommended premium rates include an allowance of 0.7% for the 2018 Amendment Act. This is the same as last year
 - The combined loading factor for expenses and contingencies increased from 1.3587 to 1.3755.
-

6.1 Financial assumptions

Future inflation and interest rates

The financial assumptions of future inflation and market rates of interest are as follows:

Years ahead	Interest rate 28 Feb 2019	Inflation rate 28 Feb 2019	Real rate 28 Feb 2019	31 Jan 2018
1	1.82%	1.75%	0.07%	0.09%
2	1.73%	2.75%	-1.02%	0.21%
3	1.71%	3.00%	-1.29%	-0.66%
4	1.72%	3.25%	-1.53%	-0.84%
5	1.83%	3.11%	-1.28%	-0.49%
6	2.02%	2.96%	-0.94%	-0.21%
7	2.25%	2.82%	-0.57%	0.02%
8	2.45%	2.68%	-0.22%	0.18%
9	2.63%	2.54%	0.09%	0.28%
10	2.76%	2.39%	0.37%	0.32%
11	2.87%	2.25%	0.62%	0.32%
12	2.95%	2.11%	0.84%	0.57%
13	3.02%	1.97%	1.05%	0.90%
14	3.07%	1.82%	1.25%	1.19%
15	3.12%	1.68%	1.43%	1.44%
16	3.14%	1.54%	1.60%	1.64%
17 & onwards	3.15%	1.40%	1.75%	1.64%

For this valuation, there has been a decrease in the real rate of return for first nine years of projections and for the 15th and 16th years, which increases the liabilities. This is mainly due to decreases in the interest rates from year two onwards.

For all future projection years from year three onwards, the decrease in interest rates is more than the decrease in inflation rates.

The interest rate for one quarter of the first year ahead [$((1 + 1.82\%)^{0.25} - 1) = 0.5\%$] is included in the calculation of the average premium rate. This is because premiums are received on average three months earlier than the point to which claims are discounted.

See Appendix D1 for further information.

Employment growth for the half-year to 31 December 2018

To determine the employment growth we have used the movement in the ABS Cat. 6202.0 Table 8 Labour Force for full time persons for Western Australia. The number of full time employees increased by 0.2% from 30 June 2018 to 31 December 2018. Over the equivalent period last year, 30 June 2017 to 31 December 2017, there was an increase of 0.8%.

Past general inflation

To determine the minimum premium for householders and other policies we have used the movement in the ABS Cat. 6401.0 Table 1 CPI all groups index numbers for Perth. CPI is expected to increase by 1.1% over 2019/20, extrapolated from the increases over 2017/18 (0.9%) and 2018/19 (1.3%).

Past wage inflation

Payments and case estimates are inflated to current values based on the ABS Cat 6302.0 Average Weekly Earnings for Western Australia (persons full-time adult ordinary time earnings). Details are in Appendix D1.

6.2 Superimposed inflation

The superimposed inflation assumptions for each payment category are shown in the table below. As per last year, we have used different superimposed inflation rates for the outstanding claims blend and 2019/20 premium rate calculation.

6.2.1 Outstanding claims

We have analysed the historic level of SII for each payment group, and weighted these by the outstanding claims amount to find an overall level. This is shown in the table below.

Superimposed Inflation								
Payment groups	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total	
30 June 18	4.6%	4.2%	6.0%	9.5%	5.2%	5.9%	5.2%	
Payment groups	Weekly benefits, miscellaneous and fatalities	Medical and hospital expenses	All other treatment	Vocational rehabilitation	Redemptions and 2nd schedule	Legals	Common law	Total
30 June 17	5.9%	4.8%	4.5%	7.4%	10.4%	7.7%	5.1%	7.5%

See Appendix D2 for more details of our analysis.

Superimposed inflation for the outstanding claims is 5.2% overall, which is 2.3% lower than the 7.5% adopted in our previous valuation. The majority of comparable groups have a lower rate of superimposed inflation compared to that adopted for the 30 June 2017 valuation, except allied health and workplace rehabilitation.

The decreases in the superimposed inflation rates are mainly driven by the slowing reduction in the number of claims, and the claims mix starting to stabilise in the scheme.

6.2.2 2019/20 premium rate calculation

Due to the reduction in small claims and change in claims mix leading to the high rate of SII in the most recent four accident years for all payment groups, we have previously performed a separate analysis of SII for premium rating purposes. This analysis took a similar form to the outstanding claims analysis, but excluded most recent years post 2013 accident year. We also did a high level check by reviewing the increase in total incurred cost if the small claims were not removed from the system. Details of the analysis can be found in Appendix D2.

This year, given the new payment type data only extends back to 2014, we have not performed a separate analysis for the future superimposed inflation. We have instead adopted last year's SII of 4.1%.

6.3 Expenses

Total expenses

A three year average is calculated from the expenses provided by insurers on the WC30 form. The expenses adopted are as follows:

	Expense Ratios			Adopted
	2017/18	2016/17	2015/16	3 yr ave
Commission / Brokerage	3.3%	3.1%	2.7%	3.0%
General Fund Levy	1.7%	1.6%	1.8%	1.7%
Management Expenses	16.0%	14.8%	13.8%	14.9%
Total	21.0%	19.6%	18.3%	19.6%
Total excluding brokerage	17.7%	16.5%	15.6%	16.6%

Note that brokerage, the supplementation fund levy (if applicable) and GST on the premium are not included in the recommended premium rates.

The total expenses, excluding brokerage, of 16.6% are 0.9% higher than the 15.7% adopted last year. This is due to an increase in management expenses, which may be driven by multiple factors; higher staffing costs, information technology upgrades, bad debts and lower earned premium amounts.

If the increasing trend in expenses continues or stabilises the future premium rates will continue to increase over the next couple of years. If a one year average of expenses was used in the premium rates, the average premium rate would increase by 1.5%. This is shown in the premium rates sensitivity table in section 7.2.3.

Claims handling expenses

Claims management expenses equal to 5% of the projected future claim payments have been allowed for in the outstanding claims liability. This is intended to be a market level reserving allowance for claim handling costs.

Goods and Services Tax

Our adopted projection bases use claim payments data, which includes Goods and Services Tax (GST) net of Input Tax Credit (ITC) and Decreasing Adjustment Mechanism (DAM) and therefore appropriate GST net of ITC, and/or DAM allowance is included in the results obtained. As mentioned above, the 10% GST on the workers compensation premium itself (which employers will generally be able to recover via an input tax credit) is not included in our analysis or the recommended premium rates.

6.4 Contingency margin

This year the contingency margin has remained the same as last year, at 11%. For the 2017/18 recommended premium rates report, we did a special review where we recommended it increase from 10% to 11%. See Appendix D for more details.

The contingency margin allows for insurers' cost of servicing the regulatory solvency capital required without the purchase of reinsurance.

6.5 Combined loadings and loss ratio

The loss ratio is calculated from the expenses and contingency margin above and includes interest earned on earlier receipt of premiums.

A combination of these loadings, excluding brokerage, is:

$$\begin{aligned} \text{Gross premium} &= \frac{\text{Risk Premium}}{(1 - \text{total expenses} - \text{contingency margin}) \times \text{interest earned factor}} \\ &= \frac{\text{Risk Premium}}{(1 - 0.166 - 0.11) \times 1.0182^{0.25}} \end{aligned}$$

Gross premium = Risk premium x 1.3748 (combined loading factor)

This is equivalent to a loss ratio of:

Risk premium / Gross Premium = 72.7% excluding brokerage

The 1.3755 combined loading factor in the premium rates is calculated as the inverse of the loss ratio, rounded to four decimal places.

The loss ratio adopted last year was 73.6%. The decrease in the loss ratio adopted this year is due to the increases in total expenses.

6.6 Premium rating caps

Minimum and maximum premium rating caps

As detailed in section 5.2, premium rates are subject to absolute minimum and maximum rates. The minimum and maximum rates are \$0.25 and \$12.00 per \$100 of wages, which is the same as last year.

Premium rates for 14 rating classes were increased to the minimum rate and all other premium rates have reduced by 0.4% as a result of respreading the extra premium generated. This is lower than the 0.5% redistribution as last year. No classes exceeded the \$12.00 maximum premium rate.

Transitory premium movement cap of 25%

As detailed in section 5.2, premium rates are subject to absolute minimum and maximum rates and a movement cap from its previous comparable Gazetted rates. This movement cap was retained to smooth the transition for the change in basis from ANZSIC 1993 to ANZSIC 2006.

This capping of movement increases all premium rates (not subject to capping) by 1.3% as a result of respreading the extra premium required.

Large claims capping

As detailed in section 5.2, 2017/18 accident year large claims are capped at \$6.4 million. A cap is also applied for claims above 12% of wages if they exceed \$0.4 million indexed but not \$6.4 million. In both cases, these are

the values for the 2017/18 accident year, which have been indexed from base values set for the 2000/01 accident year. This is the same method as last year.

For the 2013 to 2018 accident years, which have a greater than 0% weighting (see section 5.2), at class level four (three) claims are capped, while at group, sub-division and division level two (two) claims are capped. The capped large claims represent 0.6% (0.5%) of the 2019/20 premium pool. The numbers in brackets are last year figures.

6.7 WA legislative changes

For our valuation of the outstanding claims provision as at 30 June 2018, we have included allowances for the 2011 Amendment Act. We have reduced the number of development years for which the explicit allowance is applied. In this year's valuation, no explicit allowance is required for development years zero to five as the adopted factors are based on post-Act change experience.

For more details on what the Act entailed see Appendix D5.

The allowance for the 2011 Amendment Act has increased the 30 June 2018 central estimate by 0.2%. This decreased from the 0.6% allowance last year, due to the reduced period over which the allowance is applied.

In addition, we have allowed for the changes in fatality benefits due to the *Workers' Compensation and Injury Management Amendment Act 2018*. We estimate the 2018 Amendment Act will cause a 0.7% increase in the risk cost for the 2018/19 and later accident years. The Act commenced from 1 July 2018 so there is no expected impact on the outstanding claims liability as at 30 June 2018.

6.8 Board directives

The following WorkCover WA Board directives have been issued:

- All self-insurers, with the exception of the ICWA-RiskCover, are to be excluded from the recommended premium rates (LGIS WorkCare was included in the rates until 2004)
- Brokerage is to be excluded from the premium rates
- Premium rates are to be specified gross of reinsurance. The contingency margin allows for the insurer to hold the total amount of capital required to support the business without the purchase of reinsurance
- Premium rates are calculated using earned wages, which provides more stable premium rates than the use of written wages
- The level for large claim capping
- The minimum and maximum premium rates
- A maximum movement (both upwards and downwards movement) of 25% for the premium rates by class based on ANZSIC 2006 from their comparable Gazetted 2018/19 rates. This forms part of the strategy to

smooth the transition for premium rates calculated and published based on ANZSIC 1993 to ANZSIC 2006

- Use a three year average to calculate the expense loading.

7 *Uncertainty*

Key points of this section

- An 10.5% risk margin is sufficient to increase the level of reserving adequacy from 50% to 75%
 - Some of the current additional sources of uncertainty include:
 - Silicosis claims
 - The reduction in the number of small claims in the scheme, and associated change in claims mix
 - The economic environment
 - Legal and settlement costs
 - Impact from the 2018 Amendment Act
-

7.1 Uncertainty in the estimates

Actuarial estimates are obtained after analysis of past claims experience. From these analyses, models of the claim payment process can be established and used to project future payments on claims outstanding at the valuation date.

The estimates of outstanding claims obtained in this manner are indeed estimates in the sense that there is a degree of uncertainty as to the difference, which will ultimately arise between the estimates and the final result of the experience. This uncertainty arises from four sources:

- a Because the nature of the claims process is not fully understood, it might be that none of the various models used is an entirely accurate representation of reality
- b Because there are components of randomness in the claims process, it is not possible to estimate the parameters of that process with complete precision even if complete confidence were felt in the nature of the model
- c Any erroneous data will similarly have introduced uncertainties into the estimates of those parameters
- d Even if the parameters could be estimated with precision, it would not be possible to predict outstanding claims with the same precision because of the random component in future experience.

For some portfolios errors associated with b and d above can be quantified in a formal way (estimation and statistical errors). However a large part of the uncertainty is associated with model specification error (point 'a' above), and it is difficult to quantify this component.

The investigation and application of different models to the data is intended to reduce the model specification error, although the extent to which this is achieved is unknown.

The initial estimates obtained from the calculations are "central" estimates in the sense that they incorporate no deliberate bias towards over or under estimation. By definition, the estimates are intended to have about an even chance of ultimately turning out to be sufficient.

7.2 Determination of provisions

7.2.1 Background

Insurers' financial statements would have to comply with Accounting Standard AASB 1023 on General Insurance Contracts.

AASB1023 requires the determination of a central estimate of the present value of the expected future payments for claims incurred with an additional risk margin to allow for the inherent uncertainty in the central estimate.

It should be realised that, by definition, any margins over central estimates are intended to have a better than even chance of falling into future surplus, provided that future experience is consistent with that of the recent past. This should be considered in making management decisions.

7.2.2 *Levels of sufficiency*

The nature of insurance claims is such that the actual value of the liabilities is unknown because claims experience is subject to random fluctuations. The amount of the claim liability cannot be estimated with certainty. Also, it is very difficult to determine the central estimate with a reasonable degree of precision. For this reason, the inherent uncertainty in the central estimate must also be considered.

Determination of a risk margin allows for some part of the uncertainties in the claim process and also it ensures as far as possible that surplus is not released until it is reasonably certain that the surplus is real.

The adopted method was tested for its sensitivity to changes in the claim rates assumed and a measure of the variation in the results was obtained. This analysis indicated that the distribution of likely results was skewed to the right. This means that the variation upwards in the provision is expected to be greater than the variation downwards.

The dispersion of expected results is added to by:

- The variable nature of the claim experience
- Very large common law claims can sometimes occur.

The variation analysed together with benchmarking against reports published by APRA and the Institute of Actuaries leads to the assumption of a 17% standard deviation of the distribution of results, which allows for the skewed distribution and systemic variation. The lognormal distribution was then assumed to apply when calculating the risk margin required to increase the level of sufficiency above 50%.

The coefficient of variation calculated as described above is taken as 17%. This leads to the following risk margins. As per last year we adopted a risk margin of 10.5%

Level of sufficiency and risk margins				
Level of sufficiency	60%	70%	75%	80%
Risk margin	2.89%	7.71%	10.47%	13.63%

7.2.3 Sensitivity

The adopted method was tested for its sensitivity to changes in the assumptions about future interest and inflation rates, adopted reporting rates, and superimposed inflation, and a measure of the variation in the results was obtained. The results of this analysis are shown below:

Recommended Premium Rates Provision - Sensitivity Analysis		
Assumption varied	Variation	% Change in total provision
Future interest rates	1% increase	-1.86%
	1% decrease	1.98%
Future inflation rates	1% increase	1.95%
	1% decrease	-1.87%
Adopted claim reporting rates	DY0 rate decreased from 9.12% to 4.56%	-2.06%
Superimposed inflation	1% increase	1.90%
	1% decrease	-1.82%

The percentage change in the outstanding claim provision as at 30 June 2018 is shown in the table above. The inherent robustness of the various assumptions in the table above means that the variations shown are not necessarily cumulative. Hence care needs to be exercised in developing any best or worst case scenario.

We also tested the impact on the 2019/20 recommended premium rate for changes in key assumptions. The results of this test are shown in the table below:

Recommended Premium Rates Provision - Sensitivity Analysis		
Assumption varied	Variation	% Change in premium rates
Future interest rates	1% increase	-1.74%
	1% decrease	1.69%
Future inflation rates	1% increase	1.16%
	1% decrease	-1.12%
Superimposed inflation for future accident years	1% increase	1.13%
	1% decrease	-1.09%
Superimposed inflation for both historical and future accident years	1% increase	2.84%
	1% decrease	-2.75%
Claims incurred (allowing for small claims)	6,000 more claims incurred with an average claim size of \$6,000 per claim	3.92%
Expenses	one year average (17.7%) used instead of three year average (16.6%)	1.54%

This table differs from the previous table as the first table is the change in the outstanding claims provision and the second table is the change in the recommended premium rate.

7.3 Additional sources of uncertainty

7.3.1 Silicosis claims

Silicosis has become a significant issue for employees in the manufacturing stone industry in other states, particularly Queensland. Towards the end of the 2018 calendar year, Queensland commenced testing all employees who have potentially been exposed to crystalline silica dust. On 21 February 2018, ABC news has reported that there are 98 Queensland employees who have contracted silicosis, with more workers still to be tested.¹

In WA, there have only been two silicosis claims reported over the last ten years, though one was withdrawn.

We have not included a specific allowance for silicosis in the 2019/20 premium rates due to the current lack of historical data and uncertainty in number and size of silicosis claims. It is also unclear how the claims would be spread across prior accident years.

If the silicosis claim frequency in WA becomes more prevalent, this could have a significant impact on the rates for some classes. Potential classes impacted are 20310, 20330, 20340, 20900, 20901 and 32420. There is a risk that the premium rates in these classes could reach the maximum rate of 12% if the silicosis claim frequency in WA is as prevalent as Queensland. We recommend that silicosis claims associated with manufacturing stone are monitored closely.

7.3.2 Reduction in claim numbers and change in claims mix

The number of incurred claims over the 2019/20 premium rate year has a direct impact on the assumed incurred cost, if there is no change in the average claim size, and therefore the premium rate. Since the Global Financial Crisis (GFC) there has been a reducing trend in the number of incurred claims across accident years. Over the 2014 to 2017 accident years, there has been significant decreases, with the number of small (time lost less than five days) claims reducing by more than longer duration claims, so the mix of claims is changing. There was a smaller decrease in the 2018 accident year.

A significant source of uncertainty relates to whether such claims will be reported late; will not be reported in future, or; further decreases in claim numbers will occur.

Last year there were higher than expected claims reported for DY2 and later, so we increased our reporting rates last year in response. This year, the actual reports were less than expected and lower than in the 2017 financial year. Therefore, the higher number of late reported claims may have been a one-off occurrence. We will continue to monitor late reported claims.

As shown in the sensitivity tests above, if an additional 6,000 small claims had been reported in the 2019/20 premium rate year at an average cost of \$6,000 (based on past 1 to 4 days' time lost costs) the required increase in the premium rate would be 3.9%.

¹ <https://www.abc.net.au/news/2019-02-21/silicosis-death-dust-audit-reveals-major-epidemic-worse-asbestos/10830452>

Other sources of uncertainty with regards to the changing claims mix are:

- The number of psychological claims both primary and secondary. Although these claims represent a small, but increasing, proportion of the total, they tend to have a higher average cost, and therefore an increase in the volume of these claims would cause additional uncertainty for the incurred cost in the scheme. From our discussions with insurers, secondary psychological claims are thought to be increasing but difficulties in effectively capturing and tracking secondary psychological claims make this hard to prove.
- Whether the employer is requesting reimbursement for all payments types from the insurer or whether employers are choosing to pay part of the claims costs in house, particularly in situations where an employee has partially returned to work. If costs are currently being withheld from the scheme this creates additional uncertainty about the actual total cost. The total cost could increase in the future if these payments are reclaimed.

7.3.3 Economic environment

There is still considerable uncertainty associated with the future economic activity in WA. This will likely to continue to have a direct impact on wages, but it may impact claims costs for two main reasons.

Anecdotal information suggests that, firstly, claim durations are being affected as alternative duties or employment at other companies is more difficult to find. When companies get in financial difficulties, there is also a potential increase in claims costs where there is no longer a job for an injured employee to return to work.

Secondly, companies may be reducing their internal risk management capabilities to save costs. This may lead to an outsourcing of, for example, vocational rehabilitation costs, and to slower intervention after a claim has occurred, potentially causing the claim severity to worsen. It also increases vocational rehabilitation costs to the scheme as when there are internal vocational rehabilitation officers at employers this is not generally reported as a cost to the scheme.

The current economic climate is causing a higher level of bad debts and premium refunds compared to a longer term average though this may have stabilised in the short term. We understand that currently bad debts are accounted for in management expenses. Future increases in bad debts will increase the expense rate, and therefore premium rate, for the scheme.

7.3.4 Settlements and legal costs

There has been significant superimposed inflation for lump sum and legal costs over recent years, though it has reduced somewhat this year. The increase in redemptions may be driven by the impact of the economic environment, especially on the ability to find injured employees alternative duties or return to work opportunities. The increase in legal costs are linked to the higher settlements. Legal costs are also impacted by insurers using external versus internal lawyers. Over the 2017 and 2018 financial years, we saw decreases in both legal and settlement cost driven mainly in development years 1 to 4. We will monitor this to see if this is a once-off reduction or a new trend.

The actuarial valuation of workers compensation risks is subject to a high level of uncertainty, especially for the settlement payment types. This is because the cost of settlement claims are more difficult to predict since they are the larger claims, tend to have longer reporting and payment delays than statutory benefit claims, and a greater dispersion of claim size.

7.3.5 Impact from the 2018 Amendment Act

The cost impact of changing the fatality benefits from the previous entitlements to the benefit structure in the *Worker's Compensation and Injury Management Amendment Act 2018* is estimated to cause a 0.7% increase in the cost for the 2018/19 and future accident years relative to 2017/18.

From our analysis the impact of the benefit changes is sensitive to the following:

- The current average level of dependency for spouses and defacto partners, a lower assumed dependency than that adopted increases the impact on the scheme risk cost as the historical cost decreases but there is no change to the expected cost
- The number of fatalities assumed per year, a higher number of fatalities increases the impact on the scheme risk cost as it becomes a larger percentage of the total risk cost
- The proportion of fatalities where there are no dependants, if fewer fatalities have no dependant there will be a higher impact on scheme risk cost.

See Appendix D5 for more details.

Appendices

Appendix A	Premium rates	50
Appendix B	Detailed data description	63
B 1	Data supplied by insurers	63
B 2	Other data provided	65
B 3	Data quality	67
Appendix C	Detailed methods description	69
C 1	Projection methods	69
C 2	Premium rates methods	70
Appendix D	Assumptions	76
D 1	Financial assumptions	76
D 2	Superimposed inflation	79
D 3	Management and other expenses	83
D 4	Contingency margin	84
D 5	WA Legislative changes	85
D 6	GST	87
Appendix E	Outstanding claim valuation	88
E 1	Claims experience and analysis	88
E 2	Actual and projected claims experience during 2017/18	90
E 3	Analysis and projection models	91
E 4	Adopted estimates of outstanding claims	99
Appendix F	Claims experience	102
F 1	Claims experience during 2017/18	102
F 2	Claims experience in the six months to 31 December 2018	103
F 3	Analysis by type of payment	105
Appendix G	Claims statistics	108
G 1	Number of claims incurred	108

G 2	Average claim sizes	109
G 3	Incurred cost	110
G 4	Loss ratios	111
G 5	Finalisation of claims	113
G 6	Payment per claim incurred	115
Appendix H	Comparative statistics	117
H 1	Statistical trends	117
H 2	Comparative statistics	124
Appendix I	Analysis of lump sum claim experience	127
I 1	Section 92(f) settlements	127
I 2	Redemptions and Schedule 2 payments	128
Appendix J	Additional data analysis	130
J 1	Duration analysis	130
J 2	Age data	130
Appendix K	Glossary	132

Appendix A Premium rates

What this appendix covers

- Relative premium rates, including the 3.7% increase
 - The claims experience for premium class 75300 – Local Government Administration (Applies only to privately insured entities. Excludes all self-insured entities in the Local Government Insurance Service – WorkCare scheme) is based predominantly on historical data collected from private insurers and does not reflect the current experience of the Local Government self-insurance scheme
 - Large percentage differences between the Uncapped and Restricted rates are due to the minimum cap of 0.25 or a movement cap of plus or minus 25% put in place from the 2018/19 premium rates, to reduce the changes for classes as we continue to transition from ANZSIC 1993 to ANZSIC 2006.
 - We have made no allowance for silicosis claims.
-

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates Uncapped	Relative Premium Rates Normalised 2019/20 Restricted	% Change in Relative Premium Rates (RES2019/20)/GAZ2018/19	Margins Uncapped / (RES2019/20)
A	Agriculture, forestry and fishing							
1110	NURSERY PRODUCTION (UNDER COVER)	76.4%	18.4%	4.20	4.61	4.65	10.8%	0.9%
1120	NURSERY PRODUCTION (OUTDOORS)	80.5%	19.4%	4.20	4.54	4.58	9.0%	0.9%
1130	TURF GROWING	80.2%	12.8%	4.21	4.83	4.88	15.9%	0.9%
1140	FLORICULTURE PRODUCTION (UNDER COVER)	81.7%	10.1%	3.80	4.44	4.48	18.1%	0.9%
1150	FLORICULTURE PRODUCTION (OUTDOORS)	82.3%	10.4%	3.80	4.48	4.52	18.9%	0.9%
1210	MUSHROOM GROWING	81.4%	13.3%	4.61	4.94	4.98	8.1%	0.9%
1220	VEGETABLE GROWING (UNDER COVER)	80.4%	11.4%	4.53	5.21	5.26	16.1%	0.9%
1230	VEGETABLE GROWING (OUTDOORS)	80.0%	34.8%	4.53	5.19	5.24	15.7%	0.9%
1310	GRAPE GROWING	82.9%	26.9%	4.29	4.44	4.48	4.6%	0.9%
1320	KIWIFRUIT GROWING	0.0%	0.0%	4.26	4.42	4.46	4.7%	0.9%
1330	BERRY FRUIT GROWING	77.8%	19.8%	3.66	3.95	3.99	8.8%	0.9%
1340	APPLE AND PEAR GROWING	80.9%	20.7%	4.03	4.20	4.24	5.2%	0.9%
1350	STONE FRUIT GROWING	87.4%	9.9%	4.09	4.53	4.57	11.6%	0.9%
1360	CITRUS FRUIT GROWING	81.2%	7.2%	3.66	4.16	4.20	14.5%	0.9%
1370	OLIVE GROWING	82.9%	9.9%	3.66	4.35	4.39	19.8%	0.9%
1390	OTHER FRUIT AND TREE NUT GROWING	80.9%	23.2%	3.66	3.89	3.93	7.1%	0.9%
1410	SHEEP FARMING (SPECIALISED)	78.0%	21.0%	5.54	6.19	6.24	12.8%	0.9%
1420	BEEF CATTLE FARMING (SPECIALISED)	64.6%	27.3%	8.17	7.67	7.74	-5.3%	0.9%
1430	BEEF CATTLE FEEDLOTS (SPECIALISED)	65.9%	1.5%	7.09	6.70	6.76	-4.8%	0.9%
1440	SHEEP-BEEF CATTLE FARMING	74.5%	14.4%	6.48	6.48	6.54	0.9%	0.9%
1450	GRAIN-SHEEP OR GRAIN-BEEF CATTLE FARMING	72.0%	71.4%	6.37	6.10	6.16	-3.3%	0.9%
1460	RICE GROWING	70.9%	3.3%	6.21	6.07	6.13	-1.4%	0.9%
1490	OTHER GRAIN GROWING	71.7%	21.1%	5.73	5.55	5.60	-2.2%	0.9%
1510	SUGAR CANE GROWING	79.3%	0.7%	5.12	5.53	5.58	9.1%	0.9%
1520	COTTON GROWING	0.0%	0.0%	5.15	5.57	5.62	9.1%	0.9%
1590	OTHER CROP GROWING N.E.C.	82.2%	7.1%	4.84	5.64	5.69	17.7%	0.9%
1600	DAIRY CATTLE FARMING	96.1%	21.6%	5.77	6.76	6.82	18.2%	0.9%
1710	POULTRY FARMING (MEAT)	78.8%	10.7%	4.96	5.33	5.38	8.3%	0.9%
1720	POULTRY FARMING (EGGS)	77.4%	14.6%	5.48	6.06	6.11	11.5%	0.9%
1800	DEER FARMING	76.4%	1.0%	5.31	5.39	5.44	2.6%	0.9%
1910	HORSE FARMING	66.3%	14.8%	6.42	6.01	6.06	-5.6%	0.9%
1920	PIG FARMING	69.1%	16.5%	5.55	5.47	5.52	-0.5%	0.9%
1930	BEEKEEPING	69.3%	5.3%	5.51	5.46	5.51	0.1%	0.9%
1990	OTHER LIVESTOCK FARMING N.E.C.	70.3%	5.5%	5.47	5.36	5.41	-1.1%	0.9%
2010	OFFSHORE LONGLINE AND RACK AQUACULTURE	86.7%	21.7%	3.39	3.72	3.76	10.7%	0.9%
2020	OFFSHORE CAGED AQUACULTURE	88.7%	0.3%	3.80	4.43	4.47	17.9%	0.9%
2030	ONSHORE AQUACULTURE	103.7%	8.3%	3.80	5.27	4.74	25.0%	-11.1%
3010	FORESTRY	82.9%	24.3%	4.99	5.93	5.98	19.8%	0.9%
3020	LOGGING	85.9%	27.2%	5.45	6.71	6.77	24.2%	0.9%
4110	ROCK LOBSTER AND CRAB POTTING	89.9%	22.2%	3.77	4.37	4.41	17.2%	0.9%
4120	PRAWN FISHING	94.8%	6.0%	3.79	4.66	4.70	24.0%	0.9%
4130	LINE FISHING	92.1%	8.2%	4.20	4.93	4.98	18.5%	0.9%
4140	FISH TRAWLING, SEINING AND NETTING	82.9%	4.1%	4.60	5.06	5.11	11.0%	0.9%
4190	OTHER FISHING	102.3%	17.9%	3.60	4.69	4.50	25.0%	-4.2%
4200	HUNTING AND TRAPPING	76.4%	4.2%	4.71	4.78	4.82	2.5%	0.9%
5100	FORESTRY SUPPORT SERVICES	73.7%	34.8%	3.09	3.30	3.33	8.0%	0.9%
5210	COTTON GINNING	75.2%	0.3%	6.33	6.77	6.83	8.0%	0.9%
5220	SHEARING SERVICES	73.8%	37.3%	8.09	8.40	8.48	4.8%	0.9%
5290	OTHER AGRICULTURE AND FISHING SUPPORT SERVICES	77.4%	37.3%	5.24	5.89	5.95	13.5%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates	Relative Premium Rates Normalised 2019/20 Relative Prem Rates	% Change in Relative Premium Rates (RES2019/20)/GAZZ2018/19	Margins Uncapped / (RES2019/20)
B	Mining							
	6000 COAL MINING	94.7%	49.1%	2.50	2.75	2.77	11.0%	0.9%
	7000 OIL AND GAS EXTRACTION ON LAND	22.5%	100.0%	0.26	0.08	0.25	-0.9%	67.7%
	7001 OIL AND GAS EXTRACTION OFFSHORE	54.1%	94.2%	0.79	0.76	0.77	-3.2%	0.9%
	8010 IRON ORE MINING	73.4%	100.0%	0.89	0.94	0.95	6.9%	0.9%
	8020 BAUXITE MINING	70.5%	1.7%	1.92	1.97	1.99	3.4%	0.9%
	8030 COPPER ORE MINING	81.3%	31.2%	1.31	1.39	1.40	7.2%	0.9%
	8040 GOLD ORE MINING ABOVE GROUND	69.7%	100.0%	1.62	1.64	1.65	1.7%	0.9%
	8041 GOLD ORE MINING UNDERGROUND	67.8%	100.0%	2.49	2.37	2.39	-4.1%	0.9%
	8050 MINERAL SAND MINING	69.7%	69.3%	0.85	0.86	0.86	2.0%	0.9%
	8060 NICKEL ORE MINING	69.1%	75.7%	1.98	1.91	1.92	-2.7%	0.9%
	8070 SILVER-LEAD-ZINC ORE MINING	63.6%	25.9%	1.58	1.51	1.53	-3.4%	0.9%
	8090 OTHER METAL ORE MINING	69.6%	39.9%	1.53	1.48	1.49	-2.4%	0.9%
	9110 GRAVEL AND SAND QUARRYING	98.7%	24.3%	2.48	2.97	2.99	20.7%	0.9%
	9190 OTHER CONSTRUCTION MATERIAL MINING	91.3%	36.2%	2.78	3.03	3.06	10.1%	0.9%
	9900 OTHER NON-METALLIC MINERAL MINING AND QUARRYING EXCLUDING SALT HARVESTING	81.2%	61.6%	1.44	1.55	1.56	8.5%	0.9%
	9901 OTHER NON-METALLIC MINERAL MINING AND QUARRYING SALT HARVESTING	71.3%	45.3%	1.26	1.28	1.29	2.1%	0.9%
	10110 PETROLEUM EXPLORATION	120.7%	57.1%	0.72	1.24	0.90	25.0%	-38.3%
	10120 MINERAL EXPLORATION	139.8%	99.1%	0.39	0.79	0.49	25.0%	-60.2%
	10900 OTHER MINING SUPPORT SERVICES ON LAND	85.3%	100.0%	2.14	2.32	2.34	9.5%	0.9%
	10901 OTHER MINING SUPPORT SERVICES OFFSHORE	78.9%	100.0%	0.46	0.61	0.58	25.0%	-5.2%
C	Manufacturing							
	11110 MEAT PROCESSING	70.4%	66.4%	4.24	4.11	4.15	-2.2%	0.9%
	11120 POULTRY PROCESSING	68.7%	32.5%	5.20	4.90	4.94	-4.9%	0.9%
	11130 CURED MEAT AND SMALLGOODS MANUFACTURING	73.4%	31.8%	5.52	5.31	5.36	-3.0%	0.9%
	11200 SEAFOOD PROCESSING	62.6%	32.5%	3.28	3.29	3.32	1.2%	0.9%
	11310 MILK AND CREAM PROCESSING	67.3%	21.2%	3.27	3.02	3.05	-6.8%	0.9%
	11320 ICE CREAM MANUFACTURING	64.2%	4.9%	3.09	3.00	3.03	-2.0%	0.9%
	11330 CHEESE AND OTHER DAIRY PRODUCT MANUFACTURING	65.5%	34.9%	3.10	2.98	3.00	-3.0%	0.9%
	11400 FRUIT AND VEGETABLE PROCESSING	65.0%	16.6%	3.28	3.15	3.18	-3.1%	0.9%
	11500 OIL AND FAT MANUFACTURING	72.3%	14.0%	3.18	3.19	3.21	1.1%	0.9%
	11610 GRAIN MILL PRODUCT MANUFACTURING	63.2%	14.7%	3.76	3.63	3.67	-2.5%	0.9%
	11620 CEREAL, PASTA AND BAKING MIX MANUFACTURING	64.9%	16.9%	3.82	3.76	3.79	-0.9%	0.9%
	11710 BREAD MANUFACTURING (FACTORY BASED)	69.2%	35.8%	3.22	3.19	3.22	0.0%	0.9%
	11720 CAKE AND PASTRY MANUFACTURING (FACTORY BASED)	63.1%	23.7%	3.17	3.24	3.27	3.0%	0.9%
	11730 BISCUIT MANUFACTURING (FACTORY BASED)	68.2%	4.5%	2.75	2.87	2.90	5.4%	0.9%
	11740 BAKERY PRODUCT MANUFACTURING (NON-FACTORY BASED)	95.5%	45.6%	1.78	2.43	2.23	25.0%	-9.4%
	11810 SUGAR MANUFACTURING	0.0%	0.0%	3.58	3.51	3.54	-1.1%	0.9%
	11820 CONFECTIONERY MANUFACTURING	72.4%	8.9%	3.40	3.53	3.56	4.6%	0.9%
	11910 POTATO, CORN AND OTHER CRISP MANUFACTURING	72.6%	9.0%	2.77	2.88	2.91	4.9%	0.9%
	11920 PREPARED ANIMAL AND BIRD FEED MANUFACTURING	71.1%	22.6%	2.77	2.86	2.89	4.3%	0.9%
	11990 OTHER FOOD PRODUCT MANUFACTURING N.E.C.	72.8%	41.3%	2.54	2.62	2.64	4.0%	0.9%
	12110 SOFT DRINK, CORDIAL AND SYRUP MANUFACTURING	78.8%	39.3%	1.63	1.57	1.58	-3.2%	0.9%
	12120 BEER MANUFACTURING	75.7%	28.5%	1.57	1.58	1.60	1.5%	0.9%
	12130 SPIRIT MANUFACTURING	87.2%	5.1%	2.05	1.93	1.95	-4.9%	0.9%
	12140 WINE AND OTHER ALCOHOLIC BEVERAGE MANUFACTURING	69.5%	46.1%	1.74	1.67	1.69	-3.2%	0.9%
	12200 CIGARETTE AND TOBACCO PRODUCT MANUFACTURING	56.3%	1.6%	4.46	3.60	3.63	-18.6%	0.9%
	13110 WOOL SCOURING	0.0%	0.0%	2.24	2.33	2.35	4.8%	0.9%
	13120 NATURAL TEXTILE MANUFACTURING	77.4%	0.5%	2.23	2.32	2.34	4.8%	0.9%
	13130 SYNTHETIC TEXTILE MANUFACTURING	77.0%	1.8%	2.20	2.29	2.31	4.8%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates Normalised 2019/20		% Change in Relative Premium Rates (RES2019/20/ GAZ2018/19)	Margins Uncapped / (RES2019/20)
				Gazette 2018/19	Relative Prem Rates Uncapped	Restricted		
13200	LEATHER TANNING, FUR DRESSING AND LEATHER PRODUCT MANUFACTURING	68.1%	8.4%	2.25	2.30	2.32	2.9%	0.9%
13310	TEXTILE FLOOR COVERING MANUFACTURING	76.8%	6.2%	2.32	2.45	2.47	6.5%	0.9%
13320	ROPE, CORDAGE AND TWINE MANUFACTURING	84.7%	1.7%	2.23	2.37	2.39	7.2%	0.9%
13330	CUT AND SEWN TEXTILE PRODUCT MANUFACTURING	91.0%	35.9%	2.25	2.57	2.59	15.2%	0.9%
13340	TEXTILE FINISHING AND OTHER TEXTILE PRODUCT MANUFACTURING	85.6%	19.4%	2.28	2.17	2.19	-4.3%	0.9%
13400	KNITTED PRODUCT MANUFACTURING	73.4%	3.6%	2.23	2.20	2.22	-0.3%	0.9%
13510	CLOTHING MANUFACTURING	77.9%	14.2%	1.96	2.04	2.06	5.5%	0.9%
13520	FOOTWEAR MANUFACTURING	80.8%	6.6%	1.92	2.02	2.04	6.4%	0.9%
14110	LOG SAWMILLING	81.2%	22.3%	3.89	3.79	3.83	-1.6%	0.9%
14120	WOOD CHIPPING	76.1%	12.9%	3.84	3.59	3.63	-5.6%	0.9%
14130	TIMBER RESAWING AND DRESSING	71.4%	12.5%	4.03	3.79	3.83	-5.0%	0.9%
14910	PREFABRICATED WOODEN BUILDING MANUFACTURING	74.1%	30.7%	2.67	2.81	2.84	6.5%	0.9%
14920	WOODEN STRUCTURAL FITTING AND COMPONENT MANUFACTURING	72.5%	52.9%	3.07	3.17	3.20	4.4%	0.9%
14930	VENEER AND PLYWOOD MANUFACTURING	64.9%	18.8%	3.16	3.13	3.16	0.1%	0.9%
14940	RECONSTITUTED WOOD PRODUCT MANUFACTURING	78.0%	10.7%	3.51	3.76	3.80	8.3%	0.9%
14990	OTHER WOOD PRODUCT MANUFACTURING N.E.C.	70.9%	16.7%	3.53	3.56	3.59	1.7%	0.9%
15100	PULP, PAPER AND PAPERBOARD MANUFACTURING	67.9%	20.3%	2.47	2.53	2.55	3.4%	0.9%
15210	CORRUGATED PAPERBOARD AND PAPERBOARD CONTAINER MANUFACTURING	57.6%	6.4%	2.57	2.21	2.23	-13.2%	0.9%
15220	PAPER BAG MANUFACTURING	58.8%	0.3%	2.57	2.27	2.29	-11.0%	0.9%
15230	PAPER STATIONERY MANUFACTURING	96.3%	3.8%	1.59	2.19	1.99	25.0%	-10.3%
15240	SANITARY PAPER PRODUCT MANUFACTURING	53.2%	8.9%	2.64	2.25	2.27	-14.1%	0.9%
15290	OTHER CONVERTED PAPER PRODUCT MANUFACTURING	95.1%	6.6%	1.59	2.16	1.99	25.0%	-9.0%
16110	PRINTING	64.6%	53.4%	1.63	1.59	1.61	-1.7%	0.9%
16120	PRINTING SUPPORT SERVICES	74.6%	16.5%	1.52	1.63	1.64	7.7%	0.9%
16200	REPRODUCTION OF RECORDED MEDIA	108.3%	8.5%	1.03	1.59	1.28	25.0%	-24.0%
17010	PETROLEUM REFINING AND PETROLEUM FUEL MANUFACTURING	38.8%	11.5%	1.22	0.68	0.92	-25.0%	25.9%
17090	OTHER PETROLEUM AND COAL PRODUCT MANUFACTURING	83.6%	75.2%	0.43	0.52	0.52	20.9%	0.9%
18110	INDUSTRIAL GAS MANUFACTURING	64.3%	23.8%	1.66	1.62	1.63	-2.0%	0.9%
18120	BASIC ORGANIC CHEMICAL MANUFACTURING	66.5%	13.6%	2.04	2.08	2.10	2.7%	0.9%
18130	BASIC INORGANIC CHEMICAL MANUFACTURING	71.4%	42.1%	1.37	1.40	1.42	3.2%	0.9%
18210	SYNTHETIC RESIN AND SYNTHETIC RUBBER MANUFACTURING	68.7%	15.2%	2.62	2.72	2.74	4.5%	0.9%
18290	OTHER BASIC POLYMER MANUFACTURING	65.4%	6.8%	2.15	2.24	2.27	5.4%	0.9%
18310	FERTILISER MANUFACTURING	67.0%	34.3%	1.70	1.75	1.77	3.6%	0.9%
18320	PESTICIDE MANUFACTURING	68.4%	14.4%	1.78	1.85	1.87	5.2%	0.9%
18410	HUMAN PHARMACEUTICAL AND MEDICINAL PRODUCT MANUFACTURING	86.0%	33.1%	1.85	1.80	1.82	-1.5%	0.9%
18420	VETERINARY PHARMACEUTICAL AND MEDICINAL PRODUCT MANUFACTURING	78.1%	5.1%	1.75	1.74	1.76	0.4%	0.9%
18510	CLEANING COMPOUND MANUFACTURING	62.4%	18.2%	1.72	1.56	1.58	-8.4%	0.9%
18520	COSMETIC AND TOILETRY PREPARATION MANUFACTURING	55.8%	8.2%	1.81	1.78	1.79	-1.2%	0.9%
18910	PHOTOGRAPHIC CHEMICAL PRODUCT MANUFACTURING	0.0%	0.0%	2.01	2.00	2.01	0.4%	0.9%
18920	EXPLOSIVE MANUFACTURING	64.3%	42.2%	2.01	2.01	2.03	0.9%	0.9%
18990	OTHER BASIC CHEMICAL PRODUCT MANUFACTURING N.E.C.	63.6%	18.5%	2.20	2.12	2.14	-2.9%	0.9%
19110	POLYMER FILM AND SHEET PACKAGING MATERIAL MANUFACTURING	76.3%	21.5%	2.79	3.05	3.08	10.2%	0.9%
19120	RIGID AND SEMI-RIGID POLYMER PRODUCT MANUFACTURING	93.2%	47.0%	2.35	3.14	2.94	25.0%	-6.7%
19130	POLYMER FOAM PRODUCT MANUFACTURING	79.8%	10.5%	2.82	3.22	3.25	15.3%	0.9%
19140	TYRE MANUFACTURING	83.1%	16.4%	2.94	3.50	3.53	20.2%	0.9%
19150	ADHESIVE MANUFACTURING	92.0%	6.9%	2.33	3.06	2.91	25.0%	-5.3%
19160	PAINT AND COATINGS MANUFACTURING	97.3%	20.4%	1.94	2.70	2.43	25.0%	-11.5%
19190	OTHER POLYMER PRODUCT MANUFACTURING	103.8%	25.3%	2.35	3.49	2.94	25.0%	-18.9%
19200	NATURAL RUBBER PRODUCT MANUFACTURING	69.7%	12.8%	2.94	2.94	2.96	0.7%	0.9%
20100	GLASS AND GLASS PRODUCT MANUFACTURING	60.1%	21.1%	4.17	4.04	4.08	-2.1%	0.9%
20210	CLAY BRICK MANUFACTURING	64.7%	30.6%	2.69	2.48	2.50	-7.1%	0.9%
20290	OTHER CERAMIC PRODUCT MANUFACTURING	68.7%	11.5%	2.72	2.68	2.70	-0.7%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates		% Change in Relative Premium Rates (RES2019/20)/ GAZ2018/19	Margins Uncapped / (RES2019/20)
				Gazette 2018/19	Normalised 2019/20 Relative Prem Rates	Uncapped		
20310	CEMENT AND LIME MANUFACTURING	64.5%	24.3%	3.57	3.35	3.38	-5.5%	0.9%
20320	PLASTER PRODUCT MANUFACTURING	74.8%	19.9%	2.99	3.15	3.18	6.2%	0.9%
20330	READY-MIXED CONCRETE MANUFACTURING	71.4%	38.4%	3.06	3.12	3.15	3.1%	0.9%
20340	CONCRETE PRODUCT MANUFACTURING	74.6%	44.2%	3.29	3.32	3.35	1.7%	0.9%
20900	OTHER NON-METALLIC MINERAL PRODUCT MANUFACTURING EXCL FIBREGLASS, INSULATION AND STONE PRODUCTS	62.7%	18.3%	3.97	3.80	3.83	-3.5%	0.9%
20901	OTHER NON-METALLIC MINERAL PRODUCT MANUFACTURING STONE PRODUCTS	69.4%	18.8%	4.03	4.00	4.04	0.3%	0.9%
21100	IRON SMELTING AND STEEL MANUFACTURING	54.2%	22.7%	3.77	3.05	3.07	-18.3%	0.9%
21210	IRON AND STEEL CASTING	56.5%	19.8%	2.03	1.82	1.84	-9.3%	0.9%
21220	STEEL PIPE AND TUBE MANUFACTURING	55.3%	23.5%	2.24	2.02	2.04	-8.6%	0.9%
21310	ALUMINA PRODUCTION	70.5%	10.6%	1.82	1.93	1.95	6.9%	0.9%
21320	ALUMINIUM SMELTING	60.1%	10.5%	1.77	1.71	1.73	-2.5%	0.9%
21330	COPPER, SILVER, LEAD AND ZINC SMELTING AND REFINING	57.8%	5.7%	2.02	1.93	1.95	-3.2%	0.9%
21390	OTHER BASIC NON-FERROUS METAL MANUFACTURING	58.2%	39.8%	1.67	1.63	1.65	-1.4%	0.9%
21410	NON-FERROUS METAL CASTING	60.4%	2.4%	2.30	2.08	2.10	-8.7%	0.9%
21420	ALUMINIUM ROLLING, DRAWING, EXTRUDING	60.1%	2.2%	2.24	2.08	2.10	-6.5%	0.9%
21490	OTHER BASIC NON-FERROUS METAL PRODUCT MANUFACTURING	60.9%	2.6%	2.19	2.04	2.06	-5.6%	0.9%
22100	IRON AND STEEL FORGING	66.4%	23.4%	2.24	2.13	2.15	-4.0%	0.9%
22210	STRUCTURAL STEEL FABRICATING	65.4%	63.8%	3.25	3.23	3.26	0.4%	0.9%
22220	PREFABRICATED METAL BUILDING MANUFACTURING	69.7%	25.0%	3.09	3.12	3.15	2.0%	0.9%
22230	ARCHITECTURAL ALUMINIUM PRODUCT MANUFACTURING	64.3%	56.0%	2.84	2.84	2.86	0.9%	0.9%
22240	METAL ROOF AND GUTTERING MANUFACTURING (EXCEPT ALUMINIUM)	106.1%	18.9%	1.97	2.99	2.46	25.0%	-21.6%
22290	OTHER STRUCTURAL METAL PRODUCT MANUFACTURING	68.7%	29.8%	3.36	3.39	3.43	2.0%	0.9%
22310	BOILER, TANK AND OTHER HEAVY GAUGE METAL CONTAINER MANUFACTURING	89.2%	60.5%	2.89	3.33	3.36	16.3%	0.9%
22390	OTHER METAL CONTAINER MANUFACTURING	116.6%	14.0%	1.97	3.29	2.46	25.0%	-33.6%
22400	SHEET METAL PRODUCT MANUFACTURING (EXCEPT METAL STRUCTURAL AND CONTAINER PRODUCTS)	84.1%	69.4%	1.45	1.81	1.82	25.0%	0.2%
22910	SPRING AND WIRE PRODUCT MANUFACTURING	76.1%	19.3%	3.13	3.30	3.33	6.4%	0.9%
22920	NUT, BOLT, SCREW AND RIVET MANUFACTURING	73.7%	10.5%	4.01	4.23	4.27	6.5%	0.9%
22930	METAL COATING AND FINISHING	72.6%	40.0%	3.20	3.33	3.36	5.1%	0.9%
22990	OTHER FABRICATED METAL PRODUCT MANUFACTURING N.E.C.	79.2%	78.6%	3.01	3.11	3.14	4.4%	0.9%
23110	MOTOR VEHICLE MANUFACTURING	60.6%	16.4%	2.86	2.55	2.58	-10.0%	0.9%
23120	MOTOR VEHICLE BODY AND TRAILER MANUFACTURING	62.8%	42.0%	3.61	3.28	3.31	-8.4%	0.9%
23130	AUTOMOTIVE ELECTRICAL COMPONENT MANUFACTURING	63.6%	6.5%	2.95	2.66	2.68	-9.0%	0.9%
23190	OTHER MOTOR VEHICLE PARTS MANUFACTURING	62.4%	22.5%	3.22	2.90	2.93	-9.0%	0.9%
23910	SHIPBUILDING AND REPAIR SERVICES	60.7%	58.3%	1.84	1.70	1.72	-6.7%	0.9%
23920	BOATBUILDING AND REPAIR SERVICES	55.7%	25.4%	2.94	2.35	2.37	-19.4%	0.9%
23930	RAILWAY ROLLING STOCK MANUFACTURING AND REPAIR SERVICES	64.5%	31.8%	1.92	1.85	1.87	-2.7%	0.9%
23940	AIRCRAFT MANUFACTURING AND REPAIR SERVICES	72.2%	47.6%	1.05	1.12	1.13	8.0%	0.9%
23990	OTHER TRANSPORT EQUIPMENT MANUFACTURING N.E.C.	61.0%	15.3%	1.93	1.84	1.85	-3.8%	0.9%
24110	PHOTOGRAPHIC, OPTICAL AND OPHTHALMIC EQUIPMENT MANUFACTURING	68.8%	10.1%	1.39	1.47	1.48	7.1%	0.9%
24120	MEDICAL AND SURGICAL EQUIPMENT MANUFACTURING	79.8%	26.3%	1.59	1.74	1.76	10.1%	0.9%
24190	OTHER PROFESSIONAL AND SCIENTIFIC EQUIPMENT MANUFACTURING	77.5%	43.9%	1.29	1.44	1.45	12.1%	0.9%
24210	COMPUTER AND ELECTRONIC OFFICE EQUIPMENT MANUFACTURING	79.6%	11.6%	1.26	1.40	1.42	12.7%	0.9%
24220	COMMUNICATION EQUIPMENT MANUFACTURING	62.9%	25.3%	1.12	1.09	1.10	-2.2%	0.9%
24290	OTHER ELECTRONIC EQUIPMENT MANUFACTURING	73.1%	37.1%	0.75	0.83	0.83	11.4%	0.9%
24310	ELECTRIC CABLE AND WIRE MANUFACTURING	61.5%	6.9%	1.83	1.82	1.84	0.5%	0.9%
24320	ELECTRIC LIGHTING EQUIPMENT MANUFACTURING	65.3%	20.3%	2.31	2.20	2.22	-4.0%	0.9%
24390	OTHER ELECTRICAL EQUIPMENT MANUFACTURING	60.2%	36.2%	1.72	1.74	1.76	2.4%	0.9%
24410	WHITEWARE APPLIANCE MANUFACTURING	65.9%	4.8%	1.88	1.82	1.83	-2.3%	0.9%
24490	OTHER DOMESTIC APPLIANCE MANUFACTURING	61.0%	7.1%	2.01	1.93	1.95	-3.2%	0.9%
24510	PUMP AND COMPRESSOR MANUFACTURING	59.3%	23.5%	2.00	1.79	1.80	-9.9%	0.9%
24520	FIXED SPACE HEATING, COOLING AND VENTILATION EQUIPMENT MANUFACTURING	69.3%	35.4%	1.63	1.68	1.70	3.9%	0.9%
24610	AGRICULTURAL MACHINERY AND EQUIPMENT MANUFACTURING	61.4%	28.0%	2.29	2.01	2.03	-11.3%	0.9%
24620	MINING AND CONSTRUCTION MACHINERY MANUFACTURING	66.3%	97.3%	1.97	1.96	1.98	0.3%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates Normalised 2019/20		% Change in Relative Premium Rates (RES2019/20/ GAZ2018/19)	Margins	
				Gazette 2018/19	Relative Prem Rates Uncapped	Restricted		Uncapped / (RES2019/20)	
24630	MACHINE TOOL AND PARTS MANUFACTURING	67.1%	25.9%	2.14	2.02	2.04	-5.0%	0.9%	
24690	OTHER SPECIALISED MACHINERY AND EQUIPMENT MANUFACTURING	70.5%	35.5%	2.04	1.98	1.99	-2.3%	0.9%	
24910	LIFTING AND MATERIAL HANDLING EQUIPMENT MANUFACTURING	62.1%	54.0%	2.38	2.39	2.41	1.2%	0.9%	
24990	OTHER MACHINERY AND EQUIPMENT MANUFACTURING N.E.C.	65.5%	60.8%	2.05	1.94	1.96	-4.5%	0.9%	
25110	WOODEN FURNITURE AND UPHOLSTERED SEAT MANUFACTURING	72.8%	35.2%	3.11	3.39	3.42	9.9%	0.9%	
25120	METAL FURNITURE MANUFACTURING	71.8%	19.0%	3.07	3.18	3.21	4.6%	0.9%	
25130	MATTRESS MANUFACTURING	67.2%	16.5%	3.58	3.55	3.58	0.2%	0.9%	
25190	OTHER FURNITURE MANUFACTURING	71.5%	25.0%	3.68	3.72	3.75	1.8%	0.9%	
25910	JEWELLERY AND SILVERWARE MANUFACTURING	69.4%	5.9%	2.77	2.85	2.87	3.8%	0.9%	
25920	TOY, SPORTING AND RECREATIONAL PRODUCT MANUFACTURING	69.9%	10.7%	2.91	3.02	3.05	4.9%	0.9%	
25990	OTHER MANUFACTURING N.E.C.	70.6%	21.8%	2.98	3.04	3.07	3.2%	0.9%	
D	Electricity, gas, water and waste services								
26110	FOSSIL FUEL ELECTRICITY GENERATION	64.3%	22.9%	0.60	0.53	0.54	-10.1%	0.9%	
26120	HYDRO-ELECTRICITY GENERATION	72.4%	3.7%	0.60	0.55	0.56	-7.8%	0.9%	
26190	OTHER ELECTRICITY GENERATION	76.3%	20.7%	0.62	0.55	0.55	-10.7%	0.9%	
26200	ELECTRICITY TRANSMISSION	75.2%	76.4%	0.48	0.49	0.50	4.0%	0.9%	
26300	ELECTRICITY DISTRIBUTION	87.0%	100.0%	0.62	0.77	0.77	25.0%	0.4%	
26400	ON SELLING ELECTRICITY AND ELECTRICITY MARKET OPERATION	75.0%	9.2%	0.62	0.66	0.67	8.4%	0.9%	
27000	GAS SUPPLY	74.6%	38.1%	0.69	0.74	0.75	7.8%	0.9%	
28110	WATER SUPPLY	54.7%	91.8%	0.54	0.54	0.54	0.1%	0.9%	
28120	SEWERAGE AND DRAINAGE SERVICES	90.5%	28.5%	1.58	1.63	1.65	4.4%	0.9%	
29110	SOLID WASTE COLLECTION SERVICES	82.7%	50.3%	4.03	3.53	3.56	-11.6%	0.9%	
29190	OTHER WASTE COLLECTION SERVICES	77.8%	23.2%	4.03	4.14	4.18	3.9%	0.9%	
29210	WASTE TREATMENT AND DISPOSAL SERVICES	63.6%	40.9%	3.22	3.11	3.13	-2.6%	0.9%	
29220	WASTE REMEDIATION AND MATERIALS RECOVERY SERVICES	117.7%	47.6%	2.55	4.30	3.19	25.0%	-34.9%	
E	Construction								
30110	HOUSE CONSTRUCTION	81.1%	100.0%	1.36	1.42	1.43	5.1%	0.9%	
30190	OTHER RESIDENTIAL BUILDING CONSTRUCTION	74.2%	100.0%	0.91	0.93	0.94	3.8%	0.9%	
30200	NON-RESIDENTIAL BUILDING CONSTRUCTION	80.0%	100.0%	1.48	1.61	1.62	9.6%	0.9%	
31010	ROAD AND BRIDGE CONSTRUCTION	75.4%	100.0%	2.35	2.47	2.49	5.8%	0.9%	
31090	OTHER HEAVY AND CIVIL ENGINEERING CONSTRUCTION	75.5%	100.0%	1.66	1.74	1.76	5.8%	0.9%	
32110	LAND DEVELOPMENT AND SUBDIVISION	184.7%	31.1%	0.73	1.92	0.91	25.0%	-111.6%	
32120	SITE PREPARATION SERVICES	64.2%	100.0%	2.73	2.61	2.63	-3.5%	0.9%	
32210	CONCRETING SERVICES	68.7%	67.5%	3.86	3.79	3.83	-1.0%	0.9%	
32220	BRICKLAYING SERVICES	70.8%	32.0%	3.03	3.28	3.31	9.2%	0.9%	
32230	ROOFING SERVICES	72.6%	35.0%	4.52	4.67	4.72	4.4%	0.9%	
32240	STRUCTURAL STEEL ERECTION SERVICES	84.3%	100.0%	1.73	1.92	1.93	11.6%	0.9%	
32310	PLUMBING SERVICES	77.4%	83.8%	2.75	2.82	2.84	3.3%	0.9%	
32320	ELECTRICAL SERVICES	62.9%	100.0%	1.42	1.35	1.37	-3.5%	0.9%	
32330	AIR CONDITIONING AND HEATING SERVICES	79.2%	70.7%	2.12	2.18	2.20	3.8%	0.9%	
32340	FIRE AND SECURITY ALARM INSTALLATION SERVICES	66.5%	61.4%	1.88	1.76	1.78	-5.2%	0.9%	
32390	OTHER BUILDING INSTALLATION SERVICES	82.5%	51.8%	2.55	2.71	2.73	7.1%	0.9%	
32410	PLASTERING AND CEILING SERVICES	69.8%	52.5%	4.97	5.10	5.14	3.4%	0.9%	
32420	CARPENTRY SERVICES	77.0%	51.9%	4.81	4.88	4.92	2.3%	0.9%	
32430	TILING AND CARPETING SERVICES	76.8%	33.7%	3.98	4.17	4.21	5.7%	0.9%	
32440	PAINTING AND DECORATING SERVICES	77.6%	54.2%	3.53	3.66	3.69	4.7%	0.9%	
32450	GLAZING SERVICES	79.8%	35.5%	4.38	4.61	4.65	6.4%	0.9%	
32910	LANDSCAPE CONSTRUCTION SERVICES	77.9%	62.1%	3.17	3.34	3.37	6.2%	0.9%	
32920	HIRE OF CONSTRUCTION MACHINERY WITH OPERATOR	67.8%	64.6%	2.18	2.12	2.14	-2.1%	0.9%	
32990	OTHER CONSTRUCTION SERVICES N.E.C.	75.5%	100.0%	2.24	2.17	2.19	-1.9%	0.9%	

Premium rates

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates Normalised 2019/20		% Change in Relative Premium Rates	Margins
				Gazette 2018/19	Relative Prem Rates Uncapped	Restricted	(RES2019/20)/GAZ2018/19	Uncapped / (RES2019/20)
F	Wholesale trade							
	33110 WOOL WHOLESALING	65.8%	14.2%	2.35	2.22	2.24	-4.9%	0.9%
	33120 CEREAL GRAIN WHOLESALING	74.5%	13.1%	2.31	2.27	2.29	-0.9%	0.9%
	33190 OTHER AGRICULTURAL PRODUCT WHOLESALING	73.2%	47.0%	2.03	1.88	1.90	-6.7%	0.9%
	33210 PETROLEUM PRODUCT WHOLESALING	61.6%	43.7%	2.22	2.08	2.10	-5.1%	0.9%
	33220 METAL AND MINERAL WHOLESALING	74.0%	41.1%	2.54	2.86	2.89	13.9%	0.9%
	33230 INDUSTRIAL AND AGRICULTURAL CHEMICAL PRODUCT WHOLESALING	76.9%	41.4%	1.96	1.99	2.01	2.4%	0.9%
	33310 TIMBER WHOLESALING	75.0%	20.8%	1.75	1.88	1.89	8.4%	0.9%
	33320 PLUMBING GOODS WHOLESALING	60.4%	41.8%	1.62	1.58	1.59	-1.6%	0.9%
	33390 OTHER HARDWARE GOODS WHOLESALING	76.3%	92.0%	1.82	1.99	2.01	10.2%	0.9%
	34110 AGRICULTURAL AND CONSTRUCTION MACHINERY WHOLESALING	70.6%	53.9%	1.58	1.61	1.63	3.1%	0.9%
	34190 OTHER SPECIALISED INDUSTRIAL MACHINERY AND EQUIPMENT WHOLESALING	73.8%	91.5%	1.21	1.28	1.29	6.7%	0.9%
	34910 PROFESSIONAL AND SCIENTIFIC GOODS WHOLESALING	83.5%	61.2%	0.61	0.58	0.58	-3.8%	0.9%
	34920 COMPUTER AND COMPUTER PERIPHERAL WHOLESALING	81.1%	37.3%	0.67	0.66	0.66	-1.0%	0.9%
	34930 TELECOMMUNICATION GOODS WHOLESALING	110.4%	37.6%	0.63	0.70	0.70	12.2%	0.9%
	34940 OTHER ELECTRICAL AND ELECTRONIC GOODS WHOLESALING	112.2%	93.6%	0.63	1.01	0.79	25.0%	-28.5%
	34990 OTHER MACHINERY AND EQUIPMENT WHOLESALING N.E.C.	80.3%	100.0%	1.08	1.06	1.07	-0.6%	0.9%
	35010 CAR WHOLESALING	89.8%	33.4%	1.26	1.40	1.41	12.3%	0.9%
	35020 COMMERCIAL VEHICLE WHOLESALING	82.7%	34.1%	1.34	1.46	1.47	9.3%	0.9%
	35030 TRAILER AND OTHER MOTOR VEHICLE WHOLESALING	116.9%	14.2%	1.26	2.11	1.57	25.0%	-33.9%
	35040 MOTOR VEHICLE NEW PARTS WHOLESALING	88.3%	49.3%	1.61	1.65	1.66	3.4%	0.9%
	35050 MOTOR VEHICLE DISMANTLING AND USED PARTS WHOLESALING	79.2%	15.4%	1.56	1.77	1.78	14.4%	0.9%
	36010 GENERAL LINE GROCERY WHOLESALING	76.3%	42.6%	2.06	2.22	2.24	8.7%	0.9%
	36020 MEAT, POULTRY AND SMALLGOODS WHOLESALING	74.9%	25.6%	2.74	3.01	3.04	10.9%	0.9%
	36030 DAIRY PRODUCE WHOLESALING	74.8%	16.0%	2.68	2.85	2.87	7.2%	0.9%
	36040 FISH AND SEAFOOD WHOLESALING	78.3%	20.1%	2.44	2.70	2.73	11.8%	0.9%
	36050 FRUIT AND VEGETABLE WHOLESALING	72.7%	48.0%	2.46	2.54	2.56	3.9%	0.9%
	36060 LIQUOR AND TOBACCO PRODUCT WHOLESALING	75.2%	32.0%	1.78	1.98	2.00	12.4%	0.9%
	36090 OTHER GROCERY WHOLESALING	79.0%	41.0%	1.98	2.21	2.23	12.8%	0.9%
	37110 TEXTILE PRODUCT WHOLESALING	63.3%	19.2%	1.39	1.26	1.27	-8.5%	0.9%
	37120 CLOTHING AND FOOTWEAR WHOLESALING	57.5%	35.2%	1.26	1.04	1.05	-16.9%	0.9%
	37200 PHARMACEUTICAL AND TOILETRY GOODS WHOLESALING	65.4%	49.6%	1.16	1.16	1.17	1.3%	0.9%
	37310 FURNITURE AND FLOOR COVERING WHOLESALING	39.3%	31.1%	2.57	1.44	1.92	-25.0%	25.0%
	37320 JEWELLERY AND WATCH WHOLESALING	58.1%	10.5%	1.44	1.39	1.40	-2.5%	0.9%
	37330 KITCHEN AND DININGWARE WHOLESALING	25.1%	13.0%	3.52	1.26	2.64	-25.0%	52.1%
	37340 TOY AND SPORTING GOODS WHOLESALING	62.4%	17.6%	1.20	1.20	1.21	0.8%	0.9%
	37350 BOOK AND MAGAZINE WHOLESALING	69.8%	9.9%	1.46	1.49	1.50	2.9%	0.9%
	37360 PAPER PRODUCT WHOLESALING	62.1%	32.8%	1.35	1.31	1.32	-2.0%	0.9%
	37390 OTHER GOODS WHOLESALING N.E.C.	66.1%	36.1%	1.57	1.56	1.58	0.5%	0.9%
	38000 COMMISSION-BASED WHOLESALING	67.9%	33.4%	1.28	1.19	1.20	-5.9%	0.9%
G	Retail trade							
	39110 CAR RETAILING	65.6%	100.0%	1.06	1.07	1.08	2.5%	0.9%
	39120 MOTOR CYCLE RETAILING	73.4%	22.7%	1.26	1.13	1.14	-9.1%	0.9%
	39130 TRAILER AND OTHER MOTOR VEHICLE RETAILING	64.8%	16.6%	1.34	1.24	1.25	-6.4%	0.9%
	39210 MOTOR VEHICLE PARTS RETAILING	100.2%	42.9%	1.61	2.32	2.02	25.0%	-14.8%
	39220 TYRE RETAILING	84.5%	43.0%	2.98	3.22	3.25	9.2%	0.9%
	40000 FUEL RETAILING	63.6%	49.4%	1.93	2.04	2.06	6.6%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates Normalised 2019/20		% Change in Relative Premium Rates (RES2019/20)/ GAZ2018/19	Margins Uncapped / (RES2019/20)
				Gazette 2018/19	Relative Prem Rates Uncapped	Restricted		
41100	SUPERMARKET AND GROCERY STORES	68.2%	87.9%	2.40	2.41	2.43	1.3%	0.9%
41210	FRESH MEAT AND POULTRY RETAILING EXCLUDES FISH RETAILING	84.7%	34.1%	2.28	2.72	2.75	20.5%	0.9%
41211	FISH RETAILING	95.0%	12.8%	1.45	1.97	1.81	25.0%	-8.8%
41220	FRUIT AND VEGETABLE RETAILING	95.6%	36.4%	1.50	2.04	1.87	25.0%	-9.1%
41230	LIQUOR RETAILING	90.1%	29.4%	1.45	1.88	1.82	25.0%	-3.3%
41290	OTHER SPECIALISED FOOD RETAILING	77.2%	35.2%	1.66	1.75	1.76	6.5%	0.9%
42110	FURNITURE RETAILING	73.0%	53.9%	2.52	2.56	2.58	2.5%	0.9%
42120	FLOOR COVERINGS RETAILING	75.8%	34.6%	1.83	1.99	2.01	9.6%	0.9%
42130	HOUSEWARE RETAILING	80.0%	31.8%	1.84	2.11	2.13	15.6%	0.9%
42140	MANCHESTER AND OTHER TEXTILE GOODS RETAILING	77.0%	26.3%	2.03	2.24	2.26	11.3%	0.9%
42210	ELECTRICAL, ELECTRONIC AND GAS APPLIANCE RETAILING	66.3%	71.6%	1.29	1.22	1.23	-5.1%	0.9%
42220	COMPUTER AND COMPUTER PERIPHERAL RETAILING	63.7%	20.9%	1.16	1.04	1.05	-9.4%	0.9%
42290	OTHER ELECTRICAL AND ELECTRONIC GOODS RETAILING	150.3%	16.1%	0.63	1.35	0.79	25.0%	-72.2%
42310	HARDWARE AND BUILDING SUPPLIES RETAILING	69.5%	47.3%	1.75	1.60	1.61	-7.5%	0.9%
42320	GARDEN SUPPLIES RETAILING	71.2%	26.7%	1.64	1.68	1.69	2.9%	0.9%
42410	SPORT AND CAMPING EQUIPMENT RETAILING	78.0%	41.0%	1.05	1.19	1.20	14.1%	0.9%
42420	ENTERTAINMENT MEDIA RETAILING	59.7%	19.3%	1.07	0.92	0.92	-13.8%	0.9%
42430	TOY AND GAME RETAILING	74.6%	20.7%	0.89	0.97	0.98	10.2%	0.9%
42440	NEWSPAPER AND BOOK RETAILING	70.0%	37.4%	1.00	1.00	1.01	1.4%	0.9%
42450	MARINE EQUIPMENT RETAILING	79.6%	24.1%	1.22	1.21	1.22	0.1%	0.9%
42510	CLOTHING RETAILING	71.3%	77.7%	1.49	1.51	1.53	2.1%	0.9%
42520	FOOTWEAR RETAILING	75.8%	32.8%	1.25	1.30	1.31	5.2%	0.9%
42530	WATCH AND JEWELLERY RETAILING	70.8%	43.9%	1.00	1.06	1.07	6.8%	0.9%
42590	OTHER PERSONAL ACCESSORY RETAILING	82.9%	21.1%	1.38	1.45	1.47	5.9%	0.9%
42600	DEPARTMENT STORES	68.3%	31.2%	1.78	1.74	1.75	-1.4%	0.9%
42710	PHARMACEUTICAL, COSMETIC AND TOILETRY GOODS RETAILING	74.5%	84.0%	0.70	0.71	0.72	2.4%	0.9%
42720	STATIONERY GOODS RETAILING	64.0%	19.1%	1.02	0.94	0.95	-7.6%	0.9%
42730	ANTIQUÉ AND USED GOODS RETAILING	59.7%	17.8%	1.12	1.12	1.13	1.5%	0.9%
42740	FLOWER RETAILING	62.2%	17.1%	1.29	1.16	1.17	-9.5%	0.9%
42790	OTHER STORE-BASED RETAILING N.E.C.	69.9%	58.5%	1.33	1.39	1.40	5.0%	0.9%
43100	NON-STORE RETAILING	109.0%	21.6%	1.39	2.16	1.73	25.0%	-24.9%
43200	RETAIL COMMISSION-BASED BUYING AND/OR SELLING	78.4%	17.0%	1.38	1.53	1.55	11.9%	0.9%
H Accommodation and food services								
44000	ACCOMMODATION	74.3%	100.0%	2.25	2.34	2.37	5.3%	0.9%
45110	CAFES AND RESTAURANTS	62.7%	100.0%	1.81	1.70	1.71	-5.2%	0.9%
45120	TAKEAWAY FOOD SERVICES	80.8%	100.0%	1.26	1.27	1.28	2.0%	0.9%
45130	CATERING SERVICES	74.2%	100.0%	2.22	2.26	2.28	2.8%	0.9%
45200	PUBS, TAVERNS AND BARS	77.9%	100.0%	1.30	1.38	1.40	7.7%	0.9%
45300	CLUBS (HOSPITALITY)	74.9%	34.3%	1.49	1.60	1.61	8.3%	0.9%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates Uncapped	Relative Premium Rates Normalised 2019/20 Restricted	% Change in Relative Premium Rates (RES2019/20)/GAZ2018/19	Margins Uncapped / (RES2019/20)
I	Transport, postal and warehousing							
	46100 ROAD FREIGHT TRANSPORT	76.2%	100.0%	4.65	4.84	4.89	5.0%	0.9%
	46210 INTERURBAN AND RURAL BUS TRANSPORT	86.3%	27.7%	2.49	2.69	2.71	8.9%	0.9%
	46220 URBAN BUS TRANSPORT (INCLUDING TRAMWAY)	78.3%	76.9%	1.88	1.97	1.99	5.7%	0.9%
	46230 TAXI AND OTHER ROAD TRANSPORT	82.2%	11.3%	2.14	2.26	2.28	6.6%	0.9%
	47100 RAIL FREIGHT TRANSPORT	36.4%	65.4%	1.84	0.96	1.38	-25.0%	30.6%
	47200 RAIL PASSENGER TRANSPORT	167.9%	62.7%	2.49	3.69	3.12	25.0%	-18.3%
	48100 WATER FREIGHT TRANSPORT	68.7%	39.3%	1.59	1.68	1.69	6.5%	0.9%
	48200 WATER PASSENGER TRANSPORT	90.2%	20.0%	1.94	2.32	2.34	20.7%	0.9%
	49000 AIR AND SPACE TRANSPORT	93.7%	94.2%	1.39	1.86	1.73	25.0%	-7.3%
	50100 SCENIC AND SIGHTSEEING TRANSPORT	84.6%	28.8%	2.04	2.10	2.12	3.8%	0.9%
	50210 PIPELINE TRANSPORT	73.1%	33.7%	1.09	1.17	1.18	8.0%	0.9%
	50290 OTHER TRANSPORT N.E.C.	79.0%	28.2%	1.25	1.42	1.43	14.2%	0.9%
	51010 POSTAL SERVICES	85.2%	26.2%	1.94	2.37	2.39	23.2%	0.9%
	51020 COURIER PICK-UP AND DELIVERY SERVICES	75.4%	35.6%	2.62	2.83	2.85	9.0%	0.9%
	52110 STEVEDORING SERVICES	72.9%	51.0%	2.46	2.63	2.65	7.5%	0.9%
	52120 PORT AND WATER TRANSPORT TERMINAL OPERATIONS	62.5%	65.7%	1.46	1.42	1.43	-1.8%	0.9%
	52190 OTHER WATER TRANSPORT SUPPORT SERVICES EXCLUDES MARINE SALVAGE SERVICE	68.1%	70.9%	1.63	1.67	1.68	3.6%	0.9%
	52191 MARINE SALVAGE SERVICE	67.6%	8.7%	1.66	1.72	1.74	4.4%	0.9%
	52200 AIRPORT OPERATIONS AND OTHER AIR TRANSPORT SUPPORT SERVICES	72.8%	76.9%	1.32	1.47	1.48	12.1%	0.9%
	52910 CUSTOMS AGENCY SERVICES	122.4%	23.4%	1.15	2.01	1.43	25.0%	-40.2%
	52920 FREIGHT FORWARDING SERVICES	124.5%	47.8%	1.21	2.16	1.52	25.0%	-42.7%
	52990 OTHER TRANSPORT SUPPORT SERVICES N.E.C.	122.2%	48.0%	2.10	3.33	2.62	25.0%	-27.0%
	53010 GRAIN STORAGE SERVICES	77.3%	61.3%	1.15	1.25	1.26	9.8%	0.9%
	53090 OTHER WAREHOUSING AND STORAGE SERVICES	66.2%	83.8%	1.13	1.19	1.20	5.8%	0.9%
J	Information media and telecommunications							
	54110 NEWSPAPER PUBLISHING	74.1%	61.4%	0.72	0.65	0.65	-9.0%	0.9%
	54120 MAGAZINE AND OTHER PERIODICAL PUBLISHING	63.7%	17.1%	1.03	0.90	0.91	-12.1%	0.9%
	54130 BOOK PUBLISHING	72.0%	15.3%	0.89	0.79	0.79	-10.5%	0.9%
	54140 DIRECTORY AND MAILING LIST PUBLISHING	122.1%	9.0%	0.38	0.67	0.48	25.0%	-39.8%
	54190 OTHER PUBLISHING (EXCEPT SOFTWARE, MUSIC AND INTERNET)	70.6%	4.8%	0.80	0.70	0.71	-11.1%	0.9%
	54200 SOFTWARE PUBLISHING	55.0%	50.6%	0.26	0.20	0.25	-4.3%	20.9%
	55110 MOTION PICTURE AND VIDEO PRODUCTION	55.7%	26.9%	0.42	0.33	0.33	-19.4%	0.9%
	55120 MOTION PICTURE AND VIDEO DISTRIBUTION	48.3%	8.0%	0.46	0.32	0.34	-25.0%	7.8%
	55130 MOTION PICTURE EXHIBITION	49.1%	23.4%	0.47	0.33	0.36	-25.0%	6.3%
	55140 POST-PRODUCTION SERVICES AND OTHER MOTION PICTURE AND VIDEO ACTIVITIES	53.6%	7.0%	0.42	0.32	0.32	-22.5%	0.9%
	55210 MUSIC PUBLISHING	33.2%	4.0%	0.76	0.36	0.57	-25.0%	36.6%
	55220 MUSIC AND OTHER SOUND RECORDING ACTIVITIES	82.3%	6.2%	0.30	0.38	0.38	24.7%	0.9%
	56100 RADIO BROADCASTING	44.1%	29.0%	0.32	0.20	0.25	-21.0%	20.1%
	56210 FREE-TO-AIR TELEVISION BROADCASTING	51.8%	29.6%	0.41	0.30	0.31	-25.0%	1.2%
	56220 CABLE AND OTHER SUBSCRIPTION BROADCASTING	50.8%	5.2%	0.41	0.30	0.31	-25.0%	3.0%
	57000 INTERNET PUBLISHING AND BROADCASTING	54.3%	11.9%	0.42	0.50	0.51	19.9%	0.9%
	58010 WIRED TELECOMMUNICATIONS NETWORK OPERATION	68.7%	19.5%	0.64	0.63	0.64	-0.4%	0.9%
	58020 OTHER TELECOMMUNICATIONS NETWORK OPERATION	71.2%	42.0%	0.48	0.49	0.49	2.9%	0.9%
	58090 OTHER TELECOMMUNICATIONS SERVICES	73.1%	39.8%	0.56	0.55	0.55	-1.9%	0.9%
	59100 INTERNET SERVICE PROVIDERS AND WEB SEARCH PORTALS	69.1%	30.2%	0.30	0.27	0.27	-9.4%	0.9%
	59210 DATA PROCESSING AND WEB HOSTING SERVICES	76.2%	27.2%	0.29	0.27	0.28	-4.2%	0.9%
	59220 ELECTRONIC INFORMATION STORAGE SERVICES	62.8%	22.0%	0.26	0.23	0.25	-0.9%	9.8%
	60100 LIBRARIES AND ARCHIVES	66.8%	17.9%	0.98	0.94	0.94	-3.4%	0.9%
	60200 OTHER INFORMATION SERVICES	41.8%	13.3%	1.11	0.66	0.83	-25.0%	20.2%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates	% Change in Relative Premium Rates (RES2019/20)/GAZZ2018/19	Margins Uncapped / (RES2019/20)
K	Financial and insurance services						
62100	CENTRAL BANKING	73.3%	0.9%	0.32	0.30	0.30	-6.0%
62210	BANKING	81.4%	63.9%	0.41	0.43	0.43	6.1%
62220	BUILDING SOCIETY OPERATION	80.2%	4.9%	0.35	0.36	0.36	3.0%
62230	CREDIT UNION OPERATION	81.2%	18.3%	0.31	0.33	0.33	6.8%
62290	OTHER DEPOSITORY FINANCIAL INTERMEDIATION	79.7%	9.8%	0.33	0.34	0.35	4.2%
62300	NON-DEPOSITORY FINANCING	40.2%	30.9%	0.26	0.15	0.25	-0.9%
62400	FINANCIAL ASSET INVESTING	61.6%	42.5%	0.28	0.22	0.25	-10.1%
63100	LIFE INSURANCE	81.9%	15.4%	0.30	0.36	0.36	18.3%
63210	HEALTH INSURANCE	77.4%	41.6%	0.52	0.51	0.52	-1.0%
63220	GENERAL INSURANCE	78.1%	69.6%	0.61	0.60	0.60	-2.1%
63300	SUPERANNUATION FUNDS	109.9%	25.0%	0.29	0.40	0.36	25.0%
64110	FINANCIAL ASSET BROKING SERVICES	40.3%	57.1%	0.26	0.15	0.25	-0.9%
64190	OTHER AUXILIARY FINANCE AND INVESTMENT SERVICES	38.3%	89.6%	0.25	0.14	0.25	1.3%
64200	AUXILIARY INSURANCE SERVICES	70.5%	60.2%	0.26	0.26	0.26	1.2%
L	Rental, hiring and real estate services						
66110	PASSENGER CAR RENTAL AND HIRING	67.0%	34.4%	1.39	1.37	1.39	0.0%
66190	OTHER MOTOR VEHICLE AND TRANSPORT EQUIPMENT RENTAL AND HIRING	67.3%	25.6%	1.36	1.31	1.33	-2.7%
66200	FARM ANIMAL AND BLOODSTOCK LEASING	0.0%	0.0%	1.58	1.64	1.65	4.4%
66310	HEAVY MACHINERY AND SCAFFOLDING RENTAL AND HIRING	72.1%	84.4%	1.58	1.65	1.66	4.9%
66320	VIDEO AND OTHER ELECTRONIC MEDIA RENTAL AND HIRING	80.2%	13.0%	1.43	1.53	1.54	7.5%
66390	OTHER GOODS AND EQUIPMENT RENTAL AND HIRING N.E.C.	84.2%	49.6%	1.84	1.97	1.98	7.6%
66400	NON-FINANCIAL INTANGIBLE ASSETS (EXCEPT COPYRIGHTS) LEASING	119.1%	9.2%	0.79	1.35	0.99	25.0%
67110	RESIDENTIAL PROPERTY OPERATORS	153.6%	79.3%	0.85	0.83	0.83	-1.8%
67120	NON-RESIDENTIAL PROPERTY OPERATORS	77.6%	75.1%	0.54	0.60	0.60	12.1%
67200	REAL ESTATE SERVICES	71.7%	100.0%	0.32	0.35	0.35	10.7%
M	Professional, scientific and technical services						
69100	SCIENTIFIC RESEARCH SERVICES	79.7%	52.0%	0.31	0.35	0.35	13.0%
69210	ARCHITECTURAL SERVICES	44.7%	82.5%	0.25	0.16	0.25	1.3%
69220	SURVEYING AND MAPPING SERVICES	67.5%	79.6%	0.61	0.59	0.59	-2.5%
69230	ENGINEERING DESIGN AND ENGINEERING CONSULTING SERVICES	74.8%	100.0%	0.25	0.27	0.27	8.0%
69240	OTHER SPECIALISED DESIGN SERVICES	71.0%	38.8%	0.56	0.52	0.53	-6.4%
69250	SCIENTIFIC TESTING AND ANALYSIS SERVICES	73.9%	100.0%	0.67	0.64	0.65	-2.9%
69310	LEGAL SERVICES	68.6%	100.0%	0.28	0.27	0.28	-0.8%
69320	ACCOUNTING SERVICES	45.8%	100.0%	0.26	0.17	0.25	-0.9%
69400	ADVERTISING SERVICES	70.1%	52.5%	0.31	0.31	0.31	1.2%
69500	MARKET RESEARCH AND STATISTICAL SERVICES	62.2%	63.7%	0.44	0.39	0.39	-10.2%
69610	CORPORATE HEAD OFFICE MANAGEMENT SERVICES	70.5%	100.0%	0.64	0.62	0.63	-1.7%
69620	MANAGEMENT ADVICE AND RELATED CONSULTING SERVICES	81.0%	100.0%	0.44	0.45	0.46	3.9%
69700	VETERINARY SERVICES	81.1%	51.1%	1.31	1.42	1.43	9.2%
69910	PROFESSIONAL PHOTOGRAPHIC SERVICES	28.6%	16.4%	1.64	0.67	1.23	-25.0%
69990	OTHER PROFESSIONAL, SCIENTIFIC AND TECHNICAL SERVICES N.E.C.	53.8%	51.1%	0.65	0.61	0.62	-4.8%
70000	COMPUTER SYSTEM DESIGN AND RELATED SERVICES	30.5%	100.0%	0.25	0.11	0.25	1.3%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates Uncapped	% Change in Relative Premium Rates (RES2019/20)/ GAZ2018/19	Margins Uncapped / (RES2019/20)	
N	Administrative and support services							
72110	EMPLOYMENT PLACEMENT AND RECRUITMENT SERVICES	811.0%	66.0%	0.85	3.34	1.06	25.0%	-216.1%
72120	LABOUR SUPPLY SERVICES PREDOMINANTLY CLERICAL STAFF	128.4%	55.0%	0.85	1.55	1.06	25.0%	-47.1%
72121	LABOUR SUPPLY SERVICES NOT ELSEWHERE CLASSIFIED (rate as per industry)	621.2%	2.1%	1.72	N/A	N/A	N/A	N/A
72200	TRAVEL AGENCY AND TOUR ARRANGEMENT SERVICES	91.8%	63.9%	0.68	0.75	0.76	10.6%	0.9%
72910	OFFICE ADMINISTRATIVE SERVICES	157.6%	47.8%	0.38	0.86	0.48	25.0%	-80.6%
72920	DOCUMENT PREPARATION SERVICES	55.8%	12.4%	1.13	0.90	0.91	-19.3%	0.9%
72930	CREDIT REPORTING AND DEBT COLLECTION SERVICES	55.3%	12.6%	1.11	0.88	0.89	-20.1%	0.9%
72940	CALL CENTRE OPERATION	63.3%	20.1%	1.11	1.01	1.02	-8.5%	0.9%
72990	OTHER ADMINISTRATIVE SERVICES N.E.C.	161.6%	49.4%	0.29	0.67	0.36	25.0%	-85.1%
73110	BUILDING AND OTHER INDUSTRIAL CLEANING SERVICES	73.6%	89.3%	2.45	2.37	2.40	-2.2%	0.9%
73120	BUILDING PEST CONTROL SERVICES	70.4%	32.2%	3.71	3.68	3.71	0.2%	0.9%
73130	GARDENING SERVICES	75.5%	37.9%	3.86	4.17	4.21	9.1%	0.9%
73200	PACKAGING SERVICES	80.5%	24.9%	2.97	3.42	3.46	16.4%	0.9%
O	Public administration and safety							
75100	CENTRAL GOVERNMENT ADMINISTRATION	63.6%	5.9%	0.74	0.71	0.71	-3.1%	0.9%
75200	STATE GOVERNMENT ADMINISTRATION	65.1%	100.0%	0.82	0.83	0.84	2.4%	0.9%
75300	LOCAL GOVERNMENT ADMINISTRATION (Applies only to privately insured entities. Excludes all self-insured entities in the Local Government Insurance Service - WorkCare scheme)	85.8%	35.2%	1.11	1.38	1.39	25.0%	0.5%
75400	JUSTICE	68.7%	70.7%	0.38	0.32	0.33	-14.2%	0.9%
75510	DOMESTIC GOVERNMENT REPRESENTATION	63.9%	3.6%	0.74	0.72	0.72	-2.2%	0.9%
75520	FOREIGN GOVERNMENT REPRESENTATION	62.7%	9.5%	0.72	0.70	0.71	-0.8%	0.9%
76000	DEFENCE	174.4%	5.4%	0.87	2.17	1.08	25.0%	-99.8%
77110	POLICE SERVICES	82.1%	0.4%	5.20	5.52	5.57	7.1%	0.9%
77120	INVESTIGATION AND SECURITY SERVICES	85.7%	78.5%	2.82	3.46	3.49	23.8%	0.9%
77130	FIRE PROTECTION AND OTHER EMERGENCY SERVICES	79.1%	64.4%	5.15	5.41	5.46	6.1%	0.9%
77140	CORRECTIONAL AND DETENTION SERVICES	83.5%	100.0%	6.54	6.98	7.04	7.7%	0.9%
77190	OTHER PUBLIC ORDER AND SAFETY SERVICES	129.2%	14.3%	2.71	5.02	3.39	25.0%	-48.0%
77200	REGULATORY SERVICES	59.1%	97.0%	0.83	0.70	0.71	-14.6%	0.9%
P	Education and training							
80100	PRESCHOOL EDUCATION	113.0%	13.7%	1.03	1.66	1.28	25.0%	-29.4%
80210	PRIMARY EDUCATION	83.4%	86.7%	0.86	0.96	0.97	13.0%	0.9%
80220	SECONDARY EDUCATION	83.3%	91.8%	1.03	1.12	1.13	9.9%	0.9%
80230	COMBINED PRIMARY AND SECONDARY EDUCATION	72.8%	100.0%	1.64	1.66	1.68	2.6%	0.9%
80240	SPECIAL SCHOOL EDUCATION	63.6%	17.8%	1.63	1.67	1.68	3.1%	0.9%
81010	TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING	92.1%	100.0%	0.85	0.97	0.98	14.6%	0.9%
81020	HIGHER EDUCATION	79.7%	100.0%	0.32	0.32	0.32	1.8%	0.9%
82110	SPORTS AND PHYSICAL RECREATION INSTRUCTION	66.5%	26.1%	1.25	1.19	1.20	-3.9%	0.9%
82120	ARTS EDUCATION	69.6%	16.1%	0.92	1.02	1.02	12.0%	0.9%
82190	ADULT, COMMUNITY AND OTHER EDUCATION N.E.C.	69.4%	48.2%	0.71	0.83	0.84	17.9%	0.9%
82200	EDUCATIONAL SUPPORT SERVICES	51.3%	32.3%	0.44	0.75	0.55	25.0%	-36.8%

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates Gazette 2018/19	Relative Premium Rates Normalised 2019/20 Relative Prem Rates Uncapped	Restricted	% Change in Relative Premium Rates (RES2019/20)/ GAZ2018/19	Margins Uncapped / (RES2019/20)
Q	Health care and social assistance							
84010	HOSPITALS (EXCEPT PSYCHIATRIC HOSPITALS)	67.2%	100.0%	1.95	1.94	1.95	0.3%	0.9%
84020	PSYCHIATRIC HOSPITALS	62.2%	63.1%	2.65	2.55	2.58	-2.7%	0.9%
85110	GENERAL PRACTICE MEDICAL SERVICES	61.0%	89.9%	0.69	0.62	0.62	-10.1%	0.9%
85120	SPECIALIST MEDICAL SERVICES	67.1%	88.4%	0.43	0.44	0.44	3.6%	0.9%
85200	PATHOLOGY AND DIAGNOSTIC IMAGING SERVICES	89.3%	83.5%	0.46	0.59	0.57	25.0%	-2.3%
85310	DENTAL SERVICES	76.0%	100.0%	0.57	0.57	0.58	1.7%	0.9%
85320	OPTOMETRY AND OPTICAL DISPENSING	40.2%	100.0%	0.27	0.21	0.25	-7.3%	16.0%
85330	PHYSIOTHERAPY SERVICES	42.6%	100.0%	0.25	0.18	0.25	1.3%	28.6%
85340	CHIROPRACTIC AND OSTEOPATHIC SERVICES	57.5%	100.0%	0.45	0.37	0.38	-16.9%	0.9%
85390	OTHER ALLIED HEALTH SERVICES	78.7%	72.2%	1.42	1.59	1.61	13.7%	0.9%
85910	AMBULANCE SERVICES	79.5%	58.9%	2.83	3.20	3.23	14.2%	0.9%
85990	OTHER HEALTH CARE SERVICES N.E.C.	85.0%	63.7%	1.42	1.72	1.74	22.8%	0.9%
86010	AGED CARE RESIDENTIAL SERVICES	70.5%	100.0%	3.07	3.09	3.12	1.7%	0.9%
86090	OTHER RESIDENTIAL CARE SERVICES	63.2%	98.0%	3.03	2.74	2.77	-8.6%	0.9%
87100	CHILD CARE SERVICES	68.3%	88.8%	2.15	2.04	2.06	-3.9%	0.9%
87900	OTHER SOCIAL ASSISTANCE SERVICES	78.9%	100.0%	3.20	3.42	3.45	7.8%	0.9%
R	Arts and recreation services							
89100	MUSEUM OPERATION	65.8%	30.8%	1.39	1.03	1.05	-25.0%	1.2%
89210	ZOOLOGICAL AND BOTANICAL GARDENS OPERATION	68.3%	20.5%	2.62	2.40	2.42	-7.5%	0.9%
89220	NATURE RESERVES AND CONSERVATION PARKS OPERATION	72.1%	21.8%	1.94	1.85	1.86	-4.2%	0.9%
90010	PERFORMING ARTS OPERATION	78.6%	24.1%	2.04	1.95	1.97	-3.4%	0.9%
90020	CREATIVE ARTISTS, MUSICIANS, WRITERS AND PERFORMERS	85.7%	27.6%	1.48	1.82	1.84	23.8%	0.9%
90030	PERFORMING ARTS VENUE OPERATION	76.8%	22.0%	1.46	1.60	1.62	11.1%	0.9%
91110	HEALTH AND FITNESS CENTRES AND GYMNASIA OPERATION	79.8%	36.9%	1.49	1.70	1.71	15.3%	0.9%
91120	SPORTS AND PHYSICAL RECREATION CLUBS AND SPORTS PROFESSIONALS	86.0%	40.8%	1.38	1.54	1.56	12.5%	0.9%
91130	SPORTS AND PHYSICAL RECREATION VENUES, GROUNDS AND FACILITIES OPERATION	76.2%	52.3%	1.68	1.72	1.74	3.9%	0.9%
91131	SPEEDWAY OPERATION	74.7%	3.1%	2.22	2.27	2.29	3.4%	0.9%
91140	SPORTS AND PHYSICAL RECREATION ADMINISTRATIVE SERVICE	86.6%	23.1%	1.33	1.55	1.57	18.3%	0.9%
91210	HORSE AND DOG RACING ADMINISTRATION AND TRACK OPERATION	70.4%	38.9%	4.18	4.35	4.38	4.8%	0.9%
91290	OTHER HORSE AND DOG RACING ACTIVITIES	76.7%	13.2%	5.49	6.02	6.08	10.8%	0.9%
91310	AMUSEMENT PARKS AND CENTRES OPERATION	69.3%	16.0%	1.80	1.90	1.92	6.8%	0.9%
91390	AMUSEMENT AND OTHER RECREATIONAL ACTIVITIES N.E.C.	76.0%	16.5%	1.77	1.86	1.88	5.8%	0.9%
92010	CASINO OPERATION	62.4%	74.0%	1.23	1.22	1.23	0.1%	0.9%
92020	LOTTERY OPERATION	58.6%	22.8%	1.05	0.99	1.00	-4.7%	0.9%
92090	OTHER GAMBLING ACTIVITIES	63.8%	17.1%	0.99	1.02	1.03	3.5%	0.9%

Premium rates

Divn/Class	Name	Weighted Loss Ratio	Credibility	Relative Premium Rates	Relative Premium Rates		% Change in Relative	Margins
				Gazette 2018/19	Normalised 2019/20 Relative Prem Rates	Uncapped Restricted	(RES2019/20)/ GAZ2018/19	Uncapped / (RES2019/20)
S	Other services							
94110	AUTOMOTIVE ELECTRICAL SERVICES	73.5%	49.4%	2.25	2.26	2.28	1.2%	0.9%
94120	AUTOMOTIVE BODY, PAINT AND INTERIOR REPAIR	71.3%	66.8%	2.32	2.37	2.39	3.1%	0.9%
94190	OTHER AUTOMOTIVE REPAIR AND MAINTENANCE	81.2%	81.2%	1.93	2.14	2.16	11.9%	0.9%
94210	DOMESTIC APPLIANCE REPAIR AND MAINTENANCE	67.4%	17.7%	1.87	1.71	1.73	-7.7%	0.9%
94220	ELECTRONIC (EXCEPT DOMESTIC APPLIANCE) AND PRECISION EQUIPMENT REPAIR AND MAINTENANCE	233.8%	49.1%	0.29	0.96	0.36	25.0%	-167.9%
94290	OTHER MACHINERY AND EQUIPMENT REPAIR AND MAINTENANCE	70.0%	100.0%	1.21	1.89	1.51	25.0%	-24.6%
94910	CLOTHING AND FOOTWEAR REPAIR	78.8%	10.9%	1.65	1.88	1.90	14.7%	0.9%
94990	OTHER REPAIR AND MAINTENANCE N.E.C.	82.9%	16.0%	1.69	2.01	2.03	19.8%	0.9%
95110	HAIRDRESSING AND BEAUTY SERVICES	66.3%	70.2%	0.87	0.88	0.89	2.4%	0.9%
95120	DIET AND WEIGHT REDUCTION CENTRE OPERATION	42.0%	7.3%	1.69	1.01	1.27	-25.0%	19.9%
95200	FUNERAL, CREMATORIUM AND CEMETERY SERVICES	73.2%	29.1%	3.17	3.11	3.14	-1.0%	0.9%
95310	LAUNDRY AND DRY-CLEANING SERVICES EXCLUDES INDUSTRIAL LAUNDRIES	96.8%	31.6%	2.31	2.89	2.89	25.0%	0.2%
95311	INDUSTRIAL LAUNDRIES	80.1%	11.7%	2.63	3.08	3.11	17.9%	0.9%
95320	PHOTOGRAPHIC FILM PROCESSING	82.0%	5.9%	2.44	2.60	2.62	7.5%	0.9%
95330	PARKING SERVICES	72.5%	13.9%	3.26	3.25	3.28	0.6%	0.9%
95340	BROTHEL KEEPING AND PROSTITUTION SERVICES	84.3%	6.0%	2.28	2.76	2.78	21.9%	0.9%
95390	OTHER PERSONAL SERVICES N.E.C.	87.7%	19.5%	2.28	2.62	2.65	16.0%	0.9%
95400	RELIGIOUS SERVICES	77.2%	58.3%	1.25	1.33	1.34	7.5%	0.9%
95510	BUSINESS AND PROFESSIONAL ASSOCIATION SERVICES	77.7%	51.5%	0.73	0.81	0.82	12.3%	0.9%
95520	LABOUR ASSOCIATION SERVICES	66.2%	35.1%	1.11	1.11	1.12	0.9%	0.9%
95590	OTHER INTEREST GROUP SERVICES N.E.C.	83.0%	100.0%	1.18	1.40	1.42	19.9%	0.9%
96010	PRIVATE HOUSEHOLDS EMPLOYING STAFF PERMANENT STAFF	59.8%	30.3%	1.69	1.44	1.46	-13.6%	0.9%
96011	PRIVATE HOUSEHOLDS EMPLOYING STAFF OCCASIONAL STAFF (for 2019/20 restricted these are dollar premiums (see Recommended Minimum Premium - Household's Policies) while for 2019/20 true these are rates)					2.30	80.00	
96020	UNDIFFERENTIATED GOODS-PRODUCING ACTIVITIES OF PRIVATE HOUSEHOLDS FOR OWN USE (for 2019/20 restricted these are dollar premiums (see Recommended Minimum Premium - Household's Policies) while for 2019/20 true these are rates)					1.51	80.00	
96030	UNDIFFERENTIATED SERVICE-PRODUCING ACTIVITIES OF PRIVATE HOUSEHOLDS FOR OWN USE (for 2019/20 restricted these are dollar premiums (see Recommended Minimum Premium - Household's Policies) while for 2019/20 true these are rates)					1.47	80.00	

Appendix B Detailed data description

B 1 Data supplied by insurers

Data is supplied to WorkCover WA by the premium rate returning entities. The term premium rate returning entities refers to all approved private insurers, former insurers currently in run-off and ICWA. ICWA supplies data for RiskCover, the Government Insurance Fund (Funded and Unfunded) and for its pre - 1987 private sector risks.

After initial validation, WorkCover WA forwarded the data to us.

LGIS - WorkCare has not been included in the calculation of the recommended premium rates since 2002/03. As a result, the recommended premium rate for ANZSIC code 75300 – Local Government Administration (Applies only to privately insured entities. Excludes all self-insured entities in the Local Government Insurance Service – WorkCare scheme) should be treated with caution as it does not reflect the current experience of the Local Government self-insurance scheme.

The following forms from the premium rating returning entities were supplied electronically as at 30 June 2018:

Form WC12

The form contains similar information to the WC11 but it contains a list of each policy with its associated claims data (in aggregate) and class based on ANZSIC 2006. The form contains the following pieces of data for each policy:

- ANZSIC 2006 code where the policy is classified
- Reporting year
- Gross written premium including any adjustments
- Written wages, including any adjustments to initial wage declarations
- Earned premium
- Earned wages, including any adjustments to initial wage declarations
- Cumulative number of claim reports
- Cumulative claim payments
- Case estimates outstanding on active claims.

WorkCover WA aggregated the forms provided by insurers for us and provide the aggregated data to us.

For the past two years, we have used Form WC12 to calculate and publish the recommended premium rates work based on ANZSIC 2006 classification. Previously we used Form WC11 to calculate the rates on an ANZSIC 93 basis. We did not receive a Form WC11 this year.

Form WC20

This form contains the following information:

- Number of claim reports in the year
- Amount of claim payments in the year
- Number of active claims at year end
- Case estimates of active claims at year end
- IBNR and development estimates at year end
- Prudential margin used in the financial accounts
- Corresponding level of sufficiency adopted in the financial accounts
- Prudential margin at a 75% level of sufficiency (as supplied to APRA).

The data provided in this form is similar to that collected by APRA.

Form WC101

Form WC101 contains total claim payments subdivided into eleven payment types. The categories for payments are:

- Weekly benefits
- Redemptions
- Schedule 2 payments
- Fatalities
- Medical practitioners and specialists
- Hospital expenses
- All other treatment
- Vocational rehabilitation
- Miscellaneous (e.g. transport, maintenance)
- Legal expenses
- Common law and other acts.

This year we did not use Form WC101 for our valuation. We have instead used payments data provided by WorkCover WA. See below for further details.

Form WC30

Form WC30 contains the following information:

- Premium information
 - Gross written premium for the year to 30 June 2018
 - Unearned premium as at 30 June 2017
 - Unearned premium as at 30 June 2018
 - Earned premium for the year to 30 June 2018
 - Earned but not yet raised premium for burner policies split into the last five financial years.
- Expenses for the year to 30 June 2018
 - Commission and brokerage
 - General Account levy
 - Supplementary fund levy
 - Other statutory charges
 - Management expenses.

From June 2018 onwards, insurers are no longer required to provide Form WC20 and Form WC101 on a quarterly basis. They have however provided us with a half yearly WC20 to 31 December 2018.

B 2 Other data provided

WorkCover WA also provided the following data as at 31 December 2018.

Payments data for period 2013/14 to 2017/18

The payment data provided by WorkCover WA are split payments by accident year and into 12 different categories as follows:

- Weekly benefits
- Lump sum election registered
- Lump sum no election registered
- Lump sum permanent impairment/Fatal
- Investigation
- Legal

- Miscellaneous
- Medical non scheduled
- Medical scheduled
- Hospital
- Allied health
- Workplace rehabilitation.

This data was provided on a quarterly basis from the September 2013 quarter to the June 2018 quarter. It was also provided for the half year to 31 December 2018.

Individual list of all 2004/05 to 2017/18 claims

We were provided with a list of each claim with an accident date from 1 July 2004 to 31 December 2018. This data contained:

- Claim number
- Occurrence date
- Finalisation date
- Reopened date
- Date of birth
- Insurer type
- Total payments and split into by payment type
- Total estimate.

We used this data to review any change in the frequency of claims and average claim size for claimants over age 65.

Large claims

A file of large claims (>\$0.2 million) incurred by the premium rate returning entities. Data fields provided include:

- Claim number
- Accident year, date insurer received claim and finalisation date (if applicable)
- Total estimate, paid and outstanding
- Premium rating class.

The large claim file is provided as at 30 June 2018 and used to apply the large claim cap when calculating premium rates.

Lump sum payment type by reported quarter

We have been provided with the schedule 2, redemptions and 92(f) number of claims and payments by quarter reported from September 2008 for insurers only.

This data enabled us to review the trends in settlement lodgement and payment.

Lump sum payments in the 2017/18 financial year

We received a report that provides the lump sum payments over the financial year, separated by accident year and split into lump sums without election, lump sum with election, Schedule 2. It also has the total number of settlements and legal payments.

Lump sum payments by accident year

We received a report that provides the total lump sum payments by accident year and split into lump sums without election, lump sum with election, Schedule 2. It also has the total number of settlements and legal payments.

Number of claims reported each quarter split by duration

We have been provided with the number of claims reported by quarter split into number of lost time days of 0, 1 to 4, 5 to 19, 20 to 59, 60 to 119, 120 to 179 and greater than 180 days' time lost.

While for the more recent quarters the days lost is only an estimate, this data helps us understand the changes in the duration and which durations are experiencing a reduction in the number of claims.

Asbestos-related claim data

Reviewing the asbestos claims for the overall scheme is out of scope for this report. However, if necessary a review may be considered as a separate project in the future.

B 3 Data quality

The overall quality of the data this year was acceptable for our premium rate projections, once the data validation process was completed.

The initial data is screened by WorkCover WA using a set of validation tests complementary to the insurer checklist. We then subject the data to more comprehensive and detailed checking.

Each insurer form is checked to ensure that they are:

- Reasonable and internally consistent
- Consistent across the forms, i.e.:
 - Claims paid: WC20 = WC101

A range of ratios were also calculated for each insurer, being:

- Notional loss ratio

- Outstanding claim ratio
- Expense ratios.

We review these ratios over the past three financial years to check for any major changes and errors in the data.

In summary, of 20 (20) returns received:

- 10 (10) required no further action
- 9 (9) insurers had to clarify specific issues or do a first revision
- 1 (1) insurers had to further clarify issues or do a second revision.

The numbers in brackets are last year's.

The data quality was reasonably consistent with previous years. This is the second year that we received and checked the Form WC12 at a policy level which continues to raise queries where previously not identified. Many of these were corrected but some were flagged as immaterial, to be corrected prior to submission of data next year. With this additional layer of information, we were able to gain more insight into the drivers of the movement between years and classes.

We encourage insurers to continue to compare their submissions with the prior year's final version, and provide explanations for any large differences. This will reduce the number of queries we have when we review the initial submissions.

This year is the first year we have used the payment type data from WorkCover WA's database. The total payments reconciled well with the payment information previously provided by the insurers. The total payments were within 0.02% for the 2016 and 2017 financial years and within 0.2% for the 2014 and 2015 financial years.

Appendix C Detailed methods description

C1 Projection methods

As discussed in section 5.1, a range of projection methods were used to calculate the outstanding claims liability. They are detailed below:

Payments per claim finalised method

All payments were brought to current values and divided by the numbers of claims finalised in their respective accident years and years of payment. Averages of payments per claim finalised were formed from these figures. These averages were then combined with a projection of future numbers of claims finalised to produce projected future payments.

The PPCF model was used, along with other methods, to project the cashflows for the following payment categories:

- Lump sum (election registered, no election registered, permanent impairment/fatal)
- Investigation, legal and miscellaneous

Payments per active claim method

As described for the payments per claim finalised method, but with a denominator of numbers of claims active at the beginning of the period.

The PPAC model was used, along with other methods, to project the cashflows for the following payment categories:

- Weekly benefits
- Medical (scheduled and non-scheduled) and Hospital expenses
- Allied health
- Workplace rehabilitation.

Payments per claim incurred method

All claim payments were brought to current values and divided by the numbers of claims incurred in their respective accident years. A pattern of past payments per claim incurred was derived in respect of each accident year. These payment patterns were then extended into future years and used to project future payments.

The PPCI method was used in a blend with other methods to project payments for all payment groups for more recent accident years. The PPCI method was used as a benchmark for all groupings for older accident years.

C 2 Premium rates methods

C2.1 Relative rates

Calculate weighted average rates

The raw premium rate is calculated on an accident year basis for 2012/13 to 2017/18 using the following formula:

$$\frac{\text{developed total estimate (claim payments + outstanding case estimates)}}{\text{developed returned earned wages}}$$

This is done by industry division, subdivision, group and class.

Both the total estimate and returned earned wages are developed on an individual insurer basis and then cumulated to attain the industry totals. Returned earned wages are developed by considering the extent to which earned wages have developed historically on individual insurers' returns. The total estimate is developed based on the insurers' expected development, provided on Form WC20, adjusted at an aggregate level to align with our expected total development.

The equivalent aggregate adjustment rates, after applying the development at an individual insurer level for total case estimates and earned wages, are shown in the tables below. Note that for the 30 June 2014 and prior years the adjustment factors for all tables were calculated at an aggregate level, not on an individual insurer basis.

Development Year	Adjustment Factors for Total Case Estimates				
	30 June 2018	30 June 2017	30 June 2016	30 June 2015	30 June 2014
0	1.460	1.489	1.584	1.601	1.524
1	1.079	1.108	1.134	1.106	1.118
2	1.022	1.031	1.032	1.043	1.063
3	1.013	1.010	1.024	1.025	1.044
4	1.008	1.014	1.013	1.014	1.034
5	1.021	1.009	1.020	1.034	1.042
6	1.017	1.014	1.020	1.027	1.041
7	1.021	1.013	1.019	1.027	1.038

Development Year	Adjustment Factors for Earned Wages				
	30 June 2018	30 June 2017	30 June 2016	30 June 2015	30 June 2014
0	1.000	1.010	1.018	1.023	1.041
1	1.002	1.007	1.008	1.006	1.011
2	0.999	1.003	1.004	1.002	1.003
3	1.001	1.002	1.003	1.002	1.001
4	1.000	1.001	1.001	1.000	1.001
5	1.000	1.000	1.000	1.000	1.000
6	1.000	1.000	1.000	1.000	1.000
7	1.000	1.000	1.000	1.000	1.000

Development Year	Adjustment Factors for Written Wages				
	30 June 2018	30 June 2017	30 June 2016	30 June 2015	30 June 2014
0	1.012	1.024	1.038	1.055	1.064
1	1.010	1.016	1.021	1.013	1.015
2	1.007	1.009	1.012	1.004	1.004
3	1.005	1.006	1.009	1.003	1.002
4	1.000	1.000	1.002	1.000	1.000
5	1.000	0.999	1.000	1.000	1.000
6	1.000	1.000	1.000	1.000	1.000
7	1.000	1.000	1.000	1.000	1.000

Earned wage development is generally lower than written wage development since earned wages already include part of the wage adjustments from the prior underwriting years.

Development Year	Adjustment Factors for Gross written premiums				
	30 June 2018	30 June 2017	30 June 2016	30 June 2015	30 June 2014
0	1.047	1.065	1.093	1.136	1.192
1	1.012	1.033	1.055	1.075	1.108
2	0.990	1.011	1.029	1.044	1.070
3	1.000	1.011	1.016	1.011	1.031
4	1.000	1.001	1.004	1.003	1.005
5	0.999	1.000	1.002	1.002	1.002
6	1.000	0.999	1.000	1.001	1.001
7	1.000	1.000	1.000	1.001	1.001

The table below shows the development of the earned premiums, including the earned but not yet raised (EBNYR) premium.

Development Year	Adjustment Factors for Earned premiums (including EBNYR)				
	30 June 2018	30 June 2017	30 June 2016	30 June 2015	30 June 2014
0	0.976	0.995	0.988	1.014	1.031
1	0.964	0.981	0.969	0.977	0.982
2	0.977	0.993	0.979	0.985	0.987
3	1.012	1.002	0.985	0.982	0.984
4	1.001	1.003	1.002	1.003	0.998
5	1.000	1.001	1.004	1.006	1.002
6	1.000	1.000	1.000	1.000	1.001
7	1.000	1.000	1.000	1.000	1.000

The gross written premium and earned premium for the most recent accident years is affected by burner policies. The development of gross written premium and earned premium will depend upon the percentage of burner policies in the scheme.

The WARs are calculated from the raw rates by applying the following credibility weightings to each financial year:

Weightings	Development year					
	0	1	2	3	4	5
30 June 2018	0.6	0.9	1.0	1.0	1.0	0.5
30 June 2017	0.6	0.9	1.0	1.0	0.5	0.0

The current accident year experience is given only 60% weighting because of the low level of development. This increases to 90% for development year 1. The rates are then standardised to give an overall weighting of

100% up to development year 4, reducing thereafter due to lower relevance of the older years. The weights sum to five full years.

The weightings for this year include one more year as there is one more year of data available on the Form WC12. This is consistent with the number of years included in the weighting for the 2015/16 recommended premium rates and earlier. We reduced the years included in the rates as part of the transition from ANZSIC 93 to ANZSIC 06.

Partial credibility rates

PCRs are calculated from the WARs using aggregate weighted wages as the exposure measure. PCRs are calculated by industry division, sub-division, group and class progressively, using a system of hierarchical credibility.

The application of credibility theory to experience rating was developed as follows:

Calculation of self-rating point	
Estimated average wages (a)	88,403
Estimated claim frequency (b)	3.1%
n	720
σ/m	0.175
Number of claims for full credibility (c)	742
Number of employees for full credibility (d)	24,066
Indexed wages for full credibility (e)	2,127,512,691

- Notes:**
- (a) = estimated average full time adult ordinary time earnings over 2017/18
= $(1742.17 + 1744.48) / 2 \times 52.18$ (ABS Cat 6302.0) / 3 year inflation factor (=1.029) to adjust to the same base as weighted average wages
 - (b) from Appendix I being an average of claims experience over the 2013 to 2017 accident years
 - (c) = $n \times (1 + (\sigma/m)^2)$
 - (d) = (c) / (b)
 - (e) = (d) / (a)

To obtain full credibility, the aggregated weighted wages for each class, group, sub-division or division need to be greater than \$2,128 million. This is 8.4% higher than the \$1,963 million from the analysis last year. Note that last year, the full credibility value of \$1,963 was multiplied by four divided by five to adjust for fewer years in the average compared to prior years. The increase is due to lower claim frequency and higher average wages.

The formula for the partial credibility factor Z is:

$$Z = \sqrt{n_i / n_f}$$

where: n_i = returned wages for the industry class

n_f = returned wages for full credibility, where returned wages are substituted as a surrogate measure for number of claims.

The partial credibility rate is then calculated as:

$$\text{PCR} = Z \times \text{WAR} + (1 - Z) \times \text{DWAR}$$

Where: WAR = weighted average rate per class

DWAR = weighted average rate per division, sub-division, group

For full credibility, we get Z = 1 and the formula reduces to:

$$\text{PCR} = \text{WAR}$$

i.e.: PCR = full credibility premium rate.

Under this method the following obtained full credibility:

- 19 (19) of 19 divisions
- 39 (40) of 86 sub-divisions
- 45 (51) of 214 groups
- 46 (50) of 517 premium rating classes.

Figures in brackets are last years.

The table below shows the distribution of credibility level achieved by rating classes on their own claims experience:

Credibility Level	This year		Last year	
	No. of Classes	%	No. of Classes	%
$x \leq 25\%$	231	44.7%	224	43.3%
$25\% < x \leq 50\%$	143	27.7%	137	26.5%
$50\% < x \leq 75\%$	61	11.8%	70	13.5%
$75\% < x < 100\%$	36	7.0%	36	7.0%
100%	46	8.9%	50	9.7%
Total	517	100.0%	517	100.0%

Where a class, group, sub-division or division does not have full credibility the rate is built-up from group level, progressively through sub-division and division level, if necessary. In this way, a finer distinction is made to better approach homogeneity in the full credibility grouping of the premium rating classes. Classes with credibility close to unity will be largely unaffected, while those with low credibility levels should experience greater equity and appropriateness in their rates.

Wages across the following classes were aggregated to calculate the credibility factor Z for the relevant class:

Group	Rating Classes	Z based on aggregate wages
A	85310 - Dental Services	1.00
	85320 - Optometry and Optical Dispensing	1.00
	85330 - Physiotherapy Services	1.00
	85340 - Chiropractic and Osteopathic Services	1.00

This is done to promote homogeneity of experience and for consistency with grouping applied on an ANZSIC 1993 classification basis. The above rating classes have claim experience vastly different from the other classes in the same group:

- Group A has Other Allied Health Services.

Due to the use of earned wages, not written, we have not had to exclude any raw premium rates from the calculation of the weighted average rate, since there is no mismatch in the timing of the wage period and the claim period.

Capping large claims

We have been provided with all claims with an incurred cost greater than \$0.2 million. Although no longer considered in our analysis, large claims for the 2000/01 accident year are capped at an incurred cost estimate of \$3.0 million or 12% of wages for claims between \$0.2 million and \$3.0 million. For subsequent accident years, the capping is indexed in line with wage inflation.

The table below shows the capping applied to each accident year with greater than 0% weighting in the premium rates.

Accident year	Minimum (\$M)	Maximum (\$M)
2013	0.402	6.025
2014	0.404	6.064
2015	0.416	6.235
2016	0.417	6.250
2017	0.422	6.331
2018	0.427	6.409

The large claim capping has been performed at an individual insurer level, using the total aggregate wages across all insurers by:

- Deducting the total estimate for each large claim from 'claim payments and outstanding case estimates' for the rating class it belongs to
- Applying the development factor to the reduced total
- Adding back the capped amount for the large claim and
- Dividing by returned wages.

This implies that:

- No further development is added to insurer's estimates of these claims

- They are capped when calculating the WARs to limit the influence of abnormally large items on relative rates at class level
- The cost above the cap is in effect respread over the whole scheme.

For the 2013 to 2018 accident years (those with a greater than 0% weight to calculate the WAR) there are four (three) claims capped at class level, but only two (two) claims capped at group, sub-division and divisional level. Figure in brackets are last year's equivalent figures.

Caps on large claims amount to 0.6% of the total premium pool for 2019/20.

Normalise partial credibility rates

The PCRs are normalised such that when they are applied to adjusted accident year returned wages for 2017/18 by class, the aggregate notional premiums are equal to the aggregate notional premiums, based on the same wage data, calculated using the 2018/19 Gazette rates.

The normalised PCRs (NPCRs) are subjected to absolute minimum and maximum rates of \$0.25 and \$12.00 per \$100 of wages. This is the same as last year

All premium rates, other than those where a minimum or maximum premium rate cap is applied, have reduced by 0.4% as a result of the premium respread

Continued transitory capping of rates from ANZSIC 1993 to ANZSIC 2006

In addition, the normalised PCRs post the absolute minimum and maximum adjustment (above) is then further capped in their total movement from the 2018/19 Gazetted rates (both upwards and downwards) by 25%. This is in order to allow for a smoother transition from ANZSIC 1993 to ANZSIC 2006 classifications, given this is our second year of transition. This approach is similar to last year where a 15% movement capping was applied between comparable 2017/18 rates (under ANZSIC 1993) and 2018/19 rates.

Having applied these limits, the NPCRs are normalised once again to the aggregate notional premiums at Gazette rates.

This capping of movement increases all premium rates (not subject to capping) by 1.3% as a result of respreading the extra premium required.

Weighted loss ratio

The weighted loss ratio presented in the tables in Appendix A, is calculated as follows:

$$\frac{\text{estimated risk cost of claims (based on this year's Gazette rates times wages)}}{\text{premium on last year's Gazette rates}}$$

The weighted loss ratio is a benchmark statistic and is not used as part of the Gazette rate calculation.

Appendix D Assumptions

D 1 Financial assumptions

Future inflation and interest rates

Years ahead	Interest rate 28 Feb 2019	Inflation rate 28 Feb 2019	Real rate 28 Feb 2019	31 Jan 2018
1	1.82%	1.75%	0.07%	0.09%
2	1.73%	2.75%	-1.02%	0.21%
3	1.71%	3.00%	-1.29%	-0.66%
4	1.72%	3.25%	-1.53%	-0.84%
5	1.83%	3.11%	-1.28%	-0.49%
6	2.02%	2.96%	-0.94%	-0.21%
7	2.25%	2.82%	-0.57%	0.02%
8	2.45%	2.68%	-0.22%	0.18%
9	2.63%	2.54%	0.09%	0.28%
10	2.76%	2.39%	0.37%	0.32%
11	2.87%	2.25%	0.62%	0.32%
12	2.95%	2.11%	0.84%	0.57%
13	3.02%	1.97%	1.05%	0.90%
14	3.07%	1.82%	1.25%	1.19%
15	3.12%	1.68%	1.43%	1.44%
16	3.14%	1.54%	1.60%	1.64%
17 & onwards	3.15%	1.40%	1.75%	1.64%

For this valuation, there has been a decrease in the real rate of return for first nine years of projections and for the 15th and 16th years, which increases the liabilities. This is mainly due to decreases in the interest rates from year two onwards.

The interest rate for one quarter of the first year ahead [$((1 + 1.82\%)^{0.25} - 1) = 0.5\%$] is included in the calculation of the average premium rate. This is because premiums are received on average three months earlier than the point to which claims are discounted.

Forward interest rates are those estimated to be anticipated over future years by the Commonwealth bond market as it stood at 28 February 2019.

The interest rate for the 2019 financial year is set using the actual one month forward rates from July 2018 to February 2019, along with the monthly forward rates for March 2019 to June 2019, which are obtained by fitting a curve to the 28 February 2019 Commonwealth Government Bond yield curve. Future one year forward rates of interest are derived from the same yield curve, and are independent of the cash flows of a particular portfolio of risks.

The inflation and interest rates are chosen to be consistent with those currently used in our actuarial assessments for long tail classes.

To set the future wage inflation assumption for our outstanding claims review we consider the wage price index inflation assumptions produced by the WA Treasury for the *2018/19 WA Government Mid-year Financial Projections Statement* with no adjustment as we do not expect a material difference between the increase in

AWE and the WPI. These form the basis for the inflation rate assumption for the first four projection years. From projection year 17 onwards, we used a long term 'gap' assumption; the inflation rate is set to achieve a real rate of interest of 1.75%. From projection years five to 17, we allow for a steady linear adjustment in the inflation rate to reach the long term rate.

Financial year ending 30 June	Forecasts of Future Wage Inflation	
	WA Treasury WPI (a)	Assumed AWE from WA Treasury (b)
2019	1.75%	1.75%
2020	2.75%	2.75%
2021	3.00%	3.00%
2022	3.25%	3.25%

Notes: (a) from 2018/19 WA Government Mid-year Financial Projections Statement produced by the WA Treasury Department
(b) = (a) + 0% for the adjustment of the difference between the increase in AWE and WPI.

We note that the Actuaries Institute released an information note in November 2017 outlining a suggested approach in setting future economic assumptions. The note states that the inflation assumptions should be consistent with the discount rates used and will generally involve consideration of break-even inflation rates implied by index linked bonds. In the note, it suggests that the long term real yield approach, which we have used in this valuation, is less preferred.

We note that this continues to be an area of debate amongst the actuarial profession and there is currently a range of views being taken across the market. At this valuation, we have continued to use the approach adopted last year while we determine as a firm our response to the information note. As the expected mean term is around two years, the impact of any change is likely to be immaterial.

Past wage inflation

Past wage inflation for bringing past payments and case estimates into current values is taken from ABS Cat 6302.0 Average Weekly Earnings for Western Australia (persons full-time adult ordinary time earnings), as shown below:

Year to 30-Jun	Mid Quarter AWE	End Quarter AWE	% Change p.a.	Claims escalation factors	
				For payments	For case estimates
2004	921.10	929.85	0.00%	1.919	1.876
2005	994.30	1,000.20	7.57%	1.806	1.744
2006	1,028.40	1,041.26	4.11%	1.712	1.675
2007	1,118.60	1,128.13	8.34%	1.603	1.546
2008	1,202.90	1,214.14	7.62%	1.492	1.437
2009	1,287.00	1,299.78	7.05%	1.388	1.342
2010	1,364.10	1,375.77	5.85%	1.300	1.268
2011	1,474.10	1,486.40	8.04%	1.221	1.174
2012	1,516.80	1,534.92	3.26%	1.152	1.137
2013	1,644.80	1,638.56	6.75%	1.090	1.065
2014	1,641.20	1,649.12	0.64%	1.070	1.058
2015	1,691.20	1,695.56	2.82%	1.041	1.029
2016	1,698.60	1,699.75	0.25%	1.025	1.026
2017	1,714.70	1,721.68	1.29%	1.022	1.013
2018	1,740.30	1,744.48	1.32%	1.004	1.000

Past general inflation

To determine the minimum premium for householders and other policies we have used the movement in the Perth CPI Index as shown below:

Financial Year	CPI Perth Index	Rate
2015/16	108.2	1.0%
2016/17	108.9	0.6%
2017/18	109.9	0.9%
2018/19 (a)	111.3	1.3%
2019/20 (b)	112.6	1.1%

Note: (a) from ABS Cat. 6401.0 Table 1 CPI All Groups Index Numbers for Perth as at 31 December 2018, extrapolated to 30 June 2019
 (b) An average of the increase in 2017/18 and 2018/19

The 2018/19 index has changed since last year as it was estimated.

Employment growth

We have included an allowance for the employment growth in the half year to December 2018 to match the exposure base for the increase in claim numbers.

To determine the change in employment we have used the movement in the ABS Cat. 6202.0 Table 8 Labour Force for full time persons for Western Australia.

	Jun 18	Dec 18	Increase
Number of full time employees in WA	1346.3	1348.9	0.2%

The number of full time employees increased by 0.2% in the half year to 31 December 2018. In the half year to 31 December 2017, there was 0.8% increase in employees.

Wages to 31 December 2018

In calculating the premium rates, we use the developed earned wages for the 2017/18 accident year. We assume claim costs and wages are subject to the same inflation and would cancel in the context of the average premium rate, and hence we do not inflate either to 2019/20.

D 2 Superimposed inflation

A realistic level of superimposed inflation is allowed for in the outstanding claim reserves and premium rating. We have analysed SII separately for each payment type, and performed separate analyses for the outstanding claims and premium rating.

D2.1 Outstanding claims

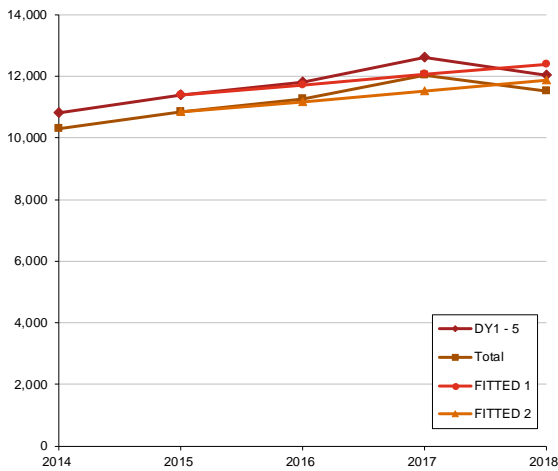
The recent trends in real growth, i.e. superimposed inflation, are shown in the charts below.

The adopted periods over which superimposed inflation has been analysed for each method are:

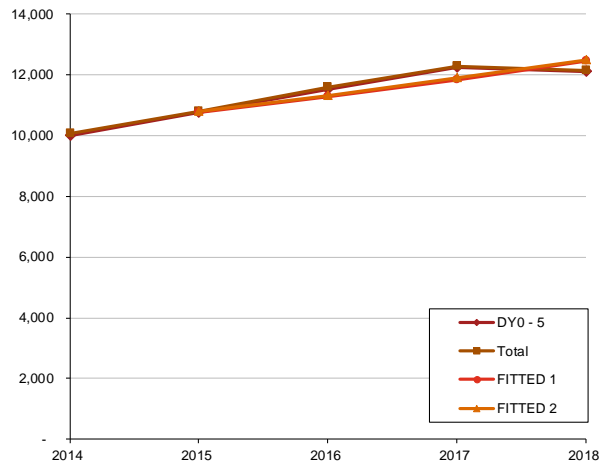
Number of years analysed to calculate superimposed inflation						
	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous
PPAC/PPCF	4	5	5	4	4	5
PPCI	4	5	5	5	4	5

Weekly benefits

PPAC

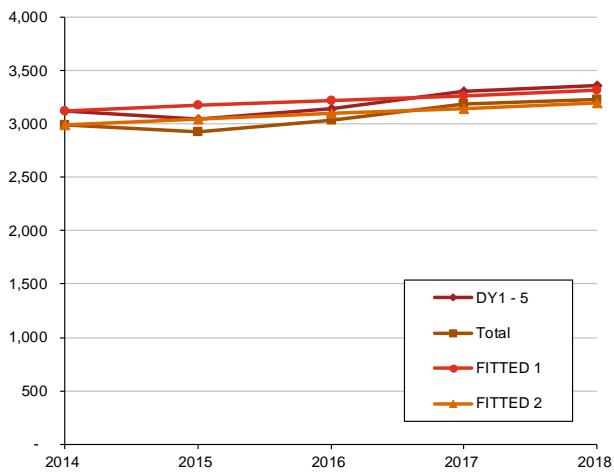


PPCI

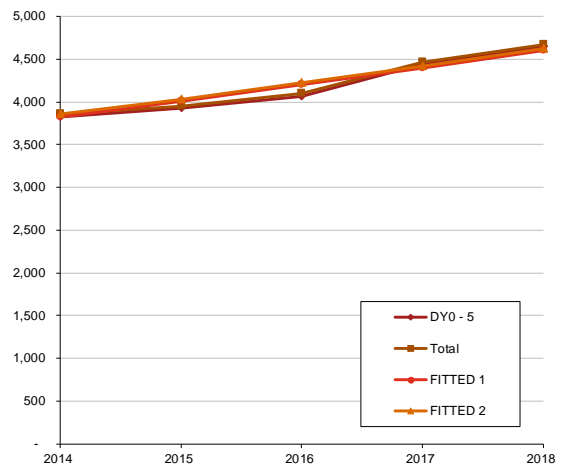


Medical (scheduled and non-scheduled) and hospital expenses

PPAC

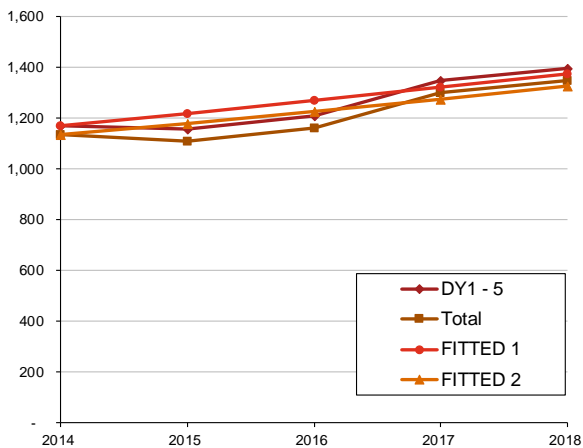


PPCI

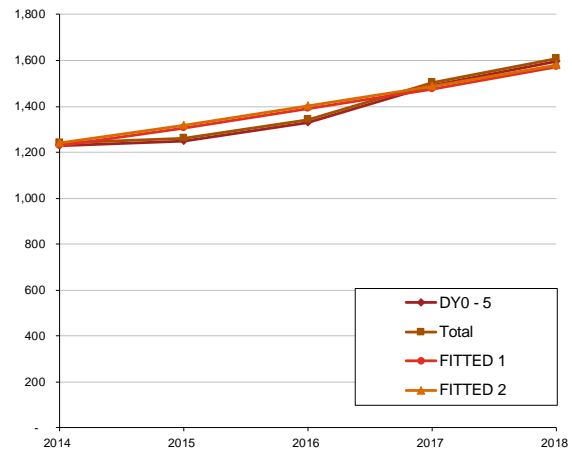


Allied Health

PPAC

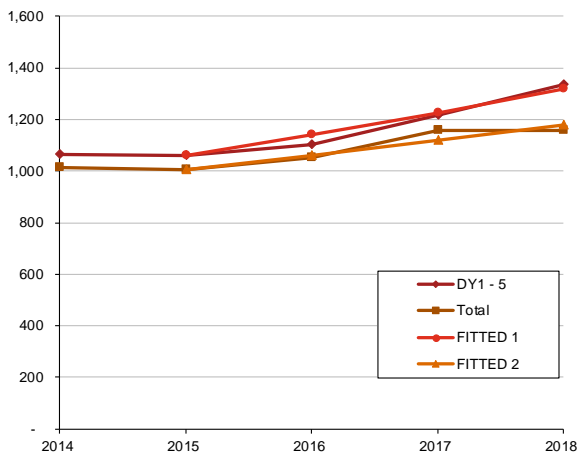


PPCI

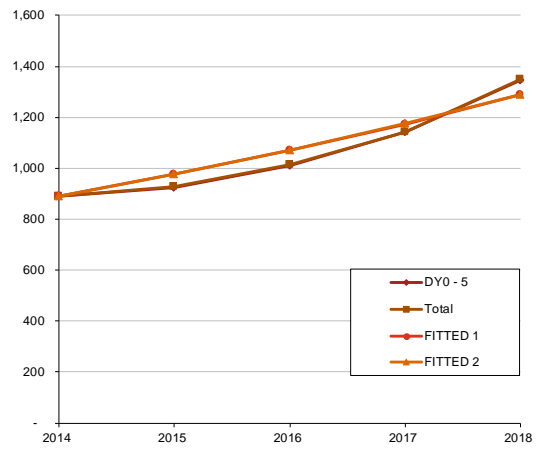


Workplace rehabilitation

PPAC

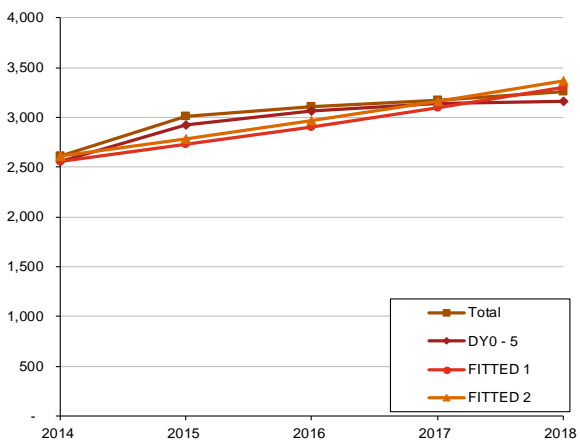


PPCI

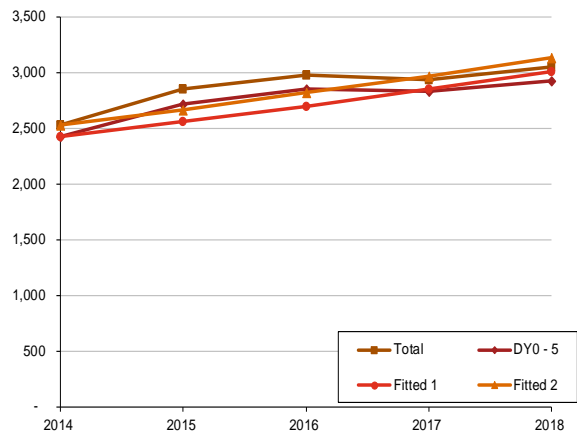


Investigation, Legal, and Miscellaneous

PPCF

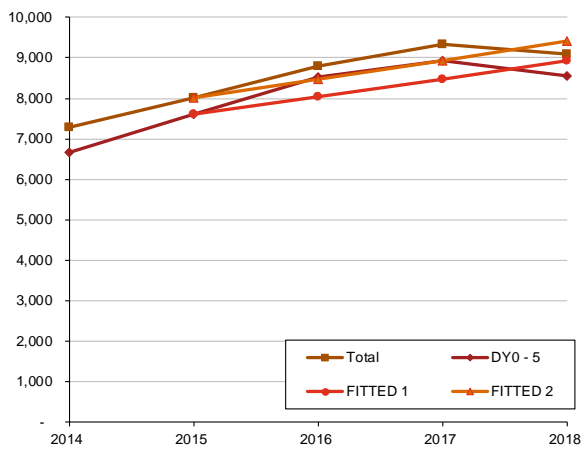


PPCI

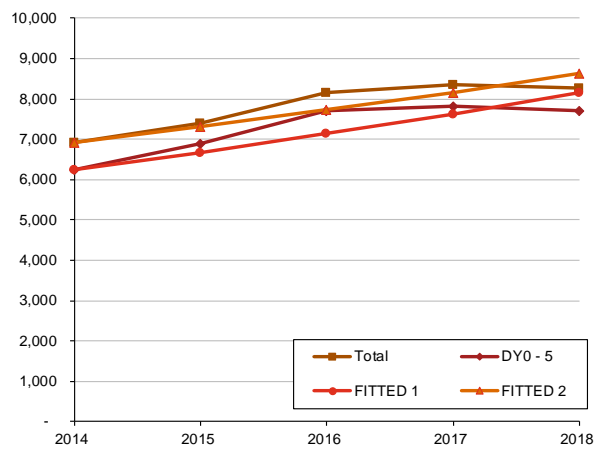


Lump Sum (Election registered, No election registered, Permanent impairment/fatal)

PPCF



PPCI



This analysis of trends leads to the following assumed rates of superimposed inflation shown:

Superimposed Inflation							
Payment groups	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
30 June 18							
PPAC / PPCF	2.8%	1.5%	4.1%	7.6%	5.4%	6.6%	4.7%
PPCI	5.0%	4.7%	6.4%	9.7%	5.0%	5.6%	5.2%
Outstanding claims blend	4.6%	4.2%	6.0%	9.5%	5.2%	5.9%	5.2%
Payment groups	Weekly benefits, miscellaneous and fatals	Medical and hospital expenses	All other treatment	Vocational rehabilitation	Redemptions and 2nd schedule	Legals	Common law
30 June 17							
Outstanding claims blend	5.9%	4.8%	4.5%	7.4%	10.4%	7.7%	5.1%
							7.5%

Superimposed inflation for the outstanding claims is 5.2% overall, which is 2.3% lower than the 7.5% adopted last year. The majority of comparable groups have a lower rate of superimposed inflation compared to that adopted for the 30 June 2017 valuation, except allied health and workplace rehabilitation.

The decreases in the superimposed inflation rates are mainly driven by the slowing reduction in the number of claims, and the claims mix starting to stabilise in the scheme.

D2.2 2018/19 premium rating

Due to the reduction in small claims and change in claims mix leading to the high rate of SII in the most recent four accident years for all payment groups, we have previously performed a separate analysis of SII for premium rating purposes. This analysis took a similar form to the outstanding claims analysis, but excluded most recent years post 2013 accident year. We also did a high level check by reviewing the increase in total incurred cost if the small claims were not removed from the system.

This year, given the new payment type data only extends back to 2014, we have not performed a separate analysis for the future superimposed inflation. We have instead, adopted last year's SII of 4.1%.

D 3 Management and other expenses

Overall expenses

The overall level of expenses is analysed below:

Expenses					
Year ending 30 June (\$000s)					
Financial Year	2018	2017	2016	2015	2014
Commission/Brokerage	34,987	32,789	28,496	35,060	35,038
Statutory Charges	17,512	17,652	19,190	19,231	19,511
Management Expenses	168,862	155,727	153,256	160,501	143,735
Total expenses	221,361	206,167	200,942	214,791	198,284
Earned Premium	1,053,926	1,050,305	1,111,527	1,191,752	1,193,947
Claim Payments	848,303	876,129	890,167	868,311	830,666
Commission and Statutory Charges as % of Earned Premium	5.0%	4.8%	4.3%	4.6%	4.6%

The commission/statutory charge ratio was stable at 4.6% for 2014 and 2015, reduced to 4.3% in 2016 before increasing to 4.8% in 2017 and 5.0% in 2018.

Expense analysis

The expenses are analysed from the Form WC30. The results obtained are summarised below:

	Expense Ratios					Adopted
	2017/18	2016/17	2015/16	2014/15	2013/14	3 yr ave
Commission / Brokerage	3.3%	3.1%	2.7%	3.0%	2.8%	3.0%
General Fund Levy	1.7%	1.6%	1.8%	1.6%	1.5%	1.7%
Management Expenses	16.0%	14.8%	13.8%	13.5%	12.0%	14.9%
Total	21.0%	19.6%	18.3%	18.0%	16.4%	19.6%
Total excluding brokerage	17.7%	16.5%	15.6%	15.1%	13.6%	16.6%

The expense ratios are used directly in deriving the loss ratio used to quantify the gross incurred cost of WA workers compensation claims.

The adopted expense rate of 16.6% is 0.9% higher than the 15.7% adopted in the previous valuation. This increase is driven by the increase in management expenses.

While insurers supply statutory charge information separated into General Account, Supplementation Fund and 'other', only General Account contributions have been used for statutory charges in this analysis.

Expenses by insurer for 2017/18 were as follows:

Insurer	Brokerage % (a)	General Account Charges % (b)	Management Expenses % (c)	Total Expenses (d)
1	0.0%	1.2%	41.1%	42.4%
2	4.0%	1.6%	23.2%	28.8%
3	3.2%	1.6%	21.3%	26.1%
4	4.1%	1.9%	18.8%	24.7%
5	0.0%	2.0%	20.5%	22.5%
6	5.4%	1.6%	13.9%	20.9%
7	3.7%	1.5%	13.9%	19.2%
8	3.6%	1.7%	10.0%	15.3%
9	0.0%	1.6%	12.1%	13.7%
Total	3.3%	1.7%	16.0%	21.0%

- Notes :**
- (a) = Commission and brokerage / Gross written premium
 - (b) = General account charges / Gross written premium
 - (c) = Management expenses / Earned premium
 - (d) = (a) + (b) + (c)

If brokerage is spread over only those insurers paying brokerage, the percentage increases from 3.3% to 4.1%.

The adopted expenses for the 2019/20 recommended premium rates are a three year average of the expenses for the 2015/16 to 2017/18 financial years.

D 4 Contingency margin

For the 2017/18 premium rates, we reviewed the contingency margin to apply. The details of our findings are contained in our *Review of the Contingency Margin for the 2017/18 Recommended Premium Rates* report dated 1 February 2017. We have not updated the review at this valuation.

The key findings were as follows:

- The recommended contingency margin was 11% gross of reinsurance, up from the 10% adopted in the 2016/17 premium rates. This increase was primarily due to the reduction in the adopted return on assets (ROA) above the risk free rate from 1.75% in March 2015 review to 1.00% for the 2017/18 recommended premium rates. The reduction is driven by low returns above the risk free rate in 2015 and 2016 and insurer's high weighting towards defensive assets.
- If a separate allowance for the cost of reinsurance was included in the recommended premium rates, the recommended contingency margin net of reinsurance is 10% (an increase from 8%).

The overall total management expense and contingency loadings in the recommended premium rates is 27.6% excluding brokerage. This equates to 30.6% including brokerage.

D 5 WA Legislative changes

Workers' Compensation and Injury Management Amendment Act 2018

On 1 July 2018, the *Worker's Compensation and Injury Management Amendment Act 2018* (2018 Amendment Act) commenced. This affects the benefits available where there is a work related fatality.

A summary of the changes to the fatality benefits is provided in the table below, all benefits are as per the prescribed amount effective 1 July 2017:

Death Entitlement	Previous (Injury date prior to 1 July 2018)	Current (Injury date from 1 July 2018)
Lump sum to dependant partner / parent	<p>Total entitlement of \$308,339 (Notional Residual Entitlement).</p> <p>Amount is reduced based on financial dependency of spouse / defacto / parent.</p> <p>If no spouse / defacto benefit amount varies based on child's orphan status and if they elect to use the child allowance.</p> <p>Not applicable if worker does not have any dependants.</p>	<p>Total entitlement of \$562,303 (or 2.5 x Prescribed Amount) across all dependents</p> <p>Allocation will depend on number of dependants (including children), however level of dependency does effect the total entitlement.</p> <p>Not applicable if worker does not have any dependants.</p>
Lump sum to dependent child / step child	<p>If the only dependant is an orphan child(ren), total entitlement available is \$308,339.</p> <p>If a dependent partner / parent are present, maximum entitlement is up to 25% of the NRE (ie \$77,085).</p> <p>This is in addition to that received by the partner.</p> <p>Where multiple children elect to receive a lump sum, the maximum entitlement is distributed across them (ie 2 children would receive 12.5% each)</p> <p>If child elects to receive a lump sum payment, then they forgo weekly child allowance.</p>	<p>Total entitlement of \$562,303 (or 2.5 x Prescribed Amount) across all dependants.</p> <p>Allocation will depend on number of dependants (including children) however level of dependency does effect the total entitlement.</p> <p>Receipt of lump sum does not impact eligibility for child allowance.</p>

Death Entitlement	Previous (Injury date prior to 1 July 2018)	Current (Injury date from 1 July 2018)
Weekly payment to children	<p>Each dependent child receives \$58.90 per week up to the age of 16 or 21 if the child is in full time study.</p> <p>Weekly amount is reduced if child is not assessed as being wholly dependent.</p> <p>If child(ren) receive a lump sum payment, not eligible for weekly payment.</p>	<p>Each dependent child receives \$133.00 per week up to the age of 16 or 21 if the child is in full time study.</p> <p>Weekly amount is not adjusted for level of dependency.</p> <p>Pension independent of receipt of a lump sum payment(s).</p>

Last year, we included a 0.7% increase to allow for the 2018 Amendment Act in the 2018/19 recommended premium rates. The increase is driven by the higher lump sum available to dependants and this no longer being reduced based on the level of dependency, and the increase in the child weekly allowance.

We have included the same allowance in the 2019/20 recommended premium rates to allow for the 2018 Amendment Act as the data is as at 30 June 2018, so does not include the act changes.

See our letter dated 1 March 2018 for more details of the 2018 Amendment Act's impact.

Workers' Compensation Amendment Act 2011

We have made an explicit allowance for the 2011 Amendment Act within the outstanding claims valuation. We have reduced the number of development years for which the explicit allowance is applied. In this year's valuation, no explicit allowance is required for development years zero to five as the adopted factors are based on post-Act change experience.

Including an allowance in the outstanding claims will flow into the premium rate change, and hence no explicit extra allowance is needed. The details of the Act change are given below.

On 17 August 2011, the Executive Council of the Western Australian State Parliament agreed to proclaim the Workers' Compensation and Injury Management Amendment Bill 2011 (the 2011 Amendment Act) in two stages.

Stage one commenced on 1 October 2011 with the following changes:

- Remove age-based limits on workers compensation entitlements where previously for claimants under 64 their weekly benefits ceased at 65, while for claimants over the age of 64 they were only entitled to a year of weekly benefits
- Extend the workers compensation safety net to enable workers of uninsured employers to receive common law entitlements; under certain circumstances. The amendments also make it mandatory for all employers to have insurance covering both statutory and common law liabilities

- Extension of common law entitlements to employed contractors, which will transfer claims from public liability to workers compensation.

Stage two commenced on 1 December 2011 to restructure the dispute resolution system. We have not done a cost impact on the premium rates for this stage, as this change was not expected to result in a financial impact on the scheme.

The initial estimate of the impact of the removal of age-based limits is detailed in the *Removal of age limits costing* report dated 12 September 2011. Following discussions with insurers for this report, we are not aware of any significant impacts of this legislation being witnessed to date. However, there may have been an implicit allowance for these changes in settlements that have been made since it was introduced.

The initial estimate of the impact of the extension of common law entitlements to employed contractors is detailed in the *Extended Worker Costing* letter dated 4 April 2012.

The original legislation passed on 1 October 2011 allows for a broader definition of contractors than we costed in the extension of common law entitlements to employed contractors costing. The amendment to reduce the scope of the common law insurance requirement for a deemed worker as per our costing was passed by parliament at the end of June 2012 and the laws came into effect from 1 August 2012. The changes are retrospective and were backdated to 1 October 2011.

We have allowed for the following adjustments in the outstanding claims liability valuation on nine months of the 2012 accident year and twelve months of the 2013 to 2018 accident years, for development year six onwards:

- 1.38% for the removal of age limits
- 1.40% for the extension of common law entitlement to employed contractors.

The allowance for the 2011 Amendment Act has increased the 30 June 2018 central estimate by 0.2%. This is lower than the 0.6% increase last year due to the reduced explicit allowance this year.

D 6 GST

No explicit allowance has been made for GST net of ITC and/or DAM as our adopted bases rely on data, which includes GST net of ITC and/or DAM. The 10% GST on the workers compensation premium itself (which employers will generally be able to recover via an input tax credit) is not included in our analysis or the recommended premium rates.

Appendix E Outstanding claim valuation

E1 Claims experience and analysis

E1.1 Numbers of claims reported

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	34,370	3,326	107	27	17	21	22	14	18	11	181	38,114
2009	32,455	3,385	110	35	15	14	11	15	22	20	180	36,262
2010	29,771	3,048	108	42	33	18	14	13	8	20	211	33,286
2011	31,134	3,080	123	51	35	21	24	13	14	13	202	34,710
2012	32,342	3,070	101	49	27	27	25	20	19	15	253	35,948
2013	31,221	3,136	139	54	39	34	27	25	29	14	298	35,016
2014	29,464	2,910	138	54	36	37	21	29	50	29	412	33,180
2015	27,296	2,752	139	63	42	32	26	19	24	25	393	30,811
2016	25,733	2,497	161	71	52	38	42	27	13	21	484	29,139
2017	23,514	2,340	164	68	46	36	44	27	20	21	519	26,799
2018	22,941	2,146	143	62	41	35	30	22	23	16	361	25,820

Note: From summary of Form WC20 up to 30 June 2018.

E1.2 Cumulative claims reported

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	34,370	37,346	37,239	39,075	38,252	37,807	37,927	42,738	49,299	54,341	58,639	467,033
2009	32,455	37,755	37,456	37,274	39,090	38,266	37,818	37,942	42,760	49,319	54,521	444,656
2010	29,771	35,503	37,863	37,498	37,307	39,108	38,280	37,831	37,950	42,780	49,530	423,421
2011	31,134	32,851	35,626	37,914	37,533	37,328	39,132	38,293	37,845	37,963	42,982	408,601
2012	32,342	34,204	32,952	35,675	37,941	37,560	37,353	39,152	38,312	37,860	38,216	401,567
2013	31,221	35,478	34,343	33,006	35,714	37,975	37,587	37,378	39,181	38,326	38,158	398,367
2014	29,464	34,131	35,616	34,397	33,042	35,751	37,996	37,616	37,428	39,210	38,738	393,389
2015	27,296	32,216	34,270	35,679	34,439	33,074	35,777	38,015	37,640	37,453	39,603	385,462
2016	25,733	29,793	32,377	34,341	35,731	34,477	33,116	35,804	38,028	37,661	37,937	374,998
2017	23,514	28,073	29,957	32,445	34,387	35,767	34,521	33,143	35,824	38,049	38,180	363,860
2018	22,941	25,660	28,216	30,019	32,486	34,422	35,797	34,543	33,166	35,840	38,410	351,500

Note: Cumulative claim reports from table above.

E1.3 Active claims

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	13,054	3,903	1,655	882	503	330	229	153	123	90	506	21,428
2009	12,006	4,237	1,803	887	533	349	207	146	116	88	504	20,876
2010	11,427	3,936	1,819	849	491	348	223	143	93	86	454	19,869
2011	12,852	4,178	1,766	905	472	307	224	149	106	68	481	21,508
2012	13,930	4,566	1,845	911	508	296	201	148	114	84	478	23,081
2013	13,514	4,754	1,955	892	472	301	192	134	97	74	450	22,835
2014	12,880	4,724	2,013	888	484	256	183	139	94	78	489	22,228
2015	11,978	4,694	1,932	929	416	275	156	114	82	57	447	21,080
2016	11,427	4,187	1,835	808	430	220	151	92	62	55	428	19,695
2017	10,823	4,098	1,636	758	402	218	133	91	71	41	366	18,637
2018	10,641	3,899	1,530	678	388	211	132	78	74	41	330	18,002

Note: From summary of Form WC20 up to 30 June 2018.

E1.4 Claim payments

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	126,054,702	160,220,642	74,923,840	47,740,176	27,043,001	12,361,925	8,231,599	5,419,449	4,260,664	2,147,152	14,063,074	482,466,222
2009	143,555,790	185,711,132	101,877,772	45,210,686	27,776,634	14,350,428	6,434,624	3,939,895	3,100,072	3,059,309	13,413,033	548,429,377
2010	138,597,873	208,012,346	126,367,038	48,940,057	24,273,483	13,819,724	10,141,965	3,612,400	2,940,537	2,469,304	17,983,065	597,157,790
2011	164,819,511	202,747,974	116,359,585	57,193,614	19,696,112	9,936,619	9,405,620	5,461,111	3,392,682	2,014,867	11,079,898	602,107,596
2012	184,309,822	249,133,602	120,714,321	58,877,453	23,672,921	7,603,686	5,951,178	5,260,115	5,643,152	1,568,302	11,838,460	674,573,012
2013	201,047,130	285,131,272	139,176,680	55,908,765	24,740,417	8,915,627	5,353,272	5,055,186	3,173,743	2,812,156	10,588,374	741,902,621
2014	211,981,199	312,875,016	163,959,829	70,627,661	28,551,843	9,068,321	5,454,928	9,214,596	2,326,319	2,020,181	13,147,502	829,227,394
2015	213,034,087	328,223,202	177,002,746	79,396,512	31,453,547	11,082,699	4,632,280	4,287,134	1,969,569	2,500,054	13,243,739	866,825,570
2016	220,498,949	336,237,136	185,856,372	75,964,353	32,438,383	15,232,917	5,089,405	2,430,039	1,584,366	1,376,227	13,308,572	890,016,717
2017	216,639,074	344,366,737	177,139,517	69,598,512	28,160,539	14,652,429	5,988,238	2,493,100	2,138,256	1,005,778	14,095,450	876,277,633
2018	223,494,433	334,342,088	163,859,769	60,968,559	25,648,705	11,996,488	7,223,647	2,715,709	1,430,737	1,085,339	15,599,935	848,365,408

Note: From summary of Form WC101 up to 30 June 2013 and from WorkCover WA's database from 1 July 2013 to 30 June 2018.

E1.5 Case estimates outstanding

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	238,962,370	147,401,185	81,241,928	51,268,129	32,831,356	15,140,920	11,744,053	9,447,975	5,672,347	4,639,560	23,783,763	622,133,586
2009	268,406,108	193,660,258	96,313,764	50,852,625	31,248,445	22,442,305	10,615,772	8,146,280	6,836,445	3,390,059	27,597,816	719,509,878
2010	264,590,462	189,786,713	102,801,853	50,484,783	29,480,656	21,666,074	18,999,554	7,055,667	6,599,682	4,557,769	21,267,877	717,291,091
2011	328,892,632	202,748,043	108,569,634	51,721,457	26,200,848	18,149,900	13,744,043	12,764,373	3,683,912	4,403,011	24,159,515	795,037,368
2012	335,338,002	225,239,088	112,782,605	56,012,429	24,090,967	17,503,510	13,864,120	10,156,068	8,091,378	3,156,525	24,999,941	831,234,632
2013	379,712,259	270,088,121	140,722,336	59,498,665	23,740,354	13,992,136	12,038,829	7,678,817	5,680,261	4,430,304	24,220,987	941,803,070
2014	399,200,332	276,707,555	146,973,954	74,121,099	32,687,912	11,541,151	7,758,280	5,378,923	4,718,487	4,524,588	25,167,406	988,779,688
2015	374,313,463	292,302,623	142,525,830	73,069,636	35,327,743	14,401,635	7,484,776	4,071,626	3,377,046	2,357,617	25,100,727	974,332,722
2016	370,177,994	249,553,640	143,165,323	64,995,521	34,702,145	12,422,920	8,019,853	4,543,299	2,707,048	1,645,437	24,015,475	915,948,655
2017	389,934,389	254,765,365	128,241,881	74,619,975	29,085,343	17,884,734	7,008,162	5,185,150	3,276,235	1,556,462	20,009,220	931,566,916
2018	376,824,525	236,397,978	113,131,205	61,288,268	42,734,072	13,489,749	9,756,803	3,952,145	3,643,283	2,022,872	19,000,156	882,241,056

Note: From summary of Form WC20 up to 30 June 2018.

E1.6 Insurer's development and IBNR estimates

Development Year	0	1	2	3	4	5	6	7	8	9	10	Total
Year ending 30-Jun												
2008	297,900,429	178,159,788	104,077,559	59,082,397	37,561,532	22,921,274	12,778,744	7,641,511	5,170,282	3,359,979	94,940,651	823,594,145
2009	263,556,549	157,669,587	106,591,473	63,564,952	35,883,302	22,554,241	9,474,503	7,751,136	4,855,063	2,589,633	85,026,123	759,516,561
2010	251,178,093	137,974,100	98,568,002	68,707,998	42,573,131	22,781,390	13,222,213	8,268,176	5,871,069	3,323,690	100,172,713	752,640,576
2011	237,142,338	123,119,423	79,138,585	62,460,613	41,797,822	28,230,600	18,490,358	14,343,842	9,999,067	6,391,349	206,530,907	827,644,904
2012	276,297,911	129,484,933	80,424,819	64,726,694	49,270,465	21,879,119	16,182,431	11,869,848	7,673,171	5,533,561	174,538,162	837,881,112
2013	306,317,713	99,797,755	60,047,109	47,739,966	38,902,839	21,420,486	12,637,217	9,499,508	7,317,466	5,083,033	164,339,903	773,102,995
2014	332,122,549	115,805,924	53,820,400	36,707,863	29,618,910	24,095,523	12,497,010	7,568,618	5,624,748	4,432,681	146,590,600	768,884,826
2015	385,427,025	118,974,066	47,651,749	38,972,974	31,011,986	22,296,676	15,933,345	7,791,524	5,536,768	4,008,116	129,403,302	807,007,529
2016	357,641,199	135,466,579	57,828,986	28,431,503	23,475,324	19,482,366	11,857,911	7,536,769	5,798,631	4,679,744	139,339,985	791,538,999
2017	291,323,062	105,318,106	46,022,925	26,471,139	20,375,414	11,550,671	8,281,701	4,439,442	3,940,173	2,360,005	116,814,023	636,896,661
2018	288,415,264	86,313,770	33,197,975	15,813,595	16,049,436	8,456,298	5,548,928	5,012,998	3,952,021	2,287,147	124,835,852	589,883,284

Note: From summary of Form WC20 up to 30 June 2018.

E 2 Actual and projected claims experience during 2017/18

E2.1 Numbers of claims reported

Accident year ended 30 June	Number of claims reported during 2017/18		Ratio of actual to projected number reported %
	Actual	Projected (a)	
2017	2,146	2,171	99%
2016	143	147	97%
2015	62	62	99%
2014	41	45	90%
2013	35	36	97%
2012	30	46	66%
2011	22	27	81%
2010	23	15	155%
2009	16	20	80%
2008 and earlier	361	465	78%
Total	2,879	3,034	95%

Note: (a) From our 20 March 2018 actuarial report.

E2.2 Proportions of claims finalised

Accident year ended 30 June	Proportion of claims finalised (a) during 2017/18		
	Actual	Projected (b)	Actual / expected (c)
2017	70%	71%	99%
2016	64%	62%	104%
2015	60%	58%	103%
2014	51%	55%	94%
2013	52%	50%	103%
2012	47%	49%	95%
2011	50%	47%	105%
2010	35%	47%	75%
2009	53%	50%	106%
2008 and earlier	57%	50%	114%
Total	65.8%	65.9%	100%

Notes: (a) Defined as:

Number of claims finalised during year

Number outstanding at beginning of year + number reported during year

(b) According to PPCF model in Appendix E3.1 of our 20 March 2018 report

(c) = (a) / (b) %

E2.3 Claim payments

Accident year ended 30 June	Amount of claim payments during 2017/18		
	Actual (a)	Projected (b)	Actual / expected (c)
2017	334,342,088	337,911,297	99%
2016	163,859,769	177,941,535	92%
2015	60,968,559	69,123,865	88%
2014	25,648,705	30,247,609	85%
2013	11,996,488	13,445,656	89%
2012	7,223,647	5,330,614	136%
2011	2,715,709	2,589,415	105%
2010	1,430,737	1,804,267	79%
2009	1,085,339	1,536,197	71%
2008 and earlier	15,599,935	9,881,374	158%
Total	624,870,976	649,811,829	96%

Notes: (a) From data supplied by RPR returning entities.

(b) Sum of payments expected in the 2017/18 year.

(c) = (a) / (b) x 100.

E 3 Analysis and projection models

E3.1 All payment types

Claim notification pattern

Accident year ending 30 June	Chain ladder ratio (a) for development year:									
	1	2	3	4	5	6	7	8	9	10
2009	1.098	1.003	1.001	1.000	1.000	1.000	1.000	1.001	1.000	1.003
2010	1.094	1.003	1.001	1.001	1.000	1.000	1.000	1.000	1.000	1.004
2011	1.103	1.003	1.001	1.001	1.001	1.001	1.000	1.000	1.000	1.005
2012	1.099	1.003	1.001	1.001	1.001	1.001	1.001	1.000	1.000	1.007
2013	1.097	1.004	1.002	1.001	1.001	1.001	1.001	1.001	1.000	1.008
2014	1.093	1.004	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.011
2015	1.093	1.004	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.010
2016	1.091	1.005	1.002	1.001	1.001	1.001	1.001	1.000	1.001	1.013
2017	1.091	1.006	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.014
2018	1.091	1.005	1.002	1.001	1.001	1.001	1.001	1.001	1.000	1.009
Adopted (b)	1.091	1.005	1.002	1.001	1.001	1.001	1.001	1.001	1.001	1.012

Notes: (a) Using cumulative claim report numbers from data

(b) Calculated using a three year weighted average for all other development years.

Numbers of claims incurred

Accident year ending 30 June	Number of claims		Incurred (c)
	Reported to 30-Jun-18 (a)	IBNR at 30-Jun-18 (b)	
2009	35,840	432	36,272
2010	33,166	417	33,583
2011	34,543	453	34,996
2012	35,797	496	36,293
2013	34,422	516	34,938
2014	32,486	521	33,007
2015	30,019	523	30,542
2016	28,216	552	28,768
2017	25,660	637	26,297
2018	22,941	2,715	25,656

- Notes:** (a) From number reported in Appendix E1.1
(b) From pattern in chain ladder ratio table above
(c) Sum of the two previous columns.

Claim finalised per handled rate

Accident year ending 30 June	Finalisation rate (a) for development year:										
	0	1	2	3	4	5	6	7	8	9	10
2009	0.630	0.742	0.551	0.475	0.406	0.325	0.393	0.402	0.337	0.385	0.351
2010	0.616	0.739	0.581	0.540	0.466	0.368	0.386	0.350	0.396	0.368	0.435
2011	0.587	0.712	0.565	0.516	0.466	0.400	0.398	0.369	0.325	0.358	0.352
2012	0.569	0.713	0.569	0.498	0.455	0.407	0.395	0.393	0.321	0.306	0.404
2013	0.567	0.721	0.584	0.530	0.503	0.445	0.406	0.407	0.452	0.422	0.477
2014	0.563	0.712	0.589	0.558	0.478	0.497	0.432	0.371	0.489	0.381	0.478
2015	0.561	0.700	0.603	0.553	0.553	0.467	0.447	0.436	0.497	0.521	0.534
2016	0.556	0.711	0.622	0.597	0.562	0.515	0.524	0.497	0.512	0.466	0.567
2017	0.540	0.702	0.624	0.602	0.529	0.532	0.496	0.489	0.366	0.506	0.635
2018	0.536	0.699	0.639	0.601	0.514	0.517	0.468	0.497	0.351	0.529	0.570
Adopted (b)	0.538	0.705	0.632	0.600	0.537	0.522	0.498	0.494	0.453	0.498	0.592

- Notes:** (a) Defined as: Number of claims finalised / number of claims handled
(b) Adopted for the valuation as at 30 June 2018.

E3.2 Weekly benefits

Claim payments

Claim Payments - Weekly												
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total
2014	104,972,360	144,738,874	53,825,309	14,842,323	3,722,829	704,093	660,715	(568,091)	568,951	689,798	517,518	324,674,679
2015	106,996,120	153,689,983	57,292,560	15,969,062	1,913,923	983,407	619,639	584,638	(281,994)	28,998	593,484	338,389,820
2016	113,628,557	152,965,081	59,036,313	14,606,515	2,875,311	339,457	668,605	(96,891)	166,876	13,059	959,525	345,162,408
2017	109,594,424	160,001,937	53,950,128	12,141,917	3,019,583	1,141,839	61,514	261,016	395,014	110,983	451,913	341,130,268
2018	108,796,574	150,643,813	49,045,719	10,034,867	1,928,596	429,350	295,713	264,563	133,163	131,893	691,948	322,396,200

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real payment per active claim

Weekly PPAC (a) for development year:											
Accident year ending 30 June	1	2	3	4	5	6	7	8	9	10	
2014	11,455	12,110	8,120	4,464	1,596	2,348	(3,165)	4,541	7,606	1,056	
2015	12,421	12,625	8,258	2,244	2,115	2,520	3,326	(2,112)	321	1,090	
2016	13,084	12,886	7,746	3,171	836	2,491	(636)	1,500	163	1,951	
2017	14,310	13,169	6,762	3,819	2,714	286	1,767	4,388	1,829	956	
2018	13,968	12,011	6,156	2,553	1,072	1,361	1,996	1,469	1,864	1,706	
Adopted (b)	14,144	12,701	6,930	3,193	1,714	1,465	1,874	2,936	1,848	1,535	

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Weekly PPCI (a) for development year:												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	3,402	4,431	1,586	454	119	21	18	-16	16	19	14	10,063
2015	3,647	4,847	1,707	458	57	30	18	16	-8	1	16	10,789
2016	4,047	5,131	1,832	428	81	10	20	-3	4	0	26	11,578
2017	4,259	5,684	1,805	376	88	32	2	8	11	3	12	12,281
2018	4,256	5,749	1,711	330	59	12	8	8	4	4	18	12,157
Adopted (b)	4,257	5,814	1,786	380	76	18	10	8	8	3	19	12,380

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Weekly					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPAC	PPCI	Adopted	PPAC	PPCI
2018	216.889	217.758	217.758	0%	100%
2017	64.908	63.361	64.134	50%	50%
2016	14.771	15.880	15.048	75%	25%
2015	4.163	4.724	4.303	75%	25%
2014	2.169	2.400	2.400	0%	100%
2013	1.529	1.795	1.529	100%	0%
2012	1.237	1.423	1.237	100%	0%
2011	0.928	1.042	0.928	100%	0%
2010	0.726	0.687	0.726	100%	0%
2009 & earlier	1.998	1.087	1.998	100%	0%
Total	309.318	310.157	310.062		

Notes: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E3.3 Medical (scheduled and non-scheduled) and hospital expenses

Claim payments

Claim Payments - Medical (Scheduled And Non-Scheduled) And Hospital Expenses													
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total	
2014	58,940,904	45,508,717	12,725,553	3,030,624	1,505,053	346,827	304,486	(100,031)	146,604	56,715	461,235	122,926,687	
2015	59,112,884	45,675,554	11,986,537	3,074,327	397,950	295,869	213,468	314,847	29,499	3,067	478,098	121,582,101	
2016	57,910,929	45,335,457	11,652,639	3,166,471	673,262	322,149	243,152	178,665	55,280	35,323	768,587	120,341,913	
2017	60,044,205	45,893,122	10,969,335	2,567,225	698,053	317,024	82,602	191,704	148,666	65,237	503,269	121,480,440	
2018	62,296,776	45,743,233	10,433,781	2,470,152	446,964	168,658	199,095	73,783	48,330	41,779	382,598	122,305,150	

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real payment per active claim

Medical (Scheduled And Non-Scheduled) And Hospital Expenses PPAC (a) for development year:											
Accident year ending 30 June	1	2	3	4	5	6	7	8	9	10	
2014	3,602	2,863	1,658	1,805	786	1,082	(557)	1,170	625	941	
2015	3,692	2,641	1,590	467	636	868	1,791	221	34	878	
2016	3,878	2,543	1,679	742	793	906	1,173	497	441	1,562	
2017	4,105	2,678	1,430	883	753	384	1,297	1,651	1,075	1,065	
2018	4,241	2,555	1,515	592	421	917	557	533	591	943	
Adopted (b)	4,351	2,555	1,430	592	682	851	827	780	514	1,077	

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Medical (Scheduled And Non-Scheduled) And Hospital Expenses PPCI (a) for development year:												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	1,910	1,393	375	93	48	10	8	(3)	4	2	13	3,853
2015	2,015	1,440	357	88	12	9	6	9	1	0	13	3,950
2016	2,062	1,521	362	93	19	9	7	5	1	1	21	4,102
2017	2,334	1,630	367	79	20	9	2	6	4	2	13	4,467
2018	2,437	1,746	364	81	14	5	6	2	1	1	10	4,666
Adopted (b)	2,596	1,685	366	80	17	7	4	4	3	1	14	4,778

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Medical (Scheduled And Non-Scheduled) And Hospital Expenses					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPAC	PPCI	Adopted	PPAC	PPCI
2018	59.762	58.548	58.548	0%	100%
2017	13.424	14.004	13.714	50%	50%
2016	3.464	4.354	3.687	75%	25%
2015	1.322	2.019	1.496	75%	25%
2014	1.021	1.532	1.532	0%	100%
2013	0.782	1.313	0.782	100%	0%
2012	0.619	1.161	0.619	100%	0%
2011	0.485	0.935	0.485	100%	0%
2010	0.435	0.762	0.435	100%	0%
2009 & earlier	1.371	1.429	1.371	100%	0%
Total	82.685	86.056	82.669		

Note: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E3.4 Allied Health

Claim payments

Claim Payments - Allied Health												
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total
2014	15,668,131	16,794,046	4,812,837	1,321,868	542,433	185,327	136,741	25,873	66,969	55,357	277,505	39,887,088
2015	15,443,582	16,688,176	4,816,907	1,241,204	405,112	230,238	36,119	70,858	44,422	(26,915)	224,518	39,174,221
2016	15,779,032	16,826,088	4,928,022	1,204,913	399,973	167,907	134,699	34,456	27,704	16,791	191,795	39,711,381
2017	16,331,690	18,200,085	4,809,223	1,125,010	352,948	162,620	123,856	69,534	34,512	30,300	196,866	41,436,645
2018	17,366,664	18,695,462	4,507,078	980,207	412,811	87,323	49,822	76,838	31,532	35,255	180,737	42,423,731

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real payment per active claim

Allied Health PPAC (a) for development year:											
Accident year ending 30 June	1	2	3	4	5	6	7	8	9	10	
2014	1,329	1,083	723	650	420	486	144	535	610	566	
2015	1,349	1,061	642	475	495	147	403	333	(298)	412	
2016	1,439	1,076	639	441	414	502	226	249	210	390	
2017	1,628	1,174	627	446	387	575	471	383	499	417	
2018	1,734	1,104	601	547	218	229	580	348	498	446	
Adopted (b)	1,816	1,186	648	504	390	390	390	390	390	390	390

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Allied Health PPACI (a) for development year:												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	508	514	142	40	17	5	4	1	2	1	8	1,242
2015	526	526	144	36	12	7	1	2	1	(1)	6	1,260
2016	562	564	153	35	11	5	4	1	1	0	5	1,342
2017	635	647	161	35	10	5	4	2	1	1	5	1,505
2018	679	713	157	32	13	3	1	2	1	1	5	1,607
Adopted (b)	708	736	159	34	12	4	3	2	1	1	5	1,665

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Allied Health					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPAC	PPCI	Adopted	PPAC	PPCI
2018	26.268	26.071	26.071	0%	100%
2017	6.538	6.359	6.448	50%	50%
2016	1.815	2.100	1.886	75%	25%
2015	0.822	1.102	0.892	75%	25%
2014	0.514	0.731	0.731	0%	100%
2013	0.364	0.599	0.364	100%	0%
2012	0.281	0.492	0.281	100%	0%
2011	0.212	0.368	0.212	100%	0%
2010	0.185	0.301	0.185	100%	0%
2009 & earlier	0.519	0.514	0.519	100%	0%
Total	37.517	38.637	37.589		

Note: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E3.5 Workplace rehabilitation

Claim payments

Claim Payments - Workplace Rehabilitation												
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total
2014	7,255,232	15,421,227	4,875,179	997,200	253,938	(25,606)	54,409	13,962	14,398	13,168	26,889	28,899,995
2015	7,726,433	15,535,144	4,720,862	910,449	119,102	56,347	29,032	38,743	6,466	(99)	34,226	29,176,705
2016	8,590,355	15,658,804	4,816,099	827,398	126,376	58,238	40,605	9,386	2,353	837	63,725	30,194,177
2017	9,392,340	16,439,879	4,772,914	819,922	149,550	80,560	(9,525)	2,076	10,604	4,360	29,787	31,692,466
2018	11,924,543	18,176,702	4,671,220	594,050	107,981	10,813	32,428	(343)	9,406	6,980	18,453	35,552,231

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real payment per active claim

Workplace Rehabilitation PPAC (a) for development year:											
Accident year ending 30 June	1	2	3	4	5	6	7	8	9	10	
2014	1,221	1,097	546	304	(58)	193	78	115	145	55	
2015	1,256	1,040	471	140	121	118	220	48	(1)	63	
2016	1,339	1,051	439	139	143	151	62	21	10	130	
2017	1,470	1,165	457	189	191	(44)	14	118	72	63	
2018	1,685	1,144	364	143	27	149	(3)	104	99	45	
Adopted (b)	1,761	1,097	413	167	112	120	82	79	65	72	

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Workplace Rehabilitation PPCI (a) for development year:												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	235	472	144	30	8	(1)	2	0	0	0	1	892
2015	263	490	141	26	4	2	1	1	0	(0)	1	928
2016	306	525	149	24	4	2	1	0	0	0	2	1,014
2017	365	584	160	25	4	2	(0)	0	0	0	1	1,142
2018	466	694	163	20	3	0	1	(0)	0	0	0	1,348
Adopted (b)	528	694	151	23	4	1	0	0	0	0	1	1,402

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Workplace Rehabilitation					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPAC	PPCI	Adopted	PPAC	PPCI
2018	25.014	24.096	24.096	0%	100%
2017	5.377	5.094	5.235	50%	50%
2016	0.904	0.942	0.913	75%	25%
2015	0.245	0.254	0.248	75%	25%
2014	0.135	0.129	0.129	0%	100%
2013	0.088	0.081	0.088	100%	0%
2012	0.060	0.065	0.060	100%	0%
2011	0.044	0.057	0.044	100%	0%
2010	0.037	0.040	0.037	100%	0%
2009 & earlier	0.101	0.063	0.101	100%	0%
Total	32.005	30.821	30.951		

Note: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E3.6 Investigation, Legal and Miscellaneous

Claim payments

Claim Payments - Investigation, Legal And Miscellaneous												
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total
2014	14,540,780	29,970,038	17,959,520	10,207,756	4,399,082	1,748,388	1,176,221	(127,212)	249,383	288,320	2,263,500	82,675,776
2015	13,952,969	33,591,164	21,422,020	10,526,857	5,630,212	2,209,701	1,078,734	811,467	628,433	493,353	2,069,971	92,414,881
2016	13,493,032	33,369,793	22,820,939	10,950,035	5,516,637	2,234,356	777,454	781,261	302,424	227,675	2,263,977	92,737,583
2017	11,614,682	30,665,049	20,724,880	11,242,877	5,543,062	2,825,672	1,355,599	449,567	351,734	180,681	1,392,816	86,346,619
2018	11,795,649	30,847,508	20,422,235	10,446,812	4,675,418	3,014,681	2,117,128	733,302	353,065	163,016	1,212,476	85,781,292

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real payment per claim finalised

Investigation, Legal And Miscellaneous PPCF (a) for development year:											
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10
2014	938	2,740	6,672	9,739	10,597	7,391	9,051	(1,659)	2,964	6,425	5,416
2015	948	3,197	7,608	9,554	11,402	9,545	8,912	9,599	8,076	8,283	4,200
2016	966	3,323	7,742	9,388	10,258	9,783	4,798	8,796	4,767	4,860	4,142
2017	935	3,241	7,801	10,035	12,533	11,645	10,576	5,281	8,768	4,397	2,238
2018	962	3,413	7,560	10,278	11,416	13,387	18,316	9,557	8,858	3,556	2,778
Adopted (b)	949	3,544	7,681	10,150	12,001	13,300	14,211	6,363	6,134	5,705	3,676

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Investigation, Legal And Miscellaneous PPCI (a) for development year:												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	471	917	529	312	140	52	33	(4)	7	8	62	2,528
2015	476	1,059	638	302	167	68	31	22	17	14	54	2,849
2016	481	1,119	708	321	156	65	24	22	8	6	61	2,972
2017	451	1,089	693	348	162	80	40	14	10	5	37	2,929
2018	461	1,177	712	343	142	87	59	21	11	5	32	3,049
Adopted (b)	465	1,194	764	346	161	88	49	17	10	5	34	3,134

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Investigation, Legal And Miscellaneous					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPCF	PPCI	Adopted	PPCF	PPCI
2018	77.430	75.674	75.674	0%	100%
2017	43.339	42.913	43.126	50%	50%
2016	22.623	23.071	22.735	75%	25%
2015	12.622	12.925	12.698	75%	25%
2014	8.305	8.063	8.063	0%	100%
2013	5.217	5.105	5.217	100%	0%
2012	3.317	3.285	3.317	100%	0%
2011	2.540	2.407	2.540	100%	0%
2010	2.157	1.854	2.157	100%	0%
2009 & earlier	5.033	3.316	5.033	100%	0%
Total	182.584	178.613	180.561		

Note: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E3.7 Lump sum (Election Registered, No Election Registered, Permanent Impairment/ Fatal)

Claim payments

Claim Payments - Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)												
Yr to 30 June	DY0	DY1	DY2	DY3	DY4	DY5	DY6	DY7	DY8	DY9	DY10 onwards	Total
2014	10,603,791	60,442,113	69,761,430	40,227,890	18,128,508	6,109,291	3,122,356	9,970,096	1,280,013	916,825	9,600,856	230,163,170
2015	9,802,098	63,043,182	76,763,859	47,674,613	22,987,249	7,307,138	2,655,288	2,466,581	1,542,743	2,001,650	9,843,442	246,087,843
2016	11,097,044	72,081,912	82,602,360	45,209,021	22,846,822	12,110,810	3,224,889	1,523,162	1,029,729	1,082,543	9,060,963	261,869,255
2017	9,661,733	73,166,665	81,913,038	41,701,561	18,397,344	10,124,715	4,374,193	1,519,203	1,197,726	614,217	11,520,799	254,191,195
2018	11,314,228	70,235,370	74,779,736	36,442,470	18,076,935	8,285,663	4,529,460	1,567,566	855,240	706,415	13,113,723	239,906,805

Note: From summary of payments data provided by WorkCover WA up to 30 June 2018.

Average real claim payment per claim finalised

Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal) PPCF (a) for development year:											
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10
2014	684	5,525	25,917	38,382	43,671	25,827	24,026	130,046	15,212	20,429	22,973
2015	666	6,000	27,263	43,267	46,555	31,562	21,937	29,178	19,827	33,607	19,974
2016	795	7,178	28,023	38,760	42,482	53,025	19,904	17,149	16,231	23,106	16,577
2017	778	7,734	30,834	37,222	41,598	41,724	34,126	17,846	29,856	14,946	18,513
2018	923	7,771	27,682	35,854	44,139	36,792	39,185	20,430	21,457	15,411	30,046
Adopted (b)	849	7,752	28,817	34,062	46,188	43,885	29,830	18,378	21,489	17,983	20,941

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Average real payment per claim incurred

Lump sum (election registered, no election registered, permanent impairment/fatal)												
Accident year ending 30 June	0	1	2	3	4	5	6	7	8	9	10	Total
2014	344	1,850	2,056	1,229	577	180	87	279	36	25	265	6,929
2015	334	1,988	2,287	1,367	684	226	76	67	42	55	259	7,386
2016	395	2,418	2,564	1,326	645	355	98	43	27	29	245	8,145
2017	375	2,599	2,741	1,291	538	285	128	46	34	16	308	8,363
2018	443	2,680	2,609	1,197	550	238	125	45	26	20	343	8,274
Adopted (b)	429	2,720	2,677	1,110	623	315	126	46	30	18	284	8,379

Notes: (a) In 30 June 2018 values

(b) Adopted for the valuation as at 30 June 2018.

Estimates from models

Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)					
Acc yr ending 30-Jun	Estimates of outstanding claims at 30 June 2018 (\$M) (a)			Weightings	
	PPCF	PPCI	Adopted	PPCF	PPCI
2018	229.006	226.695	226.695	0%	100%
2017	154.920	151.408	153.164	50%	50%
2016	78.842	82.546	79.768	75%	25%
2015	45.973	50.340	47.065	75%	25%
2014	29.417	31.719	31.719	0%	100%
2013	19.514	21.228	19.514	100%	0%
2012	15.517	16.515	15.517	100%	0%
2011	12.862	11.921	12.862	100%	0%
2010	11.330	8.560	11.330	100%	0%
2009 & earlier	28.266	12.383	28.266	100%	0%
Total	625.647	613.314	625.899		

Note: (a) From models described above, in 30 June 2018 values and includes superimposed inflation, excluding 2011 Amendment Act.

E 4 Adopted estimates of outstanding claims

E4.1 Estimates from models excluding the 2011 Amendment Act

Estimates of outstanding claims at 30 June 2018 (\$M) (a) (b)							
Acc yr ending 30 June	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
2018	217.758	58.548	26.071	24.096	226.695	75.674	628.842
2017	64.134	13.714	6.448	5.235	153.164	43.126	285.822
2016	15.048	3.687	1.886	0.913	79.768	22.735	124.038
2015	4.303	1.496	0.892	0.248	47.065	12.698	66.702
2014	2.400	1.532	0.731	0.129	31.719	8.063	44.574
2013	1.529	0.782	0.364	0.088	19.514	5.217	27.494
2012	1.237	0.619	0.281	0.060	15.517	3.317	21.030
2011	0.928	0.485	0.212	0.044	12.862	2.540	17.070
2010	0.726	0.435	0.185	0.037	11.330	2.157	14.870
2009 & earlier	1.998	1.371	0.519	0.101	28.266	5.033	37.290
Total	310.062	82.669	37.589	30.951	625.899	180.561	1,267.732

Notes: (a) From models described in Appendix E3

(b) In 30 June 2018 values and includes superimposed inflation but excludes allowances for the 2011 Amendment Act.

E4.2 Estimates from models including the 2011 Amendment Act

Estimates of outstanding claims at 30 June 2018 (\$M) (a) (b)							
Acc yr ending 30-June	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
2018	217.802	58.559	26.071	24.096	226.957	75.674	629.159
2017	64.172	13.722	6.448	5.235	153.411	43.126	286.115
2016	15.085	3.694	1.886	0.913	80.017	22.735	124.331
2015	4.341	1.504	0.892	0.248	47.316	12.698	66.999
2014	2.447	1.544	0.731	0.129	31.996	8.063	44.910
2013	1.569	0.790	0.364	0.088	19.771	5.217	27.798
2012	1.261	0.623	0.281	0.060	15.669	3.317	21.211
2011	0.928	0.485	0.212	0.044	12.862	2.540	17.070
2010	0.726	0.435	0.185	0.037	11.330	2.157	14.870
2009 & earlier	1.998	1.371	0.519	0.101	28.266	5.033	37.290
Total	310.330	82.728	37.589	30.951	627.594	180.561	1,269.753

Notes: (a) From models described in Appendix E3

(b) In 30 June 2018 values and includes superimposed inflation and allowances for the 2011 Amendment Act.

E4.3 Average claim sizes

Average claim size at 30 June 2018 (\$) (a)							
Acc yr ending 30 June	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
2018	12,743	4,719	1,695	1,406	9,279	3,411	33,253
2017	12,447	4,601	1,593	1,258	8,880	3,268	32,047
2016	11,965	4,185	1,431	1,085	8,376	3,073	30,115
2015	11,054	4,033	1,313	976	8,231	3,047	28,654
2014	10,588	3,852	1,257	907	7,698	2,973	27,274
2013	6,711	1,891	716	644	13,067	2,275	25,304
2012	2,200	514	202	178	19,314	1,216	23,624
2011	556	132	69	37	21,090	678	22,563
2010	203	85	37	13	20,003	321	20,661

Note: (a) In 30 June 2018 values, from results in Appendix E4.1, includes superimposed inflation and allowances for the 2011 Amendment Act.

E4.4 Relationship to case estimates

Ratio of outstandings to case estimates at 30 June 2018							
Acc yr ending 30 June	Weekly	Medical (Scheduled And Non-Scheduled) And Hospital Expenses	Allied Health	Workplace Rehabilitation	Lump Sum (Election Registered, No Election Registered, Permanent Impairment/Fatal)	Investigation, Legal And Miscellaneous	Total
2018	58%	16%	7%	6%	60%	20%	167%
2017	27%	6%	3%	2%	65%	18%	121%
2016	13%	3%	2%	1%	71%	20%	110%
2015	7%	2%	1%	0%	77%	21%	109%
2014	6%	4%	2%	0%	74%	19%	104%
2013	11%	6%	3%	1%	145%	39%	204%
2012	13%	6%	3%	1%	159%	34%	216%
2011	23%	12%	5%	1%	325%	64%	432%
2010	20%	12%	5%	1%	311%	59%	408%
2009 & earlier	10%	7%	2%	0%	134%	24%	177%

E4.5 Adopted estimates in 30 June 2018 values

Acc yr ending 30 June	Estimate of outstanding claims (a)	Estimate of outstanding claims (a)(b)	Average claim size (a) (b)	Ratio to Case Estimates
	\$M	\$M	\$	
2018	628.842	629.159	33,265	167%
2017	285.822	286.115	32,058	121%
2016	124.038	124.331	30,125	110%
2015	66.702	66.999	28,664	109%
2014	44.574	44.910	27,285	105%
2013	27.494	27.798	25,313	206%
2012	21.030	21.211	23,629	217%
2011	17.070	17.070	22,563	432%
2010	14.870	14.870	20,661	408%
2009 & earlier	37.290	37.290		177%
Total	1,267.732	1,269.753		144%

Note: (a) In 30 June 2018 values, includes superimposed inflation.

(b) Includes allowances for the 2011 Amendment Act.

E4.6 Gross of reinsurance estimates with allowance for AWE inflation, discounting and claims expenses

Total of payment types					
Estimates at 30 June 2018 (\$M)					
Acc yr ending 30 June	30 June 2018 values (a)	Inflated values (b)	Infl/disc values (b)	Case estimates	Ratio (c)
2018	629.159	685.850	665.058	376.825	167%
2017	286.115	313.618	302.936	236.398	121%
2016	124.331	138.612	132.330	113.131	110%
2015	66.999	75.979	71.710	61.288	109%
2014	44.910	52.244	48.127	42.734	105%
2013	27.798	32.210	30.130	13.490	206%
2012	21.211	24.467	22.957	9.757	217%
2011	17.070	19.318	18.330	3.952	432%
2010	14.870	16.438	15.816	3.643	408%
2009 & earlier	37.290	40.327	39.389	21.023	177%
Total	1,269.753	1,399.064	1,346.783	882.241	144%

- Notes:**
- (a) From Appendix E4.5 including the 2011 Amendment Act allowances
 - (b) Includes 5% claims expenses
 - (c) Ratio of actuarial estimates in 30 June 2018 values to case estimates.

Appendix F Claims experience

F1 Claims experience during 2017/18

F1.1 Aggregate trends

Total actual claim payments during 2017/18 were \$848.4 million, which is \$27.9 million (3.2%) lower than the \$876.3 million for the 2016/17 year. Total payments also decreased last year by \$13.7 million (1.5%), after increases every prior year.

Given the new payment dataset, we are not able to compare the movement in payments by type.

Total case estimates outstanding decreased by \$49.3 million (5.3%) to \$882.2 million at 30 June 2018 from \$931.6 million as at 30 June 2017. From 30 June 2016 to 30 June 2017, case estimates increased by \$15.6 million (1.7%).

Claims reported over 2017/18 decreased by 979 (3.7%) to 25,820 from 26,799 over 2016/17. This compares to an 8.0% decrease last year.

Active claim numbers decreased by 635 (3.4%) to 18,002 at 30 June 2018 from 18,637 at 30 June 2017, following a 5.4% decrease last year.

The claim statistics indicate favourable claims experience in 2017/18 compared to last year, with reductions in the number of claims reported, active claims payments and case estimates.

F1.2 Claims incurred in 2017/18

There were 22,941 claims reported to 30 June 2018 for the 2017/18 accident year. The projected number of incurred claims is 25,656. This is 2.4% lower than the 26,297 projected incurred for the 2016/17 accident year.

The expected number of open claims for the 2017/18 accident year at 30 June 2018 is $22,941 \times (1 - 0.5582) = 10,134$ compared to actual of 10,641 i.e. actual active claims are 4.8% higher.

The 30 June 2017 projection basis expected $8,752 \times (1.015^{0.5} \times 1.075) = \$9,483$ to be paid on each of the 2017/18 accident year claims in the year of claiming. The actual amount paid per claim was \$8,742 i.e. 7.8% less in real values.

The average case estimate per active claim in real values at the end of development year zero decreased by 3.0% to \$35,413 at 30 June 2018 from \$36,505 at 30 June 2017. This compares to an 11.2% increase between 30 June 2016 and 30 June 2017.

The 2017/18 accident year shows stable to favourable claims experience relative to 2016/17 with lower than expected claims reported, lower than expected payments and lower average case estimates, partially offset by the higher active claims.

F1.3 Claims incurred in prior years (up to 30 June 2017)

The main aspects of claim experience over 2017/18 compared to the projections in our 20 March 2018 report, as follows:

- a fewer (5%) number of claims reported (see Appendix E2.1)
- b claims finalisation is on par with expected (see Appendix E2.2)
- c claim payments are lower (4%) compared with projected (see Appendix E2.3).

The experience for claims reported and payments was better than expected.

For all accident years, there were fewer claims reported than expected, except for 2010, which were 55% higher than expected. The overall result was favourable compared to expected.

Claim finalisation was on par with expected overall. A majority of accident years were faster than expected with the exception of 2017 (1% slower), 2014 (6% slower), 2012 (5% slower), and 2010 (25% slower).

Claim payments were lower than expected across all accident years with the exception of 2012 (5% higher), 2011 (36% higher) and the 2008 and prior accident years (58% higher).

F 2 Claims experience in the six months to 31 December 2018

F2.1 Claim reports

In total across all accident years, claim reports for the six months are similar to slightly higher than expected from models derived on experience to 30 June 2018.

The experience for all accident years is higher than expected, with the exception of the 2014 accident year. In aggregate, claims reported in the six months to 31 December 2017 are 0.2% higher than expected.

Accident year	Expected for	Proportion to	Six months to 31 Dec 18		
	2018/19 (a)	31 Dec 18 (b)	Expected (c)	Actual (d)	Actual/Expected % (e)
2019	22,941	46.3%	10,627	10,646	100%
2018	2,093	91.9%	1,923	1,923	100%
2017	133	64.1%	85	86	101%
2016	59	69.0%	41	41	101%
2015	41	57.0%	23	26	112%
2014	34	68.6%	23	16	69%
2013 & earlier	532	62.2%	331	339	102%
Total	25,833		13,053	13,077	100%

Notes :

- (a) = from the adopted 30 Jun 18 actuarial projection patterns, assuming 2019 equals 2018
- (b) = from examination of the 2015/16, 2016/17 and 2017/18 quarterly Form WC20.
- (c) = (a) x (b)
- (d) = from Form WC20 to 31 Dec 18
- (e) = (d) / (c) %

F2.2 Claims finalised

Claims finalisation is 1% slower than expected in aggregate, caused by slower than expected finalisation for all accident years, except for 2014 and 2013 and earlier.

Accident year	Expected for 2018/19 (a)	Proportion to 31 Dec 18 (b)	Six months to 31 Dec 18		
			Expected (c)	Actual (d)	Actual/Expected % (e)
2019	12,341	29.2%	3,601	3,486	97%
2018	8,979	69.9%	6,280	6,186	98%
2017	2,546	62.8%	1,600	1,583	99%
2016	953	63.0%	600	545	91%
2015	386	61.6%	238	226	95%
2014	220	60.2%	132	141	106%
2013 & earlier	697	55.5%	386	488	126%
Total	26,122		12,838	12,655	99%

Notes :

- (a) = from the adopted 30 Jun 18 actuarial projection patterns
- (b) = from examination of the 2015/16, 2016/17 and 2017/18 quarterly Form WC20.
- (c) = (a) x (b)
- (d) = from Form WC20 to 31 Dec 18
- (e) = (d) / (c) %

F2.3 Claim payments

Total actual claim payments are 4% lower than expected for the December 2018 half year. Payments were lower than expected for all accident years.

Accident year	Expected for 2018/19 \$M (a)	Proportion to 31 Dec 18 (b)	Six months to 31 Dec 18		
			Expected \$M (c)	Actual \$M (d)	Actual/Expected % (e)
2019	244.842	24.6%	60.303	59.967	99%
2018	341.168	57.0%	194.389	191.168	98%
2017	163.487	62.4%	101.957	97.829	96%
2016	58.494	65.8%	38.462	36.539	95%
2015	26.837	63.8%	17.129	16.736	98%
2014	14.780	49.0%	7.246	6.175	85%
2013 & earlier	32.023	55.4%	17.748	12.453	70%
Total	881.630		437.234	420.867	96%

Notes :

- (a) = from the adopted 30 Jun 18 actuarial projection and using PPCI for 2018 AYR
- (b) = from examination of the 2015/16, 2016/17 and 2017/18 quarterly Form WC20.
- (c) = (a) x (b)
- (d) = from Form WC20 to 31 Dec 18
- (e) = (d) / (c) %

The table below compares claim payments by type of payment in real terms:

Payment type	Six months ended			% Real change (d)
	31 Dec 18 \$M (a)	31 Dec 17 \$M (b)	31 Dec 17 in 31 Dec 18 values \$M (c)	
Lump sum election registered	13,158	16,393	16,507	-20.3%
Lump sum no election registered	83,553	89,069	89,688	-6.8%
Lump sum permanent impairment/fatal	22,109	22,090	22,243	-0.6%
Weekly	161,232	159,410	160,520	0.4%
Allied health	22,549	21,094	21,241	6.2%
Investigation	16,291	13,886	13,982	16.5%
Legal	24,658	27,692	27,885	-11.6%
Miscellaneous	3,142	3,395	3,419	-8.1%
Hospital	18,840	20,515	20,658	-8.8%
Medical non scheduled	11,366	13,054	13,145	-13.5%
Medical scheduled	27,757	28,331	28,528	-2.7%
Workplace rehabilitation	17,571	17,386	17,507	0.4%
Total	422,227	432,314	435,323	-3.0%

Notes :

- (a) = from 2018/19 data provided by WorkCover WA for returning entities
- (b) = from data provided by WorkCover WA for returning entities including any late revisions submitted
- (c) = (b) x 1.007 in current values
- (d) = (a) / (c) -1 in current values

This table shows that, after adjusting for 0.70% wage inflation, in total, claim payments for the six months are 3.0% lower than the same period in the prior year. Most payment types had decreases, except weekly, allied health, investigation, and workplace rehabilitation. The most significant increase was for investigation which increased by \$2.3 million (16.5%). The most significant decreases were:

- Lump sum no election registered decreasing by \$6.1 million (6.8%)
- Lump sum election registered decreasing by \$3.3 million (20.3%)
- Legal decreasing by \$3.2 million (11.6%).

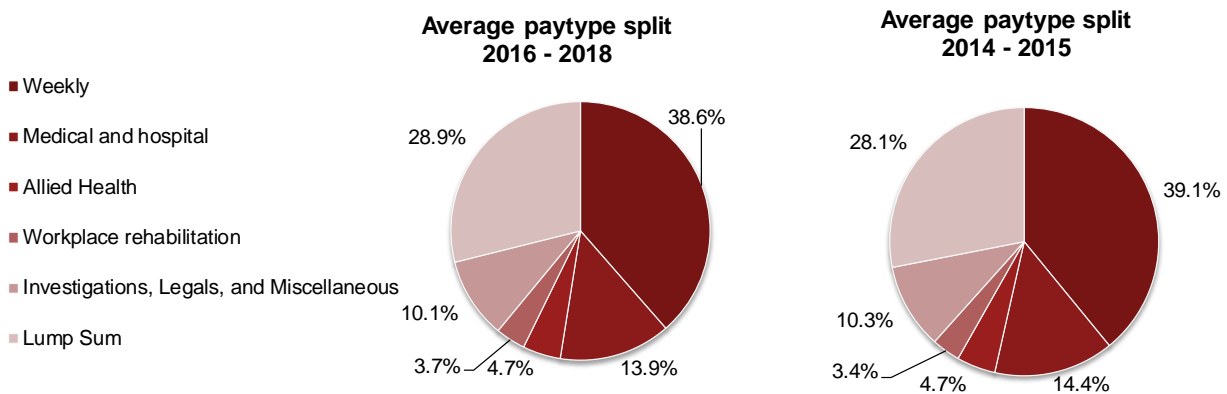
F2.4 Summary of experience for the six months to 31 December 2018

In summary, the six months to 31 December 2018 has been mixed as payments were lower than expected, but claim reports were on par to slightly higher than expected and closures were slightly slower than expected. The experience is driven across all accident years.

F 3 Analysis by type of payment

The purpose of this section is to investigate trends in the composition of claim payments by benefit type. We use higher level groups to explore the relative movement of ongoing and lump sum benefits.

The pie-charts and table below show the composition in two period ranges over the past five years:



In both periods, weekly benefits are the major payment group, decreasing slightly from 39.1% to 38.6% of total payments over the periods, and lump sum payments are the second highest group, increasing from 28.1% up to 28.9%.

The table below shows all other payments are also relatively stable across both periods.

Type of Payment	Financial years ending 30 June	
	2016 - 2018	2014 - 2015
Weekly	38.6%	39.1%
Medical and hospital	13.9%	14.4%
Allied Health	4.7%	4.7%
Workplace rehabilitation	3.7%	3.4%
Investigations, Legals, and Miscellaneous	10.1%	10.3%
Lump Sum	28.9%	28.1%
Total	100.0%	100.0%

The table below shows the annual composition of claim payments over the past 5.5 years.

Type of Payment	2018/19	2017/18	2016/17	2015/16	2014/15	2013/14
6 months						
Weekly	38.2%	38.0%	38.9%	38.8%	39.0%	39.2%
Medical and hospital	13.7%	14.4%	13.9%	13.5%	14.0%	14.8%
Allied Health	5.3%	5.0%	4.7%	4.5%	4.5%	4.8%
Workplace rehabilitation	4.2%	4.2%	3.6%	3.4%	3.4%	3.5%
Investigations, Legals, and Miscellaneous	10.4%	10.1%	9.9%	10.4%	10.7%	10.0%
Lump Sum	28.1%	28.3%	29.0%	29.4%	28.4%	27.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Amount (\$000s)	422,227	848,365	876,278	890,017	866,826	829,227
% change	-2.3%	-3.2%	-1.5%	2.7%	4.5%	11.8%
WC20 Amount (\$000s)	420,867	848,303	876,129	890,167	868,311	830,666
% difference from data provided by WorkCover WA	-0.3%	0.0%	0.0%	0.0%	0.2%	0.2%

Over the six months to 31 December 2018, there was a reduction in payments of 2.3%. In the same period of the previous year payments reduced by 2.4%. We have not included the December 2018 half year in the trend comments below because its payment composition is variable and subject to seasonal influences.

The following trends are apparent:

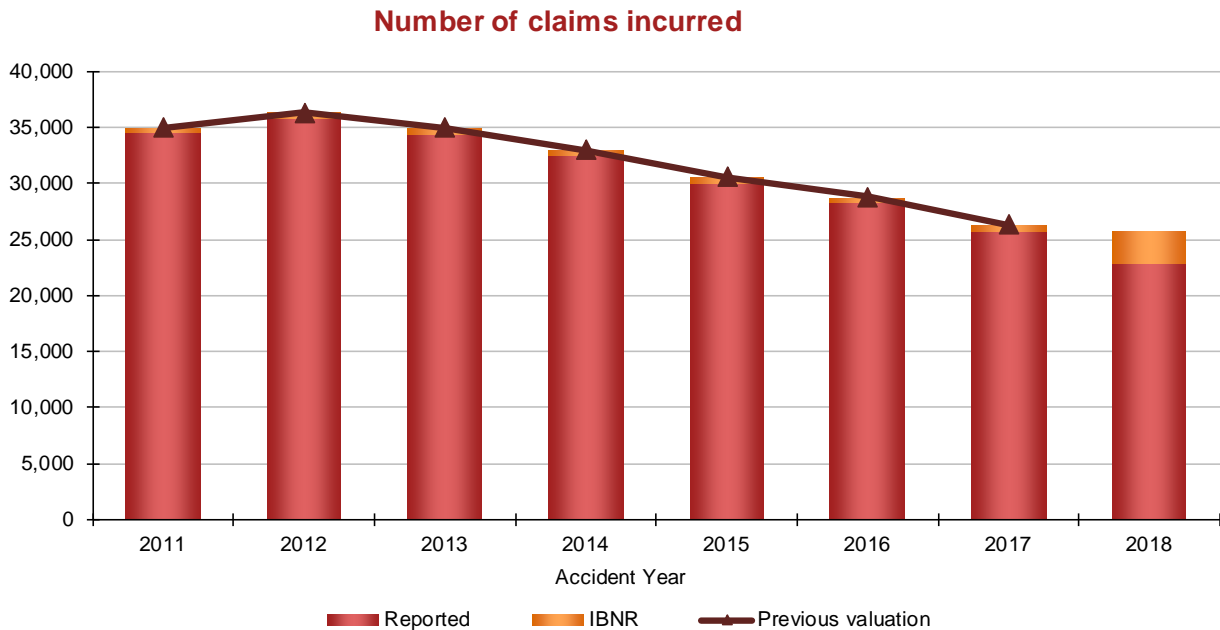
- Weekly benefits was relatively stable at 39% over 2013/14 to 2016/17 before decreasing to 38% in 2017/18
- Lump sum group has varied between 27.8% to 29.4% from 2013/14 to 2017/18

- Medical and hospital payments decreased from 14.8% in 2013/14 to 13.5% in 2015/16, but since then they have increased to 14.4% in 2017/18
- Investigation, legal and miscellaneous has been relatively stable around 10% of total payments over the five years
- Allied health has been relatively stable, ranging between 4.5% to 5% over 2013/14 to 2017/18
- Workplace rehabilitation has also been relatively stable at around 3.5% from 2013/14 to 2016/17, before increasing to 4.2% in 2017/18.

Appendix G Claims statistics

G 1 Number of claims incurred

Decrease in claims incurred for 2018 to just over 25,600



The key experience points from the above chart are:

- Claims incurred were just under 35,000 claims in 2011. 2012 increased to 36,300 claims incurred
- Since 2012 there has been a strong decreasing trend, with reductions of between 4% and 9% across the 2013 to 2017 accident years
- In 2018 the estimated number of claims incurred is just over 25,600, which is lower than all prior years but represents a slow down in the rate of reduction, as it is 2.4% lower than 2017.

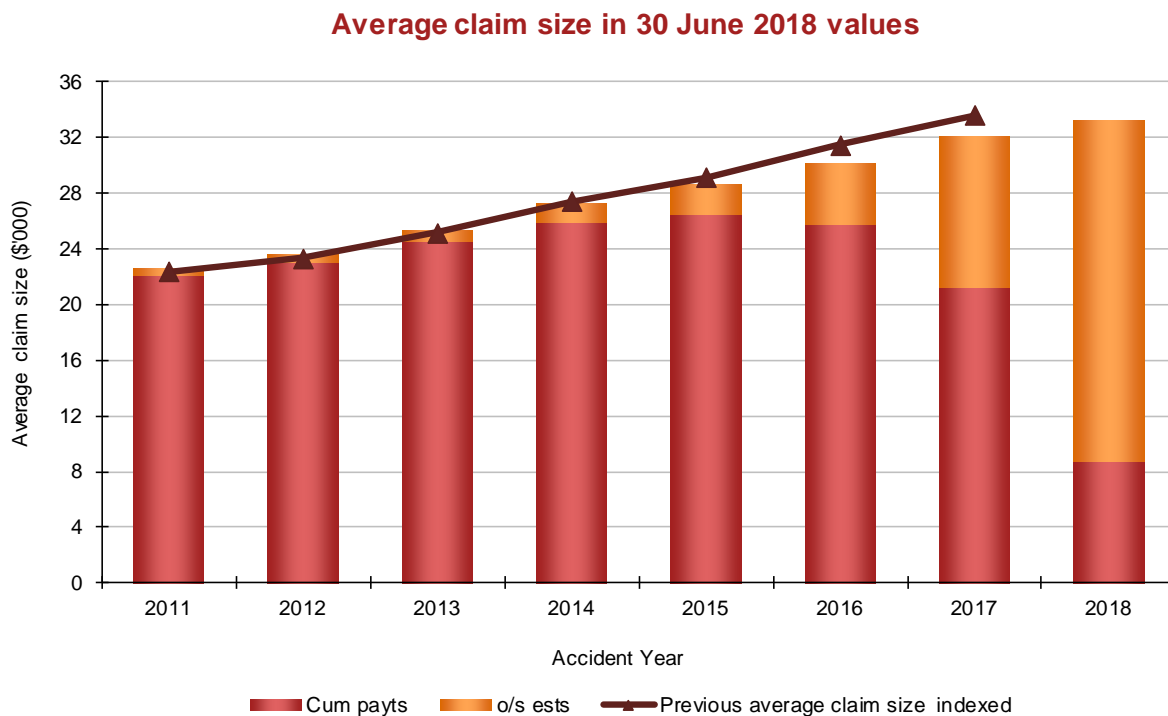
In the six months to 31 December 2018 the number of claims reported for claims incurred during the 2019 accident year is relatively on par to slightly higher than the comparable period in the 2018 accident year. This indicates that the number of claims incurred for 2019 may be on par with 2018.

The number of claims by duration data shows that it is the number of short duration claims that have caused the ongoing reduction in claims numbers.

The number of claims incurred for the current valuation is slightly lower compared to the previous valuation for all accident years shown. The difference is less than 0.1% per year.

G 2 Average claim sizes

Strong increasing trend continues in 2018 accident year



The higher average claim sizes in recent years are a reflection of the trends shown in Appendix G6. Over the eight years shown in the graph there has been an increasing trend, with an overall increase of 47.4% or 5.7% pa, in current values.

The uncertainty of the estimates, and any future development which occurs, means that the ultimate level may differ from projected at this early development stage for recent accident years. This is especially true for the 2018 accident year where a high proportion (74%) of the average claim size consists of the uncertain future estimate.

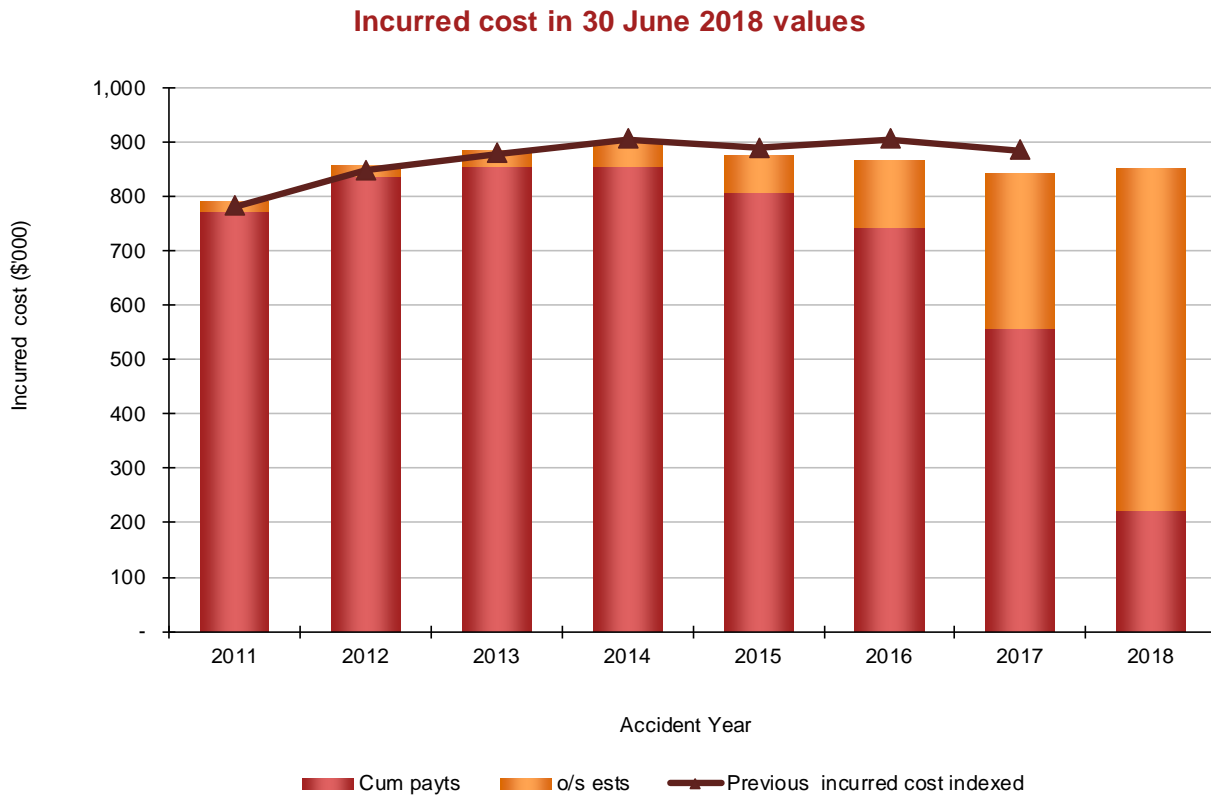
The real average claim size trends show the combined impact of:

- The change in mix of claims, with a reduction in the number of small claims over recent years
- High levels of superimposed inflation
- The increasing average duration of claims.

The average claim sizes for 2014 to 2017 are lower (0.5% to 4.6%) than the previous valuation but slightly higher (0.5% to 1.1%) for 2011 to 2013. The largest reductions are for the 2017 and 2016 accident years.

G 3 Incurred cost

2018 is expected to be slightly higher than 2017. The incurred cost for 2014 to 2017 reduced from previous valuation due to lower average claim sizes



The incurred cost has shown the following trends:

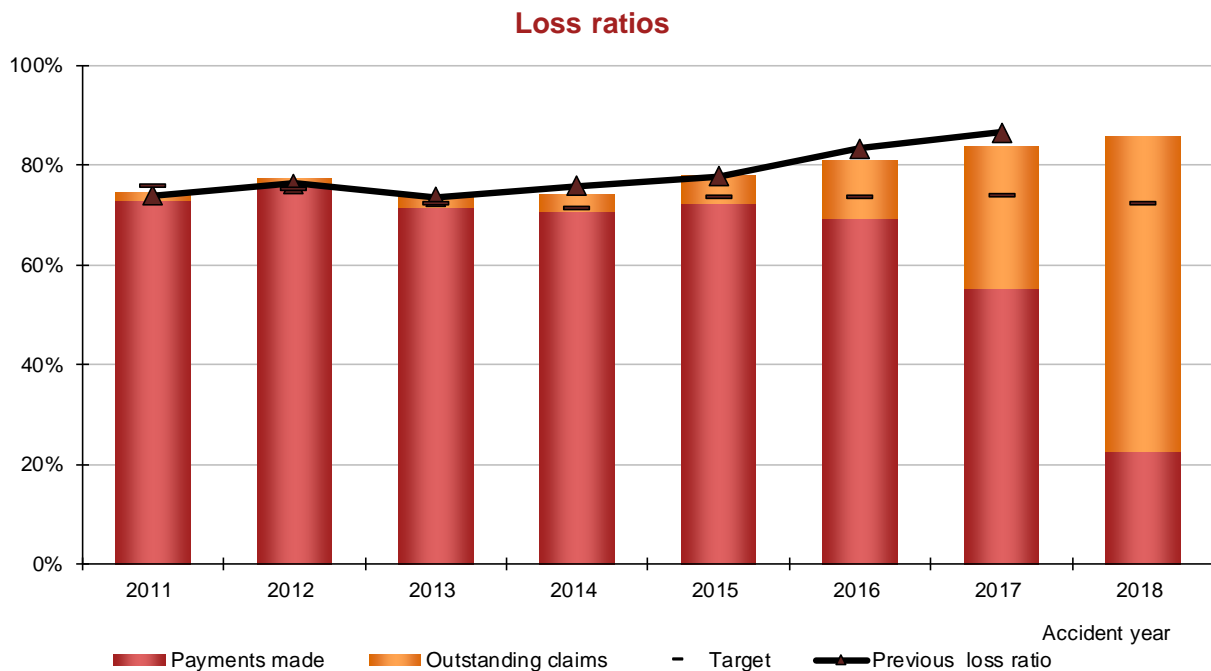
- An increasing trend between 2011 and 2014, from \$790 million to around \$900 million. This is driven by strong increases in the average claim size and increases in number of claims from 2011 to 2012
- A decrease in incurred cost from 2014 to 2017 is due to the reduction in claim numbers offsetting the higher average claim size. Incurred cost is expected to be \$843 million in 2017. There is a slight increase to \$853 million in 2018.
- The 2016 and 2017 accident years incurred cost estimates decreased from the previous valuation due to a lower average claim size.

Over the period shown in the graph, the proportion outstanding increases from 2% of the total incurred cost to 74% of the total incurred cost for 2018.

The incurred costs are lower (0.6% to 4.7%) than the previous valuation for the 2014 to 2017 accident years but slightly higher (0.5% to 1.0%) for 2011 to 2013. The largest reductions are for the 2017 and 2016 accident years.

G 4 Loss ratios

The most recent six accident years are above the target loss ratio for that year



Note: (a) The target loss ratio was developed in section 6.5, and equivalent section of prior reports. Including brokerage, the 2019/20 target loss ratio is 69.7% in inflated and discounted values. This is equivalent to 69.9% in current values or 71.8% inflated.

Loss ratios are calculated for each accident year using the following formula:

$$\frac{(\text{Past claim payments to 30 June 2018+ estimated outstanding liability at 30 June 2018})}{\text{Earned premium}}$$

The past claim payments, estimated outstanding liability and earned premium are all in 30 June 2018 values i.e. current values. The estimated outstanding liability includes allowance for future superimposed inflation.

These ratios are not a proper measure of profitability, as they do not allow for investment returns or expenses. Nevertheless, as a crude measure, they do provide an indication of trends in the experience.

The loss ratios are calculated in the following table and illustrated in the chart above. The chart shows separately the portion of the loss ratios relating to amount already paid and amount still outstanding:

Accident year ended 30 June	Gross earned premiums		Cumulative payments		Estimated net outstanding claims liability in 30 June 2018	Estimated loss ratio
	In historic values	In 30 June 2018 values	In historic values	In 30 June 2018 values	June 2018 values	
	\$M	\$M	\$M	\$M	\$M	
2011	869.559	1,061.910	679.148	772.532	17.070	74%
2012	961.262	1,106.921	767.112	836.364	21.030	77%
2013	1,096.808	1,194.975	807.046	856.585	27.494	74%
2014	1,133.602	1,212.469	821.308	855.685	44.574	74%
2015	1,076.054	1,120.140	787.379	808.470	66.702	78%
2016	1,046.126	1,071.790	728.725	742.293	124.038	81%
2017	983.926	1,005.576	550.981	556.932	285.822	84%
2018	992.161	995.676	223.494	224.286	628.842	86%

The loss ratio is in current 30 June 2018 values.

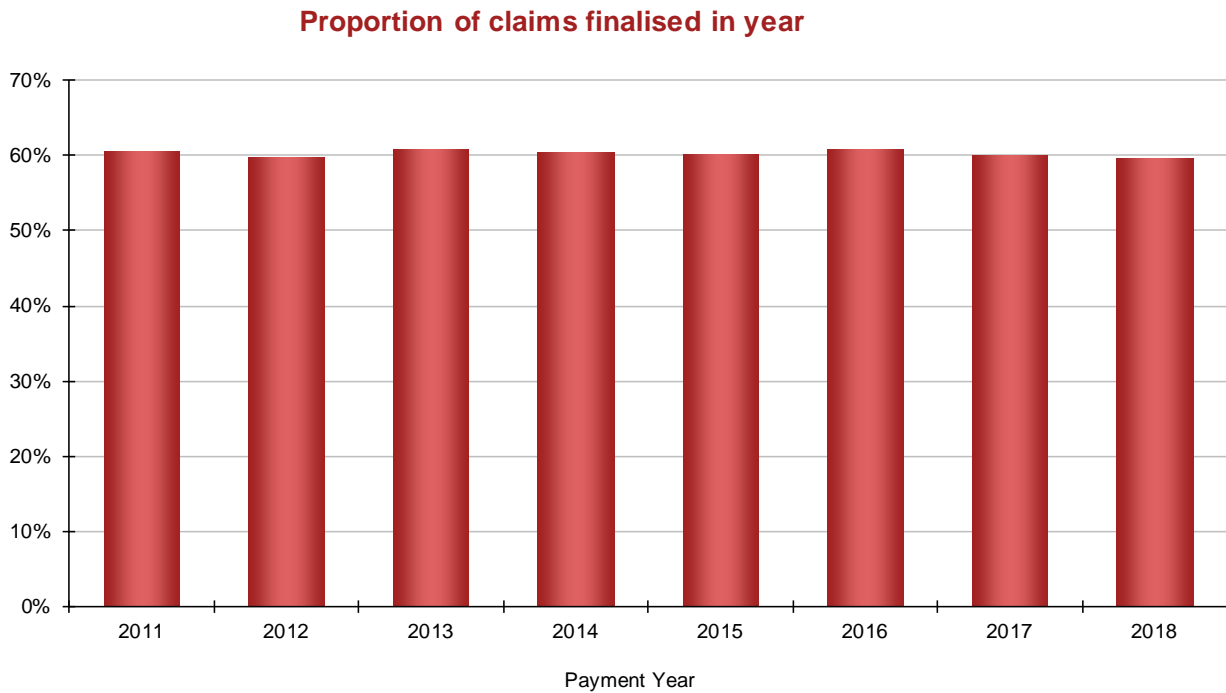
The table and chart show:

- From 2011 to 2015 the loss ratio has been relatively stable between 74% and 78%
- The loss ratio increased over 2015 to 2018 to 86%. The increases are due to the lower earned premium than previous accident years but similar or higher incurred cost
- The 2011 accident year is below its target loss ratio, while the 2012 to 2018 accident years are all above the target
- Compared to the previous valuation:
 - The loss ratio for the 2016 and 2017 accident year has decreased the most due to a reduction in the incurred cost more than offsetting the reduction in earned premium
 - The loss ratio for 2014 has also reduced slightly due to lower incurred cost and higher earned premium.

G 5 Finalisation of claims

By payment year

Stable claim finalisation in most recent eight payment years around 60%



Claim finalisation rate by payment year is defined as:

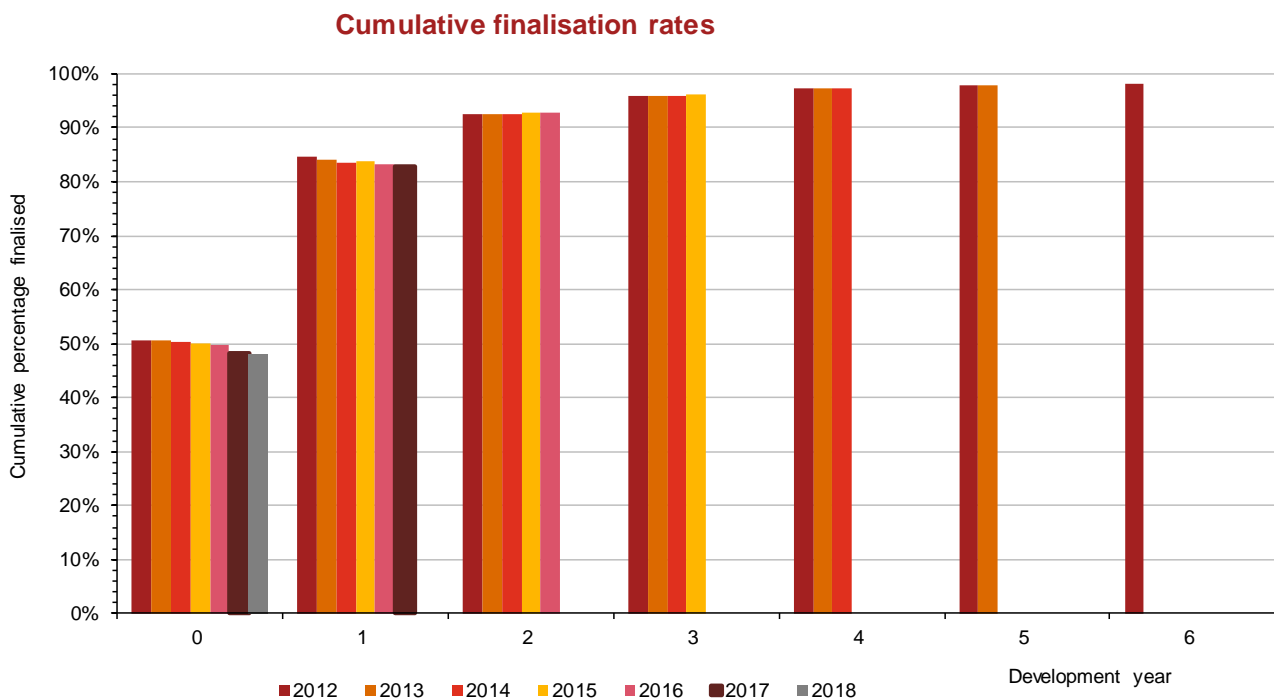
Number of claims finalised in year

(Number of outstanding at beginning of the year plus number reported during the year)

The proportion of total claims finalised since 2011 has been between 59% and 61%.

By accident year

Low finalisation for the 2018 accident year



Claim finalisation rate by accident year is defined as:

$$\frac{\text{Cumulative number of claims finalised by development year}}{\text{Incurred number of claims for the accident year}}$$

The chart above shows that more recent accident years have a lower proportion of total incurred claims finalised by the end of development year 0 (i.e. the same year as the accident occurred) and development year 1 (the year following year in which the accident occurred).

By the end of development year two, the cumulative finalisation is around 93% for all accident years. After development year three, the cumulative finalisation is relatively stable for the accident years that have developed that far.

Overall, this suggests that within the first two years after an accident, claims are taking longer to be finalised, but a catch up occurs in DY2 and after this, they are being closed at the same rate compared to older accident years.

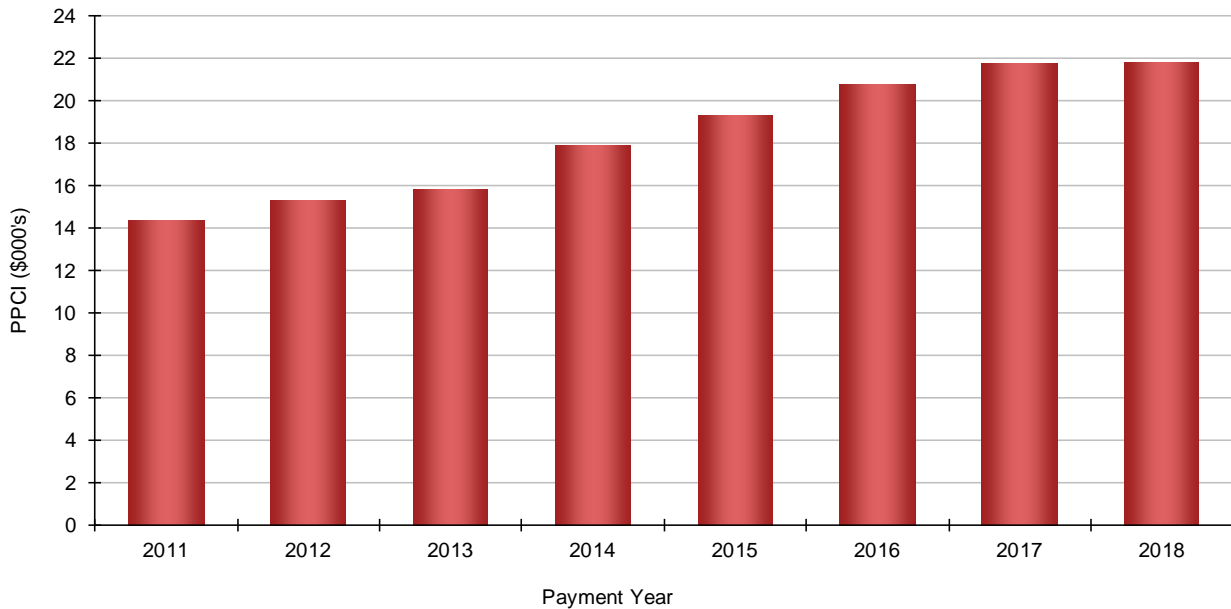
Approximately 98% of claims are finalised by development year 5.

G 6 *Payment per claim incurred*

By payment year

Further slight increase in 2018 to \$21,800

Real payments per claim incurred : development years 1 - 6

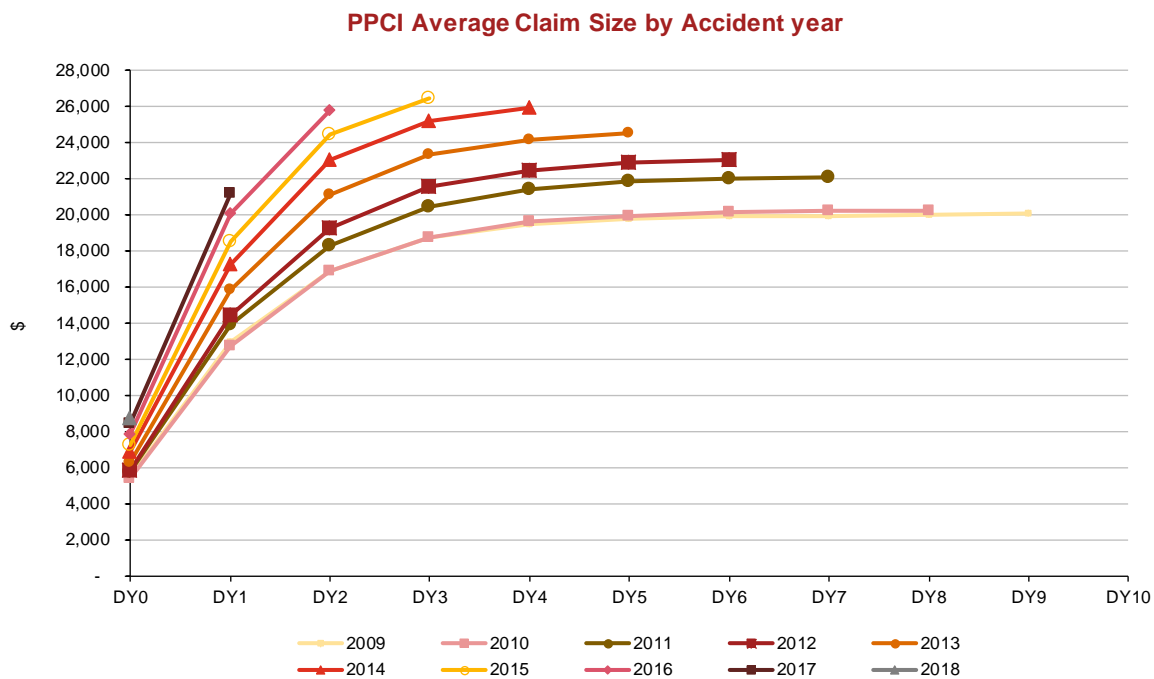


Since the 2011 payment year, there has been an increasing trend.

There has been an increase in the 2018 payment year, to \$21,800. This is 0.3% higher than the 2017 payment year. This is the lowest year on year increase over the period shown. The prior increases was partially due to the changing mix in the size of claims.

By accident year

Continuing evidence of superimposed inflation in payments by accident year



The chart above shows cumulative PPCI by accident year. This is calculated as:

$$\frac{\text{sum of claim payments by development year made to date (in 30 June 2018 values)}}{\text{number of claims incurred to date}}$$

As the values in the chart are all in current values, any differences are the result of a change in the real cost of each claim. This is also referred to as superimposed inflation. The chart is based entirely on actual experience. There are no future projections included in this graph.

The key points from this chart may be summarised as follows:

- From 2011 to 2018, there is an increasing trend across accident years, with each year higher than the previous years at the same stage of development. This is due to the combined impact of:
 - The presence of superimposed inflation in the scheme
 - The change in the mix of claims and the reduction in the number of small claims reported since 2013

Appendix H Comparative statistics

H 1 Statistical trends

H1.1 Aggregate incurred cost of claims in current values

The table below shows, using the benefit of hindsight, the estimated incurred cost of claims in current values as at 30 June 2018 by financial year of accident:

Accident year ending 30 June	Estimated Incurred Costs in Current Values as at 30 June 2018						
	Cumulative payments \$M (a)	Estimated outstanding \$M (b)	Estimated incurred \$M (c)	Estimated no of claims incurred (d)	Average claim size \$ (e)	Earned wages in c/ values \$M (f)	Claim cost % of wages (g)
2018	224.3	628.8	853.1	25,656	33,253	77,217	1.10%
2017	556.9	285.8	842.8	26,297	32,047	79,264	1.06%
2016	742.3	124.0	866.3	28,768	30,115	81,751	1.06%
2015	808.5	66.7	875.2	30,542	28,654	83,884	1.04%
2014	855.7	44.6	900.3	33,007	27,274	85,277	1.06%
2013	856.6	27.5	884.1	34,938	25,304	84,620	1.04%
2012	836.4	21.0	857.4	36,293	23,624	83,580	1.03%
2011	772.5	17.1	789.6	34,996	22,563	76,434	1.03%

Notes :

- (a) cumulative actual claim payments indexed to current values
- (b) from appendix E4.4
- (c) = (a) + (b)
- (d) from appendix E3.1
- (e) = (c) in \$ / (d)
- (f) from Form WC12 (Form WC11 for 2012 and prior) indexed to current values adjusted to est final wages as in appendix C2.1
- (g) = (c) / (f) .

The key trends to highlight in the table are:

- The estimated number of claims incurred was approximately 35,000 in 2011 and increased to 36,300 in 2012. Since 2012, there has been significant decreases, such that in 2018 the estimated incurred claims are just over 25,600
- The average claim size has increased in real terms from \$22,563 in 2011 to \$33,253 in 2018. This is an average annual increase over the period of 5.7%. For the most recent five years this is predominantly driven by a reduction in the number of small claims
- Estimated claim cost as a percentage of wages has an increasing trend from 1.03% in 2011 to 1.10% in 2018, the increase from 2017 to 2018 is predominantly driven by a reduction in wages
- The claim cost as a percentage of wages for the 2017 and earlier accident years has decreased compared to the previous valuation, reducing by 0.04% or less.

Our estimates in the table above make realistic allowance for current trends to continue in future.

The wages above include the wage adjustment factors from Appendix C2.1 to develop them to ultimate.

Claim frequency has been as follows:

Claim frequency as % of :		
Accident year ending 30 June	Number of employees (a)	\$90,967 of real wages (b)
2018	2.6%	3.0%
2017	2.7%	3.0%
2016	2.9%	3.2%
2015	3.0%	3.3%
2014	3.3%	3.5%
2013	3.4%	3.8%
2012	3.7%	4.0%
2011	3.7%	4.2%

Notes :
 (a) item (g) from the last table in appendix H2
 (b) = number of claims incurred / (real wages / ave real wages {\$90,967}) from table above

Claim frequency per \$90,967 wages has declined by an equivalent 4.5% per year over 2011 to 2018 and by 4.8% per year per employee. The \$90,967 figure adopted is the annualised figure from ABS Cat 6302.0 Average Weekly Earnings for Western Australia (persons, full-time adult ordinary time earnings).

H1.2 Reserving and loss ratios

Some overall market reserving and loss ratios which may assist insurers to judge the relative strength of their outstanding claim estimates are as follows:

Accident year ending 30 June	Cumulative claim payments \$M (a)	Total case estimates \$M (b)	Inflated actuarial incurred cost ests \$M (c)	Total case estimates to claim payments (d)	Ultimate incurred costs/claim payments (e)	Ultimate incurred costs/total case ests (f)	Inflated loss ratios (g)
2018	223.5	600.3	876.7	269%	392%	146%	88%
2017	551.0	787.4	849.7	143%	154%	108%	86%
2016	728.7	841.9	860.7	116%	118%	102%	82%
2015	787.4	848.7	859.7	108%	109%	101%	80%
2014	821.3	864.0	871.1	105%	106%	101%	77%
2013	807.0	820.5	837.7	102%	104%	102%	76%
2012	767.1	776.9	790.4	101%	103%	102%	82%
2011	679.1	683.1	697.5	101%	103%	102%	80%

Notes :
 (a) cumulative actual claim payments
 (b) = (a) + insurer's case estimates outstanding
 (c) = (c) from previous table
 (d) = (b) / (a) x 100
 (e) = (c) / (a) x 100
 (f) = (c) / (b) x 100
 (g) = (c) in \$ / (earned premium from WC12 (From WC11 for 2012 and prior) supplied by insurers + earned but not yet raised premium supplied by insurers on their WC30) x development factor in Appendix C

By applying the ratios in columns (d), (e) and (f) above, insurers can obtain a measure of the strength of their own case estimates and total incurred claim cost, relative to overall market levels.

Compared to last year:

- The case estimate ratio (d) at the same stage of development was similar to last year, with changes between 0% and -2%, except the most recent year 2018 which has decreased by 11%
- The ultimate incurred cost ratio to payments (e) reduced for 2015 to 2018, but increased by 1% for 2014 and earlier. The decreases over 2015 to 2018 varied from 1% for 2015 to 25% for 2018.

- The ultimate incurred cost ratio to total case estimates (f) was similar for all years, except 2016 and 2017, which had decreases of 3%.

The inflated loss ratio (g) is a measure of the cost of claims to earned premium. The higher the loss ratio, the less profitable the portfolio of risks. Compared to last year, loss ratio estimates are lower (better) for all accident years, by between 0% and 4%, except for the earlier years of 2012. 2017 had the biggest decrease in inflated loss ratio due to a lower incurred cost estimate, which more than offset the reduction in earned premium.

The target inflated loss ratio including all expenses (including brokerage) and profit loadings is 71.8% for 2019/20. See Appendix G4 for a comparison of loss ratios against the target loss ratio for that year in current values.

H1.3 Case estimates, expenses and discount levels and margins

Financial year ending 30 June	Insurers' case estimates outstanding \$ M	Total expense levels %	Discount level by insurers against Gazette
2018	882.241	21.0%	12.8%
2017	931.567	19.6%	17.8%
2016	915.949	18.3%	15.2%
2015	974.333	18.0%	17.2%
2014	988.780	16.4%	18.9%
2013	941.803	15.3%	17.5%
2012	831.235	16.0%	17.0%
2011	795.037	17.3%	12.4%
2010	717.291	18.0%	

Note that ICWA doesn't include brokerage or contingency margin in premium, so discount overstated but impact immaterial (0.5%)

The table above shows that:

- Outstanding case estimates increased by 1.7% in 2017, and decreased by 5.3% in 2018
- Total expense levels increased to 21.0% from 19.6% last year (and increased by 1.2% excluding brokerage to 17.7% from 16.5% last year)
- Insurer premium discounts to Gazette rates were in between 17% to 19% over 2012 to 2015. Since 2014, insurer premium discounts to Gazette rates have been broadly decreasing with the exception of 2017. In 2016, the discount was 15.2%, 17.8% in 2017 before decreasing to 12.8% in 2018, the lowest since 2011. We have developed the gross written wages based on historical development. Without this development, the discount levels would be significantly higher. The discount levels for all years have increased since last year, except for 2011 and 2013. 2014 and more recent years all had significant upwards movements as gross written premium development was lower than expected.

H1.4 Developed wages

Developed wages for 2017/18 are 0.8% lower than 2016/17



Developed wages are equal to reported wages plus an allowance for future development.

Developed wages for 2012/13 onwards has been shown in the chart above to reflect the same period used for the Gazetted rates based on the ANZSIC 2006 classification, based on Form WC12.

The 2017/18 wages are estimated to be 0.8% lower than the 2016/17 wages.

The developed wages for all accident years shown are slightly lower than estimated last year, by 0.05% to 1.57%.

H1.5 Comparison of workers compensation costs and wages by industry division

The charts below show the:

- Comparative cost of workers compensation claims as a percentage of the aggregate premium rate over the past two years by industry
- Composition of wages by industry for the 2017/18 accident year only and
- Composition of wages by industry for the 2013/14 to 2017/18 accident years
- Percentage movement in developed wages by accident year from 2014/15 to 2017/18.

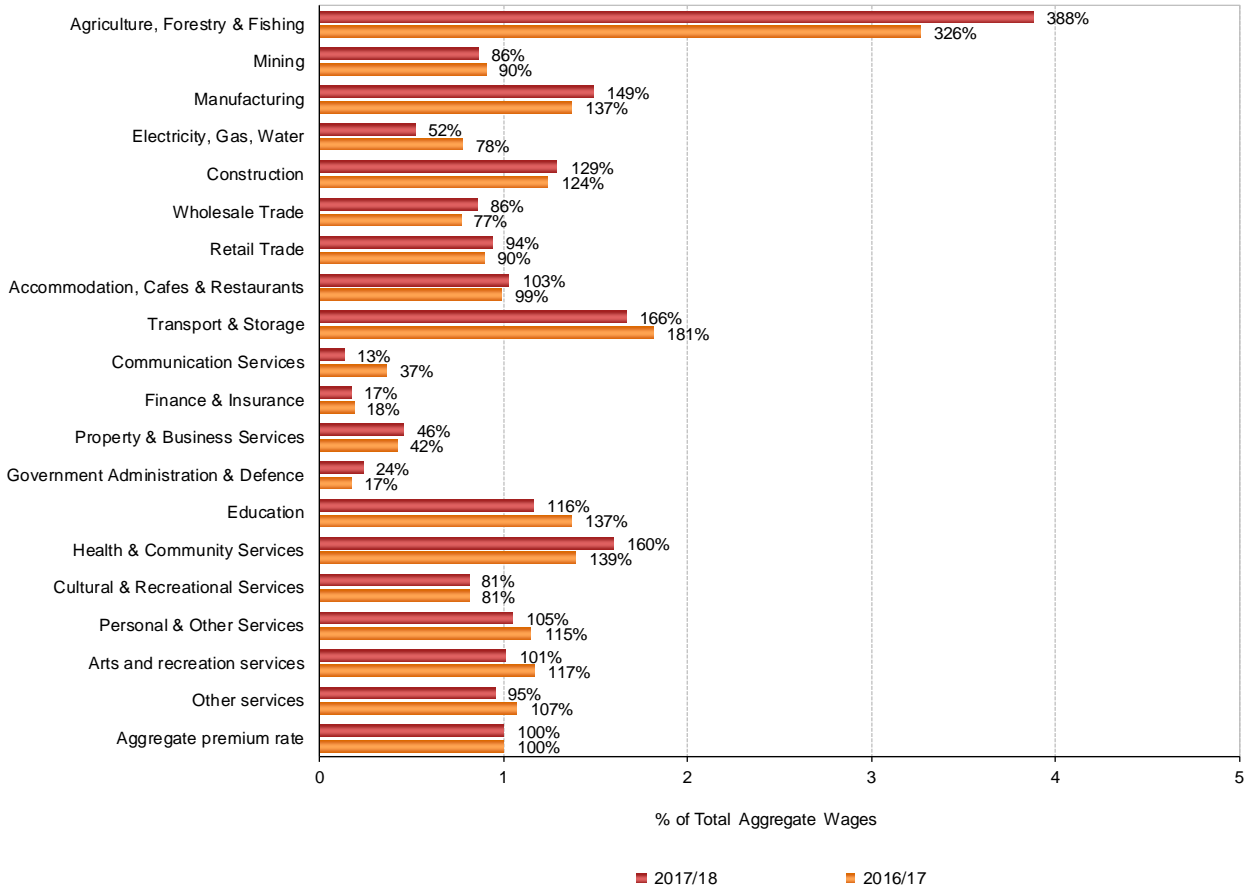
The cost of claims is estimated:

- By year of accident
- Using the actuarial basis and methods in this report
- Including an allowance for expenses and margins (as per section 2)

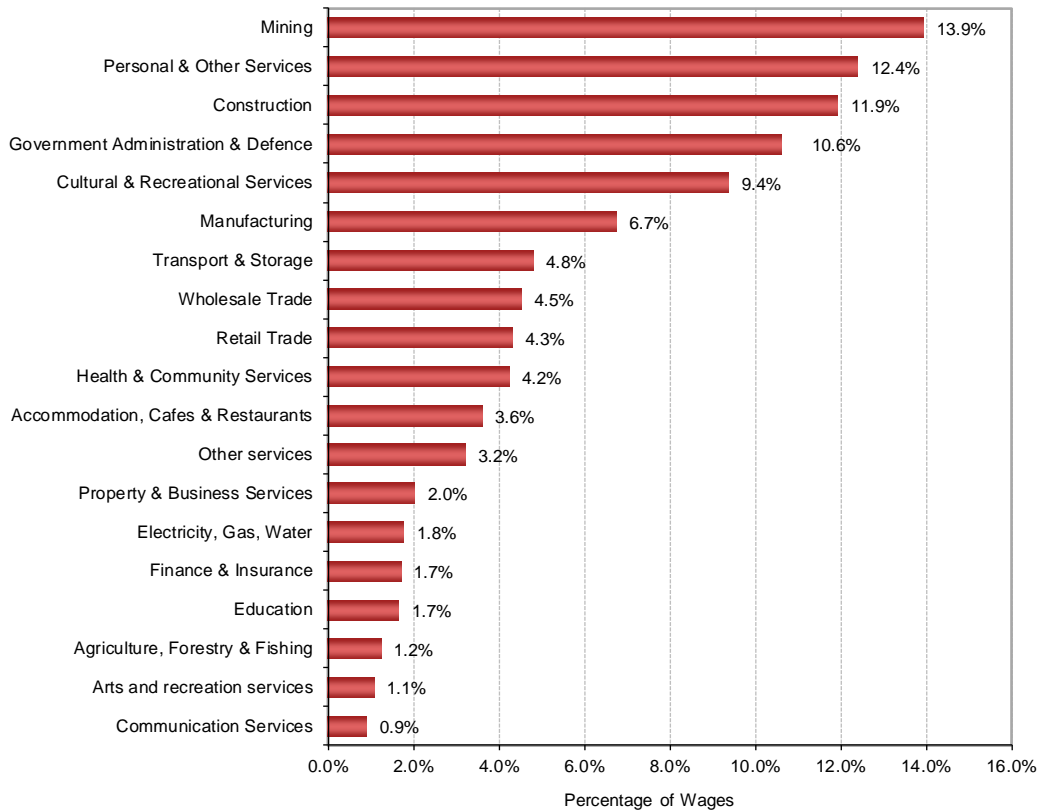
- Using cost estimates including all development data up to 30 June 2018

A higher proportion of total cost is estimated for 2017/18 than for the earlier accident years.

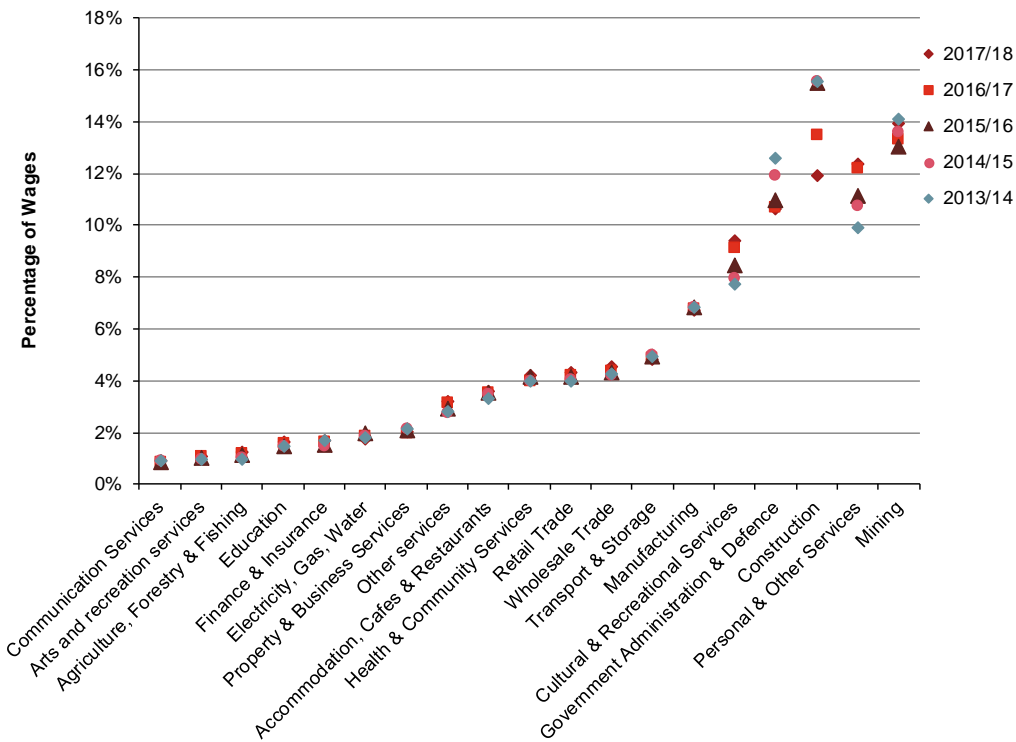
Industry premium rate by accident year as % of aggregate premium rate



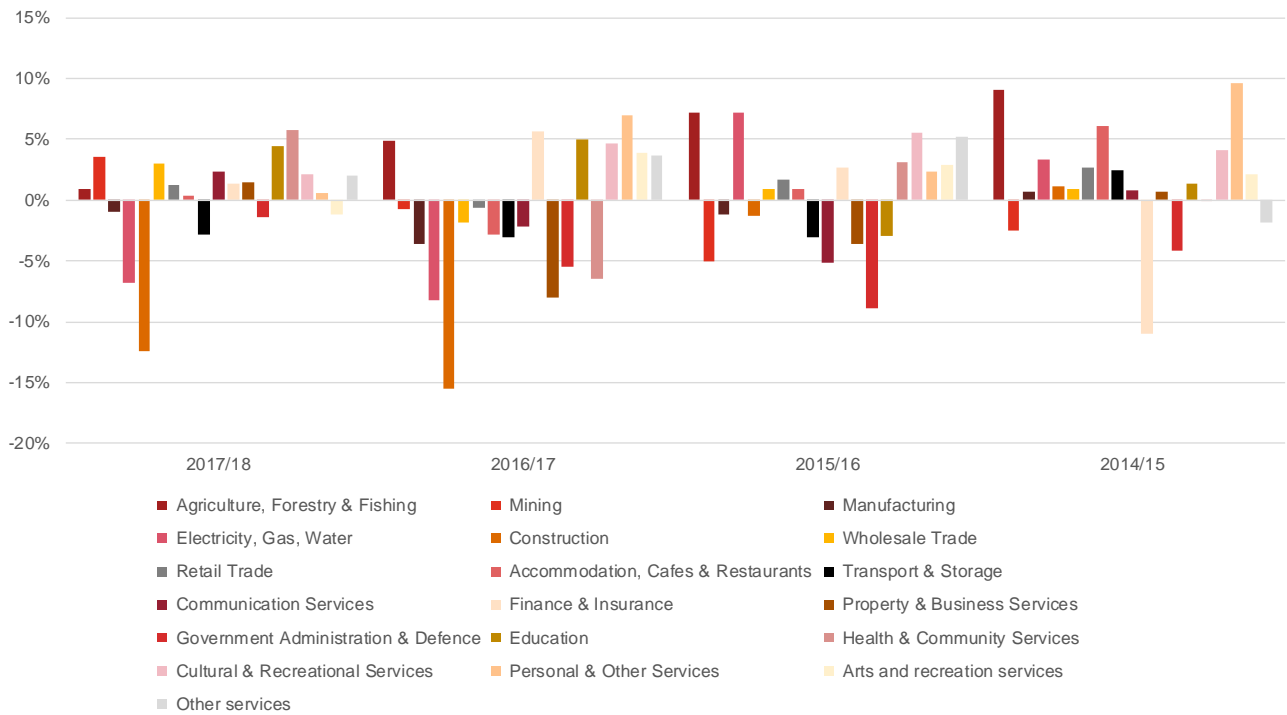
Percentage of wages by industry for the 2017/18 accident year only



Percentage of wages by industry for the 2013/14 to 2017/18 accident years



Percentage movement in developed wages by industry for the 2014/15 to 2017/18 accident years



Significant movements in division wages can significantly impact the divisional premium rates where the change in wages are not reflected in a change in claims experience.

H 2 Comparative statistics

Wages

	Reporting period							
	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Adjusted written wages \$M (a)	76,514	78,005	79,468	80,600	80,052	78,185	73,955	66,139
% change (b)	-1.9%	-1.8%	-1.4%	0.7%	2.4%	5.7%	11.8%	
% change in rates (c)	3.2%	-0.3%	-4.7%	-6.7%	-1.4%	7.8%	4.8%	-13.9%
Notional premium \$M (d)	1,148.2	1,175.5	1,199.4	1,265.5	1,342.5	1,312.3	1,166.7	980.2
% change (e)	-2.3%	-2.0%	-5.2%	-5.7%	2.3%	12.5%	19.0%	
Expected % change in notional prem (f)	1.2%	-2.1%	-6.0%	-6.1%	1.0%	13.9%	17.2%	
Returned Gross Written Premium (g)	988.5	984.5	1,055.7	1,078.4	1,119.2	1,113.2	994.9	882.6
Adjusted Gross Written Premium (h)	1,034.9	996.4	1,045.1	1,078.1	1,119.7	1,111.8	994.5	882.7
% discount by market (i)	12.8%	17.8%	15.2%	17.2%	18.9%	17.5%	17.0%	12.4%
Notional Average Premium Rate (j)	1.50%	1.51%	1.51%	1.57%	1.68%	1.68%	1.58%	1.48%
Insurer's average premium rate (k)	1.35%	1.28%	1.32%	1.34%	1.40%	1.42%	1.34%	1.33%

- Notes :
- (a) from Form WC12 (Form WC11 for 2012 and prior) adjusted to estimated final written wages as per appendix C2.1
 - (b) % change in (a) from previous year
 - (c) rate change as decided by RPR
 - (d) calculated from (a) and the applicable Gazette rates
 - (e) % change in (d) from previous year
 - (f) $= (1 + b) \times (1 + c) - 1$
 - (g) returned by insurers taken from Form WC11 adjusted for the years where Form WC12 is applicable
 - (h) $= (g) \times (\text{GWP adjustment factor as per appendix C2.1})$
 - (i) $= \{1 - (h) / ((d) \times (1 + \text{the rate of commission}))\}$ to add back the brokerage allowance.
Note that ICWA doesn't include brokerage or contingency margin in premium, so discount overstated but impact immaterial (0.5%)
 - (j) $= (d) / (a)$
 - (k) $= (h) / (a)$

2014 and earlier years growth in wages have exceeded AWE growth, which is a reflection of the strong growth of the Western Australian economy up to 2015. Since then wages growth has been below AWE. Wages for 2017/18 decreased by 1.9%, compared to AWE growth of 1.3% i.e. 3.2% less than AWE.

The relatively low levels of wage growth in 2013/14 onwards compared to prior periods may reflect a shift in the current phase of the mining industry in WA, from a construction focus to a production focus.

The expected percentage change in returned notional premiums has been reasonably close to the actual change (within 2%) with the exception of 2017/18, which had a difference of 3.5%.

Insurer premium discounts to Gazette rates were between 17% to 19% over 2012 to 2015. Since 2014, insurer premium discounts to Gazette rates have been broadly decreasing with the exception of 2017. In 2016, the discount was 15.2%, 17.8% in 2017 before decreasing to 12.8% in 2018, the lowest since 2011. As a basis for comparison we have extracted statistics from the Australian Bureau of Statistics Cat 6248.0 (Wage and Salary Earners, Public sector Australia), Cat 6202.0 Labour Force Australia (Private sectors) for wage and salary earners and Cat 5676.0 for private sector wages.

ABS Gross earnings statistics are not directly comparable with returned wages since:

- Returned wages include the Agriculture private sector, ABS figures do not
- For ABS gross earnings we include only State Government all public sector earnings excluding permanent defence forces, and returned wages are on a similar basis, but exclude WA Police officers
- ABS gross earnings include self-insurers, while premium rating returns exclude self-insurers.

Adjustments made for these items for comparison purposes are:

- Deduct the percent of RPR wages that self-insurers represent each year
- Deduct 1% for police officers
- Add back the percent of wages that the Agriculture division represents each year.

In order to attain the relevant percentage that self-insurers represent we have examined the developed wages, which allows for development in wages reported for accident years across reporting periods. The analysis shows self-insurer wages represent approximately 9% of the total RPR wages.

	Reporting period							
	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Wage & salary earners (\$000s) (a)	1,075.6	1,057.7	1,075.5	1,107.3	1,102.7	1,119.4	1,079.4	1,038.4
% change (b)	1.7%	-1.7%	-2.9%	0.4%	-1.5%	3.7%	3.9%	
Estimated RPR employees (c)	979.8	964.4	979.8	1,007.7	1,000.2	1,020.9	982.9	945.5
Gross ABS earnings \$M (d)	83,631	80,978	84,081	86,460	85,235	82,222	75,481	67,718
Estimated gross RPR earnings \$M (e)	76,178	73,841	76,597	78,685	77,311	74,986	68,730	61,662
% change (f)	3.2%	-3.6%	-2.7%	1.8%	3.1%	9.1%	11.5%	
RPR adjusted earned wages (g)	76,944	77,558	79,793	80,582	79,730	77,668	72,582	62,589
Earned wages % of est gross earnings (h)	101.0%	105.0%	104.2%	102.4%	103.1%	103.6%	105.6%	101.5%
Est RPR employees % of wage & salary earners (i)	91.1%	91.2%	91.1%	91.0%	90.7%	91.2%	91.1%	91.1%
Agriculture wages as % of total RPR wages (j)	1.2%	1.2%	1.1%	1.0%	1.0%	1.0%	1.0%	1.2%
Self insurer wages as % of total RPR wages (k)	9.0%	8.9%	8.9%	8.9%	9.2%	8.7%	8.9%	9.0%

Notes :

- (a) = from ABS Cat 6248.0.55.002 2011-12 Table 1 Public sector employees state
ABS Cat 6202.0 Labour Force Australia table 8 (Persons) for private sector
- (b) = % change in (a) from previous year
- (c) = (a) x (1 - (j) self-insurers - 0.01 WA Police) / (1 - (i) Agriculture).
- (d) = from ABS Cat 6248.0.55.002 2011-12 Table 2 Public sector cash wages and salaries for State Government only
Table 19 of ABS Cat 5676.0 for private sector
- (e) = (d) x (1 - (j) self-insurers - 0.01 WA Police) / (1 - (i) Agriculture).
- (f) = % change in (e) from previous year
- (g) from Form WC11 adjusted to estimated final written wages as per appendix C2.1
- (h) = (g) / (e)
- (i) = (c) / (a) x 100
- (j) = Agriculture as % of total RPR wages chart in appendix H1.5 and equivalent in earlier reports
- (k) = Self insurers as % of total RPR + self insurers wages

As mentioned above, in 2017/18 adjusted earned wages decreased by 1.9%, which is 3.2% less than that of AWE inflation.

Adjusted earned wages as a percentage of ABS data are all above 100%, between 101.0% and 105.6%.

2017/18 adjusted earned wages are 1% higher than ABS wages, which is lower than the difference in 2012/13 to 2016/17.

Claim Experience

Claim payments, case estimates and claim numbers have varied as follows by financial year:

	Reporting period							
	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12	2010/11
Claim payments \$M (a)	848.4	876.3	890.0	866.8	829.2	741.9	674.6	602.1
% change (b)	-3.2%	-1.5%	2.7%	4.5%	11.8%	10.0%	12.0%	
Real claim payments \$M (c)	851.4	895.6	911.9	902.3	886.9	808.3	776.8	735.3
% change (d)	-4.9%	-1.8%	1.1%	1.7%	9.7%	4.1%	5.6%	
Estd incurred claim numbers (e)	25,656	26,297	28,768	30,542	33,007	34,938	36,293	34,996
% change (f)	-2.4%	-8.6%	-5.8%	-7.5%	-5.5%	-3.7%	3.7%	
Claim frequency (g)	2.6%	2.7%	2.9%	3.0%	3.3%	3.4%	3.7%	3.7%
Active claims (h)	18,002	18,637	19,695	21,080	22,228	22,835	23,081	21,508
% change (i)	-3.4%	-5.4%	-6.6%	-5.2%	-2.7%	-1.1%	7.3%	
Case estimates outstanding \$M (j)	882.2	931.6	915.9	974.3	988.8	941.8	831.2	795.0
% change (k)	-5.3%	1.7%	-6.0%	-1.5%	5.0%	13.3%	4.6%	
Real case estimates outstanding \$M (l)	882.2	943.9	940.1	1,002.4	1,046.0	1,002.7	944.7	933.1
% change (m)	-6.5%	0.4%	-6.2%	-4.2%	4.3%	6.1%	1.2%	

- Notes :
- (a) from Form WC20 returned by insurers
 - (b) % change in (a) from previous year
 - (c) = (a) indexed into 30 June 2018 values
 - (d) % change in (c) from previous year
 - (e) = number reported + actuarial estimate of IBNRs
 - (f) % change in (e) from previous year
 - (g) = (e) / {row (c) from previous table}
 - (h) from Form WC20 returned by insurers
 - (i) % change in (h) from previous year
 - (j) from Form WC20 returned by insurers
 - (k) % change in (j) from previous year
 - (l) = (j) indexed into 30 June 2018 values
 - (m) % change in (l) from previous year

- Real claim payments increased from \$735 million in 2010/11 to \$912 million in 2015/16, an increase of 4.4% pa. However, since then there has been a decreasing trend to \$851 million in 2018. Over 2010/11 to 2017/18 payments have increased 15.8% or 2.1% pa.
- Estimated incurred claim numbers increased from around 35,000 in 2010/11 to around 36,300 claims in 2011/12. However, since then there have been decreases in each year, such that in 2018 there are just over 25,600 claims incurred, the lowest level to date
- Claim frequency as a percentage of employees steadily declined from 3.7% in 2010/11 to 2.6% in 2017/18
- Active claims increased from 21,500 in 2010/11 to 23,100 in 2011/12. Since then they have decreased to 18,000 in 2017/18
- Case estimates outstanding increased between 2010/11 and 2013/14, from \$795 million to \$989 million. Since then case estimates decreased to \$882 million in 2017/18. Over the eight year period shown case estimates outstanding increased by \$87 million, or 11%, which is equivalent to an average annual increase of 1.5%. In real values case estimates decreased by 5.4% or 0.8% per annum.
- From 2010/11 to 2013/14, there was an increasing trend in the level of real total estimates but it then decreased for each year to 2017/18. Over 2017/18 the real payments decreased by \$44.2 million and the real case estimates decreased by \$61.7 million.

Appendix I Analysis of lump sum claim experience

I1 Section 92(f) settlements

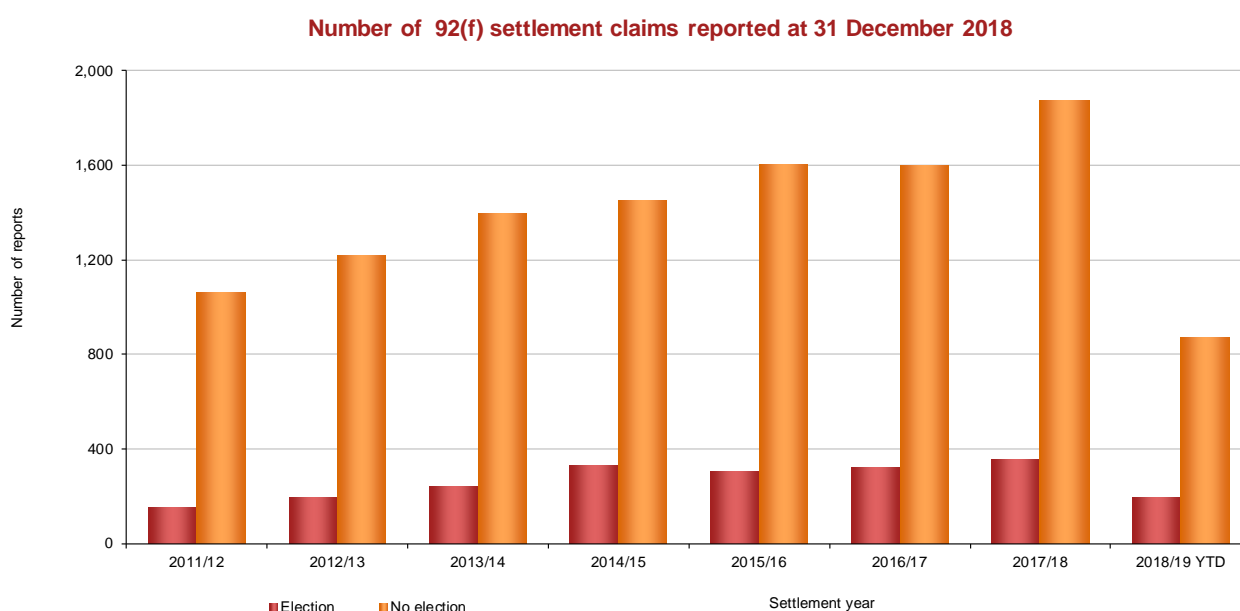
Section 92(f) has been in the Act since 1981, however the use of this settlement pathway has escalated significantly since 2007/08. The intention of the section is to allow common law claims to be settled prior to the matter going to trial and close the claim off to any further common law action.

As the wording of the Act is quite broad, this section has been used for a number of purposes including:

- Redeeming claims before the six months of weekly benefits required for a redemption under the statutory system
- Industrial relations claims, and
- The original intention of this section of the Act.

WorkCover WA supplied us with 92(f) settlement data separately for claims with and without an election application for the most recent settlement year. Data relating to previous settlement years was provided for previous reviews. An analysis of this data is presented in the chart and commentary below.

Increasing trend to 2015/16 stabilising at 2016/17 before increasing significantly to 2017/18



The number of section 92(f) settlements has been steadily increasing between 2011/12 and 2015/16 before stabilising in 2016/17. The number of section 92(f) settlements increased by 16% to 2017/18. The total growth

over 2011/12 to 2017/18 was 84%, or an equivalent annual rate of 11%. In the half year to December 2018, there has been 8% fewer 92(f) settlements compared to the half year to December 2017.

The proportion of 92(f) settlements made without an election application has been decreasing, from 88% in 2011/12 to 81% in 2014/15. In 2015/16 to 2017/18 however, this slightly increased to between 83% and 84%, respectively. The number of 92(f) settlements without an election application increased from 1,600 in 2016/17 to 1,873 in 2017/18, which was the biggest driver behind the increase in the total 92(f) settlements.

The average size of 92(f) settlement payments with election has generally ranged between \$130,000 to \$150,000, except for the high in 2016/17, which was \$183,000. The 2016/17 average settlement was higher compared to all its surrounding years due to one very large 92(f) settlement in the December 2016 quarter.

The average decreased to \$123,300 in the half year to 31 December 2018, which was lower than the half year to 31 December 2017 of \$127,200 and the 2017/18 year (\$131,700).

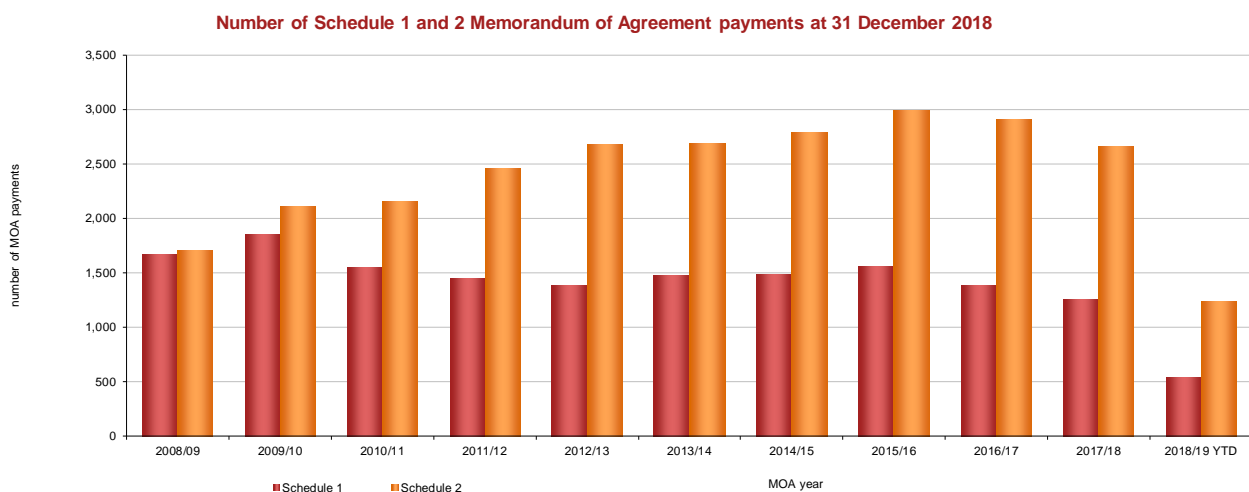
The average size of 92(f) settlement payments without election increased from \$45,800 for those lodged in 2011/12 to \$51,600 for those lodged in 2017/18, an average annual increase of 2.0%.

I 2 Redemptions and Schedule 2 payments

The change in section 92(f) settlements experience should be viewed together with the change in the number of Schedule 1 redemptions. There may be some transfer of costs between the settlement types.

The chart below shows that the recorded number of Memorandum of Agreement (MOA) Schedule 1 redemptions and Schedule 2 specific injury payments to 31 December 2018:

Schedule 1 settlements and schedule 2 reduced from 2015/16 to 2017/18



Over the period shown there was growth to 1,850 in 2009/10. However, there were reductions in each of the three subsequent years to 1,400 in 2012/13. Since then there was an increasing trend to 1,550 in 2015/16. In 2016/17, this significantly decreased to 1,380 and further decreased to 1,260 in 2017/18, which is the lowest over the period shown.

The number of Schedule 2 specific injury payments have had a steady increase to 3,000 in 2015/16. This increase in the number of schedule 2 payments has been matched by an increase in the total amount of schedule 2 payments made. The number of Schedule 2 specific injury payments has declined over 2016/17 and 2017/18 to 2,600, total amount of schedule 2 payments made dropped in line with the numbers.

The average size of Schedule 1 redemptions payments recorded has increased from \$30,300 for those lodged in 2010/11 to \$39,100 for those lodged in the half year to 31 December 2018, which is an average growth of 3.5% per year. Over the same period, the average claim size for schedule 2 payments has increased from \$13,800 to \$16,300 for the half year to 31 December 2018, which is an average growth of 2.3% pa.

Appendix J Additional data analysis

J1 Duration analysis

We reviewed the data provided on the number of claims separated by duration of less than 60 days and those with 60 days or more. The table below shows the initial estimate of the proportion of claims with more than 60 days timelost, and the most recent estimate as at June 2018 (which is based on data to December 2018). The original estimates is as at 30 September following the end of the financial year.

	Financial year					
	2013	2014	2015	2016	2017	2018
Original estimate of claims with 60+ days timelost	5,473	5,429	5,392	5,607	5,423	5,455
Original 60+ % of Total	16%	16%	18%	19%	21%	21%
Current estimate of claims with 60+ days timelost	4,543	4,653	4,441	4,617	4,622	5,398
Current 60+ % of total	13%	14%	15%	16%	18%	21%

This table shows that:

- There has been an increasing trend in the proportion of claims initially reported with more than 60 days timelost since the 2013 financial year
- As a lodgement year matures the estimate of the proportion of claims with more than 60 days timelost reduces.

In the 2019/20 premium rates, we have not made an explicit additional allowance for an increasing trend in the percentage of claims with a duration of 60 or more days, as we are of the opinion that this is reflected in our valuation, particularly in the superimposed inflation component.

J2 Age data

Our review of the distribution of claims by age shows:

Distribution of number of claims by age													2018/19
Age	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	YTD
<20	9.3%	9.0%	7.7%	6.2%	6.7%	6.4%	5.6%	5.0%	4.8%	4.2%	3.5%	3.6%	3.6%
20 to 24	13.3%	12.8%	12.5%	12.1%	12.4%	12.2%	12.5%	11.5%	11.0%	10.2%	9.8%	9.5%	10.2%
25 to 29	11.2%	11.3%	11.7%	11.5%	11.8%	12.5%	12.7%	13.0%	12.5%	12.0%	11.0%	11.1%	11.4%
30 to 34	10.9%	10.5%	10.3%	10.1%	10.0%	10.2%	10.5%	11.0%	11.0%	11.1%	11.1%	10.9%	11.4%
35 to 39	11.1%	11.5%	11.4%	11.1%	10.8%	9.9%	9.7%	9.6%	9.3%	9.7%	9.8%	9.5%	10.0%
40 to 44	11.1%	11.0%	11.0%	11.3%	11.0%	11.6%	11.3%	11.3%	10.9%	10.8%	10.7%	10.1%	9.8%
45 to 49	11.3%	11.4%	11.6%	11.9%	11.6%	11.0%	10.9%	11.1%	11.4%	11.5%	12.3%	12.4%	11.4%
50 to 54	9.9%	9.9%	10.2%	10.9%	10.7%	10.9%	10.9%	11.1%	11.6%	11.7%	11.8%	11.9%	11.8%
55 to 59	7.5%	7.4%	8.1%	8.3%	8.2%	8.4%	8.4%	8.7%	9.3%	9.7%	10.5%	11.0%	10.5%
60 to 64	3.5%	4.2%	4.4%	5.2%	5.2%	5.1%	5.6%	5.5%	6.0%	6.5%	6.8%	7.2%	7.0%
65+	0.9%	1.1%	1.2%	1.4%	1.5%	1.6%	1.9%	2.1%	2.3%	2.6%	2.8%	2.8%	3.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Since 2006/07, there has an increasing trend in the proportion of claimants over 60, from 4.4% to 10.0% in 2017/18, which is on par with the half year to December 2018.

Given the general increasing trend since 2006/07, and the similarity in the percentage of claimants over 60 in 2009/10 to 2011/12, there is not conclusive evidence that the introduction of the 2011 Amendment Act has caused an increase in the claim frequency for older claimants, as it is more likely due to an aging workforce.

The average claim size by age is shown in the table below. This is based on actual payments and case estimates with no allowance for actuarial development. Therefore, the most recent accident years have a large amount of uncertainty regarding the ultimate value.

Average claim size based on payments plus case estimates, no allowance for actuarial development													2018/19
Age	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	YTD
<20	3,618	5,204	4,397	4,655	6,839	5,395	5,511	6,738	7,076	10,191	9,363	12,722	12,516
20 to 24	5,208	7,875	7,112	7,964	8,698	9,949	11,958	14,519	13,760	14,602	16,050	15,666	17,008
25 to 29	7,771	8,953	11,667	11,795	14,936	14,894	16,884	17,151	18,648	21,908	21,684	20,047	23,445
30 to 34	11,648	13,124	14,767	14,821	15,620	18,198	22,695	25,468	24,536	25,296	27,370	25,528	25,078
35 to 39	14,370	15,982	17,991	18,336	22,748	26,333	27,873	26,049	28,736	32,525	31,717	31,233	25,557
40 to 44	16,556	18,355	20,283	22,512	24,584	26,287	31,328	34,221	37,172	33,277	36,975	33,315	27,340
45 to 49	20,239	19,419	21,782	23,893	28,262	30,796	31,154	37,564	37,637	37,066	39,722	33,463	29,116
50 to 54	17,228	21,423	22,065	23,526	27,138	30,177	32,921	35,109	36,957	39,863	41,543	36,825	27,695
55 to 59	18,112	21,132	24,928	25,302	28,932	29,977	30,804	37,403	41,131	37,699	37,920	34,719	29,432
60 to 64	17,107	18,796	21,030	22,836	23,500	31,422	32,637	34,107	36,282	44,175	43,836	37,812	32,257
65+	12,366	13,870	19,553	18,981	21,985	27,413	26,775	28,982	32,340	37,897	35,273	34,592	35,872
Total	12,666	14,545	16,341	17,648	20,159	22,218	24,483	27,247	28,917	30,541	32,089	29,339	25,935

This shows that for accident years prior to the 2011 Amendment Act the average claim size for claimants over the age of 60, particularly those aged 65 and older used to be much lower than the average claim size for claimants aged between 45 and 59. For accident years since the 2011 Amendment Act was introduced, the average claim size for those claimants aged over 60 is in line with claimants aged 45 to 59.

We will mostly like never be able to quantify the actual extent to which the removal of age limits has impacted the claim costs in the scheme as settlements for younger people may include an aspect for working beyond aged 65 but this will never be separately recorded or identified. Also, other significant changes within the scheme over shadow any age related impacts.

Appendix K Glossary

AASB

Australian Accounting Standards Board

ABS

Australian Bureau of Statistics

Accident year

The financial year ending 30 June, in which the accident event leading to a claim occurs, irrespective of when the claim is reported, paid and finalised.

APRA

Australian Prudential Regulation Authority

Burner policies

Burner policies or adjustable premium policies are a form of risk rated insurance, generally issued to large employers. The effect is ultimately that an employer pays the claims cost plus a margin for expenses and other loadings subject to a stated minimum and maximum premium. The initial burner premium is known as the deposit premium and the insurer will request a top-up premium once claim costs exceed a stated percentage of the deposit premium. When the burner is finalised or closed (usually after 36 months or longer) the final balance is either paid to the employer or insurer depending on the developed cost of claims.

Central estimate

Unbiased actuarial estimate, which has 50% probability of being sufficient. It is the median of the range of possible outcomes.

Combined loading factor

The combined loading factor allows for expenses and contingency margin. It is equal to one divided by the loss ratio.

Conventional policies

Conventional policies pay premiums based on declared wages.

Developed wages

Developed wages are reported wages multiplied by the wage development factor (i.e. allowing for the initial underestimation of wages).

Development year

The number of completed years since the end of the accident year. Development year zero refers to the financial year ending 30 June in which the accident event occurs. Development year is also abbreviated to DY in this report.

Gross premium

The gross premium is an estimate of the total cost of a policy, that is the claims cost and allowance for expenses and margins.

$$\begin{aligned} \text{Gross Premium} &= \text{Risk Premium} + \text{loadings for expenses, margins etc.} \\ &= \text{Risk Premium} / [(1 - \text{expense loading \%} - \text{contingency margin \%}) \times \text{interest earned factor}] \end{aligned}$$

Inflated and discounted values

The estimates in current values are inflated to the dollar values in the estimated future year of payment. These values are discounted to 30 June 2018 values to allow for future investment income that will be earned until the claim is paid. The inflation and discount rates are outlined in Appendix D1.

Premium rating returning entities

Applicable approved private insurers and the Insurance Commission of Western Australia (ICWA)

Risk margin

The margin added to the central estimate to increase its level of adequacy to above 50%.

Risk premium

The risk premium is an estimate of the pure risk cost of claims and does not include allowance for expenses or margins.

$$\begin{aligned} \text{Risk Premium} &= \text{estimated incurred cost of the risk covered i.e. of the claims with} \\ &\quad \text{dates of occurrence in the risk/cover period} \\ &= \text{number of claims} \times \text{average claim size} \end{aligned}$$

Superimposed inflation (SII)

Superimposed inflation is claims inflation over and above wage inflation.

Wage development factor

The wage development factor is applied to reported wages to increase them to ultimate (or developed) wages.

