

Tradespeople for the resources sector: projections 2010-2020

TOM KARMEL AND PETER MLOTKOWSKI

The views and opinions expressed in this document are those of the author/project team and do not necessarily reflect the views of the Australian Government or state and territory governments.

© DEEWR 2010

This work has been produced by the National Centre for Vocational Education Research (NCVER) on behalf of the Australian Government and state and territory governments with funding provided through the Australian Department of Education, Employment and Workplace Relations. Apart from any use permitted under the *Copyright Act 1968*, no part of this publication may be reproduced by any process without written permission. Requests should be made to NCVER.

The views and opinions expressed in this document are those of the author(s) and do not necessarily reflect the views of the Australian Government, state and territory governments or NCVER.

Published by NCVER

ABN 87 007 967 311

Level 11, 33 King William Street, Adelaide, SA 5000
PO Box 8288 Station Arcade, Adelaide SA 5000, Australia

ph +61 8 8230 8400 fax +61 8 8212 3436

email ncver@ncver.edu.au

<<http://www.ncver.edu.au>>

<[http://www.ncver.edu.au/publications/MERLIN ID.html](http://www.ncver.edu.au/publications/MERLIN_ID.html)>

About the research

Tradespeople for the resources sector: projections 2010-2020

Tom Karmel and Peter Mlotkowski

The Commonwealth government created the National Resources Sector Employment Taskforce, chaired by the Hon Gary Gray AO MP, to investigate the extent to which skills shortages might impact on the development of the resources sector. In particular, the taskforce's major responsibilities are to:

- ✧ examine the scope and timing of major resources projects;
- ✧ analyse the expected demand for labour and consider supply issues; and
- ✧ develop a plan to address labour and skills shortage issues in the sector.

To assist the taskforce NCVER was asked to construct projections of the number of tradespeople for the period 2010-2020 at a detailed level and by region.

The projections are based on earlier work by Karmel and Ong (2007) that takes a supply based approach. It applies historical apprenticeship commencement rates to population projections. The model also incorporates assumptions about attrition, again based on historical experience. Three sets of parameters are used, all based on historical experience and reflecting 'good' and 'bad' labour market conditions. The variation between scenarios illustrates the imprecision of these types of exercises and the ability of the labour market and training system to respond to changes in economic conditions.

These projections relate to trades as a whole. Therefore it is necessary to relate them to the resources sector. To do this tables are included showing the distribution of trades employment and apprentices across the various industries in the resources sector. In this context it should be noted that the resources sector is a relatively small employer of tradespeople, and an even smaller employer of trade apprentices.

Tom Karmel
Managing Director

Contents

Tables and figures	5
Introduction	6
Methodology	8
The model	8
Data	8
Calculations of rates	9
Best, average and worst scenarios	9
Results	11
The relationship between the resource and other sectors	15
Discussion	20
References	22
Appendix A: Projection of tradespersons, 2010–20	23
Appendix B: Distribution of tradespersons by resource industries	48
Appendix C: Calculated rates	67

Tables and figures

Table 1: Projections of employment in trade occupations for 2010, 2015, and 2020, under the 'average' scenario	12
Table 2: Projections of trade employment under the alternative scenarios, 2020	13
Table 3: Projections of trade employment under the 'best' scenario, 2020	14
Table 4: All trade employment by selected industries, February 2010	15
Table 5: Trade employment in the resource sector (percent of respective trade), February, 2010	16
Table 6: All trade apprentices by selected industries, December 2009 (percentage)	17
Table 7: Trades apprentices in the resource sector, December 2009 (per cent of trade apprentices in the respective occupation)	17
Table 8: Relative share of apprentices employed by industry ('fair' share=100)	18
Table 9: Relative share of apprentices employed by the resources sector, by selected occupations ('fair' share=100).	18
Table A1 Projection of tradespersons by occupation and state/territory, 2010–20—best case scenario	24
Table A2 Projection of tradespersons by occupation and state/territory, 2010–20—average case scenario	32
Table A3 Projection of tradespersons by occupation and state/territory, 2010–20—worst case scenario	40
Table B1 Employed persons by state/territory, trade occupation and selected resource industries, February 2010 ('000)	49
Table B2 Apprentices and trainees in-training as at 31 December by state/territory, trade occupation and selected resource industries (employer), 2009	58
Table C1 Commencement, cancellation/withdrawal and net attrition rates by sex, age and occupation, for best, average and worst case scenarios	67

Introduction

The resources industry has been the major driver of Australia's economy for some years now, and the consensus is that a resources boom will underpin economic growth for many years to come. As with any boom, there it is likely that the growth of the industry will put pressure on the infrastructure of the economy. While a rapidly growing industry can draw resources away from the rest of the economy it is likely that it will come up against capacity constraints which constrain the rate at which the industry can grow. One set of capacity constraints comprise physical capital- roads, railways and ports. Another comprises labour, both skilled and unskilled.

The seriousness that the Commonwealth government takes this latter issue led to the creation of the National Resources Sector Employment Taskforce, chaired by the Hon Gary Gray AO MP. The taskforce's major responsibilities are to:

- ✧ examine the scope and timing of major resources projects;
- ✧ analyse the expected demand for labour and consider supply issues; and
- ✧ develop a plan to address labour and skills shortage issues in the sector.

To assist the taskforce NCVER was asked to construct projections of the number of tradespeople for the period 2010-2020 at a detailed level and by region. This report provides these projections. The motivation for these projections is that they will allow planning, presumably with the intention that if sufficient tradespeople can be trained then that is one potential capacity constraint that will be avoided.

The structure of the report is as follows.

The first section outlines the methodology. It is based on that of Karmel and Ong (2007), and it is driven by a simple flow model in which employment in an occupation in one year is equal to the number employed the previous year plus those who enter the occupation less those who leave. Entrants are made up of individuals taking up apprenticeships together with those who enter the occupation through another pathway such as migration. While those who leave comprise apprentices who do not finish their training, and those who leave the occupation for another occupation or retirement.

The second section provides the results. One of the issues with this type of exercise is the level of disaggregation. If the data are too coarse then the projections are meaningless- for example it is pointless to project at the one-digit level because it assumes that all trades are interchangeable. Similarly, a decision has to be made about the level of regional disaggregation. If they are too fine they can be accused of ignoring the fact that work organisation can be varied so that people in like occupations are employed. The appropriate level of regional specificity depends on the extent of labour geographic mobility. In practice, the level of disaggregation also depends on data availability. The projections in this report are calculated at the 3 digit ANZCO level, providing some 21 separate trade occupation, and are calculated for each state. While we were asked to construct the projects at the regional level this is both not possible but also would be pointless- for the simple reason that by definition labour for a new site must come from other regions.

The third section is intended to address an important issue. While the resources sector employs electricians, for example, so do many other industries. Therefore the extent to which lack of supply of a particular trade will act as a constraint to the resources sector depends on two things: the overall supply of electricians and the share of electricians employed by the resources sector. The resource sector can fulfil its requirements for more electricians through either an expansion in the overall number of electricians or through increasing its share of a fixed number of electricians. Thus this section looks at the distribution of trade employment across industry

sectors. We find that the resources sector is a relatively small employer of tradespeople. Proportions employed by the resources sector range from zero (the resources sector does not employ many hairdressers) to around 15% of mechanical engineering trades and 27% of the horticultural trades. The latter figure was surprising to us but we speculate that the sector does considerable amount of remedial landscaping. Overall, the sector employed 5.6% of tradespeople as at February 2010.

A related issue is the extent to which the industry contributes to the supply itself. The issue is whether the resources sector trains its fair share of apprentices. We address this issue by comparing the share of apprentices with the share of tradespeople. We find that the sector employs considerably fewer apprentices than would be expected from its share of trade employment. In fact, the sector would have to double its number of apprentices to be on par with other industries. It is interesting to note that the two occupations in which the sector pulls above its weight -building and engineering technicians and horticulturalists- are the two occupations for which the resources sector is a major employer.

We complete the report with some discussion. Our major point is that projections of the nature of those reported in this report have limited use. This is for a number of reasons. First, the three scenarios, all based on reasonable historical parameters, are very disparate, implying that virtually any outcome is possible. However, the projections do show that a couple of trades would grow very slowly on the basis of historical experience. In particular, the supply of building and engineering technicians is projected to grow only by 0.4% per annum even under the most optimistic scenario. This may have implications for the resources sector which employs around 13% of this occupation. The second point is that the resources sector on the whole is a very small employer of tradespeople compared to the rest of the economy. This means that no particular policy is needed to ensure a sufficient supply of tradespeople to the resources sector; all that matters is that the resources sector offers wages and conditions sufficient to attract them. An exception may be building and engineering technicians. In addition, there may be specialties for which the overall supply is small but presumably it is relatively easy to train an individual who already is qualified broadly. This puts the onus then on individual project managers to ensure that they recruit and train appropriately- it is more a matter of timing than overall numbers. The implication is that capacity constraints that revolve around physical infrastructure need to be taken more seriously than constraints to do with availability of labour. Labour is mobile, while roads, railways and ports are not. That said, the demand for labour for particular projects may be very lumpy and this poses challenges for those managing resource developments. Labour cannot be put into cold storage and thawed out as specific projects come on stream. It can be attracted from other parts of the economy but of course this cannot be done over night.

Methodology

The model

The basis of the model is that the number of people in a trade at a point in time is determined by the number at the previous point in time plus commencing apprentices less cancellations/withdrawals from apprenticeships and those who leave the trade. While we have data on commencements and cancellations/withdrawals of apprentices, we do not have data on those people in the trade who leave. So in practice we model net attrition rather than actual attrition. More formally,

$$X_t = X_{t-1} + C_t - W_t - D_t \quad (1)$$

Where X_t is the number of people in the trades at the end of year t , C_t is the number of apprentice commencements during the year, W_t is the number of apprentices who have their contract cancelled/withdrawn during the year, and D_t is the net departures during the year. We re-parameterise the model, by expressing C , W , and D as rates.

Define w as the withdrawal rate, that is, $w = W/C$

d as the net departure rate, i.e. $d = D/X$

c as the commencing rate (proportion of the population), that is, $c = C/N$ where N is the population size.

Then we have

$$X_t = X_{t-1}(1-d_t) + c_t(1-w_t)N_{t-1} \quad (2)$$

We use historical data to estimate the parameters of the model d , c and w and then project forward using demographic projections of N .

Now the model as in (1) and (2) is highly stylised and has no demographic dimension to it, apart from the total population. In order to make the model more interesting, we introduce a demographic dimension through the index i , as follows:

$$X_t = \sum_i X_{i,t}$$

and

$$X_{i,t} = X_{i-1,t-1}(1-d_{i,t}) + c_{i,t}(1-w_{i,t})N_{i-1,t-1} \quad (3)$$

So now the commencement, cancellation/withdrawal and net attrition rates all depend on the demographic age group.

The employment data in trades are constrained to five-year age groups (that is, aged 15–19, 20–24 years etc.). Therefore, we employ equation (3) with a time unit of five years. For instance, those aged 30–34 years will be aged 35–39, five years later.

Data

This report makes use of data from three main sources: employment data (ABS, Labour Force Survey, unpublished data); population data (ABS, Population Projections, Australia, 2006 to

2101, cat. no. 3222.0); and apprentice and trainee data (NCVER, Apprentice and Trainee Collection No. 63 [March 2010 Estimates]).

Calculations of rates

Commencement and cancellation/withdrawal rates are calculated directly from the data for time periods 1996, 2001 and 2006. The rates are calculated separately for each ANZSCO 3-digit occupation at the national level—the variation in the projections by state comes from applying the rates to employment and population data at the state level.

The number of contract commencements and cancellations/withdrawals¹ in the trades for the year ending 31 March are multiplied by five to approximate the total five-year commencements and cancellations/withdrawals ($C_{i,t}$ and $W_{i,t}$ respectively). Commencement rates are then derived as percentages of age cohorts from ABS Estimated Resident Population (1991, 1996, 2001 and 2006) data used in Karmel and Ong (2007). Cancellation/withdrawal rates are expressed as a percentage of commencements.

We then adjust the cancellation/withdrawal rates following these assumptions:

- ✧ Cancellation/withdrawal rates are calculated based on ten-year age groups for those aged 15–19 and 20–24 years; that is, cancellation/withdrawal rate equals total cancellations/withdrawals for age group 15–24 years, divided by total commencements for age group 15–24 years.
- ✧ Cancellation rates are assumed to level off after age 45.

These rates then give the ingredients to obtain the net attrition or departure rate by solving equation (3) for 1996, 2001 and 2006.² These attrition rates are smoothed using the following guidelines.

- ✧ We assume no attrition for those aged 15–19 years since all tradespersons in this group are new entrants at time t . Those aged 65 years and above will move towards retirement (100% attrition).
- ✧ For males, those aged 25–54 years share the same aggregate attrition rates for age groups 25–29, 30–34, and 50–54 years.
- ✧ For females, those aged 50–59 years share the same aggregate attrition rates for age groups 50–54 and 55–59 years.

Best, average and worst scenarios

Various case scenarios can be identified using these rates. For the best scenario, we use the highest contract commencement rate but the lowest contract cancellation/withdrawal and attrition rates. On the other hand, the lowest commencement rate but highest cancellation/withdrawal and attrition rates provide input to the worst scenario possible. Finally, the average rates depict the middle scenario. (Completion rates do not inform the best, average and worst case scenarios; they merely equal one minus the final cancellation/withdrawal rate.)

¹ According to Ball and John (2005), approximately 55% of expired contracts are actual cancellations and thus total cancellations have been adjusted to include this proportion of expired contracts.

² Attrition rates used in this analysis are the same as those used in Karmel and Ong (2007), but matched to the closest ANZSCO occupation.

Under these three scenarios in mind, we then project the number of employed tradespersons for years 2015 and 2020 using equation (3) for all age groups except for the youngest group. For this group, we use the modified version of equation (1) to tackle the unique situation where the employed group consists of all new entrants and there is no attrition. Here, we assume the number of tradespersons employed to be 96.5% of total commencements minus the overall cancellations/withdrawals. This assumption is needed to calibrate the NCVET apprentice and trainee data with the ABS employment data.

The projections are based on ABS 'Series B' projected populations.

Results

Projections are provided by 3-digit trade occupation and state/territory for best, average, and worst case scenarios.

The tables present the following types of projections:

- ✧ The number of employed persons (denoted *Emp.* in tables) in a trade occupation, presented point-in-time for 2010, 2015 and 2020.
- ✧ Net attrition (*Att.*) from the trade occupation, presented over five years to 2015 and 2020, respectively.
- ✧ The number of retirees (*Ret.*) from the trade occupation, presented over five years to 2015 and 2020, respectively.
- ✧ Apprentice and trainee commencement (*Comm.*), completion (*Comp.*) and cancellation/withdrawal (*CW*) numbers, presented over five years to 2015 and 2020, respectively.

Finally, the difference in employed persons between time periods is explained by net attrition, retirees, and apprentice and trainee commencements and cancellations/withdrawals.

The resultant projections are rather voluminous, and so are included in Appendix A rather than here.

Table 1 provides a summary for all of Australia for the average scenario.

Table 1: Projections of employment in trade occupations for 2010, 2015, and 2020, under the 'average' scenario

Occupation	2010	2015	2020	Annual growth rate 2010-2020
311 – Agricultural, medical and science technicians	49700	64460	80944	5.0
312 – Building and engineering technicians	122100	110622	97435	-2.2
313 – ICT and telecommunications technicians	52400	56872	59537	1.3
321 – Automotive electricians and mechanics	98300	107909	119606	2.0
322 – Fabrication engineering trades workers	82400	88270	94949	1.4
323 – Mechanical engineering trades workers	141400	149534	157505	1.1
324 – Panelbeaters, and vehicle body builders, trimmers and painters	35600	38575	41377	1.5
331 – Bricklayers, and carpenters and joiners	141400	164071	181705	2.5
332 – Floor finishers and painting trades workers	60400	55815	53152	-1.3
333 – Glaziers, plasterers and tilers	67000	71866	71470	0.6
334 – Plumbers	73400	82508	90279	2.1
341 – Electricians	132200	154256	178150	3.0
342 – Electronics and telecommunications trades workers	101400	97261	92407	-0.9
351 – Food trades workers	147900	141308	133679	-1.0
361 – Animal attendants and trainers, and shearers	25100	35705	47178	6.5
362 – Horticultural trades workers	82900	102787	119992	3.8
391 – Hairdressers	51100	57894	64638	2.4
392 – Printing trades workers	27000	24681	23550	-1.4
393 – Textile, clothing and footwear trades workers	17500	13971	12221	-3.5
394 – Wood trades workers	32100	33335	35282	0.9
399 – Miscellaneous technicians and trades workers	51700	45670	39525	-2.6
Total trades	1593000	1697371	1794582	1.2

Source: Derived from appendix table A2.

Individual year projections can be obtained by interpolating between the three years.

Overall, the scenario portrays modest annual growth. It can be seen that there is considerable variation between occupations with most increasing but a number decreasing, notably building and engineering technicians, floor finishers, electronic and telecommunications trades, food trades, printing trades and textile, clothing and footwear trades. The only one of these occupations with relevance to the resources sector is the first- building and engineering technicians. It should be noted that these numbers are not forecasts. They are the implication of a set of assumed parameters.

This last point is brought home by Table 2 which provides the projections for 2020 under each of the scenarios we have used.

Table 2: Projections of trade employment under the alternative scenarios, 2020

	Worst case	Average case	Best case	Difference between best and worst case
	No. Employed	No. Employed	No. Employed	%
311 – Agricultural, medical and science technicians	39962	80944	132893	232.5
312 – Building and engineering technicians	75574	97435	124107	64.2
313 – ICT and telecommunications technicians	32468	59537	93772	188.8
321 – Automotive electricians and mechanics	82345	119606	151327	83.8
322 – Fabrication engineering trades workers	71151	94949	129074	81.4
323 – Mechanical engineering trades workers	124106	157505	195274	57.3
324 – Panelbeaters, and vehicle body builders, trimmers and painters	28164	41377	52493	86.4
331 – Bricklayers, and carpenters and joiners	133707	181705	249648	86.7
332 – Floor finishers and painting trades workers	41744	53152	66880	60.2
333 – Glaziers, plasterers and tilers	56414	71470	89555	58.7
334 – Plumbers	67625	90279	124009	83.4
341 – Electricians	126285	178150	252521	100.0
342 – Electronics and telecommunications trades workers	64085	92407	129430	102.0
351 – Food trades workers	84077	133679	175721	109.0
361 – Animal attendants and trainers, and shearers	23684	47178	75455	218.6
362 – Horticultural trades workers	65630	119992	182208	177.6
391 – Hairdressers	45819	64638	88523	93.2
392 – Printing trades workers	17447	23550	27978	60.4
393 – Textile, clothing and footwear trades workers	8324	12221	16139	93.9
394 – Wood trades workers	26930	35282	40616	50.8
399 – Miscellaneous technicians and trades workers	27210	39525	50053	84.0
Total trades	1242751	1794582	2447676	97.0

Source: Derived from appendix tables A1 – A3.

As can be seen there are very large differences between the best and the worst scenarios. At the total level the best scenario implies almost double the employment of the worst scenario. Table 3 shows the implication of the best scenario for annual growth rates.

Table 3: Projections of trade employment under the 'best' scenario, 2020

	2010	2020	Annual growth rate 2010-2020
311 – Agricultural, medical and science technicians	49700	132893	10.3
312 – Building and engineering technicians	122100	124107	0.2
313 – ICT and telecommunications technicians	52400	93772	6.0
321 – Automotive electricians and mechanics	98300	151327	4.4
322 – Fabrication engineering trades workers	82400	129074	4.6
323 – Mechanical engineering trades workers	141400	195274	3.3
324 – Panelbeaters, and vehicle body builders, trimmers and painters	35600	52493	4.0
331 – Bricklayers, and carpenters and joiners	141400	249648	5.8
332 – Floor finishers and painting trades workers	60400	66880	1.0
333 – Glaziers, plasterers and tilers	67000	89555	2.9
334 – Plumbers	73400	124009	5.4
341 – Electricians	132200	252521	6.7
342 – Electronics and telecommunications trades workers	101400	129430	2.5
351 – Food trades workers	147900	175721	1.7
361 – Animal attendants and trainers, and shearers	25100	75455	11.6
362 – Horticultural trades workers	82900	182208	8.2
391 – Hairdressers	51100	88523	5.6
392 – Printing trades workers	27000	27978	0.4
393 – Textile, clothing and footwear trades workers	17500	16139	-0.8
394 – Wood trades workers	32100	40616	2.4
399 – Miscellaneous technicians and trades workers	51700	50053	-0.3
Total trades	1593000	2447676	4.4

Source: Derived from appendix table A1.

We see that under this scenario we would have employment growth of 4.4% per cent per year. This is far higher than the expected growth of the workforce over this period and would imply that the trades increase their share of employment. This would be at variance with experience for many years. Again there is variation across occupations but only textile, clothing and footwear trades workers are projected to decline under this scenario (ignoring the 'miscellaneous' group).

The relationship between the resource and other sectors

The aim of this section is to give an idea of how important the resource sector as an employer of tradespeople. We first present employment data and then some apprenticeship data. The basic point is that the larger the resource sector is relative other sectors then the greater the chance that a rapid expansion in the sector will be held back by the unavailability of skilled labour.

Table 4 shows the distribution of total trade employment across the various resource sector industries.

Table 4: All trade employment by selected industries, February 2010

	('000)	percentage
060 - Coal mining	11.5	0.7
070 - Oil and gas extraction	4.9	0.3
080 - Metal ore mining	15.7	1.0
101 - Exploration	4.7	0.3
109 - Other mining support services	4.9	0.3
310 - Heavy and civil engineering construction	12.5	0.8
321 - Land development and site preparation services	6.1	0.4
329 - Other construction services	29.7	1.9
Total resource industries	90	5.6
Total other industries	1515.3	94.4
Total	1605.3	100.0

Source: Derived from appendix table B1.

As can be seen the resource sector only employs just over 5 percent of all tradespeople. Within the resource sector the largest industries are other construction services and metal ore mining, followed by heavy and civil engineering construction. It needs to be noted that these figures over state the importance of the resources sector because the construction industries cover more than the resources sector.

We can also look at the importance of the resources sector at the individual trade level. Table 5 shows the share held by the resources sector, defined by the industries as in Table 3, in each 3 digit trade occupation.

Table 5: Trade employment in the resource sector (percent of respective trade), February, 2010

3 - Technicians and trades workers	5.6
311 - Agricultural, medical and science technicians	2.0
312 - Building and engineering technicians	12.8
313 - ICT and telecommunications technicians	0.8
321 - Automotive electricians and mechanics	1.1
322 - Fabrication engineering trades workers	8.5
323 - Mechanical engineering trades workers	15.3
324 - Panelbeaters, and vehicle body builders, trimmers and painters	0.0
331 - Bricklayers, and carpenters and joiners	2.3
332 - Floor finishers and painting trades workers	0.7
333 - Glaziers, plasterers and tilers	0.0
334 - Plumbers	2.2
341 - Electricians	5.5
342 - Electronics and telecommunications trades workers	3.8
351 - Food trades workers	1.0
361 - Animal attendants and trainers, and shearers	0.0
362 - Horticultural trades workers	26.9
391 - Hairdressers	0.0
392 - Printing trades workers	0.0
393 - Textile, clothing and footwear trades workers	0.0
394 - Wood trades workers	0.0
399 - Miscellaneous technicians and trades workers	3.9

Source: Derived from appendix table B1

The resource sector overall has a share of trade employment of 5.6% but has a considerably larger share of building and engineering technicians (12.8%, mechanical engineering trades workers (15.3%) and horticultural trades workers (26.9%). The last of these is a surprising finding but most likely reflects the large amount of remediation and landscaping work done in mining and civil construction. It's also worth keeping in mind that the horticultural trades would be among the least skilled (they tend to be low paid) and that there would be considerable substitution between unskilled labour and horticulturalists.

We now look at the extent to which the resource sector employs apprentices. Table 6 shows both the numbers of trade apprentices and the distribution across each of the component industries

Table 6: All trade apprentices by selected industries, December 2009 (percentage)

	Number	Percentage
060 - Coal mining	232	0.1
070 - Oil and gas extraction	57	0.0
080 - Metal ore mining	638	0.3
101 - Exploration	222	0.1
109 - Other mining support services	793	0.4
310 - Heavy and civil engineering construction	1129	0.6
321 - Land development and site preparation services	209	0.1
329 - Other construction services	3497	1.8
Total resource industries	6776	3.6
Total other industries	182733	96.4
Total	189509	100.0

Source: Derived from appendix table B2

We see that the sector employed a little fewer than 7,000 trade apprentices as at the end of 2009, representing 3.6% of trade apprentices. Obviously, these tend to be concentrated in certain trades. In Table 7 we show the importance of the resources sector as an employer of apprentices, by trade.

Table 7: Trades apprentices in the resource sector, December 2009 (per cent of trade apprentices in the respective occupation)

311 - Agricultural, medical and science technicians	15.5
312 - Building and engineering technicians	20.5
313 - ICT and telecommunications technicians	1.0
321 - Automotive electricians and mechanics	3.3
322 - Fabrication engineering trades workers	3.8
323 - Mechanical engineering trades workers	5.9
324 - Panelbeaters, and vehicle body builders, trimmers and painters	0.1
331 - Bricklayers, and carpenters and joiners	5.7
332 - Floor finishers and painting trades workers	0.7
333 - Glaziers, plasterers and tilers	1.7
334 - Plumbers	0.4
341 - Electricians	1.5
342 - Electronics and telecommunications trades workers	0.9
351 - Food trades workers	0.6
361 - Animal attendants and trainers, and shearers	0.0
362 - Horticultural trades workers	30.4
391 - Hairdressers	0.0
392 - Printing trades workers	0.1
393 - Textile, clothing and footwear trades workers	0.0
394 - Wood trades workers	1.8
399 - Miscellaneous technicians and trades workers	1.2

Source: Derived from appendix table B2.

Earlier in Table 5 we saw that the resources sector was relatively important in three occupations (i.e. with more than 10% of tradespeople): horticultural, mechanical engineering, and building and engineering technicians. The sector employs considerable numbers of apprentices in horticultural and building and engineering technicians but relatively few in the fabrication engineering trades. However, the sector does employ more than its share of apprentices who are agricultural, medical and science technicians although the numbers are small.

Finally, we present the share of apprentices employed by the resources sector relative to their trade employment share. A value of a 100 or higher indicates that the resource sector employs its 'share' or more of apprentices, while a value less than a 100 indicate that it employs less than its share of apprentices. We do these calculations in two dimensions. In table 8 we present the calculation by industry and in table 9 by occupation.

Table 8: Relative share of apprentices employed by industry ('fair' share=100)

060 - Coal mining	17
070 - Oil and gas extraction	10
080 - Metal ore mining	34
101 - Exploration	40
109 - Other mining support services	137
310 - Heavy and civil engineering construction	77
321 - Land development and site preparation services	29
329 - Other construction services	100
Total resource industries	64
Total other industries	102
Total	100

Source: Derived from appendix tables B1 and B2.

Table 9: Relative share of apprentices employed by the resources sector, by selected occupations ('fair' share=100).

	share of apprentices	share of employment	relative share
3 - Technicians and trades workers	4	6	63
312 - Building and engineering technicians	20	13	160
322 - Fabrication engineering trades workers	4	8	45
323 - Mechanical engineering trades workers	6	15	39
341 - Electricians	2	6	27
342 - Electronics and telecommunications trades workers	1	4	24
362 - Horticultural trades workers	30	27	113
399 - Miscellaneous technicians and trades workers	1	4	30

Note: the occupations are those for which the resources sector employs 4% or more of the employment in that occupation.

Source: Derived from appendix tables B1 and B2.

We see that the only resource industry to employ its 'fair' share of trade apprentices is other mining support services and other construction services. Overall the ratio of trade apprentices share to trade employment share is 64%, implying that the sector would have to more or less double the number of apprentices before it was bearing its fair share. Looking at individual occupations we see that the resources sector employs more than its 'share' apprentices who are building and engineering technicians, and horticulturalists, but less than its share elsewhere.

Thus our general conclusion is that overall the resources sector is a relatively small employer of tradespeople. Correspondingly, it is also a small player in the provision of apprenticeships. Moreover, it employs fewer apprentices than would be expected from its share of trade employment.

Discussion

This exercise has essentially been one of data compilation and mechanical arithmetic. We have projected the number of tradespeople at a detailed occupational level and for each state. These projections have a 'supply' rather than a 'demand' flavour, in the sense that they are driven by assumed apprentice commencement rates and population numbers rather than a particular level of economic activity. The main use of these projections is to test them against various demand scenarios with the aim of inferring whether we are likely to see skilled labour shortages acting as a constraint for the expansion of the resources sector. In this report, we have not made this comparison (such comparisons are made in Karmel and Ong 2007), but a couple of observations are in order.

The first is that the difference between 'optimistic' and 'pessimistic' is very large. Both scenarios use historical commencement and attrition parameters and thus are in the range of historical experience. The conclusion must be that there is considerable flexibility in the system, and it would take a situation far beyond historical experience to put real strains on the training system. In this regard it is worth noting that the apprenticeship system is not the only entry point into trades occupations, even in those occupations which normally are considered to be licensed. Immigration is one obvious source of skilled labour. But another is that people can work in occupations without necessarily being licenced. On this point, it should be remembered that the employment data are based on the ABS labour force survey which assigns individuals to occupations on the description of their work, not qualification.

The second point to emerge is that on the whole the resources sector is not a large employer of tradespeople. In only a couple of occupations does the resource sector employ more than a small percentage of tradespeople. One of them is horticulturalists, and it is laughable to think that the resources sector will be held back by insufficient horticulturalists. The implication is that the resources sector should have no difficulty getting requisite skilled tradespeople, as long as the wages and conditions are sufficient to attract them to work in the sector. If wages and conditions are not sufficiently attractive then it would make little difference as to how many apprenticeships there were.

In addition, it is clear that the resources sector is not actually pulling its weight when it comes to training the trades. It employs far fewer apprentices than would be expected from its share of trade employment. Thus one obvious way of ensuring that skilled labour is not a constraint, however unlikely that is, is for the sector to engage in more training itself.

There is perhaps one occupation that is an exception to the arguments put forward above; building and engineering technicians. The resources sector is a significant employer of this occupation (12.9% of employment in this occupation in February 2010), and this occupation is projected to grow very slowly even under the 'best' scenario- 0.4% per annum. Therefore recruitment in this occupation would be relatively difficult compared to other trades if the resources sector were to grow significantly. It is interesting to note that this is one occupation in which the resources sector trains more apprentices than would be expected from its employment share³. Thus this may be an occupation in which the sector has little choice except to take direct responsibility for training sufficient individuals.

If there is to be a lesson to be learnt from this exercise it is that constraints to the resources sector are much more likely to become insufficient physical infrastructure- roads, railways and

³ The other is horticulturalists for which the sector is also a very considerable employer.

ports- than from insufficient skilled trade labour. Labour is relatively mobile, and the resources sector is a relatively small employer. Given appropriate wages and conditions there seems to be little reason to be overly concerned about the adequacy of trade labour for the resources sector. On the other hand demand for labour for resource projects tends to be very 'lumpy' and timing will always be an issue. This poses challenges for those managing the developments. Labour cannot be put into cold storage and thawed out as specific projects come on stream. It can be attracted from other parts of the economy but of course this cannot be done over night. Similarly, training new tradespeople requires considerable lead times, with most apprenticeships requiring between two and four years.

References

ABS (Australian Bureau of Statistics) 2008, Population projections, Australia, 2006–2101, cat. no. 3222.0, ABS, Canberra.

Ball, K & John, D 2005, Apprentice and trainee completion rates, NCVER, Adelaide.

Karmel, T & Ong, K 2007, Will we run out of young men? Implications of the ageing of the population for the trades in Australia, NCVER, Adelaide.

Appendix A: Projection of tradespersons, 2010–20

This appendix provides projections of tradespersons for the period 2010–20.

Table A1 Projection of tradespersons by occupation and state/territory, 2010–20—best case scenario

311 – Agricultural, medical and science technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	11200	19001	-7294	700	1560	1207	353	25885	-6414	765	1597	1235	361
Vic.	14600	25793	-10263	0	1202	930	272	45648	-19291	401	1246	964	282
QLD	10000	17048	-6281	0	992	767	224	28488	-10616	1	1066	825	241
SA	4900	8579	-3609	200	348	269	79	13188	-4338	0	351	272	80
WA	6000	8417	-2229	200	502	389	114	11932	-3430	331	536	415	121
Tas.	1400	1908	-426	0	106	82	24	3297	-1375	66	103	80	23
NT	700	1149	-407	0	55	43	12	1835	-642	0	58	45	13
ACT	900	1629	-666	0	82	63	19	2620	-926	0	84	65	19
Aus.	49700	83525	-31175	1100	4847	3750	1097	132893	-47032	1564	5040	3900	1141

312 – Building and engineering technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	32300	31967	913	500	1363	1080	284	31891	-201	1360	1368	1084	285
Vic.	26200	27415	-399	0	1029	815	214	27396	-149	994	1044	827	217
QLD	27500	27978	-570	800	894	708	186	29097	-1103	733	946	750	197
SA	8500	8042	499	200	305	241	63	7262	861	157	300	238	63
WA	22800	22630	-76	600	448	355	93	23287	-549	262	465	368	97
Tas.	2000	2233	-156	0	97	77	20	2557	-355	105	93	74	19
NT	1200	1145	95	0	50	40	11	1067	66	52	51	41	11
ACT	1600	1569	85	0	67	53	14	1549	21	52	68	54	14
Aus.	122100	122978	391	2100	4254	3369	885	124107	-1409	3715	4337	3435	902

313 – ICT and telecommunications technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	19500	27763	-5919	0	3210	2344	866	33084	-4144	1179	3234	2356	878
Vic.	14600	18481	-2107	0	2433	1774	659	24928	-4647	0	2475	1801	674
QLD	8900	12011	-1578	0	2096	1532	564	15268	-2027	393	2225	1624	602
SA	3500	4817	-794	0	717	523	193	8095	-2760	0	710	517	192
WA	1900	2474	-108	300	1051	767	284	3561	-288	0	1096	798	298
Tas.	900	1466	-400	0	226	166	60	2920	-1294	0	218	160	58
NT	700	1203	-417	0	118	86	32	1808	-648	131	121	88	33
ACT	2400	2918	-401	0	161	117	44	4107	-1203	131	162	118	45
Aus.	52400	71133	-11724	300	10012	7309	2703	93772	-17012	1834	10241	7462	2780

321 – Automotive electricians and mechanics

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	28100	35632	1605	1200	16613	10338	6275	45974	-630	638	16644	10350	6295
Vic.	27100	31399	3478	0	12506	7777	4729	38152	790	319	12650	7862	4788
QLD	17300	22717	1090	300	10934	6807	4127	29183	252	479	11568	7197	4370
SA	8200	9887	623	0	3712	2310	1402	11693	221	239	3645	2266	1378
WA	13500	16265	338	300	5469	3403	2065	18949	840	0	5664	3524	2140
Tas.	1000	1905	-160	0	1195	745	450	2720	-181	80	1145	713	432
NT	2100	2645	-160	0	619	385	234	2758	278	0	628	390	238
ACT	1000	1400	98	0	805	499	306	1899	-75	80	811	503	308
Aus.	98300	121851	6913	1800	51852	32264	19589	151327	1494	1835	52755	32805	19950

322 – Fabrication engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	18300	25004	-678	900	10913	6926	3987	32715	-2462	1746	11011	6995	4017
Vic.	15500	20011	336	400	8268	5247	3021	25893	-2000	1466	8419	5348	3070
QLD	22100	27317	-992	300	7134	4525	2609	32920	-1488	699	7584	4814	2770
SA	6700	8047	198	0	2436	1545	891	9662	-433	349	2410	1530	880
WA	16100	19092	-1016	300	3588	2276	1312	21749	-699	419	3741	2377	1364
Tas.	2100	2581	7	0	770	488	282	3091	-109	70	742	471	271
NT	1400	1699	-41	0	407	258	149	2047	-84	0	416	264	152
ACT	200	531	13	0	543	345	199	996	-116	0	550	349	200
Aus.	82400	104283	-2174	1900	34059	21610	12449	129074	-7391	4750	34873	22149	12725

323 – Mechanical engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	37400	45462	-1225	900	10198	7737	2461	53599	-2091	1743	10260	7789	2471
Vic.	26600	33126	-675	0	7708	5851	1857	40752	-3703	2021	7827	5945	1882
QLD	34000	39758	-689	0	6685	5070	1616	46497	-1848	488	7091	5379	1712
SA	12500	14044	-16	200	2278	1728	550	15843	-372	279	2247	1705	541
WA	24700	27897	-952	300	3355	2545	810	30608	-482	418	3487	2647	840
Tas.	3300	3758	90	0	725	549	176	3797	141	349	697	528	169
NT	2400	2453	236	0	380	289	92	2757	-219	209	387	294	93
ACT	500	930	-47	0	504	383	121	1421	-174	70	508	387	122
Aus.	141400	167428	-3277	1400	31832	24152	7681	195274	-8748	5577	32504	24674	7830

324 – Panelbeaters, and vehicle body builders, trimmers and pai

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	8600	11210	536	0	5505	3146	2359	14330	39	0	5528	3159	2369
Vic.	10700	11473	1202	400	4156	2375	1781	13323	239	319	4212	2408	1804
QLD	5900	8936	-972	0	3613	2064	1549	11577	-455	0	3826	2186	1640
SA	1800	2187	315	0	1229	702	527	2665	-26	239	1211	692	519
WA	7100	8068	65	0	1809	1033	776	8285	457	399	1878	1073	805
Tas.	700	923	2	0	393	224	168	1101	37	0	377	215	162
NT	300	363	54	0	205	117	88	481	1	0	208	119	89
ACT	500	600	54	0	270	155	116	730	26	0	272	156	117
Aus.	35600	43760	1257	400	17180	9817	7363	52493	318	957	17513	10008	7504

331 – Bricklayers, and carpenters and joiners

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	43400	57039	-4617	2100	21437	11122	10315	76092	-8335	419	21476	11137	10339
Vic.	35500	47232	-4056	700	16154	8376	7778	60772	-6276	1203	16335	8467	7868
QLD	32900	43843	-3623	0	14102	7320	6783	56372	-5317	523	14911	7735	7175
SA	6900	9455	-69	0	4792	2486	2306	13564	-1825	157	4707	2441	2266
WA	15200	22166	-3305	0	7056	3661	3395	28780	-3085	262	7307	3790	3517
Tas.	3600	5622	-1222	0	1540	800	740	7011	-622	0	1476	766	709
NT	1500	2309	-395	0	798	414	384	3027	-351	52	810	420	390
ACT	2400	3145	-204	0	1044	540	504	4030	-342	0	1050	544	507
Aus.	141400	190811	-17492	2800	66924	34719	32205	249648	-26152	2616	68071	35300	32771

332 – Floor finishers and painting trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	20700	21014	411	800	3097	1524	1573	22007	322	209	3099	1526	1573
Vic.	14000	13842	906	400	2332	1148	1184	15020	-228	209	2356	1160	1196
QLD	10600	10411	792	400	2039	1003	1036	12465	-1360	366	2154	1060	1094
SA	6500	6819	-178	200	693	341	352	7145	-200	209	680	335	345
WA	5900	6818	-717	300	1019	501	517	7282	-154	209	1054	519	535
Tas.	1200	1362	-53	0	223	110	113	1428	-13	52	213	105	108
NT	500	551	6	0	115	57	58	622	-13	0	117	57	59
ACT	1000	882	93	100	151	74	76	912	-60	105	151	75	77
Aus.	60400	61698	1259	2200	9668	4758	4910	66880	-1706	1360	9823	4836	4987

333 – Glaziers, plasterers and tilers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	15200	16664	602	0	4777	2067	2711	18926	-1398	1203	4775	2066	2709
Vic.	14300	16529	-675	0	3592	1554	2038	18933	-836	0	3625	1569	2056
QLD	19800	24322	-3160	0	3149	1362	1787	26896	-1136	0	3325	1438	1887
SA	4500	6261	-1299	0	1068	462	606	7300	-586	0	1047	453	594
WA	10300	12819	-1839	0	1572	680	893	13737	-581	366	1626	703	922
Tas.	1700	1945	-95	0	345	149	196	2117	-82	52	330	143	188
NT	500	577	0	0	177	77	101	736	-82	0	180	78	102
ACT	700	786	14	0	230	100	131	909	-23	0	232	100	131
Aus.	67000	79902	-6452	0	14912	6450	8462	89555	-4724	1622	15139	6551	8588

334 – Plumbers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	26000	34576	-2852	0	10119	5725	4394	43606	-3682	420	10191	5768	4424
Vic.	17500	22298	-463	0	7662	4335	3327	29215	-2720	211	7787	4408	3378
QLD	12800	18074	-1529	0	6624	3745	2879	24069	-2179	158	7028	3974	3054
SA	5100	6348	-169	200	2262	1279	983	8348	-840	105	2234	1264	970
WA	9200	11223	-140	0	3328	1883	1446	13666	-901	419	3463	1961	1502
Tas.	1000	1460	-56	0	716	405	312	2074	-224	0	690	390	300
NT	1000	1099	14	100	377	213	164	1398	-82	0	384	218	167
ACT	800	1187	-101	0	504	285	219	1633	-212	52	508	287	220
Aus.	73400	96265	-5296	300	31592	17869	13723	124009	-10840	1366	32285	18270	14015

341 – Electricians

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	40100	56501	-5823	400	15678	10978	4700	76708	-10990	1834	15775	11050	4724
Vic.	28100	38077	-2873	1200	11859	8304	3555	54554	-8566	524	12040	8435	3605
QLD	25700	36282	-3790	400	10274	7192	3082	52775	-10566	1703	10897	7630	3267
SA	10400	15233	-2582	200	3502	2451	1051	19751	-2621	524	3457	2421	1036
WA	21600	29141	-3931	0	5156	3610	1546	36251	-4272	917	5360	3755	1604
Tas.	2700	4287	-909	100	1113	779	334	5839	-934	131	1070	749	321
NT	2300	2945	-236	0	584	409	175	3637	-406	131	596	417	178
ACT	1300	1880	-35	0	778	545	233	3007	-578	0	784	549	235
Aus.	132200	184346	-20178	2300	48945	34268	14677	252521	-38931	5764	49978	35007	14970

342 – Electronics and telecommunications trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	29000	33133	-1680	700	4422	3152	1269	36607	-1996	1703	4458	3181	1278
Vic.	22200	23655	536	400	3354	2392	962	27738	-2172	524	3412	2435	977
QLD	26000	30271	-3012	800	2890	2059	831	33561	-2808	1703	3066	2186	881
SA	7100	8834	-1231	200	987	704	284	10501	-969	0	978	697	280
WA	11300	12232	104	0	1453	1035	417	14037	-726	0	1514	1080	434
Tas.	2700	2896	25	0	311	221	90	3262	-152	0	300	213	86
NT	2300	2482	-165	100	165	117	47	2614	-143	131	168	120	48
ACT	800	1015	-56	0	223	159	64	1110	-66	131	224	160	64
Aus.	101400	114518	-5478	2200	13804	9840	3964	129430	-9032	4192	14120	10072	4048

351 – Food trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	47100	51843	4470	0	21496	9213	12283	55758	3491	1813	21526	9218	12308
Vic.	41000	44743	2804	400	16222	6948	9275	51456	-50	362	16410	7024	9386
QLD	33600	35815	2432	1400	14103	6046	8057	35058	6375	765	14901	6384	8518
SA	7300	8277	883	200	4808	2060	2748	9645	355	306	4738	2029	2708
WA	13000	15361	650	0	7032	3011	4020	17336	900	251	7299	3126	4173
Tas.	2500	2830	331	0	1538	661	877	2993	284	185	1472	632	840
NT	1500	1602	235	0	788	336	451	1524	344	76	802	343	460
ACT	1900	1855	499	0	1065	454	611	1952	358	0	1067	455	612
Aus.	147900	162326	12304	2000	67051	28730	38321	175721	12058	3760	68217	29212	39005

361 – Animal attendants and trainers, and shearers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	7900	15758	-6790	0	1485	1068	417	28929	-12085	0	1510	1086	425
Vic.	5500	8489	-2175	0	1133	814	318	12708	-3782	399	1164	837	327
QLD	2800	5256	-1768	0	959	689	270	11356	-5562	198	1025	736	289
SA	2400	4584	-1947	0	330	237	93	6528	-1903	198	331	238	93
WA	5500	8243	-2399	0	480	345	135	13378	-4770	0	507	364	143
Tas.	400	645	-172	0	102	73	29	935	-219	0	99	71	28
NT	300	910	-571	0	54	39	15	1090	-140	0	56	40	16
ACT	300	408	-52	0	78	56	22	533	-69	0	78	56	22
Aus.	25100	44293	-15872	0	4620	3320	1299	75455	-28530	795	4770	3427	1342

362 – Horticultural trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	21800	35939	-10795	300	6111	3644	2467	55842	-16228	12	6183	3687	2496
Vic.	24100	34459	-7588	0	4648	2772	1876	48732	-13960	2521	4748	2833	1915
QLD	18400	29399	-8633	0	3971	2366	1606	38200	-7250	967	4228	2518	1710
SA	6100	8737	-1823	0	1365	814	551	11518	-2570	599	1358	810	548
WA	7600	11648	-2858	0	1998	1190	808	17083	-4651	466	2095	1250	846
Tas.	2100	3118	-864	100	427	254	172	4845	-1614	133	413	246	167
NT	1200	1662	-329	0	224	133	91	2837	-1038	0	231	137	93
ACT	1600	2525	-741	0	310	184	125	3152	-573	133	313	187	127
Aus.	82900	127488	-33630	400	19055	11358	7696	182208	-47883	4831	19570	11667	7902

391 – Hairdressers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	20400	26396	-393	0	13490	5603	7888	32239	-542	273	13419	5574	7845
Vic.	9400	12836	346	400	10070	4182	5889	18126	-1063	1	10180	4229	5951
QLD	9100	12904	-118	0	8879	3686	5193	17762	-969	1	9370	3889	5480
SA	4800	5873	176	0	3008	1248	1759	7120	-126	109	2963	1230	1733
WA	4200	6361	-350	0	4362	1811	2552	8468	-222	0	4540	1885	2655
Tas.	1700	1826	180	100	978	406	572	2147	63	0	926	384	541
NT	200	444	-44	0	483	201	283	687	-35	0	500	208	292
ACT	1300	1796	-222	0	660	274	386	1973	97	0	660	274	386
Aus.	51100	68435	-425	500	41931	17410	24522	88523	-2799	385	42556	17673	24883

392 – Printing trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	9400	9359	803	400	1781	1163	618	9470	517	545	1794	1173	622
Vic.	9500	9547	834	0	1349	881	468	9428	405	612	1372	897	475
QLD	1400	2017	142	0	1164	759	405	2904	-82	1	1236	806	429
SA	2100	2178	181	0	398	259	138	2201	234	0	394	257	137
WA	3900	3185	396	700	584	381	203	3061	385	136	608	397	211
Tas.	100	171	11	0	126	82	44	261	-12	0	121	79	42
NT	300	268	75	0	66	43	23	284	28	0	67	44	23
ACT	300	346	12	0	89	59	31	368	37	0	90	59	31
Aus.	27000	27072	2454	1100	5557	3626	1931	27978	1512	1295	5682	3713	1969

393 – Textile, clothing and footwear trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	6000	6109	394	0	911	503	408	6449	172	0	924	512	412
Vic.	3600	3023	262	700	694	385	309	2908	294	217	711	396	315
QLD	3000	2676	648	0	590	324	266	2930	-70	162	629	347	283
SA	2100	1615	297	300	203	112	91	1578	-95	244	202	112	90
WA	2000	1448	715	0	296	164	133	1386	235	0	312	173	139
Tas.	300	332	3	0	63	35	29	292	73	0	61	34	28
NT	400	457	-38	0	33	18	15	473	3	0	34	19	15
ACT	100	115	11	0	46	26	20	123	18	0	47	26	21
Aus.	17500	15776	2292	1000	2838	1568	1270	16139	631	623	2920	1617	1303

394 – Wood trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	5500	6865	218	400	3998	1983	2015	9003	-153	0	4003	1986	2017
Vic.	12200	12820	871	0	3007	1492	1515	13500	558	271	3040	1509	1531
QLD	6900	7765	441	0	2633	1305	1328	8644	26	475	2785	1381	1404
SA	1600	1850	193	0	893	443	450	2235	50	0	876	435	442
WA	4900	5320	-67	300	1316	653	663	5713	147	136	1362	676	686
Tas.	400	565	-22	0	288	143	145	698	4	0	276	137	139
NT	300	288	85	0	149	74	75	355	8	0	151	75	76
ACT	300	365	30	0	193	96	97	467	-6	0	194	96	98
Aus.	32100	35838	1750	700	12478	6188	6290	40616	635	882	12687	6294	6393

399 – Miscellaneous technicians and trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	17000	16883	1320	400	2483	1603	880	15478	2222	819	2525	1636	889
Vic.	14000	13357	767	1100	1892	1224	668	13477	1137	4	1942	1262	680
QLD	8700	9827	-91	0	1610	1036	574	9683	776	479	1721	1110	611
SA	2700	2816	242	0	554	358	197	2898	275	1	553	358	195
WA	6600	6340	584	200	813	524	288	6052	434	409	855	554	301
Tas.	1000	992	118	0	172	110	62	989	110	0	167	107	60
NT	900	725	234	0	92	59	33	657	7	122	95	61	33
ACT	800	833	50	0	126	82	44	820	97	0	129	84	45
Aus.	51700	51773	3223	1700	7742	4996	2746	50053	5057	1836	7987	5173	2815

Total trades

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
			<i>Over 5 years</i>					<i>Over 5 years</i>					
NSW	464900	584119	-36793	9700	160649	92126	68523	724592	-64587	16682	161303	92568	68734
Vic.	386200	468605	-18929	6100	121270	69575	51695	592660	-66020	12579	122994	70614	52379
QLD	337400	424625	-31260	4400	105334	60365	44969	525706	-47406	10295	111581	63970	47612
SA	115700	144485	-10111	1900	35889	20574	15315	178739	-17669	3717	35391	20302	15090
WA	213300	257151	-17135	3500	52687	30217	22470	304600	-21414	5401	54770	31436	23334
Tas.	32800	42826	-3767	300	11455	6558	4897	54372	-6475	1224	10988	6296	4693
NT	22000	26976	-1769	200	5940	3407	2532	32696	-3148	906	6061	3478	2583
ACT	20700	26715	-1567	100	7929	4548	3381	34311	-3768	754	7981	4582	3399
Aus.	1593000	1975502	-121330	26200	501154	287371	213783	2447676	-230486	51558	511070	293246	217823

Note: Total trades is the sum of the 3-digit trade occupations presented above.

Table A2 Projection of tradespersons by occupation and state/territory, 2010–20—average case scenario

311 – Agricultural, medical and science technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	11200	14550	-3531	700	777	518	259	15945	-1486	619	793	528	265
Vic.	14600	19615	-4617	0	598	398	199	26445	-6754	335	618	411	206
QLD	10000	13185	-2855	0	495	331	164	17620	-4081	0	531	354	177
SA	4900	6482	-1667	200	173	116	57	8201	-1603	0	174	116	58
WA	6000	6758	-791	200	250	167	83	7749	-1063	250	267	178	89
Tas.	1400	1587	-152	0	53	35	17	2138	-567	50	51	34	17
NT	700	957	-239	0	28	18	9	1171	-195	0	29	19	10
ACT	900	1326	-399	0	41	27	14	1674	-321	0	42	28	14
Aus.	49700	64460	-14250	1100	2413	1610	803	80944	-16070	1254	2505	1669	836

312 – Building and engineering technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	32300	28767	3487	500	667	454	213	25332	2916	975	671	456	215
Vic.	26200	24524	2019	0	505	343	161	21384	2775	713	512	348	164
QLD	27500	24839	2159	800	437	298	139	21792	2837	525	463	315	148
SA	8500	7257	1145	200	149	102	48	5882	1362	113	147	100	47
WA	22800	20759	1590	600	219	149	70	18926	1801	188	228	155	73
Tas.	2000	1981	51	0	47	32	15	1932	5	75	46	31	14
NT	1200	1050	167	0	25	17	8	887	143	38	25	17	8
ACT	1600	1445	177	0	33	22	11	1300	130	38	33	23	11
Aus.	122100	110622	10796	2100	2083	1418	664	97435	11970	2663	2125	1445	680

313 – ICT and telecommunications technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		<i>Over 5 years</i>						<i>Over 5 years</i>					
NSW	19500	22228	-1495	0	1997	1233	764	22107	181	1179	2011	1239	773
Vic.	14600	14927	605	0	1512	932	580	15854	18	0	1538	946	592
QLD	8900	9756	-49	0	1304	807	497	10005	373	232	1383	854	529
SA	3500	3705	70	0	445	275	170	4407	-430	0	441	272	169
WA	1900	1906	97	300	653	403	250	2176	150	0	681	420	261
Tas.	900	1098	-110	0	141	88	53	1532	-350	0	136	84	52
NT	700	946	-200	0	74	45	28	1043	-128	77	75	46	29
ACT	2400	2306	156	0	100	61	39	2413	-123	77	101	62	39
Aus.	52400	56872	-927	300	6226	3845	2381	59537	-308	1565	6367	3922	2445

321 – Automotive electricians and mechanics

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	28100	31745	2210	1200	12630	7055	5575	36699	1643	457	12637	7053	5583
Vic.	27100	28214	4186	0	9496	5301	4195	30446	2892	228	9593	5351	4241
QLD	17300	19880	1772	300	8323	4652	3671	22345	2106	343	8798	4914	3884
SA	8200	8681	1096	0	2823	1577	1246	9323	732	171	2767	1545	1223
WA	13500	14358	1166	300	4159	2324	1835	15147	1614	0	4302	2402	1900
Tas.	1000	1467	44	0	912	511	402	1892	6	57	873	488	385
NT	2100	2337	26	0	470	263	208	2277	326	0	477	266	211
ACT	1000	1226	112	0	608	338	270	1478	32	57	612	341	272
Aus.	98300	107909	10610	1800	39422	22019	17402	119606	9350	1314	40059	22360	17698

322 – Fabrication engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	18300	20302	975	900	6628	3878	2750	22941	66	1193	6666	3897	2768
Vic.	15500	16487	1539	400	5005	2926	2079	18373	81	1002	5081	2969	2112
QLD	22100	23685	659	300	4347	2544	1802	24815	1090	477	4611	2698	1913
SA	6700	6904	662	0	1480	866	614	7246	272	239	1459	853	606
WA	16100	16809	267	300	2181	1276	905	17100	748	286	2267	1326	941
Tas.	2100	2217	159	0	472	277	195	2317	119	48	454	266	188
NT	1400	1504	40	0	247	145	103	1583	69	0	252	147	105
ACT	200	362	27	0	325	190	136	573	-19	0	329	192	137
Aus.	82400	88270	4330	1900	20684	12100	8584	94949	2424	3245	21117	12348	8769

323 – Mechanical engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	37400	40290	1778	900	8057	5568	2490	43061	1630	1192	8096	5592	2504
Vic.	26600	29096	1705	0	6081	4201	1881	32139	-166	1383	6168	4259	1908
QLD	34000	35675	1981	0	5289	3656	1633	37073	2143	334	5607	3874	1732
SA	12500	12769	775	200	1800	1244	556	13129	674	191	1772	1224	548
WA	24700	25532	701	300	2651	1832	819	25790	1358	286	2753	1902	851
Tas.	3300	3217	481	0	575	398	177	3017	344	238	552	382	170
NT	2400	2191	416	0	300	208	93	2232	27	143	306	211	95
ACT	500	764	8	0	395	272	122	1064	-73	48	399	275	124
Aus.	141400	149534	7844	1400	25150	17378	7772	157505	5935	3814	25652	17720	7932

324 – Panelbeaters, and vehicle body builders, trimmers and pai

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	8600	9910	767	0	4540	2078	2463	11317	672	0	4543	2079	2464
Vic.	10700	10375	1488	400	3417	1563	1853	10785	941	228	3452	1580	1872
QLD	5900	7710	-442	0	2989	1368	1622	8710	445	0	3159	1445	1714
SA	1800	1874	390	0	1015	464	550	1983	176	171	996	456	540
WA	7100	6996	787	0	1494	683	810	6733	685	286	1546	707	839
Tas.	700	820	29	0	327	150	178	874	90	0	313	143	170
NT	300	339	38	0	169	77	92	398	19	0	171	78	93
ACT	500	549	51	0	220	100	119	577	73	0	221	101	120
Aus.	35600	38575	3109	400	14171	6484	7687	41377	3102	685	14401	6590	7811

331 – Bricklayers, and carpenters and joiners

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	43400	48887	-1383	2100	13925	6205	7720	54843	-55	300	13934	6201	7733
Vic.	35500	40499	-1034	700	10482	4665	5817	44011	332	863	10588	4707	5881
QLD	32900	38066	-1077	0	9170	4090	5081	41728	279	375	9689	4316	5373
SA	6900	7909	378	0	3114	1387	1727	9350	-194	113	3054	1359	1695
WA	15200	19150	-1908	0	4585	2043	2542	21384	-309	188	4742	2112	2631
Tas.	3600	4854	-806	0	1004	449	555	5195	88	0	961	429	532
NT	1500	1968	-238	0	518	231	288	2211	-47	38	525	234	292
ACT	2400	2737	-38	0	675	299	376	2982	55	0	678	300	378
Aus.	141400	164071	-6105	2800	43472	19367	24105	181705	150	1875	44172	19659	24513

332 – Floor finishers and painting trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	20700	19202	1651	800	2219	954	1266	17826	2179	150	2217	952	1265
Vic.	14000	12554	1763	400	1669	717	953	12158	969	150	1684	723	961
QLD	10600	9324	1505	400	1462	629	834	9344	380	263	1543	663	880
SA	6500	6167	347	200	496	213	283	5769	456	150	487	209	278
WA	5900	6051	-137	300	730	314	416	5653	572	150	755	324	430
Tas.	1200	1226	43	0	160	69	91	1154	101	38	153	66	87
NT	500	504	32	0	82	35	47	502	37	0	83	36	48
ACT	1000	787	159	100	107	46	61	746	12	75	108	46	62
Aus.	60400	55815	5361	2200	6927	2976	3951	53152	4707	975	7030	3019	4011

333 – Glaziers, plasterers and tilers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	15200	14703	1727	0	3159	1230	1930	14648	420	863	3156	1228	1929
Vic.	14300	14951	272	0	2375	924	1451	15023	859	0	2395	931	1464
QLD	19800	22102	-1491	0	2083	811	1272	21922	1035	0	2199	856	1343
SA	4500	5590	-815	0	707	275	432	5661	198	0	692	269	423
WA	10300	11528	-823	0	1040	405	636	11199	484	263	1075	418	657
Tas.	1700	1762	27	0	229	89	140	1727	83	38	219	85	133
NT	500	520	25	0	117	46	72	579	-13	0	119	46	73
ACT	700	709	50	0	152	59	93	711	57	0	153	59	94
Aus.	67000	71866	-1028	0	9863	3838	6025	71470	3125	1163	10008	3892	6115

334 – Plumbers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	26000	29847	-852	0	6028	2995	3034	32267	283	300	6054	3004	3050
Vic.	17500	19162	599	0	4555	2261	2294	21293	8	150	4616	2289	2327
QLD	12800	15300	-533	0	3956	1967	1989	17110	157	113	4188	2080	2108
SA	5100	5424	145	200	1348	670	678	6058	-50	75	1328	659	669
WA	9200	9649	537	0	1984	986	998	10005	365	300	2059	1022	1037
Tas.	1000	1201	13	0	430	214	216	1391	15	0	413	205	207
NT	1000	951	60	100	224	111	113	1016	49	0	228	113	115
ACT	800	975	-28	0	297	147	150	1139	-54	38	299	148	151
Aus.	73400	82508	-58	300	18822	9350	9472	90279	773	977	19184	9520	9664

341 – Electricians

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	40100	47442	-1045	400	10112	6697	3414	54933	-1850	1081	10151	6722	3429
Vic.	28100	31586	369	1200	7633	5054	2579	38250	-1853	309	7734	5121	2614
QLD	25700	29381	317	400	6639	4398	2241	35359	-2325	1004	7030	4656	2374
SA	10400	13045	-1349	200	2259	1496	763	14280	-71	309	2225	1473	752
WA	21600	25136	-1333	0	3326	2203	1123	26526	355	540	3452	2286	1166
Tas.	2700	3685	-607	100	722	479	244	4221	-154	77	693	459	234
NT	2300	2477	72	0	376	249	127	2564	90	77	383	254	129
ACT	1300	1504	125	0	497	329	168	2018	-183	0	500	331	169
Aus.	132200	154256	-3450	2300	31565	20906	10659	178150	-5990	3397	32168	21301	10867

342 – Electronics and telecommunications trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	29000	27692	2309	700	2867	1701	1165	26171	2228	1004	2882	1711	1171
Vic.	22200	19879	3208	400	2169	1287	882	19549	1327	309	2200	1306	894
QLD	26000	26019	296	800	1879	1115	764	24003	2193	1004	1989	1180	809
SA	7100	7748	-468	200	641	380	261	7611	512	0	632	375	257
WA	11300	10481	1379	0	943	559	383	9940	1122	0	979	581	398
Tas.	2700	2492	329	0	204	121	83	2383	224	0	196	116	80
NT	2300	2152	111	100	107	63	43	1989	151	77	109	64	44
ACT	800	799	86	0	143	85	58	762	44	77	143	85	58
Aus.	101400	97261	7250	2200	8950	5311	3639	92407	7802	2471	9130	5419	3711

351 – Food trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	47100	45235	8402	0	18765	6538	12227	42433	7997	1328	18751	6523	12228
Vic.	41000	38715	6803	400	14135	4918	9217	37854	5528	294	14272	4961	9311
QLD	33600	31553	4947	1400	12335	4301	8034	28284	7257	545	13015	4532	8483
SA	7300	6977	1585	200	4198	1462	2736	7219	977	218	4129	1437	2692
WA	13000	13176	1963	0	6140	2139	4001	12691	2494	207	6363	2215	4148
Tas.	2500	2423	549	0	1350	472	878	2219	513	141	1290	450	839
NT	1500	1460	278	0	687	239	448	1283	366	54	699	243	456
ACT	1900	1767	452	0	923	319	604	1696	390	0	924	319	604
Aus.	147900	141308	24979	2000	58531	20387	38144	133679	25521	2788	59443	20680	38762

361 – Animal attendants and trainers, and shearers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	7900	12838	-4468	0	717	470	247	17899	-4585	0	726	476	250
Vic.	5500	6638	-781	0	545	357	188	7686	-1017	335	558	366	192
QLD	2800	4310	-1206	0	464	304	160	6897	-2411	150	495	324	170
SA	2400	3550	-1045	0	159	104	55	4133	-629	150	159	105	55
WA	5500	6943	-1292	0	231	152	80	8996	-1893	0	244	160	84
Tas.	400	483	-50	0	49	32	17	608	-94	0	48	31	16
NT	300	619	-302	0	26	17	9	627	10	0	27	18	9
ACT	300	323	1	0	37	24	13	332	16	0	37	25	13
Aus.	25100	35705	-9144	0	2228	1461	767	47178	-10603	634	2295	1505	790

362 – Horticultural trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	21800	29120	-5365	300	4376	2256	2120	37032	-5639	3	4415	2276	2139
Vic.	24100	28205	-2395	0	3319	1710	1608	31864	-3850	1934	3382	1743	1638
QLD	18400	23323	-3453	0	2852	1470	1383	25409	-1277	752	3031	1561	1470
SA	6100	6927	-323	0	977	504	474	7673	-714	468	969	499	470
WA	7600	9267	-929	0	1432	739	693	10877	-1187	350	1497	772	725
Tas.	2100	2505	-346	100	308	159	149	3156	-598	100	297	153	144
NT	1200	1404	-121	0	161	83	78	1858	-370	0	165	85	80
ACT	1600	2035	-323	0	219	113	107	2124	-74	100	222	114	108
Aus.	82900	102787	-13254	400	13644	7032	6612	119992	-13709	3708	13977	7204	6773

391 – Hairdressers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	20400	22468	2156	0	10744	4223	6521	23710	2708	244	10681	4195	6486
Vic.	9400	10722	1427	400	8020	3149	4870	13134	769	0	8102	3180	4922
QLD	9100	10876	1007	0	7076	2782	4293	12875	933	0	7463	2933	4530
SA	4800	5023	719	0	2397	942	1455	5199	642	108	2359	927	1433
WA	4200	5324	242	0	3476	1366	2110	6115	630	0	3616	1421	2195
Tas.	1700	1557	351	100	780	307	473	1595	252	0	738	290	448
NT	200	359	-8	0	385	151	234	485	30	0	398	156	242
ACT	1300	1566	-60	0	525	206	319	1526	246	0	525	206	319
Aus.	51100	57894	5833	500	33403	13127	20276	64638	6209	354	33882	13307	20574

392 – Printing trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	9400	8558	1349	400	1452	907	545	8135	847	489	1461	913	548
Vic.	9500	8779	1408	0	1099	686	412	7903	1025	549	1116	698	418
QLD	1400	1856	137	0	950	593	357	2445	39	0	1007	629	378
SA	2100	1961	341	0	324	202	122	1796	365	0	321	200	120
WA	3900	2837	660	700	476	297	179	2554	470	122	495	310	186
Tas.	100	154	10	0	103	64	39	218	-3	0	99	62	37
NT	300	239	95	0	54	34	20	216	57	0	55	34	21
ACT	300	298	47	0	73	45	27	282	62	0	73	46	27
Aus.	27000	24681	4047	1100	4529	2829	1700	23550	2862	1161	4627	2892	1735

393 – Textile, clothing and footwear trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	6000	5394	851	0	595	245	350	4912	731	0	601	249	352
Vic.	3600	2641	446	700	452	187	265	2179	436	217	461	191	270
QLD	3000	2382	777	0	387	159	228	2190	199	162	412	170	242
SA	2100	1482	372	300	133	55	78	1205	101	230	132	54	77
WA	2000	1298	782	0	194	80	114	1069	313	0	203	84	119
Tas.	300	273	44	0	42	17	25	202	88	0	40	17	24
NT	400	412	-3	0	22	9	13	385	36	0	22	9	13
ACT	100	88	24	0	30	12	17	79	22	0	30	13	18
Aus.	17500	13971	3293	1000	1855	765	1090	12221	1926	609	1901	786	1115

394 – Wood trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	5500	6215	392	400	3409	1507	1902	7461	258	0	3408	1505	1903
Vic.	12200	12028	1303	0	2560	1131	1429	11957	968	244	2585	1141	1444
QLD	6900	7260	634	0	2248	994	1254	7627	256	427	2376	1050	1326
SA	1600	1646	291	0	762	337	425	1792	183	0	746	329	416
WA	4900	5075	21	300	1123	496	626	5170	295	122	1160	513	648
Tas.	400	502	7	0	247	109	138	556	51	0	236	104	132
NT	300	269	87	0	127	56	71	310	16	0	129	57	72
ACT	300	342	30	0	163	72	91	410	5	0	164	72	92
Aus.	32100	33335	2766	700	10638	4701	5937	35282	2032	793	10804	4772	6032

399 – Miscellaneous technicians and trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	17000	14824	2715	400	1745	940	805	12140	2877	760	1768	953	815
Vic.	14000	11852	1762	1100	1326	714	612	10641	1941	1	1356	732	624
QLD	8700	8498	812	0	1135	610	525	7539	1183	428	1210	652	559
SA	2700	2507	403	0	389	210	180	2300	415	0	387	209	179
WA	6600	5747	960	200	571	308	264	4958	746	367	599	323	276
Tas.	1000	871	194	0	122	65	56	785	149	0	118	63	54
NT	900	663	271	0	64	35	30	531	53	115	66	36	31
ACT	800	707	141	0	88	47	41	630	125	0	89	48	41
Aus.	51700	45670	7259	1700	5440	2929	2512	39525	7490	1672	5595	3017	2578

Total trades

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
			<i>Over 5 years</i>					<i>Over 5 years</i>					
NSW	464900	500219	12630	9700	115408	57649	57759	531813	14022	12137	115622	57753	57869
Vic.	386200	401449	22076	6100	86950	43425	43525	428927	7231	9245	88011	43954	44057
QLD	337400	364980	5898	4400	75821	37878	37943	385093	12810	7134	80200	40057	40143
SA	115700	123628	3052	1900	25789	12880	12909	130217	3375	2706	25376	12671	12705
WA	213300	224780	3939	3500	37858	18920	18938	230757	9751	3904	39283	19632	19651
Tas.	32800	36375	261	300	8276	4136	4141	39110	362	862	7923	3959	3964
NT	22000	23324	607	200	4263	2131	2132	24147	727	619	4343	2170	2173
ACT	20700	22617	798	100	5650	2815	2835	24517	422	509	5682	2832	2850
Aus.	1593000	1697371	49262	26200	360016	179833	180183	1794582	48699	37116	366439	183027	183412

Note: Total trades is the sum of the 3-digit trade occupations presented above.

Table A3 Projection of tradespersons by occupation and state/territory, 2010–20—worst case scenario

311 – Agricultural, medical and science technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		Over 5 years						Over 5 years					
NSW	11200	10209	347	700	97	56	41	7905	1886	473	97	56	41
Vic.	14600	13466	1176	0	73	42	31	12144	1093	271	73	42	31
QLD	10000	9335	702	0	64	37	27	9002	372	0	68	39	29
SA	4900	4366	346	200	22	13	9	4109	269	0	21	12	9
WA	6000	5047	772	200	32	18	13	4142	755	169	33	19	14
Tas.	1400	1261	143	0	7	4	3	1144	88	34	7	4	3
NT	700	758	-56	0	4	2	2	592	168	0	4	2	2
ACT	900	1024	-121	0	5	3	2	924	103	0	5	3	2
Aus.	49700	45466	3309	1100	303	175	128	39962	4735	947	306	177	130

312 – Building and engineering technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		Over 5 years						Over 5 years					
NSW	32300	25594	6348	500	239	142	97	19940	5206	590	241	142	98
Vic.	26200	21662	4645	0	181	107	74	16529	4811	431	184	109	75
QLD	27500	21685	5108	800	157	93	64	16054	5412	318	166	98	67
SA	8500	6467	1865	200	53	32	22	4727	1704	68	53	31	22
WA	22800	18746	3501	600	79	47	32	15071	3610	113	82	49	33
Tas.	2000	1730	281	0	17	10	7	1435	259	45	16	10	7
NT	1200	955	251	0	9	5	4	735	203	23	9	5	4
ACT	1600	1317	290	0	12	7	5	1083	219	23	12	7	5
Aus.	122100	98156	22288	2100	747	444	304	75574	21422	1611	762	451	311

313 – ICT and telecommunications technicians													
	2010	2015						2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
		Over 5 years						Over 5 years					
NSW	19500	16793	2920	0	456	213	243	12566	3262	1179	460	214	246
Vic.	14600	11450	3312	0	346	161	185	9040	2574	0	353	164	189
QLD	8900	7564	1474	0	296	139	157	5518	2122	70	314	147	167
SA	3500	2614	933	0	101	47	54	1926	735	0	101	47	54
WA	1900	1371	299	300	148	69	79	955	488	0	155	72	83
Tas.	900	736	179	0	32	15	17	649	101	0	31	14	16
NT	700	692	16	0	17	8	9	535	141	23	17	8	9
ACT	2400	1699	712	0	23	11	12	1279	407	23	23	11	13
Aus.	52400	42919	9844	300	1418	663	755	32468	9831	1296	1454	677	777

321 – Automotive electricians and mechanics

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	28100	26110	5500	1200	9202	4710	4492	25706	4827	276	9185	4698	4487
Vic.	27100	23120	7513	0	6906	3532	3374	20976	5563	138	6960	3558	3403
QLD	17300	16168	3944	300	6076	3112	2964	15157	4085	207	6411	3281	3129
SA	8200	6941	2313	0	2058	1053	1005	6373	1494	103	2012	1029	983
WA	13500	11617	3135	300	3031	1552	1479	10364	2853	0	3129	1601	1528
Tas.	1000	1042	301	0	669	343	326	1163	172	34	639	327	311
NT	2100	1904	371	0	342	175	167	1590	491	0	346	177	169
ACT	1000	992	232	0	439	224	215	1016	167	34	442	225	217
Aus.	98300	87893	23308	1800	28723	14701	14022	82345	19652	792	29123	14896	14227

322 – Fabrication engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	18300	16690	2782	900	3914	2072	1841	16460	1660	641	3911	2070	1841
Vic.	15500	13764	2890	400	2937	1555	1382	13333	1461	538	2964	1568	1396
QLD	22100	20648	2520	300	2583	1369	1215	18922	2915	256	2730	1445	1284
SA	6700	5971	1192	0	875	463	412	5527	769	128	856	453	403
WA	16100	14782	1700	300	1290	683	607	13589	1745	154	1332	705	627
Tas.	2100	1920	331	0	284	151	133	1762	276	26	271	144	128
NT	1400	1341	136	0	146	77	69	1234	185	0	148	78	70
ACT	200	255	44	0	186	98	88	324	30	0	188	99	89
Aus.	82400	75372	11595	1900	12215	6468	5747	71151	9040	1744	12400	6563	5837

323 – Mechanical engineering trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	37400	35335	5045	900	5994	3880	2114	33803	4781	641	6018	3890	2128
Vic.	26600	25251	4273	0	4524	2925	1599	24710	2758	744	4584	2960	1624
QLD	34000	31641	4910	0	3936	2551	1385	28853	5307	179	4168	2699	1470
SA	12500	11487	1680	200	1339	867	472	10638	1599	103	1318	852	466
WA	24700	23101	2576	300	1972	1277	695	21227	3045	154	2047	1324	723
Tas.	3300	2687	891	0	428	278	150	2334	492	128	411	267	144
NT	2400	1931	613	0	223	144	79	1760	241	77	227	147	80
ACT	500	623	66	0	294	189	105	781	7	26	296	190	106
Aus.	141400	132057	20054	1400	18712	12111	6600	124106	18229	2051	19070	12330	6741

324 – Panelbeaters, and vehicle body builders, trimmers and pai

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	8600	8054	1910	0	3625	1363	2262	7756	1657	0	3615	1359	2256
Vic.	10700	8636	2686	400	2720	1023	1697	7648	1880	138	2739	1030	1709
QLD	5900	6250	550	0	2394	901	1494	5587	1613	0	2524	949	1575
SA	1800	1495	610	0	811	305	506	1326	364	103	792	298	494
WA	7100	5498	2051	0	1194	449	745	4555	1234	172	1232	463	769
Tas.	700	676	123	0	264	99	165	604	167	0	252	95	157
NT	300	289	62	0	135	51	84	287	54	0	136	51	85
ACT	500	464	101	0	173	65	108	401	128	0	174	65	108
Aus.	35600	31363	8092	400	11315	4255	7060	28164	7097	413	11464	4311	7154

331 – Bricklayers, and carpenters and joiners

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	43400	42193	2370	2100	9055	3263	5792	40031	5234	182	9043	3254	5789
Vic.	35500	34903	2345	700	6804	2449	4355	32166	4681	522	6861	2466	4395
QLD	32900	33188	1867	0	5973	2155	3818	31197	4034	227	6302	2271	4031
SA	6900	6720	909	0	2025	730	1295	6566	800	68	1982	713	1269
WA	15200	16596	-321	0	2982	1075	1907	16031	1560	113	3080	1109	1971
Tas.	3600	4189	-352	0	656	237	419	3852	564	0	627	227	400
NT	1500	1684	-63	0	337	121	215	1632	152	23	341	122	218
ACT	2400	2398	158	0	435	156	279	2231	323	0	437	156	281
Aus.	141400	141871	6915	2800	28267	10185	18081	133707	17348	1135	28674	10319	18355

332 – Floor finishers and painting trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	20700	17384	3093	800	1550	577	973	14290	3578	91	1545	575	970
Vic.	14000	11257	2776	400	1163	433	730	9734	1867	91	1171	435	736
QLD	10600	8274	2307	400	1023	381	642	6881	1636	159	1078	402	677
SA	6500	5503	926	200	347	129	218	4571	968	91	339	126	213
WA	5900	5291	499	300	510	190	320	4335	1061	91	526	196	330
Tas.	1200	1093	149	0	113	42	71	922	188	23	108	40	67
NT	500	457	64	0	57	21	36	405	73	0	58	22	36
ACT	1000	692	236	100	74	27	47	607	67	45	74	28	47
Aus.	60400	49951	10050	2200	4837	1801	3036	41744	9439	590	4900	1823	3077

333 – Glaziers, plasterers and tilers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	15200	12864	3020	0	2020	685	1336	11351	1674	522	2017	682	1334
Vic.	14300	13425	1389	0	1518	514	1004	11837	2105	0	1530	517	1013
QLD	19800	19845	407	0	1333	452	881	17549	2773	0	1406	476	930
SA	4500	4945	-291	0	452	153	299	4317	777	0	442	150	293
WA	10300	10230	296	0	665	225	440	8951	1352	159	687	233	454
Tas.	1700	1580	170	0	147	50	97	1394	210	23	140	48	92
NT	500	467	58	0	75	25	50	456	37	0	76	26	50
ACT	700	639	94	0	97	33	64	559	113	0	97	33	65
Aus.	67000	63994	5143	0	6307	2137	4170	56414	9041	704	6396	2164	4231

334 – Plumbers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	26000	26049	1480	0	3355	1528	1827	24435	2957	182	3353	1526	1827
Vic.	17500	16748	1902	0	2525	1149	1376	16016	1799	91	2547	1158	1389
QLD	12800	13195	613	0	2211	1008	1203	12556	1633	68	2333	1062	1270
SA	5100	4716	526	200	751	342	409	4539	466	45	736	335	401
WA	9200	8389	1314	0	1105	503	601	7521	1207	182	1142	520	622
Tas.	1000	1017	93	0	242	111	132	968	155	0	232	106	126
NT	1000	840	117	100	125	57	68	767	130	0	126	57	69
ACT	800	818	56	0	162	74	89	823	46	23	163	74	89
Aus.	73400	71771	6101	300	10475	4772	5704	67625	8394	590	10631	4838	5793

341 – Electricians

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>												
NSW	40100	40184	3779	400	6918	4263	2654	39833	4288	328	6922	4264	2658
Vic.	28100	26463	3644	1200	5207	3208	1999	27073	2536	94	5260	3239	2021
QLD	25700	23654	4454	400	4555	2808	1747	23435	2880	304	4811	2965	1846
SA	10400	11259	-106	200	1546	953	593	10374	1726	94	1517	935	582
WA	21600	21723	1281	0	2277	1403	874	19345	3665	164	2356	1452	905
Tas.	2700	3209	-302	100	498	307	191	3079	401	23	477	294	183
NT	2300	2076	383	0	257	159	99	1786	427	23	261	161	100
ACT	1300	1219	287	0	335	206	129	1361	65	0	337	207	130
Aus.	132200	129788	13420	2300	21593	13307	8285	126285	15988	1030	21942	13516	8426

342 – Electronics and telecommunications trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	29000	22797	6309	700	1941	806	1135	18290	5009	304	1945	807	1138
Vic.	22200	16519	5888	400	1464	607	857	13454	3585	94	1480	613	867
QLD	26000	22119	3611	800	1277	530	746	16484	5891	304	1350	560	790
SA	7100	6783	297	200	434	180	254	5402	1558	0	427	177	250
WA	11300	8908	2657	0	639	265	374	6769	2414	0	662	275	387
Tas.	2700	2124	634	0	139	58	81	1692	488	0	134	56	78
NT	2300	1843	386	100	72	30	42	1479	372	23	73	30	43
ACT	800	611	228	0	95	39	56	515	111	23	95	39	56
Aus.	101400	81704	20011	2200	6061	2516	3545	64085	19427	749	6165	2557	3608

351 – Food trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	47100	34972	17045	0	16085	4917	11168	26628	12390	846	16032	4891	11141
Vic.	41000	29710	14578	400	12085	3687	8397	23053	10138	228	12175	3709	8466
QLD	33600	24665	10780	1400	10600	3245	7355	18574	9177	325	11166	3412	7754
SA	7300	5266	2935	200	3599	1100	2499	4639	1574	130	3531	1078	2454
WA	13000	10172	4438	0	5265	1610	3655	7810	3863	163	5447	1664	3783
Tas.	2500	1843	1015	0	1165	358	807	1400	686	98	1110	340	770
NT	1500	1148	532	0	589	180	409	861	436	33	597	182	415
ACT	1900	1407	730	0	783	237	546	1113	532	0	783	237	546
Aus.	147900	109182	52052	2000	50170	15335	34835	84077	38798	1821	50842	15514	35329

361 – Animal attendants and trainers, and shearers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	7900	10028	-2128	0	0	0	0	8800	1228	0	0	0	0
Vic.	5500	4809	691	0	0	0	0	3693	845	271	0	0	0
QLD	2800	3426	-626	0	0	0	0	3168	157	101	0	0	0
SA	2400	2524	-124	0	0	0	0	2189	233	101	0	0	0
WA	5500	5540	-40	0	0	0	0	5098	442	0	0	0	0
Tas.	400	319	81	0	0	0	0	325	-6	0	0	0	0
NT	300	334	-34	0	0	0	0	247	86	0	0	0	0
ACT	300	236	64	0	0	0	0	164	72	0	0	0	0
Aus.	25100	27215	-2115	0	0	0	0	23684	3058	473	0	0	0

362 – Horticultural trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	21800	21788	744	300	2340	1033	1308	20433	2386	0	2335	1031	1305
Vic.	24100	21508	3367	0	1757	775	982	17138	3799	1353	1772	782	990
QLD	18400	16915	2166	0	1543	681	862	14220	2872	541	1627	718	909
SA	6100	4940	1391	0	523	231	292	4200	628	338	513	226	287
WA	7600	6760	1180	0	768	340	428	5763	1111	237	794	351	443
Tas.	2100	1838	237	100	169	75	95	1680	162	68	162	71	90
NT	1200	1106	133	0	86	38	48	978	167	0	87	39	49
ACT	1600	1519	131	0	113	49	63	1219	282	68	113	50	64
Aus.	82900	76373	9349	400	7300	3222	4078	65630	11407	2604	7403	3267	4136

391 – Hairdressers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	20400	18835	4852	0	8733	3287	5446	16897	4982	217	8674	3261	5413
Vic.	9400	8819	2630	400	6515	2449	4066	9267	2021	0	6576	2470	4106
QLD	9100	9016	2252	0	5756	2169	3587	9070	2230	0	6067	2284	3783
SA	4800	4227	1306	0	1949	734	1215	3678	1162	108	1917	721	1196
WA	4200	4374	890	0	2828	1064	1763	4296	1183	0	2938	1106	1833
Tas.	1700	1308	532	100	635	240	395	1159	375	0	600	226	374
NT	200	289	28	0	313	118	195	342	69	0	323	121	202
ACT	1300	1318	142	0	426	160	266	1110	367	0	425	159	266
Aus.	51100	48186	12634	500	27155	10220	16935	45819	12390	325	27521	10348	17173

392 – Printing trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	9400	7290	2385	400	1146	676	470	6112	1423	433	1150	678	472
Vic.	9500	7558	2452	0	866	510	355	5832	1756	487	877	517	360
QLD	1400	1574	270	0	751	443	308	1824	219	0	795	469	326
SA	2100	1651	600	0	256	151	105	1303	497	0	253	149	104
WA	3900	2349	1073	700	376	222	154	1868	603	108	390	230	160
Tas.	100	128	20	0	82	48	33	164	11	0	78	46	32
NT	300	201	124	0	42	25	17	150	76	0	43	25	18
ACT	300	242	92	0	57	33	24	194	81	0	57	34	24
Aus.	27000	20993	7015	1100	3575	2108	1467	17447	4666	1029	3644	2149	1496

393 – Textile, clothing and footwear trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	6000	4535	1552	0	306	87	219	3369	1253	0	306	87	219
Vic.	3600	2190	776	700	230	66	165	1446	593	217	233	66	166
QLD	3000	2053	1004	0	201	57	144	1479	473	162	213	61	152
SA	2100	1293	526	300	68	19	49	816	280	217	67	19	48
WA	2000	1101	927	0	100	29	72	747	383	0	104	30	74
Tas.	300	221	85	0	22	6	16	134	93	0	21	6	15
NT	400	362	42	0	11	3	8	284	80	0	11	3	8
ACT	100	67	37	0	15	4	11	49	22	0	15	4	11
Aus.	17500	11822	4950	1000	955	272	683	8324	3178	596	969	276	693

394 – Wood trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	5500	5296	940	400	2977	1136	1841	5584	845	0	2972	1133	1839
Vic.	12200	10453	2598	0	2232	851	1381	9148	1946	217	2251	857	1393
QLD	6900	6351	1300	0	1966	751	1215	5887	877	379	2076	792	1284
SA	1600	1366	488	0	665	254	411	1298	316	0	650	248	402
WA	4900	4511	463	300	981	374	606	4043	745	108	1012	386	626
Tas.	400	435	47	0	217	83	134	416	98	0	207	79	128
NT	300	234	108	0	111	42	69	240	36	0	112	43	69
ACT	300	295	58	0	141	54	88	314	36	0	142	54	88
Aus.	32100	28942	6003	700	9290	3545	5745	26930	4900	704	9423	3593	5830

399 – Miscellaneous technicians and trades workers

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
	<i>Over 5 years</i>							<i>Over 5 years</i>					
NSW	17000	12149	4873	400	935	422	513	8278	3591	704	936	423	513
Vic.	14000	9874	3344	1100	705	318	387	7364	2832	0	712	321	391
QLD	8700	6852	2126	0	615	278	337	5125	1641	379	650	294	356
SA	2700	2064	730	0	209	94	115	1573	584	0	206	93	113
WA	6600	4850	1689	200	306	139	168	3513	1155	325	318	144	174
Tas.	1000	721	309	0	67	30	37	556	195	0	64	29	35
NT	900	578	338	0	34	16	19	376	110	108	35	16	19
ACT	800	560	261	0	46	21	25	426	155	0	46	21	25
Aus.	51700	37649	13670	1700	2919	1318	1600	27210	10263	1516	2967	1340	1627

Total trades

	2010		2015					2020					
	Emp.	Emp.	Att.	Ret.	Comm.	Comp.	CW	Emp.	Att.	Ret.	Comm.	Comp.	CW
			<i>Over 5 years</i>					<i>Over 5 years</i>					
NSW	464900	415150	75168	9700	80890	35118	45772	368466	74118	7608	80758	35041	45717
Vic.	386200	331585	74875	6100	60756	26360	34396	291601	60645	5921	61303	26583	34720
QLD	337400	304420	51740	4400	53311	23160	30151	266542	58320	3982	56254	24424	31830
SA	115700	102600	19050	1900	18084	7851	10233	90090	18504	1698	17733	7692	10041
WA	213300	190953	30381	3500	26547	11534	15013	165993	34475	2412	27466	11926	15539
Tas.	32800	30080	4966	300	5853	2546	3307	26832	5175	502	5586	2429	3157
NT	22000	19487	3610	200	2985	1297	1688	16736	3734	333	3032	1316	1715
ACT	20700	18393	3896	100	3910	1689	2220	16491	3333	265	3925	1696	2229
Aus.	1593000	1412668	263687	26200	252336	109554	142782	1242751	258304	22721	256057	111107	144950

Note: Total trades is the sum of the 3-digit trade occupations presented above.

Appendix B: Distribution of tradespersons by resource industries

This appendix shows the distribution of employed persons and apprentices and trainees in-training in trades occupations by selected resource industries and state/territory. Due to data availability constraints, the ABS employment data are presented in thousands and restricted to one decimal place, whereas NCVET apprentice and trainee data are presented to the whole number. In addition, the breakdown by sex is not presented due to the small numbers of employed persons and apprentices and trainees found in the selected resource industries.

Table B1 Employed persons by state/territory, trade occupation and selected resource industries, February 2010 ('000)

New South Wales											
	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	6.0	0.4	0.8	0.4	1.0	0.8	0.5	7.7	17.6	451.6	469.3
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.4	10.6	11.1
312 - Building and engineering technicians	2.9	0.4	0.0	0.0	0.0	0.4	0.0	0.3	4.0	28.3	32.3
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.6	19.6
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.1	28.1
322 - Fabrication engineering trades workers	0.5	0.0	0.5	0.0	0.5	0.4	0.0	0.0	1.9	16.3	18.3
323 - Mechanical engineering trades workers	2.2	0.0	0.0	0.0	0.0	0.0	0.5	0.0	2.7	34.8	37.5
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.6	8.6
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2	42.2	43.4
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.5	20.5
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	15.1
334 - Plumbers	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.5	25.7	26.2
341 - Electricians	0.4	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.7	39.3	40.0
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.1	29.1
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	47.0	47.0
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.9	7.9
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.2	6.2	15.8	21.9
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.6	20.6
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.4	9.4
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	5.9
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.5	5.5
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.8	16.8

Victoria

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.0	0.4	0.8	0.5	0.0	4.1	1.3	7.6	14.7	374.8	389.5
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	14.6
312 - Building and engineering technicians	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.3	1.7	24.4	26.2
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.6	14.6
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.2	27.2
322 - Fabrication engineering trades workers	0.0	0.0	0.0	0.5	0.0	0.4	0.0	0.4	1.3	14.3	15.6
323 - Mechanical engineering trades workers	0.0	0.0	0.4	0.0	0.0	1.6	1.0	0.0	3.0	23.4	26.4
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.7	10.7
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3	35.2	35.5
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	14.1
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	14.1
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.3	17.0	17.4
341 - Electricians	0.0	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.4	27.7	28.0
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.5	0.9	21.3	22.2
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.0	41.0
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.6	5.6
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.3	5.8	6.1	18.2	24.1
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	9.5
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	9.5
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.6	3.6
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.2	12.2
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	14.0

Queensland

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	5.2	0.9	1.1	1.1	2.3	4.4	1.7	6.2	22.9	318.5	341.2
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0
312 - Building and engineering technicians	1.1	0.0	0.0	0.0	0.4	1.9	0.0	0.0	3.4	24.3	27.7
313 - ICT and telecommunications technicians	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	8.7	9.0
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.4	16.8	17.2
322 - Fabrication engineering trades workers	0.3	0.0	0.4	0.0	0.5	0.0	0.3	0.3	1.8	20.3	22.1
323 - Mechanical engineering trades workers	2.3	0.0	0.8	0.0	1.1	0.0	0.7	0.0	4.9	29.3	34.1
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0
331 - Bricklayers, and carpenters and joiners	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	32.5	32.9
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	10.2	10.6
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.8	19.8
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.7	12.7
341 - Electricians	0.6	0.5	0.0	0.7	0.3	0.0	0.4	0.0	2.5	23.2	25.7
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	1.5	0.4	0.0	1.9	24.0	25.9
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	33.3	33.7
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.8	2.8
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.1	5.1	13.3	18.5
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.2	9.2
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	3.1
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.9	6.9
399 - Miscellaneous technicians and trades workers	0.0	0.4	0.0	0.0	0.0	0.5	0.0	0.0	0.9	7.8	8.7

South Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.0	0.4	0.0	0.6	0.2	1.1	0.6	1.8	4.7	110.6	115.2
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.8	4.8
312 - Building and engineering technicians	0.0	0.2	0.0	0.0	0.2	0.0	0.2	0.0	0.6	8.0	8.6
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	3.4
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	8.2
322 - Fabrication engineering trades workers	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2	0.4	6.4	6.7
323 - Mechanical engineering trades workers	0.0	0.2	0.0	0.4	0.0	0.3	0.4	0.0	1.3	11.1	12.4
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	6.7	6.9
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.6	6.6
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.4	4.4
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	4.8	5.0
341 - Electricians	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.2	10.1	10.3
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	7.2
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.4	1.6	4.4	6.0
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.7	4.7
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.2	2.6	2.7

Western Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.3	2.9	11.7	2.0	1.4	1.9	1.8	4.7	26.7	187.1	213.7
311 - Agricultural, medical and science technicians	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.6	5.5	6.1
312 - Building and engineering technicians	0.3	1.4	2.2	0.3	0.3	0.3	0.0	0.6	5.4	17.3	22.6
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.9	1.9
321 - Automotive electricians and mechanics	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.6	13.0	13.6
322 - Fabrication engineering trades workers	0.0	0.0	0.3	0.0	0.2	0.0	0.6	0.2	1.3	14.8	16.1
323 - Mechanical engineering trades workers	0.0	0.3	5.7	0.6	0.6	0.5	0.6	0.6	8.9	15.9	24.7
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.0	7.0
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.9	1.2	14.1	15.2
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.9	5.9
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.2	10.2
334 - Plumbers	0.0	0.0	0.0	0.3	0.0	0.3	0.0	0.0	0.6	8.7	9.3
341 - Electricians	0.0	0.0	2.4	0.3	0.3	0.3	0.0	0.0	3.3	18.3	21.6
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.3	0.9	10.4	11.2
351 - Food trades workers	0.0	0.3	0.2	0.3	0.0	0.0	0.3	0.0	1.1	12.0	13.2
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.4
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1	5.4	7.6
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.3	4.3
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.9	3.9
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5.0	5.0
399 - Miscellaneous technicians and trades workers	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.8	5.7	6.6

Tasmania

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.0	0.0	0.6	0.0	0.0	0.2	0.2	0.6	1.6	33.0	34.7
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	1.5
312 - Building and engineering technicians	0.0	0.0	0.2	0.0	0.0	0.2	0.1	0.0	0.5	1.6	2.1
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1
322 - Fabrication engineering trades workers	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.1	2.2
323 - Mechanical engineering trades workers	0.0	0.0	0.3	0.0	0.0	0.0	0.1	0.1	0.5	2.9	3.4
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.7	3.7
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	1.8
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1
341 - Electricians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	2.7
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.6	2.1
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.7	1.7
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2

Northern Territory

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.0	0.0	0.8	0.0	0.1	0.1	0.1	0.3	1.4	18.7	20.1
311 - Agricultural, medical and science technicians	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.6	0.6
312 - Building and engineering technicians	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.9	1.1
313 - ICT and telecommunications technicians	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.5	0.6
321 - Automotive electricians and mechanics	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.9	1.9
322 - Fabrication engineering trades workers	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	1.2	1.3
323 - Mechanical engineering trades workers	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.2	0.5	1.8	2.2
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	1.3
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
341 - Electricians	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	2.0	2.1
342 - Electronics and telecommunications trades workers	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.2	1.9	2.1
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.9	1.0
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7

Australian Capital Territory

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	20.9	21.5
311 - Agricultural, medical and science technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
312 - Building and engineering technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6
313 - ICT and telecommunications technicians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	2.6
321 - Automotive electricians and mechanics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1
322 - Fabrication engineering trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2
323 - Mechanical engineering trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.5
331 - Bricklayers, and carpenters and joiners	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.5	2.5
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.1
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.7
334 - Plumbers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
341 - Electricians	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	1.2
342 - Electronics and telecommunications trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8
351 - Food trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.1	2.1
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.6	1.0	1.6
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.4
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.3
399 - Miscellaneous technicians and trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.8

Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	11.5	4.9	15.7	4.7	4.9	12.5	6.1	29.7	90.0	1515.3	1605.3
311 - Agricultural, medical and science technicians	0.0	0.0	0.3	0.7	0.0	0.0	0.0	0.0	1.0	48.5	49.6
312 - Building and engineering technicians	4.3	2.0	2.5	0.3	0.8	4.2	0.3	1.2	15.6	106.3	121.9
313 - ICT and telecommunications technicians	0.3	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.4	52.3	52.7
321 - Automotive electricians and mechanics	0.0	0.0	0.7	0.0	0.0	0.4	0.0	0.0	1.1	97.1	98.3
322 - Fabrication engineering trades workers	0.9	0.0	1.3	0.5	1.2	1.0	0.9	1.2	7.0	75.5	82.5
323 - Mechanical engineering trades workers	4.5	0.5	7.2	1.0	1.8	2.4	3.3	0.9	21.6	119.7	141.2
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	35.7	35.7
331 - Bricklayers, and carpenters and joiners	0.4	0.0	0.0	0.0	0.0	0.0	0.3	2.6	3.3	138.2	141.5
332 - Floor finishers and painting trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	60.1	60.5
333 - Glaziers, plasterers and tilers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.7	66.7
334 - Plumbers	0.0	0.0	0.0	0.3	0.5	0.8	0.0	0.0	1.6	71.8	73.3
341 - Electricians	1.1	0.8	2.9	1.0	0.6	0.5	0.4	0.0	7.3	124.4	131.6
342 - Electronics and telecommunications trades workers	0.0	0.0	0.1	0.0	0.0	2.6	0.4	0.7	3.8	97.3	101.0
351 - Food trades workers	0.0	0.3	0.2	0.3	0.0	0.0	0.3	0.4	1.5	146.9	148.4
361 - Animal attendants and trainers, and shearers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	25.1	25.1
362 - Horticultural trades workers	0.0	0.0	0.0	0.0	0.0	0.2	0.3	21.8	22.3	60.4	82.8
391 - Hairdressers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.4	51.4
392 - Printing trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.0	27.0
393 - Textile, clothing and footwear trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	17.5
394 - Wood trades workers	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	32.1	32.1
399 - Miscellaneous technicians and trades workers	0.0	1.3	0.0	0.2	0.0	0.5	0.0	0.0	2.0	49.7	51.6

Source: ABS, Labour Force Survey, February 2010, unpublished data.

Table B2 Apprentices and trainees in-training as at 31 December by state/territory, trade occupation and selected resource industries (employer), 2009

New South Wales											
	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	91	12	62	22	23	220	38	986	1455	51739	53194
311 - Agricultural, medical and science technicians	31	1	6	0	2	0	0	0	39	533	572
312 - Building and engineering technicians	7	0	16	0	0	5	1	0	29	296	325
313 - ICT and telecommunications technicians	0	0	1	0	0	0	2	0	3	522	525
321 - Automotive electricians and mechanics	16	1	9	9	6	12	11	13	77	6284	6361
322 - Fabrication engineering trades workers	0	0	6	0	7	34	0	6	52	3205	3257
323 - Mechanical engineering trades workers	15	5	14	6	5	20	0	14	80	3133	3213
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	1	0	0	1	1665	1666
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	106	8	239	353	7222	7575
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	2	2	4	725	729
333 - Glaziers, plasterers and tilers	0	0	0	0	0	7	1	17	25	1040	1065
334 - Plumbers	0	0	0	0	0	7	0	7	13	3511	3524
341 - Electricians	22	2	9	8	3	14	2	5	64	6450	6514
342 - Electronics and telecommunications trades workers	0	2	0	0	1	3	0	6	12	2624	2636
351 - Food trades workers	0	0	0	0	0	1	0	3	4	5981	5985
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	471	471
362 - Horticultural trades workers	0	0	2	0	0	5	6	617	629	1098	1727
391 - Hairdressers	0	0	0	0	0	0	0	0	0	3812	3812
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	396	396
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	71	71
394 - Wood trades workers	0	0	0	0	0	6	0	2	8	680	688
399 - Miscellaneous technicians and trades workers	0	1	0	0	0	0	7	20	28	1997	2025

Victoria

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	1	10	13	4	0	306	52	1165	1550	47382	48932
311 - Agricultural, medical and science technicians	0	0	5	0	0	1	0	0	6	202	208
312 - Building and engineering technicians	0	0	0	0	0	6	4	2	12	136	148
313 - ICT and telecommunications technicians	0	0	0	0	0	0	2	0	2	406	408
321 - Automotive electricians and mechanics	1	0	3	4	0	13	2	7	29	4643	4672
322 - Fabrication engineering trades workers	0	0	1	0	0	49	0	6	56	2086	2142
323 - Mechanical engineering trades workers	0	0	1	0	0	33	22	2	59	2825	2884
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	1	0	0	1	1165	1166
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	54	4	319	377	8300	8677
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	1	3	4	875	879
333 - Glaziers, plasterers and tilers	0	0	0	0	0	1	0	9	10	1817	1827
334 - Plumbers	0	1	0	0	0	1	0	9	11	5465	5476
341 - Electricians	0	6	3	0	0	12	12	13	45	5852	5897
342 - Electronics and telecommunications trades workers	0	3	0	0	0	15	4	0	21	1212	1233
351 - Food trades workers	0	0	0	0	0	94	0	0	94	4651	4745
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	531	531
362 - Horticultural trades workers	0	0	0	0	0	16	1	776	792	1455	2247
391 - Hairdressers	0	0	0	0	0	0	0	0	0	2386	2386
392 - Printing trades workers	0	0	0	0	0	1	0	1	2	454	456
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	60	60
394 - Wood trades workers	0	0	0	0	0	7	0	19	25	1285	1310
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	5	0	1	6	841	847

Queensland

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	109	6	240	12	159	239	88	570	1422	42044	43466
311 - Agricultural, medical and science technicians	0	0	9	0	12	14	4	0	38	359	397
312 - Building and engineering technicians	4	0	3	0	5	9	11	11	42	230	272
313 - ICT and telecommunications technicians	0	0	6	2	0	0	0	1	9	525	534
321 - Automotive electricians and mechanics	29	0	17	0	10	10	10	7	82	4133	4215
322 - Fabrication engineering trades workers	9	1	18	1	26	50	10	18	134	2955	3089
323 - Mechanical engineering trades workers	39	2	85	7	61	68	32	7	301	4136	4437
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	0	0	0	0	935	935
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	47	12	313	371	6169	6540
332 - Floor finishers and painting trades workers	0	0	0	0	0	3	2	4	9	1028	1037
333 - Glaziers, plasterers and tilers	0	0	0	0	0	0	1	14	15	1185	1200
334 - Plumbers	0	0	0	0	0	2	1	8	11	2647	2658
341 - Electricians	28	2	87	0	45	15	4	0	180	5784	5964
342 - Electronics and telecommunications trades workers	0	1	13	2	0	0	0	1	16	1239	1255
351 - Food trades workers	0	0	0	0	1	0	0	0	1	4065	4066
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	320	320
362 - Horticultural trades workers	0	0	0	0	0	0	1	168	169	667	836
391 - Hairdressers	0	0	0	0	0	0	0	0	0	2978	2978
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	228	228
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	93	93
394 - Wood trades workers	0	0	0	0	0	12	0	10	21	1123	1144
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	8	2	9	18	1012	1030

South Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0	5	8	2	7	48	5	323	398	12281	12679
311 - Agricultural, medical and science technicians	0	0	0	0	0	0	0	0	0	26	26
312 - Building and engineering technicians	0	0	0	0	1	0	1	14	16	162	178
313 - ICT and telecommunications technicians	0	0	0	0	0	0	0	0	0	72	72
321 - Automotive electricians and mechanics	0	1	7	1	7	2	1	4	21	1459	1480
322 - Fabrication engineering trades workers	0	0	1	0	0	28	1	13	43	897	940
323 - Mechanical engineering trades workers	0	2	0	0	0	7	0	0	9	661	670
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	0	0	0	0	315	315
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	6	1	231	237	1331	1568
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	0	4	4	224	228
333 - Glaziers, plasterers and tilers	0	0	0	0	0	2	0	7	9	318	327
334 - Plumbers	0	0	0	0	0	1	0	9	10	1026	1036
341 - Electricians	0	2	1	1	0	1	0	2	7	1738	1745
342 - Electronics and telecommunications trades workers	0	0	0	0	0	0	0	1	1	635	636
351 - Food trades workers	0	0	0	0	0	0	0	0	0	1264	1264
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	120	120
362 - Horticultural trades workers	0	0	0	0	0	0	1	35	36	325	361
391 - Hairdressers	0	0	0	0	0	0	0	0	0	848	848
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	358	358
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	21	21
394 - Wood trades workers	0	0	0	0	0	0	0	4	4	327	331
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	1	0	0	1	154	155

Western Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	30	25	286	180	603	237	20	298	1680	19030	20710
311 - Agricultural, medical and science technicians	0	0	11	165	9	25	0	0	209	392	601
312 - Building and engineering technicians	0	4	68	0	18	35	0	10	134	170	304
313 - ICT and telecommunications technicians	0	0	0	0	2	2	0	0	4	104	108
321 - Automotive electricians and mechanics	21	2	25	2	355	26	7	12	449	2173	2622
322 - Fabrication engineering trades workers	6	0	15	3	59	47	0	13	142	1563	1705
323 - Mechanical engineering trades workers	0	14	98	11	134	70	11	31	369	1942	2311
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	2	1	0	0	3	543	546
331 - Bricklayers, and carpenters and joiners	0	0	1	0	0	10	0	148	159	1692	1851
332 - Floor finishers and painting trades workers	0	0	0	0	0	1	0	4	5	409	414
333 - Glaziers, plasterers and tilers	0	0	0	0	0	1	0	27	28	582	610
334 - Plumbers	0	0	0	0	0	0	0	5	5	1375	1380
341 - Electricians	2	5	32	0	16	6	1	3	65	2989	3054
342 - Electronics and telecommunications trades workers	0	0	0	0	0	0	0	0	0	268	268
351 - Food trades workers	0	0	0	0	0	0	0	1	1	1385	1386
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	150	150
362 - Horticultural trades workers	0	0	0	0	0	0	1	37	38	204	242
391 - Hairdressers	0	0	0	0	0	0	0	0	0	1420	1420
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	62	62
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	27	27
394 - Wood trades workers	0	0	0	0	0	1	0	5	6	659	665
399 - Miscellaneous technicians and trades workers	0	0	1	0	0	0	0	1	2	452	454

Tasmania

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0	0	0	2	1	55	0	57	114	5264	5378
311 - Agricultural, medical and science technicians	0	0	0	0	0	0	0	0	0	77	77
312 - Building and engineering technicians	0	0	0	0	0	5	0	0	5	38	43
313 - ICT and telecommunications technicians	0	0	0	0	0	0	0	0	0	71	71
321 - Automotive electricians and mechanics	0	0	0	1	0	4	0	2	7	506	513
322 - Fabrication engineering trades workers	0	0	0	1	0	17	0	0	18	423	441
323 - Mechanical engineering trades workers	0	0	0	0	1	1	0	0	2	283	285
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	0	0	0	0	115	115
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	19	0	37	56	917	973
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	0	0	0	147	147
333 - Glaziers, plasterers and tilers	0	0	0	0	0	1	0	1	2	190	192
334 - Plumbers	0	0	0	0	0	0	0	1	1	256	257
341 - Electricians	0	0	0	0	0	0	0	0	0	616	616
342 - Electronics and telecommunications trades workers	0	0	0	0	0	0	0	0	0	184	184
351 - Food trades workers	0	0	0	0	0	4	0	0	4	759	763
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	45	45
362 - Horticultural trades workers	0	0	0	0	0	0	0	15	15	107	122
391 - Hairdressers	0	0	0	0	0	0	0	1	1	280	281
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	41	41
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	8	8
394 - Wood trades workers	0	0	0	0	0	5	0	0	5	80	85
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	0	0	0	0	115	115

Northern Territory

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	1	0	28	0	0	8	6	45	88	1946	2034
311 - Agricultural, medical and science technicians	0	0	0	0	0	0	0	0	0	3	3
312 - Building and engineering technicians	0	0	0	0	0	0	0	30	30	0	30
313 - ICT and telecommunications technicians	0	0	1	0	0	0	0	0	1	37	38
321 - Automotive electricians and mechanics	1	0	7	0	0	6	6	0	20	333	353
322 - Fabrication engineering trades workers	0	0	5	0	0	1	0	0	6	146	152
323 - Mechanical engineering trades workers	0	0	4	0	0	0	0	0	4	102	106
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	1	0	0	1	20	21
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	0	0	9	9	165	174
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	0	0	0	9	9
333 - Glaziers, plasterers and tilers	0	0	0	0	0	0	0	0	0	33	33
334 - Plumbers	0	0	0	0	0	0	0	2	2	144	146
341 - Electricians	0	0	9	0	0	0	0	1	10	319	329
342 - Electronics and telecommunications trades workers	0	0	2	0	0	0	0	0	2	139	141
351 - Food trades workers	0	0	1	0	0	0	0	0	1	145	146
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	35	35
362 - Horticultural trades workers	0	0	0	0	0	0	0	2	2	18	20
391 - Hairdressers	0	0	0	0	0	0	0	0	0	93	93
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	19	19
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	1	1
394 - Wood trades workers	0	0	0	0	0	0	0	0	0	50	50
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	0	0	1	1	135	136

Australian Capital Territory

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	0	0	0	0	0	16	0	53	69	3047	3116
311 - Agricultural, medical and science technicians	0	0	0	0	0	0	0	0	0	1	1
312 - Building and engineering technicians	0	0	0	0	0	0	0	0	0	3	3
313 - ICT and telecommunications technicians	0	0	0	0	0	0	0	0	0	104	104
321 - Automotive electricians and mechanics	0	0	0	0	0	2	0	0	2	292	294
322 - Fabrication engineering trades workers	0	0	0	0	0	0	0	0	0	44	44
323 - Mechanical engineering trades workers	0	0	0	0	0	0	0	0	0	40	40
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	0	0	0	0	0	107	107
331 - Bricklayers, and carpenters and joiners	0	0	0	0	0	1	0	11	12	438	450
332 - Floor finishers and painting trades workers	0	0	0	0	0	0	0	0	0	37	37
333 - Glaziers, plasterers and tilers	0	0	0	0	0	0	0	0	0	70	70
334 - Plumbers	0	0	0	0	0	0	0	0	0	299	299
341 - Electricians	0	0	0	0	0	0	0	0	0	498	498
342 - Electronics and telecommunications trades workers	0	0	0	0	0	7	0	0	7	149	156
351 - Food trades workers	0	0	0	0	0	0	0	0	0	387	387
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	20	20
362 - Horticultural trades workers	0	0	0	0	0	5	0	31	36	66	102
391 - Hairdressers	0	0	0	0	0	0	0	0	0	308	308
392 - Printing trades workers	0	0	0	0	0	0	0	0	0	17	17
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	4	4
394 - Wood trades workers	0	0	0	0	0	0	0	11	11	71	82
399 - Miscellaneous technicians and trades workers	0	0	0	0	0	1	0	0	1	93	94

Australia

	060 - Coal mining	070 - Oil and gas extraction	080 - Metal ore mining	101 - Exploration	109 - Other mining support services	310 - Heavy and civil engineering construction	321 - Land development and site preparation services	329 - Other construction services	Total resource industries	Total other industries	Total
3 - Technicians and trades workers	232	57	638	222	793	1129	209	3497	6776	182733	189509
311 - Agricultural, medical and science technicians	31	1	30	165	22	39	4	0	292	1593	1885
312 - Building and engineering technicians	11	4	87	0	23	59	16	67	267	1036	1303
313 - ICT and telecommunications technicians	0	0	8	2	2	2	4	1	18	1841	1859
321 - Automotive electricians and mechanics	68	4	67	16	377	75	36	44	687	19823	20510
322 - Fabrication engineering trades workers	15	1	46	5	92	226	11	56	450	11320	11770
323 - Mechanical engineering trades workers	54	22	203	23	201	199	65	55	823	13122	13945
324 - Panelbeaters, and vehicle body builders, trimmers and pai	0	0	0	0	2	4	0	0	6	4864	4870
331 - Bricklayers, and carpenters and joiners	0	0	1	0	0	241	24	1307	1574	26235	27809
332 - Floor finishers and painting trades workers	0	0	0	0	0	4	5	16	25	3455	3480
333 - Glaziers, plasterers and tilers	0	0	0	0	0	11	2	76	89	5234	5323
334 - Plumbers	0	1	0	0	0	11	1	40	53	14722	14775
341 - Electricians	52	16	141	9	63	47	18	23	371	24247	24618
342 - Electronics and telecommunications trades workers	0	6	15	2	1	25	4	8	59	6449	6508
351 - Food trades workers	0	0	1	0	1	98	0	4	104	18638	18742
361 - Animal attendants and trainers, and shearers	0	0	0	0	0	0	0	0	0	1692	1692
362 - Horticultural trades workers	0	0	2	0	0	26	10	1680	1717	3939	5656
391 - Hairdressers	0	0	0	0	0	0	0	1	1	12125	12126
392 - Printing trades workers	0	0	0	0	0	1	0	1	2	1574	1576
393 - Textile, clothing and footwear trades workers	0	0	0	0	0	0	0	0	0	286	286
394 - Wood trades workers	0	0	0	0	0	30	0	50	80	4275	4355
399 - Miscellaneous technicians and trades workers	0	1	1	0	0	15	9	32	57	4799	4856

Source: NCVET, Apprentice and Trainee Collection no. 63 (March 2010 Estimates).

Appendix C: Calculated rates

This appendix presents the calculated rates for commencement (*Comm.*), cancellation/withdrawal (*CW*) and net attrition (*Att.*) used in the analysis to project the number of tradespersons for 2015 and 2020. Completion rates would be one minus the cancellation/withdrawal rates.

Table C1 Commencement, cancellation/withdrawal and net attrition rates by sex, age and occupation, for best, average and worst case scenarios

311 – Agricultural, medical and science technicians									
	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00035	0.20882	0.00000	0.00025	0.36435	0.00000	0.00019	0.53594	0.00000
20-24	0.00050	0.20882	-1.20746	0.00028	0.36435	-0.83444	0.00005	0.53594	-0.46142
25-29	0.00039	0.20882	-0.25262	0.00022	0.32677	-0.07077	0.00000	0.50385	0.16118
30-34	0.00029	0.20882	-0.25262	0.00014	0.36096	-0.07077	0.00000	0.47895	0.16118
35-39	0.00026	0.20882	-0.25262	0.00014	0.35263	-0.07077	0.00000	0.57143	0.16118
40-44	0.00025	0.20882	-0.25262	0.00014	0.32055	-0.07077	0.00000	0.52174	0.16118
45-49	0.00020	0.20882	-0.25262	0.00009	0.32055	-0.07077	0.00000	0.52174	0.16118
50-54	0.00021	0.20882	-0.25262	0.00009	0.32055	-0.07077	0.00000	0.52174	0.16118
55-59	0.00012	0.20882	-0.90517	0.00005	0.32055	-0.47069	0.00000	0.52174	-0.03620
60-64	0.00004	0.20882	-0.02345	0.00002	0.32055	0.14800	0.00000	0.52174	0.31945
65 or over	0.00000	0.20882	0.34001	0.00000	0.32055	0.50094	0.00000	0.52174	0.66187
Female									
15-19	0.00044	0.22200	0.00000	0.00028	0.24661	0.00000	0.00014	0.27532	0.00000
20-24	0.00035	0.22200	-1.16932	0.00022	0.24661	-0.77569	0.00005	0.27532	-0.38207
25-29	0.00026	0.24250	-0.88636	0.00013	0.47201	-0.68710	0.00000	0.70000	-0.48783
30-34	0.00023	0.24250	0.17230	0.00012	0.52587	0.37541	0.00000	0.73824	0.57853
35-39	0.00041	0.24250	-1.00461	0.00019	0.38646	-0.89460	0.00000	0.66522	-0.78460
40-44	0.00057	0.24250	-2.41400	0.00027	0.30011	-1.16889	0.00000	0.41364	0.07621
45-49	0.00052	0.24250	-0.20998	0.00021	0.30011	-0.10412	0.00000	0.41364	0.00175
50-54	0.00061	0.24250	-1.39667	0.00025	0.30011	-0.74380	0.00000	0.41364	-0.09093
55-59	0.00030	0.24250	-1.39667	0.00010	0.30011	-0.74380	0.00000	0.41364	-0.09093
60-64	0.00006	0.24250	-0.07303	0.00002	0.30011	-0.03651	0.00000	0.41364	0.00000
65 or over	0.00001	0.24250	0.66187	0.00000	0.30011	0.66187	0.00000	0.41364	0.66187

312 – Building and engineering technicians

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00325	0.21894	0.00000	0.00150	0.28015	0.00000	0.00051	0.34135	0.00000
20-24	0.00117	0.21894	-1.53036	0.00060	0.28015	-1.23118	0.00024	0.34135	-0.93200
25-29	0.00033	0.17234	-0.00890	0.00016	0.25684	0.04455	0.00005	0.34135	0.11309
30-34	0.00020	0.21429	-0.00890	0.00012	0.54286	0.04455	0.00005	0.87143	0.11309
35-39	0.00008	0.21429	-0.00890	0.00005	0.41548	0.04455	0.00002	0.61667	0.11309
40-44	0.00007	0.28182	-0.00890	0.00005	0.28377	0.04455	0.00003	0.28571	0.11309
45-49	0.00006	0.28182	-0.00890	0.00004	0.28377	0.04455	0.00003	0.28571	0.11309
50-54	0.00006	0.28182	-0.00890	0.00002	0.28377	0.04455	0.00000	0.28571	0.11309
55-59	0.00001	0.28182	0.06415	0.00001	0.28377	0.11957	0.00000	0.28571	0.17499
60-64	0.00004	0.28182	0.40851	0.00001	0.28377	0.44238	0.00000	0.28571	0.47624
65 or over	0.00000	0.28182	0.47676	0.00000	0.28377	0.62490	0.00000	0.28571	0.77305
Female									
15-19	0.00035	0.09737	0.00000	0.00015	0.56944	0.00000	0.00003	0.86429	0.00000
20-24	0.00011	0.09737	-2.89722	0.00007	0.56944	-1.18716	0.00003	0.86429	0.52291
25-29	0.00003	0.09737	-1.50431	0.00002	0.56944	-1.00081	0.00001	0.86429	-0.49730
30-34	0.00002	0.09737	0.00000	0.00001	0.56944	0.27917	0.00000	0.86429	0.55833
35-39	0.00001	0.09737	0.49083	0.00000	0.56944	0.58175	0.00000	0.86429	0.67267
40-44	0.00001	0.09737	-0.35000	0.00000	0.56944	-0.17500	0.00000	0.86429	0.00000
45-49	0.00000	0.09737	-0.50000	0.00000	0.56944	-0.25000	0.00000	0.86429	0.00000
50-54	0.00000	0.09737	-0.47167	0.00000	0.56944	-0.23833	0.00000	0.86429	-0.00500
55-59	0.00000	0.09737	-0.47167	0.00000	0.56944	-0.23833	0.00000	0.86429	-0.00500
60-64	0.00000	0.09737	-1.57921	0.00000	0.56944	-0.78960	0.00000	0.86429	0.00000
65 or over	0.00000	0.09737	0.77305	0.00000	0.56944	0.77305	0.00000	0.86429	0.77305

313 – ICT and telecommunications technicians

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00619	0.27857	0.00000	0.00389	0.36295	0.00000	0.00067	0.51212	0.00000
20-24	0.00272	0.27857	-1.81927	0.00171	0.36295	-1.76565	0.00033	0.51212	-1.71202
25-29	0.00100	0.45282	-0.04076	0.00053	0.55624	0.08657	0.00008	0.70379	0.21390
30-34	0.00042	0.48583	-0.04076	0.00026	0.54648	0.08657	0.00004	0.64149	0.21390
35-39	0.00035	0.48333	-0.04076	0.00019	0.52408	0.08657	0.00003	0.57679	0.21390
40-44	0.00021	0.28000	-0.04076	0.00010	0.45630	0.08657	0.00002	0.57679	0.21390
45-49	0.00010	0.28000	-0.04076	0.00006	0.45630	0.08657	0.00001	0.57679	0.21390
50-54	0.00007	0.28000	-0.04076	0.00004	0.45630	0.08657	0.00000	0.57679	0.21390
55-59	0.00006	0.28000	0.38246	0.00003	0.45630	0.38425	0.00000	0.57679	0.38605
60-64	0.00001	0.28000	-0.01534	0.00001	0.45630	0.10715	0.00000	0.57679	0.22965
65 or over	0.00000	0.28000	-0.30992	0.00000	0.45630	0.22794	0.00000	0.57679	0.76581
Female									
15-19	0.00101	0.06818	0.00000	0.00061	0.29818	0.00000	0.00014	0.46738	0.00000
20-24	0.00064	0.06818	0.00000	0.00042	0.29818	0.00000	0.00020	0.46738	0.00000
25-29	0.00025	0.09091	-0.55508	0.00017	0.38070	-0.36546	0.00008	0.58382	-0.17583
30-34	0.00016	0.09091	0.42405	0.00013	0.38392	0.49674	0.00009	0.59348	0.56943
35-39	0.00014	0.09091	0.30736	0.00012	0.41417	0.66558	0.00011	0.68421	1.02381
40-44	0.00010	0.12500	0.00000	0.00008	0.35579	0.52222	0.00006	0.47500	1.04444
45-49	0.00005	0.12500	0.00000	0.00003	0.35579	0.17222	0.00002	0.47500	0.34444
50-54	0.00008	0.12500	-1.90000	0.00005	0.35579	-0.82500	0.00004	0.47500	0.25000
55-59	0.00002	0.12500	-1.90000	0.00001	0.35579	-0.82500	0.00000	0.47500	0.25000
60-64	0.00000	0.12500	0.00000	0.00000	0.35579	0.00000	0.00000	0.47500	0.00000
65 or over	0.00000	0.12500	-0.30992	0.00000	0.35579	-0.30992	0.00000	0.47500	-0.30992

321 – Automotive electricians and mechanics

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.05012	0.36761	0.00000	0.03971	0.43088	0.00000	0.03034	0.47566	0.00000
20-24	0.01299	0.36761	-0.72381	0.00964	0.43088	-0.35947	0.00718	0.47566	0.00488
25-29	0.00328	0.52901	0.16444	0.00203	0.59386	0.11257	0.00093	0.70730	0.19322
30-34	0.00154	0.44891	0.16444	0.00087	0.48382	0.11257	0.00033	0.54860	0.19322
35-39	0.00093	0.31250	0.16444	0.00050	0.43829	0.11257	0.00011	0.50385	0.19322
40-44	0.00040	0.20000	0.16444	0.00020	0.34174	0.11257	0.00004	0.52750	0.19322
45-49	0.00017	0.20000	0.16444	0.00011	0.34174	0.11257	0.00000	0.52750	0.19322
50-54	0.00008	0.20000	0.16444	0.00004	0.34174	0.11257	0.00000	0.52750	0.19322
55-59	0.00003	0.20000	-0.17136	0.00003	0.34174	0.00893	0.00002	0.52750	0.18923
60-64	0.00000	0.20000	0.40398	0.00000	0.34174	0.55433	0.00000	0.52750	0.70469
65 or over	0.00000	0.20000	0.20215	0.00000	0.34174	0.42886	0.00000	0.52750	0.65558
Female									
15-19	0.00089	0.51012	0.00000	0.00055	0.65742	0.00000	0.00034	0.92583	0.00000
20-24	0.00030	0.51012	0.00000	0.00022	0.65742	0.68896	0.00014	0.92583	1.37793
25-29	0.00007	0.51012	0.00000	0.00005	0.65742	0.00000	0.00001	0.92583	0.00000
30-34	0.00006	0.51012	-0.86667	0.00003	0.65742	-0.75208	0.00001	0.92583	-0.63750
35-39	0.00003	0.51012	-0.99167	0.00002	0.65742	-0.15583	0.00001	0.92583	0.68000
40-44	0.00001	0.51012	0.00000	0.00001	0.65742	0.00000	0.00001	0.92583	0.00000
45-49	0.00000	0.51012	0.00000	0.00000	0.65742	0.00000	0.00000	0.92583	0.00000
50-54	0.00000	0.51012	0.00000	0.00000	0.65742	0.50000	0.00000	0.92583	1.00000
55-59	0.00000	0.51012	0.00000	0.00000	0.65742	0.50000	0.00000	0.92583	1.00000
60-64	0.00000	0.51012	0.00000	0.00000	0.65742	0.00000	0.00000	0.92583	0.00000
65 or over	0.00000	0.51012	0.65558	0.00000	0.65742	0.65558	0.00000	0.92583	0.65558

322 – Fabrication engineering trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.02715	0.37071	0.00000	0.01851	0.40738	0.00000	0.01334	0.46556	0.00000
20-24	0.00841	0.37071	-0.89742	0.00488	0.40738	-0.69076	0.00253	0.46556	-0.48411
25-29	0.00388	0.42500	0.00839	0.00178	0.49913	0.05506	0.00041	0.58067	0.11325
30-34	0.00210	0.36000	0.00839	0.00099	0.45661	0.05506	0.00018	0.50881	0.11325
35-39	0.00136	0.15385	0.00839	0.00060	0.37976	0.05506	0.00009	0.50787	0.11325
40-44	0.00095	0.33333	0.00839	0.00040	0.40566	0.05506	0.00005	0.52199	0.11325
45-49	0.00050	0.33333	0.00839	0.00021	0.40566	0.05506	0.00003	0.52199	0.11325
50-54	0.00036	0.33333	0.00839	0.00013	0.40566	0.05506	0.00000	0.52199	0.11325
55-59	0.00018	0.33333	0.02379	0.00007	0.40566	0.14919	0.00000	0.52199	0.27458
60-64	0.00008	0.33333	0.30457	0.00003	0.40566	0.37462	0.00000	0.52199	0.44468
65 or over	0.00002	0.33333	0.30293	0.00001	0.40566	0.52326	0.00000	0.52199	0.74358
Female									
15-19	0.00021	0.31250	0.00000	0.00016	0.41338	0.00000	0.00009	0.55172	0.00000
20-24	0.00020	0.31250	0.00000	0.00010	0.41338	0.04945	0.00004	0.55172	0.09889
25-29	0.00017	0.31250	-2.04430	0.00008	0.41338	-1.58969	0.00001	0.55172	-1.13507
30-34	0.00013	0.31250	-0.66200	0.00006	0.41338	-0.33822	0.00001	0.55172	-0.01444
35-39	0.00011	0.31250	-0.12556	0.00005	0.41338	0.43622	0.00001	0.55172	0.99800
40-44	0.00012	0.31250	0.00000	0.00005	0.41338	0.50000	0.00001	0.55172	1.00000
45-49	0.00007	0.31250	-1.22500	0.00002	0.41338	-0.61250	0.00000	0.55172	0.00000
50-54	0.00004	0.31250	-0.77750	0.00001	0.41338	0.11139	0.00000	0.55172	1.00028
55-59	0.00002	0.31250	-0.77750	0.00001	0.41338	0.11139	0.00000	0.55172	1.00028
60-64	0.00000	0.31250	1.00000	0.00000	0.41338	1.00000	0.00000	0.55172	1.00000
65 or over	0.00000	0.31250	0.74358	0.00000	0.41338	0.74358	0.00000	0.55172	0.74358

323 – Mechanical engineering trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.02695	0.25001	0.00000	0.02261	0.30119	0.00000	0.01659	0.32914	0.00000
20-24	0.00842	0.25001	-0.89742	0.00628	0.30119	-0.69076	0.00517	0.32914	-0.48411
25-29	0.00313	0.19977	0.00839	0.00212	0.35262	0.05506	0.00151	0.48607	0.11325
30-34	0.00181	0.15287	0.00839	0.00117	0.31719	0.05506	0.00084	0.46387	0.11325
35-39	0.00091	0.24923	0.00839	0.00066	0.30720	0.05506	0.00046	0.34737	0.11325
40-44	0.00053	0.20882	0.00839	0.00038	0.33452	0.05506	0.00026	0.47449	0.11325
45-49	0.00026	0.20882	0.00839	0.00020	0.33452	0.05506	0.00012	0.47449	0.11325
50-54	0.00017	0.20882	0.00839	0.00010	0.33452	0.05506	0.00005	0.47449	0.11325
55-59	0.00005	0.20882	0.02379	0.00003	0.33452	0.14919	0.00001	0.47449	0.27458
60-64	0.00005	0.20882	0.30457	0.00002	0.33452	0.37462	0.00000	0.47449	0.44468
65 or over	0.00000	0.20882	0.30293	0.00000	0.33452	0.52326	0.00000	0.47449	0.74358
Female									
15-19	0.00041	0.28245	0.00000	0.00029	0.45547	0.00000	0.00019	0.66778	0.00000
20-24	0.00034	0.28245	0.00000	0.00026	0.45547	0.04945	0.00017	0.66778	0.09889
25-29	0.00008	0.28245	-2.04430	0.00005	0.45547	-1.58969	0.00003	0.66778	-1.13507
30-34	0.00006	0.28245	-0.66200	0.00005	0.45547	-0.33822	0.00005	0.66778	-0.01444
35-39	0.00002	0.28245	-0.12556	0.00001	0.45547	0.43622	0.00001	0.66778	0.99800
40-44	0.00001	0.28245	0.00000	0.00000	0.45547	0.50000	0.00000	0.66778	1.00000
45-49	0.00002	0.28245	-1.22500	0.00001	0.45547	-0.61250	0.00000	0.66778	0.00000
50-54	0.00000	0.28245	-0.77750	0.00000	0.45547	0.11139	0.00000	0.66778	1.00028
55-59	0.00000	0.28245	-0.77750	0.00000	0.45547	0.11139	0.00000	0.66778	1.00028
60-64	0.00000	0.28245	1.00000	0.00000	0.45547	1.00000	0.00000	0.66778	1.00000
65 or over	0.00000	0.28245	0.74358	0.00000	0.45547	0.74358	0.00000	0.66778	0.74358

324 – Panelbeaters, and vehicle body builders, trimmers and pai

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.01480	0.43354	0.00000	0.01353	0.54554	0.00000	0.01184	0.62451	0.00000
20-24	0.00472	0.43354	-0.72381	0.00385	0.54554	-0.35947	0.00304	0.62451	0.00488
25-29	0.00125	0.43354	0.16444	0.00070	0.57801	0.11257	0.00027	0.67600	0.19322
30-34	0.00060	0.43354	0.16444	0.00030	0.51475	0.11257	0.00008	0.62451	0.19322
35-39	0.00040	0.43354	0.16444	0.00020	0.52728	0.11257	0.00006	0.62451	0.19322
40-44	0.00022	0.43354	0.16444	0.00009	0.57490	0.11257	0.00001	0.66667	0.19322
45-49	0.00012	0.43354	0.16444	0.00006	0.57490	0.11257	0.00000	0.66667	0.19322
50-54	0.00004	0.43354	0.16444	0.00002	0.57490	0.11257	0.00000	0.66667	0.19322
55-59	0.00000	0.43354	-0.17136	0.00000	0.57490	0.00893	0.00000	0.66667	0.18923
60-64	0.00000	0.43354	0.40398	0.00000	0.57490	0.55433	0.00000	0.66667	0.70469
65 or over	0.00000	0.43354	0.20215	0.00000	0.57490	0.42886	0.00000	0.66667	0.65558
Female									
15-19	0.00033	0.34000	0.00000	0.00023	0.42767	0.00000	0.00016	0.52357	0.00000
20-24	0.00023	0.34000	0.00000	0.00018	0.42767	0.68896	0.00009	0.52357	1.37793
25-29	0.00021	0.34000	0.00000	0.00008	0.42767	0.00000	0.00000	0.52357	0.00000
30-34	0.00014	0.34000	-0.86667	0.00005	0.42767	-0.75208	0.00001	0.52357	-0.63750
35-39	0.00013	0.34000	-0.99167	0.00004	0.42767	-0.15583	0.00000	0.52357	0.68000
40-44	0.00010	0.34000	0.00000	0.00003	0.42767	0.00000	0.00000	0.52357	0.00000
45-49	0.00005	0.34000	0.00000	0.00002	0.42767	0.00000	0.00000	0.52357	0.00000
50-54	0.00005	0.34000	0.00000	0.00002	0.42767	0.50000	0.00000	0.52357	1.00000
55-59	0.00000	0.34000	0.00000	0.00000	0.42767	0.50000	0.00000	0.52357	1.00000
60-64	0.00000	0.34000	0.00000	0.00000	0.42767	0.00000	0.00000	0.52357	0.00000
65 or over	0.00000	0.34000	0.65558	0.00000	0.42767	0.65558	0.00000	0.52357	0.65558

331 – Bricklayers, and carpenters and joiners

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.06199	0.47632	0.00000	0.04176	0.54471	0.00000	0.02847	0.63055	0.00000
20-24	0.01989	0.47632	-1.53036	0.01252	0.54471	-1.23118	0.00802	0.63055	-0.93200
25-29	0.00481	0.56714	-0.00890	0.00267	0.72629	0.04455	0.00109	0.86856	0.11309
30-34	0.00228	0.48777	-0.00890	0.00115	0.59857	0.04455	0.00046	0.80637	0.11309
35-39	0.00104	0.45099	-0.00890	0.00049	0.52572	0.04455	0.00020	0.60294	0.11309
40-44	0.00034	0.51000	-0.00890	0.00018	0.61216	0.04455	0.00008	0.66667	0.11309
45-49	0.00014	0.51000	-0.00890	0.00009	0.61216	0.04455	0.00005	0.66667	0.11309
50-54	0.00003	0.51000	-0.00890	0.00002	0.61216	0.04455	0.00001	0.66667	0.11309
55-59	0.00003	0.51000	0.06415	0.00001	0.61216	0.11957	0.00000	0.66667	0.17499
60-64	0.00000	0.51000	0.40851	0.00000	0.61216	0.44238	0.00000	0.66667	0.47624
65 or over	0.00000	0.51000	0.47676	0.00000	0.61216	0.62490	0.00000	0.66667	0.77305
Female									
15-19	0.00033	0.40323	0.00000	0.00024	0.49518	0.00000	0.00020	0.58714	0.00000
20-24	0.00017	0.40323	-2.89722	0.00010	0.49518	-1.18716	0.00007	0.58714	0.52291
25-29	0.00007	0.40323	-1.50431	0.00006	0.49518	-1.00081	0.00005	0.58714	-0.49730
30-34	0.00004	0.40323	0.00000	0.00004	0.49518	0.27917	0.00004	0.58714	0.55833
35-39	0.00003	0.40323	0.49083	0.00002	0.49518	0.58175	0.00001	0.58714	0.67267
40-44	0.00002	0.40323	-0.35000	0.00001	0.49518	-0.17500	0.00000	0.58714	0.00000
45-49	0.00001	0.40323	-0.50000	0.00000	0.49518	-0.25000	0.00000	0.58714	0.00000
50-54	0.00000	0.40323	-0.47167	0.00000	0.49518	-0.23833	0.00000	0.58714	-0.00500
55-59	0.00000	0.40323	-0.47167	0.00000	0.49518	-0.23833	0.00000	0.58714	-0.00500
60-64	0.00000	0.40323	-1.57921	0.00000	0.49518	-0.78960	0.00000	0.58714	0.00000
65 or over	0.00000	0.40323	0.77305	0.00000	0.49518	0.77305	0.00000	0.58714	0.77305

332 – Floor finishers and painting trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00866	0.51125	0.00000	0.00637	0.55994	0.00000	0.00481	0.61286	0.00000
20-24	0.00275	0.51125	-1.53036	0.00203	0.55994	-1.23118	0.00134	0.61286	-0.93200
25-29	0.00061	0.53431	-0.00890	0.00037	0.68114	0.04455	0.00013	0.79474	0.11309
30-34	0.00024	0.41667	-0.00890	0.00011	0.57684	0.04455	0.00003	0.79474	0.11309
35-39	0.00010	0.38750	-0.00890	0.00006	0.52622	0.04455	0.00001	0.79474	0.11309
40-44	0.00006	0.38750	-0.00890	0.00003	0.56408	0.04455	0.00000	0.79474	0.11309
45-49	0.00002	0.38750	-0.00890	0.00001	0.56408	0.04455	0.00000	0.79474	0.11309
50-54	0.00001	0.38750	-0.00890	0.00001	0.56408	0.04455	0.00000	0.79474	0.11309
55-59	0.00002	0.38750	0.06415	0.00001	0.56408	0.11957	0.00000	0.79474	0.17499
60-64	0.00000	0.38750	0.40851	0.00000	0.56408	0.44238	0.00000	0.79474	0.47624
65 or over	0.00000	0.38750	0.47676	0.00000	0.56408	0.62490	0.00000	0.79474	0.77305
Female									
15-19	0.00046	0.50000	0.00000	0.00029	0.66395	0.00000	0.00018	0.81628	0.00000
20-24	0.00019	0.50000	-2.89722	0.00015	0.66395	-1.18716	0.00012	0.81628	0.52291
25-29	0.00008	0.50000	-1.50431	0.00005	0.66395	-1.00081	0.00002	0.81628	-0.49730
30-34	0.00001	0.50000	0.00000	0.00000	0.66395	0.27917	0.00000	0.81628	0.55833
35-39	0.00001	0.50000	0.49083	0.00000	0.66395	0.58175	0.00000	0.81628	0.67267
40-44	0.00001	0.50000	-0.35000	0.00000	0.66395	-0.17500	0.00000	0.81628	0.00000
45-49	0.00000	0.50000	-0.50000	0.00000	0.66395	-0.25000	0.00000	0.81628	0.00000
50-54	0.00000	0.50000	-0.47167	0.00000	0.66395	-0.23833	0.00000	0.81628	-0.00500
55-59	0.00000	0.50000	-0.47167	0.00000	0.66395	-0.23833	0.00000	0.81628	-0.00500
60-64	0.00000	0.50000	-1.57921	0.00000	0.66395	-0.78960	0.00000	0.81628	0.00000
65 or over	0.00000	0.50000	0.77305	0.00000	0.66395	0.77305	0.00000	0.81628	0.77305

333 – Glaziers, plasterers and tilers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.01445	0.57620	0.00000	0.00968	0.61017	0.00000	0.00637	0.65542	0.00000
20-24	0.00413	0.57620	-1.53036	0.00282	0.61017	-1.23118	0.00182	0.65542	-0.93200
25-29	0.00072	0.62703	-0.00890	0.00047	0.71916	0.04455	0.00026	0.77623	0.11309
30-34	0.00029	0.46154	-0.00890	0.00016	0.59674	0.04455	0.00009	0.77623	0.11309
35-39	0.00015	0.43864	-0.00890	0.00007	0.60871	0.04455	0.00003	0.88750	0.11309
40-44	0.00004	0.50000	-0.00890	0.00002	0.63472	0.04455	0.00000	0.88750	0.11309
45-49	0.00001	0.50000	-0.00890	0.00001	0.63472	0.04455	0.00001	0.88750	0.11309
50-54	0.00001	0.50000	-0.00890	0.00000	0.63472	0.04455	0.00000	0.88750	0.11309
55-59	0.00001	0.50000	0.06415	0.00000	0.63472	0.11957	0.00000	0.88750	0.17499
60-64	0.00000	0.50000	0.40851	0.00000	0.63472	0.44238	0.00000	0.88750	0.47624
65 or over	0.00000	0.50000	0.47676	0.00000	0.63472	0.62490	0.00000	0.88750	0.77305
Female									
15-19	0.00037	0.31014	0.00000	0.00017	0.44007	0.00000	0.00005	0.57000	0.00000
20-24	0.00018	0.31014	-2.89722	0.00008	0.44007	-1.18716	0.00002	0.57000	0.52291
25-29	0.00002	0.31014	-1.50431	0.00001	0.44007	-1.00081	0.00000	0.57000	-0.49730
30-34	0.00001	0.31014	0.00000	0.00000	0.44007	0.27917	0.00000	0.57000	0.55833
35-39	0.00001	0.31014	0.49083	0.00000	0.44007	0.58175	0.00000	0.57000	0.67267
40-44	0.00001	0.31014	-0.35000	0.00000	0.44007	-0.17500	0.00000	0.57000	0.00000
45-49	0.00001	0.31014	-0.50000	0.00001	0.44007	-0.25000	0.00000	0.57000	0.00000
50-54	0.00000	0.31014	-0.47167	0.00000	0.44007	-0.23833	0.00000	0.57000	-0.00500
55-59	0.00000	0.31014	-0.47167	0.00000	0.44007	-0.23833	0.00000	0.57000	-0.00500
60-64	0.00000	0.31014	-1.57921	0.00000	0.44007	-0.78960	0.00000	0.57000	0.00000
65 or over	0.00000	0.31014	0.77305	0.00000	0.44007	0.77305	0.00000	0.57000	0.77305

334 – Plumbers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.02485	0.44163	0.00000	0.01591	0.49380	0.00000	0.00996	0.53602	0.00000
20-24	0.00961	0.44163	-1.53036	0.00587	0.49380	-1.23118	0.00333	0.53602	-0.93200
25-29	0.00359	0.49253	-0.00890	0.00179	0.57890	0.04455	0.00059	0.62381	0.11309
30-34	0.00204	0.38671	-0.00890	0.00090	0.50902	0.04455	0.00023	0.57823	0.11309
35-39	0.00094	0.34044	-0.00890	0.00040	0.60270	0.04455	0.00008	0.82727	0.11309
40-44	0.00055	0.23846	-0.00890	0.00022	0.48405	0.04455	0.00003	0.82727	0.11309
45-49	0.00031	0.23846	-0.00890	0.00012	0.48405	0.04455	0.00002	0.82727	0.11309
50-54	0.00023	0.23846	-0.00890	0.00009	0.48405	0.04455	0.00001	0.82727	0.11309
55-59	0.00012	0.23846	0.06415	0.00004	0.48405	0.11957	0.00000	0.82727	0.17499
60-64	0.00008	0.23846	0.40851	0.00003	0.48405	0.44238	0.00000	0.82727	0.47624
65 or over	0.00001	0.23846	0.47676	0.00000	0.48405	0.62490	0.00000	0.82727	0.77305
Female									
15-19	0.00011	0.40000	0.00000	0.00005	0.65406	0.00000	0.00002	0.91000	0.00000
20-24	0.00007	0.40000	-2.89722	0.00003	0.65406	-1.18716	0.00001	0.91000	0.52291
25-29	0.00007	0.40000	-1.50431	0.00003	0.65406	-1.00081	0.00001	0.91000	-0.49730
30-34	0.00004	0.40000	0.00000	0.00001	0.65406	0.27917	0.00000	0.91000	0.55833
35-39	0.00002	0.40000	0.49083	0.00001	0.65406	0.58175	0.00000	0.91000	0.67267
40-44	0.00002	0.40000	-0.35000	0.00001	0.65406	-0.17500	0.00000	0.91000	0.00000
45-49	0.00003	0.40000	-0.50000	0.00001	0.65406	-0.25000	0.00000	0.91000	0.00000
50-54	0.00001	0.40000	-0.47167	0.00000	0.65406	-0.23833	0.00000	0.91000	-0.00500
55-59	0.00000	0.40000	-0.47167	0.00000	0.65406	-0.23833	0.00000	0.91000	-0.00500
60-64	0.00000	0.40000	-1.57921	0.00000	0.65406	-0.78960	0.00000	0.91000	0.00000
65 or over	0.00000	0.40000	0.77305	0.00000	0.65406	0.77305	0.00000	0.91000	0.77305

341 – Electricians

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.03935	0.30423	0.00000	0.02722	0.33485	0.00000	0.02058	0.37847	0.00000
20-24	0.01453	0.30423	-1.81927	0.00922	0.33485	-1.76565	0.00611	0.37847	-1.71202
25-29	0.00548	0.34434	-0.04076	0.00275	0.38471	0.08657	0.00112	0.42246	0.21390
30-34	0.00263	0.28402	-0.04076	0.00137	0.33308	0.08657	0.00069	0.42434	0.21390
35-39	0.00144	0.14286	-0.04076	0.00073	0.32583	0.08657	0.00029	0.49773	0.21390
40-44	0.00071	0.16852	-0.04076	0.00037	0.30252	0.08657	0.00019	0.44619	0.21390
45-49	0.00033	0.16852	-0.04076	0.00016	0.30252	0.08657	0.00005	0.44619	0.21390
50-54	0.00010	0.16852	-0.04076	0.00006	0.30252	0.08657	0.00003	0.44619	0.21390
55-59	0.00005	0.16852	0.38246	0.00003	0.30252	0.38425	0.00002	0.44619	0.38605
60-64	0.00000	0.16852	-0.01534	0.00000	0.30252	0.10715	0.00000	0.44619	0.22965
65 or over	0.00000	0.16852	-0.30992	0.00000	0.30252	0.22794	0.00000	0.44619	0.76581
Female									
15-19	0.00116	0.26677	0.00000	0.00061	0.33709	0.00000	0.00021	0.40326	0.00000
20-24	0.00026	0.26677	0.00000	0.00021	0.33709	0.00000	0.00015	0.40326	0.00000
25-29	0.00013	0.26677	-0.55508	0.00009	0.34099	-0.36546	0.00004	0.40326	-0.17583
30-34	0.00008	0.26677	0.42405	0.00005	0.31425	0.49674	0.00001	0.40326	0.56943
35-39	0.00004	0.26677	0.30736	0.00002	0.39001	0.66558	0.00000	0.50000	1.02381
40-44	0.00003	0.26677	0.00000	0.00001	0.43584	0.52222	0.00000	0.63750	1.04444
45-49	0.00000	0.26677	0.00000	0.00000	0.43584	0.17222	0.00000	0.63750	0.34444
50-54	0.00000	0.26677	-1.90000	0.00000	0.43584	-0.82500	0.00000	0.63750	0.25000
55-59	0.00001	0.26677	-1.90000	0.00000	0.43584	-0.82500	0.00000	0.63750	0.25000
60-64	0.00000	0.26677	0.00000	0.00000	0.43584	0.00000	0.00000	0.63750	0.00000
65 or over	0.00000	0.26677	-0.30992	0.00000	0.43584	-0.30992	0.00000	0.63750	-0.30992

342 – Electronics and telecommunications trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00963	0.29714	0.00000	0.00688	0.40523	0.00000	0.00543	0.57203	0.00000
20-24	0.00487	0.29714	-1.81927	0.00314	0.40523	-1.76565	0.00191	0.57203	-1.71202
25-29	0.00172	0.31035	-0.04076	0.00090	0.47636	0.08657	0.00045	0.77667	0.21390
30-34	0.00108	0.19934	-0.04076	0.00050	0.34020	0.08657	0.00016	0.53649	0.21390
35-39	0.00053	0.22338	-0.04076	0.00026	0.32358	0.08657	0.00013	0.48421	0.21390
40-44	0.00026	0.24487	-0.04076	0.00013	0.32768	0.08657	0.00005	0.47500	0.21390
45-49	0.00007	0.24487	-0.04076	0.00005	0.32768	0.08657	0.00002	0.47500	0.21390
50-54	0.00004	0.24487	-0.04076	0.00001	0.32768	0.08657	0.00000	0.47500	0.21390
55-59	0.00003	0.24487	0.38246	0.00002	0.32768	0.38425	0.00001	0.47500	0.38605
60-64	0.00000	0.24487	-0.01534	0.00000	0.32768	0.10715	0.00000	0.47500	0.22965
65 or over	0.00000	0.24487	-0.30992	0.00000	0.32768	0.22794	0.00000	0.47500	0.76581
Female									
15-19	0.00016	0.19524	0.00000	0.00009	0.51563	0.00000	0.00004	0.92857	0.00000
20-24	0.00009	0.19524	0.00000	0.00007	0.51563	0.00000	0.00005	0.92857	0.00000
25-29	0.00004	0.19524	-0.55508	0.00002	0.51563	-0.36546	0.00000	0.92857	-0.17583
30-34	0.00002	0.19524	0.42405	0.00001	0.51563	0.49674	0.00001	0.92857	0.56943
35-39	0.00001	0.19524	0.30736	0.00000	0.51563	0.66558	0.00000	0.92857	1.02381
40-44	0.00001	0.19524	0.00000	0.00000	0.51563	0.52222	0.00000	0.92857	1.04444
45-49	0.00001	0.19524	0.00000	0.00000	0.51563	0.17222	0.00000	0.92857	0.34444
50-54	0.00001	0.19524	-1.90000	0.00000	0.51563	-0.82500	0.00000	0.92857	0.25000
55-59	0.00000	0.19524	-1.90000	0.00000	0.51563	-0.82500	0.00000	0.92857	0.25000
60-64	0.00000	0.19524	0.00000	0.00000	0.51563	0.00000	0.00000	0.92857	0.00000
65 or over	0.00000	0.19524	-0.30992	0.00000	0.51563	-0.30992	0.00000	0.92857	-0.30992

351 – Food trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.04005	0.57076	0.00000	0.03649	0.64107	0.00000	0.03348	0.67677	0.00000
20-24	0.01808	0.57076	-0.12370	0.01538	0.64107	-0.06660	0.01245	0.67677	-0.00951
25-29	0.00421	0.74709	0.27831	0.00288	0.85447	0.24082	0.00146	0.99173	0.39389
30-34	0.00178	0.67550	0.27831	0.00099	0.71195	0.24082	0.00036	0.77745	0.39389
35-39	0.00074	0.51515	0.27831	0.00044	0.65798	0.24082	0.00023	0.77700	0.39389
40-44	0.00051	0.63125	0.27831	0.00026	0.64287	0.24082	0.00006	0.65987	0.39389
45-49	0.00029	0.63125	0.27831	0.00017	0.64287	0.24082	0.00003	0.65987	0.39389
50-54	0.00016	0.63125	0.27831	0.00010	0.64287	0.24082	0.00005	0.65987	0.39389
55-59	0.00015	0.63125	0.43655	0.00007	0.64287	0.55686	0.00002	0.65987	0.67717
60-64	0.00005	0.63125	0.07203	0.00002	0.64287	0.30185	0.00000	0.65987	0.53167
65 or over	0.00002	0.63125	0.23688	0.00001	0.64287	0.45583	0.00000	0.65987	0.67477
Female									
15-19	0.01381	0.55974	0.00000	0.01342	0.65380	0.00000	0.01288	0.70149	0.00000
20-24	0.00758	0.55974	-0.13534	0.00711	0.65380	-0.07783	0.00673	0.70149	-0.02032
25-29	0.00164	0.56429	-0.05326	0.00133	0.74898	0.18503	0.00091	0.87766	0.42332
30-34	0.00083	0.60171	-1.89155	0.00053	0.72618	-0.78127	0.00033	0.79457	0.32901
35-39	0.00050	0.34318	0.21160	0.00036	0.44598	0.29446	0.00015	0.54615	0.37732
40-44	0.00047	0.16667	-0.23373	0.00036	0.37759	-0.03214	0.00014	0.59437	0.16944
45-49	0.00054	0.16667	-0.96337	0.00031	0.37759	-0.76926	0.00010	0.59437	-0.57515
50-54	0.00027	0.16667	0.18261	0.00017	0.37759	0.31085	0.00002	0.59437	0.43910
55-59	0.00015	0.16667	0.18261	0.00010	0.37759	0.31085	0.00001	0.59437	0.43910
60-64	0.00006	0.16667	-0.36059	0.00003	0.37759	0.00720	0.00000	0.59437	0.37500
65 or over	0.00001	0.16667	0.67477	0.00000	0.37759	0.67477	0.00000	0.59437	0.67477

361 – Animal attendants and trainers, and shearers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00043	0.38718	0.00000	0.00024	0.40909	0.00000	0.00000	0.43100	0.00000
20-24	0.00041	0.38718	-1.20746	0.00017	0.40909	-0.83444	0.00000	0.43100	-0.46142
25-29	0.00036	0.36563	-0.25262	0.00013	0.39831	-0.07077	0.00000	0.43100	0.16118
30-34	0.00032	0.35556	-0.25262	0.00011	0.39328	-0.07077	0.00000	0.43100	0.16118
35-39	0.00016	0.30435	-0.25262	0.00006	0.36767	-0.07077	0.00000	0.43100	0.16118
40-44	0.00020	0.20000	-0.25262	0.00007	0.31550	-0.07077	0.00000	0.43100	0.16118
45-49	0.00014	0.20000	-0.25262	0.00005	0.31550	-0.07077	0.00000	0.43100	0.16118
50-54	0.00010	0.20000	-0.25262	0.00003	0.31550	-0.07077	0.00000	0.43100	0.16118
55-59	0.00008	0.20000	-0.90517	0.00003	0.31550	-0.47069	0.00000	0.43100	-0.03620
60-64	0.00003	0.20000	-0.02345	0.00001	0.31550	0.14800	0.00000	0.43100	0.31945
65 or over	0.00000	0.20000	0.34001	0.00000	0.31550	0.50094	0.00000	0.43100	0.66187
Female									
15-19	0.00176	0.26573	0.00000	0.00099	0.32198	0.00000	0.00000	0.37823	0.00000
20-24	0.00105	0.26573	-1.16932	0.00056	0.32198	-0.77569	0.00000	0.37823	-0.38207
25-29	0.00047	0.29787	-0.88636	0.00027	0.37560	-0.68710	0.00000	0.45333	-0.48783
30-34	0.00029	0.10333	0.17230	0.00013	0.25350	0.37541	0.00000	0.40366	0.57853
35-39	0.00024	0.29412	-1.00461	0.00012	0.30748	-0.89460	0.00000	0.32083	-0.78460
40-44	0.00013	0.20000	-2.41400	0.00006	0.40000	-1.16889	0.00000	0.60000	0.07621
45-49	0.00007	0.20000	-0.20998	0.00003	0.40000	-0.10412	0.00000	0.60000	0.00175
50-54	0.00002	0.20000	-1.39667	0.00001	0.40000	-0.74380	0.00000	0.60000	-0.09093
55-59	0.00001	0.20000	-1.39667	0.00000	0.40000	-0.74380	0.00000	0.60000	-0.09093
60-64	0.00000	0.20000	-0.07303	0.00000	0.40000	-0.03651	0.00000	0.60000	0.00000
65 or over	0.00000	0.20000	0.66187	0.00000	0.40000	0.66187	0.00000	0.60000	0.66187

362 – Horticultural trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00966	0.43029	0.00000	0.00794	0.46520	0.00000	0.00609	0.48280	0.00000
20-24	0.00464	0.43029	-1.20746	0.00312	0.46520	-0.83444	0.00160	0.48280	-0.46142
25-29	0.00182	0.50000	-0.25262	0.00107	0.53874	-0.07077	0.00016	0.60934	0.16118
30-34	0.00109	0.47662	-0.25262	0.00072	0.49689	-0.07077	0.00008	0.51405	0.16118
35-39	0.00089	0.38398	-0.25262	0.00053	0.47207	-0.07077	0.00004	0.60722	0.16118
40-44	0.00076	0.28571	-0.25262	0.00045	0.36993	-0.07077	0.00005	0.49679	0.16118
45-49	0.00056	0.28571	-0.25262	0.00035	0.36993	-0.07077	0.00003	0.49679	0.16118
50-54	0.00042	0.28571	-0.25262	0.00025	0.36993	-0.07077	0.00000	0.49679	0.16118
55-59	0.00029	0.28571	-0.90517	0.00015	0.36993	-0.47069	0.00000	0.49679	-0.03620
60-64	0.00013	0.28571	-0.02345	0.00008	0.36993	0.14800	0.00000	0.49679	0.31945
65 or over	0.00004	0.28571	0.34001	0.00001	0.36993	0.50094	0.00000	0.49679	0.66187
Female									
15-19	0.00185	0.37956	0.00000	0.00156	0.59259	0.00000	0.00113	0.87643	0.00000
20-24	0.00136	0.37956	-1.16932	0.00103	0.59259	-0.77569	0.00068	0.87643	-0.38207
25-29	0.00055	0.42843	-0.88636	0.00033	0.69035	-0.68710	0.00008	0.87643	-0.48783
30-34	0.00038	0.22222	0.17230	0.00023	0.38472	0.37541	0.00006	0.46667	0.57853
35-39	0.00032	0.28958	-1.00461	0.00017	0.40278	-0.89460	0.00003	0.50000	-0.78460
40-44	0.00033	0.21098	-2.41400	0.00021	0.49066	-1.16889	0.00002	0.85000	0.07621
45-49	0.00028	0.21098	-0.20998	0.00014	0.49066	-0.10412	0.00002	0.85000	0.00175
50-54	0.00018	0.21098	-1.39667	0.00009	0.49066	-0.74380	0.00000	0.85000	-0.09093
55-59	0.00006	0.21098	-1.39667	0.00003	0.49066	-0.74380	0.00000	0.85000	-0.09093
60-64	0.00005	0.21098	-0.07303	0.00003	0.49066	-0.03651	0.00000	0.85000	0.00000
65 or over	0.00004	0.21098	0.66187	0.00001	0.49066	0.66187	0.00000	0.85000	0.66187

391 – Hairdressers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00259	0.68213	0.00000	0.00246	0.69558	0.00000	0.00225	0.70428	0.00000
20-24	0.00154	0.68213	-0.59277	0.00127	0.69558	-0.49024	0.00109	0.70428	-0.38772
25-29	0.00024	0.61290	0.08594	0.00021	0.71241	0.08485	0.00018	0.84219	0.18168
30-34	0.00006	0.44286	0.08594	0.00006	0.63425	0.08485	0.00005	0.77778	0.18168
35-39	0.00005	0.36429	0.08594	0.00003	0.60806	0.08485	0.00002	0.77778	0.18168
40-44	0.00003	0.36429	0.08594	0.00001	0.53214	0.08485	0.00001	0.68213	0.18168
45-49	0.00002	0.36429	0.08594	0.00001	0.53214	0.08485	0.00000	0.68213	0.18168
50-54	0.00002	0.36429	0.08594	0.00001	0.53214	0.08485	0.00000	0.68213	0.18168
55-59	0.00000	0.36429	0.00982	0.00000	0.53214	0.18645	0.00000	0.68213	0.36308
60-64	0.00000	0.36429	0.20626	0.00000	0.53214	0.37145	0.00000	0.68213	0.53664
65 or over	0.00000	0.36429	0.32140	0.00000	0.53214	0.38995	0.00000	0.68213	0.45851
Female									
15-19	0.04215	0.57872	0.00000	0.03331	0.59354	0.00000	0.02719	0.60667	0.00000
20-24	0.00999	0.57872	-0.66170	0.00813	0.59354	-0.41549	0.00672	0.60667	-0.16928
25-29	0.00146	0.70241	0.10210	0.00106	0.82183	0.23669	0.00065	0.88725	0.37128
30-34	0.00089	0.46042	0.22747	0.00057	0.60279	0.29351	0.00034	0.72574	0.35955
35-39	0.00054	0.52159	-0.54802	0.00034	0.57934	-0.18870	0.00016	0.64688	0.17062
40-44	0.00028	0.40484	0.19756	0.00023	0.48757	0.22679	0.00018	0.62692	0.25603
45-49	0.00013	0.40484	0.20823	0.00011	0.48757	0.26706	0.00009	0.62692	0.32588
50-54	0.00005	0.40484	-0.09023	0.00004	0.48757	0.10200	0.00002	0.62692	0.29424
55-59	0.00003	0.40484	-0.09023	0.00001	0.48757	0.10200	0.00000	0.62692	0.29424
60-64	0.00001	0.40484	0.64447	0.00000	0.48757	0.66603	0.00000	0.62692	0.68759
65 or over	0.00001	0.40484	0.45851	0.00000	0.48757	0.45851	0.00000	0.62692	0.45851

392 – Printing trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00354	0.36800	0.00000	0.00288	0.38052	0.00000	0.00239	0.39188	0.00000
20-24	0.00160	0.36800	-0.59277	0.00132	0.38052	-0.49024	0.00104	0.39188	-0.38772
25-29	0.00059	0.37108	0.08594	0.00047	0.41424	0.08485	0.00036	0.49516	0.18168
30-34	0.00032	0.20682	0.08594	0.00025	0.28103	0.08485	0.00016	0.41184	0.18168
35-39	0.00017	0.16667	0.08594	0.00013	0.21041	0.08485	0.00009	0.26842	0.18168
40-44	0.00009	0.19615	0.08594	0.00006	0.29929	0.08485	0.00003	0.50556	0.18168
45-49	0.00003	0.19615	0.08594	0.00002	0.29929	0.08485	0.00000	0.50556	0.18168
50-54	0.00001	0.19615	0.08594	0.00000	0.29929	0.08485	0.00000	0.50556	0.18168
55-59	0.00001	0.19615	0.00982	0.00000	0.29929	0.18645	0.00000	0.50556	0.36308
60-64	0.00001	0.19615	0.20626	0.00000	0.29929	0.37145	0.00000	0.50556	0.53664
65 or over	0.00001	0.19615	0.32140	0.00000	0.29929	0.38995	0.00000	0.50556	0.45851
Female									
15-19	0.00056	0.32300	0.00000	0.00054	0.37264	0.00000	0.00050	0.45048	0.00000
20-24	0.00030	0.32300	-0.66170	0.00028	0.37264	-0.41549	0.00026	0.45048	-0.16928
25-29	0.00015	0.39737	0.10210	0.00010	0.47379	0.23669	0.00003	0.57353	0.37128
30-34	0.00006	0.31875	0.22747	0.00004	0.47308	0.29351	0.00002	0.65000	0.35955
35-39	0.00004	0.33333	-0.54802	0.00003	0.39044	-0.18870	0.00001	0.45048	0.17062
40-44	0.00003	0.33333	0.19756	0.00002	0.39460	0.22679	0.00000	0.45048	0.25603
45-49	0.00002	0.33333	0.20823	0.00001	0.39460	0.26706	0.00000	0.45048	0.32588
50-54	0.00000	0.33333	-0.09023	0.00000	0.39460	0.10200	0.00000	0.45048	0.29424
55-59	0.00001	0.33333	-0.09023	0.00000	0.39460	0.10200	0.00000	0.45048	0.29424
60-64	0.00000	0.33333	0.64447	0.00000	0.39460	0.66603	0.00000	0.45048	0.68759
65 or over	0.00000	0.33333	0.45851	0.00000	0.39460	0.45851	0.00000	0.45048	0.45851

393 – Textile, clothing and footwear trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00149	0.52840	0.00000	0.00116	0.59754	0.00000	0.00081	0.68621	0.00000
20-24	0.00043	0.52840	-0.59277	0.00035	0.59754	-0.49024	0.00025	0.68621	-0.38772
25-29	0.00013	0.27500	0.08594	0.00008	0.50758	0.08485	0.00003	0.87500	0.18168
30-34	0.00016	0.27500	0.08594	0.00008	0.29848	0.08485	0.00001	0.32273	0.18168
35-39	0.00008	0.27500	0.08594	0.00003	0.33813	0.08485	0.00000	0.41667	0.18168
40-44	0.00011	0.27500	0.08594	0.00004	0.52083	0.08485	0.00000	0.85000	0.18168
45-49	0.00008	0.27500	0.08594	0.00004	0.52083	0.08485	0.00001	0.85000	0.18168
50-54	0.00004	0.27500	0.08594	0.00002	0.52083	0.08485	0.00000	0.85000	0.18168
55-59	0.00005	0.27500	0.00982	0.00002	0.52083	0.18645	0.00000	0.85000	0.36308
60-64	0.00001	0.27500	0.20626	0.00000	0.52083	0.37145	0.00000	0.85000	0.53664
65 or over	0.00000	0.27500	0.32140	0.00000	0.52083	0.38995	0.00000	0.85000	0.45851
Female									
15-19	0.00021	0.71176	0.00000	0.00015	0.79225	0.00000	0.00007	0.92188	0.00000
20-24	0.00017	0.71176	-0.66170	0.00010	0.79225	-0.41549	0.00006	0.92188	-0.16928
25-29	0.00020	0.40000	0.10210	0.00010	0.61552	0.23669	0.00004	0.79286	0.37128
30-34	0.00011	0.66667	0.22747	0.00005	0.69000	0.29351	0.00002	0.70333	0.35955
35-39	0.00012	0.53611	-0.54802	0.00006	0.65093	-0.18870	0.00001	0.75000	0.17062
40-44	0.00017	0.12000	0.19756	0.00009	0.48960	0.22679	0.00001	0.68214	0.25603
45-49	0.00011	0.12000	0.20823	0.00007	0.48960	0.26706	0.00001	0.68214	0.32588
50-54	0.00009	0.12000	-0.09023	0.00005	0.48960	0.10200	0.00000	0.68214	0.29424
55-59	0.00006	0.12000	-0.09023	0.00003	0.48960	0.10200	0.00000	0.68214	0.29424
60-64	0.00001	0.12000	0.64447	0.00000	0.48960	0.66603	0.00000	0.68214	0.68759
65 or over	0.00000	0.12000	0.45851	0.00000	0.48960	0.45851	0.00000	0.68214	0.45851

394 – Wood trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.01239	0.50841	0.00000	0.01115	0.55382	0.00000	0.01023	0.61209	0.00000
20-24	0.00293	0.50841	-0.59277	0.00227	0.55382	-0.49024	0.00184	0.61209	-0.38772
25-29	0.00062	0.47353	0.08594	0.00042	0.66467	0.08485	0.00024	0.84914	0.18168
30-34	0.00031	0.58605	0.08594	0.00018	0.71306	0.08485	0.00011	0.83125	0.18168
35-39	0.00018	0.36500	0.08594	0.00009	0.48321	0.08485	0.00001	0.58462	0.18168
40-44	0.00006	0.34444	0.08594	0.00005	0.44815	0.08485	0.00003	0.50000	0.18168
45-49	0.00004	0.34444	0.08594	0.00003	0.44815	0.08485	0.00002	0.50000	0.18168
50-54	0.00006	0.34444	0.08594	0.00003	0.44815	0.08485	0.00000	0.50000	0.18168
55-59	0.00001	0.34444	0.00982	0.00000	0.44815	0.18645	0.00000	0.50000	0.36308
60-64	0.00000	0.34444	0.20626	0.00000	0.44815	0.37145	0.00000	0.50000	0.53664
65 or over	0.00000	0.34444	0.32140	0.00000	0.44815	0.38995	0.00000	0.50000	0.45851
Female									
15-19	0.00024	0.46512	0.00000	0.00022	0.54859	0.00000	0.00020	0.60270	0.00000
20-24	0.00011	0.46512	-0.66170	0.00007	0.54859	-0.41549	0.00006	0.60270	-0.16928
25-29	0.00006	0.46512	0.10210	0.00004	0.54859	0.23669	0.00004	0.60270	0.37128
30-34	0.00003	0.46512	0.22747	0.00001	0.54859	0.29351	0.00000	0.60270	0.35955
35-39	0.00002	0.46512	-0.54802	0.00001	0.54859	-0.18870	0.00001	0.60270	0.17062
40-44	0.00002	0.46512	0.19756	0.00001	0.54859	0.22679	0.00001	0.60270	0.25603
45-49	0.00003	0.46512	0.20823	0.00002	0.54859	0.26706	0.00001	0.60270	0.32588
50-54	0.00000	0.46512	-0.09023	0.00000	0.54859	0.10200	0.00000	0.60270	0.29424
55-59	0.00000	0.46512	-0.09023	0.00000	0.54859	0.10200	0.00000	0.60270	0.29424
60-64	0.00000	0.46512	0.64447	0.00000	0.54859	0.66603	0.00000	0.60270	0.68759
65 or over	0.00000	0.46512	0.45851	0.00000	0.54859	0.45851	0.00000	0.60270	0.45851

399 – Miscellaneous technicians and trades workers

	Best			Average			Worst		
	Comm.	CW	Att.	Comm.	CW	Att.	Comm.	CW	Att.
Male									
15-19	0.00397	0.44458	0.00000	0.00311	0.47900	0.00000	0.00215	0.52019	0.00000
20-24	0.00140	0.44458	-0.59277	0.00097	0.47900	-0.49024	0.00067	0.52019	-0.38772
25-29	0.00076	0.41290	0.08594	0.00045	0.49322	0.08485	0.00015	0.55476	0.18168
30-34	0.00069	0.16190	0.08594	0.00040	0.43736	0.08485	0.00006	0.66667	0.18168
35-39	0.00043	0.24196	0.08594	0.00029	0.31372	0.08485	0.00004	0.36587	0.18168
40-44	0.00033	0.17159	0.08594	0.00021	0.35776	0.08485	0.00000	0.56837	0.18168
45-49	0.00042	0.17159	0.08594	0.00020	0.35776	0.08485	0.00001	0.56837	0.18168
50-54	0.00016	0.17159	0.08594	0.00010	0.35776	0.08485	0.00001	0.56837	0.18168
55-59	0.00017	0.17159	0.00982	0.00008	0.35776	0.18645	0.00000	0.56837	0.36308
60-64	0.00005	0.17159	0.20626	0.00003	0.35776	0.37145	0.00000	0.56837	0.53664
65 or over	0.00004	0.17159	0.32140	0.00001	0.35776	0.38995	0.00000	0.56837	0.45851
Female									
15-19	0.00066	0.35146	0.00000	0.00057	0.47412	0.00000	0.00040	0.62376	0.00000
20-24	0.00054	0.35146	-0.66170	0.00045	0.47412	-0.41549	0.00040	0.62376	-0.16928
25-29	0.00021	0.40517	0.10210	0.00016	0.60347	0.23669	0.00007	0.78148	0.37128
30-34	0.00018	0.26500	0.22747	0.00010	0.48692	0.29351	0.00004	0.62376	0.35955
35-39	0.00014	0.16154	-0.54802	0.00008	0.43927	-0.18870	0.00001	0.62376	0.17062
40-44	0.00011	0.12222	0.19756	0.00006	0.45908	0.22679	0.00000	0.63125	0.25603
45-49	0.00011	0.12222	0.20823	0.00006	0.45908	0.26706	0.00000	0.63125	0.32588
50-54	0.00007	0.12222	-0.09023	0.00003	0.45908	0.10200	0.00000	0.63125	0.29424
55-59	0.00002	0.12222	-0.09023	0.00001	0.45908	0.10200	0.00000	0.63125	0.29424
60-64	0.00001	0.12222	0.64447	0.00000	0.45908	0.66603	0.00000	0.63125	0.68759
65 or over	0.00000	0.12222	0.45851	0.00000	0.45908	0.45851	0.00000	0.63125	0.45851