



## **Overview of research to inform the Annual Wage Review 2016–17**

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## 1 Introduction

The Fair Work Commission (Commission) is responsible for reviewing and setting minimum wages for employees in the national workplace relations system. Each financial year, the Commission's Expert Panel for annual wage reviews (Panel) conducts an annual wage review and issues a decision and a national minimum wage order for employees not covered by an award or agreement.

In conducting the annual wage review, the Panel must consider the provisions and objectives outlined in the *Fair Work Act 2009* (Cth) (Act), in particular Parts 2-6 which deal with minimum wages, including the conduct of annual wage reviews. Both the 'minimum wages objective' (s.284) and the 'modern awards objective' (s.134) must be considered.

The Act allows for research to be undertaken and reports to be prepared for consideration in an annual wage review with the expectation that it will assist parties to the review and provide a contribution to the broader research community.

For the *Annual Wage Review 2016–17* (2016–17 Review), the Commission is releasing the following reports, each of which addresses one or more objectives of the Act:

- 'Explaining recent trends in collective bargaining' by David Peetz (Griffith University) and Serena Yu (University of Technology Sydney);
- 'Award reliant workers in the household income distribution' by Carlos Jimenez and David Rozenbes (Fair Work Commission);
- 'The youth labour market': Part 1 by David Rozenbes and Samantha Farmakis-Gamboni (Fair Work Commission); Part 2 by Chris Ryan and David Ribar (Melbourne Institute of Applied Economic and Social Research); and
- 'Research affecting apprenticeships and traineeships': Part 1 – 'Background and supply side factors affecting commencements and completion of apprenticeships and traineeships' by Lucy Nelms, Kelvin Yuen, Alice Pung, Sabrin Farooqui (Fair Work Commission) and Joseph Walsh; Part 2 – 'Demand side factors affecting commencement and completion of apprenticeships and traineeships' by Tom Karmel.

In addition, for each annual wage review the Commission publishes:

- A Statistical Report which presents a range of data relevant to the minimum wages and the modern awards objectives; and
- A Research Reference List which includes Australian and international literature, relevant to the minimum wages and modern awards objectives, published in the preceding year.

The purpose of this report is to present a summary of the objective, methodology and main findings from each of these reports being released by the Commission for the 2016–17 Review.

## 2 Statistical Report—Annual Wage Review 2016–17

The data in this chapter refer to the initial publication of the Statistical Report (as at 28 February 2017).

**Table 1: Rates of growth of selected indicators, annual, Australia**

	Year to September 2016	Average of 5 years to December 2015
Real GDP	1.8	2.7
RNNDI	3.2	1.0
Real GDP per capita	0.3	1.1
Real GDP per hour worked	1.0	1.5
Multifactor productivity	0.9*	0.4***
Company gross operating profits	−0.3	−0.9
CPI	1.5**	2.3
Employee LCI	1.0**	1.6
WPI	1.9	2.9
Real national minimum wage	0.9**	0.6
Employment**	0.7**	1.2
Hours worked**	0.4**	1.0

Note: \* Year to June 2016. \*\* Year to December 2016. \*\*\* Average growth of 5 years to June 2015.

Source: ABS, *Australian National Accounts: National Income, Expenditure and Product, Sep 2016*, Catalogue No. 5206.0; ABS, *Australian System of National Accounts, 2015–16*, Catalogue No. 5204.0; ABS, *Business Indicators, Australia, Sep 2016*, Catalogue No. 5676.0; ABS, *Consumer Price Index, Australia, Dec 2016*, Catalogue No. 6401.0; ABS, *Labour Force, Australia, Jan 2016*, Catalogue No. 6202.0; *Manufacturing and Associated Industries and Occupations Award 2010*; ABS, *Selected Living Cost Indexes, Australia, Dec 2016*, Catalogue No. 6467.0; ABS, *Wage Price Index, Australia, Sep 2016*, Catalogue No. 6345.0.

### 2.1 Economic growth

- Real GDP grew by 1.8 per cent in the year to the September quarter 2016. This was below the average annual rate of growth of 2.7 per cent in the previous five years to the December quarter 2015.
- Real net national disposable income (RNNDI) grew more strongly over the year to the September quarter 2016, by 3.2 per cent, than the average annual rate of growth of 1 per cent in the previous five years.
- The difference in patterns between growth in real GDP and in RNNDI is due to a reversal in the trend in the terms of trade for Australia. In the year to the September quarter 2016 the terms of trade for Australia improved by 1.3 per cent. That contrasts with a decline in the terms of trade by 35.2 per cent and which lowered RNNDI relative to real GDP.

## 2.2 Productivity

- GDP per hour worked grew by 1.0 per cent in the year to the September quarter 2016. This was below the average annual rate of growth of 1.5 per cent in the previous five years to the December quarter 2015.
- By contrast, multifactor productivity grew more rapidly in the last year for which data are available to June 2016 by 0.9 per cent, compared to 0.4 per cent in the previous five years.

## 2.3 Business competitiveness and viability

- The profit share of total factor income decreased from 24.7 per cent to 24.4 per cent from the December quarter 2015 to the September quarter 2016. This continued a decline that has been underway since a peak of 28.7 per cent was reached in the December quarter 2008.
- Company gross operating profits were relatively stable in the year to the September quarter 2016, declining by 0.3 percentage points. This was similar to the previous five years to the December quarter 2015 where the average annual change was –0.9 percentage points.
- The business bankruptcy rate was relatively stable between 2014–15 and 2015–16, after decreasing from a higher level in the previous four years.
- Business entry rates were stable between 2011–12 and 2014–15, but there was a slight decrease in the exit rate.

## 2.4 Inflation and wages

- The rate of consumer price inflation was 1.5 per cent in the year to the December quarter 2015, which was lower than the average annual rate of 2.3 per cent in the previous five years.
- Similarly, the rate of growth in the employee LCI was lower in the year to the December quarter 2015, 1.0 per cent, than the average annual rate of growth of 1.6 in the previous five years.
- Growth in wages was also slower in the past year. The WPI increased by 1.9 per cent in the year to the December quarter 2016, compared to an annual average of 2.9 per cent in the previous five years.
- The gender pay gap in the most recently available data is 16.9 per cent for adult ordinary time hourly cash earnings (EEH, 2014); and 16.1 per cent using the AWOTE measure (AWE, 2016).

## 2.5 Labour market

- Employment grew more slowly in the year to December 2016 than the annual average over the previous five years to December 2015. Growth in persons employed was 0.7 per cent compared to an average of 1.2 per cent. Growth in total hours worked was 0.4 per cent compared to an average of 1.0 per cent.
- The employment/population rate and the labour force participation rate for 20–64 year olds were stable in the year to December 2016, and were respectively 75.9 per cent and 79.8 per cent. The rate of unemployment for 15–64 year olds also remained stable at 5.7 per cent. Compared to December 2010, the employment/population rate in December 2016 was lower by 0.5 percentage points and the labour force participation rate higher by about 0.4



percentage points. The unemployment rate increased from 5.0 per cent to 5.7 per cent over the same period.

- In the year to December 2016, the full-time employment/population rate decreased from 55.7 per cent to 55.0 per cent and the part-time employment/population rate increased from 20.3 per cent to 20.9 per cent. These changes reflect a long-run shift away from full-time and towards part-time employment in the Australian labour market.
- In the year to December 2016 the employment/population rate for males fell from 82.1 per cent to 81.8 per cent and for females increased from 69.9 per cent to 70.1 per cent. The changes continue a long-run trend. The decreasing employment/population rate for males has reflected a decline in their full-time employment/population rate that has only partly been offset by a higher part-time employment/population rate. The increasing employment/population rate for females has been entirely due to growth in their part-time employment/population rate.
- In the year to November 2016 there were some large changes in employment by industry. Agriculture, forestry and fishing; Electricity, gas, water and waste services; Retail trade; and Arts and recreation services all experienced decreases of 4 per cent or more. At the same time, Manufacturing; Accommodation and food services; Administrative and support services; Education and training; and Public administration and safety all experienced growth of at least 4 per cent.
- Over the 10 years to November 2016 most industries experienced increases in employment. The largest rates of growth were in Mining (annual growth of 5.3 per cent); Professional, scientific and technical services (3.3 per cent); Education and training (2.9 per cent); and Health care and social assistance (3.9 per cent).
- The unemployment rate for 15–24 year olds and lone parents remain well above the aggregate rate. The proportion of long-term unemployed increased from 22.7 per cent to 24.8 per cent between December 2015 and December 2016. Since December 2010 the proportion of long-term unemployed has increased by 5.4 percentage points.

## **2.6 Award reliance**

- In May 2016, awards were the method of pay setting for 22.7 per cent employees. This was a large increase from 2014 where the proportion was 18.8 per cent, and 16.5 per cent in 2008.
- Award reliance increased between 2014 and 2016 in most industries, especially in Education and training (by over 20 percentage points).

## **2.7 Relative living standards/Real wages and the cost of living**

- The ratio of the C14 rate to median weekly earnings of full-time employees was stable between August 2014 and 2015. The ratio has remained at around 53 to 54 per cent since August 2009. The ratio of the C14 rate to the AWOTE measure increased slightly from 43.4 per cent to 43.8 per cent between November 2014 and November 2015. This ratio has been relatively stable since November 2009, but before that the ratio was above 47 per cent.
- The nominal disposable income of selected national minimum wage-reliant households increased by between 1.9 and 2.4 per cent in 2014–15. All these selected types of households therefore had an increase in their real disposable incomes.

- Inequality in hourly and weekly earnings between full-time adult non-managerial employees has increased consistently over the past decade.
- The real national minimum wage in Australia increased by 0.9 per cent between 2015 and 2016. This was slightly higher than the average rate of growth of 0.6 per cent in the previous five years.

## **2.8 Indicators of financial stress**

- Financial stress experienced by employee households remained stable between 2014 and 2015. In 2014, 15.9 per cent of households reported experiencing some type of financial stress, and in 2015 this proportion was 15.8 per cent. The situation in 2014 and 2015 represents a decrease from 2011 when the proportion was 17.5 per cent.
- The proportion of low-paid employee households who experience any type of financial stress was stable at about 31 per cent from 2011 to 2015.

## **2.9 Forecasts**

- The Commonwealth Treasury and RBA are forecasting real GDP growth in Australia in 2017–18 of, respectively, 2¾ per cent and 2½ to 3½ per cent. The IMF forecast for real GDP growth in Australia in 2017 is 2.7 per cent.
- The Commonwealth Treasury and RBA are forecasting CPI growth in Australia in 2017–18 of, respectively, 2 per cent and 1½ to 2½ per cent.

## **2.10 Costs of childcare services**

- The average weekly cost of work-related childcare for employees who report expenditure on work-related childcare greater than zero is estimated to be 17.7 per cent of their weekly gross wages.

# **3 Explaining recent trends in enterprise bargaining**

*David Peetz (Griffith University) and Serena Yu (University of Technology Sydney)*

## **3.1 Background**

The objective of this report is to examine the factors that have influenced recent changes in collective bargaining agreement coverage. This is relevant to the modern awards objective of the Act which refers to the need to encourage collective bargaining.

The report addresses several main topics:

- How has the incidence of collective agreements in Australia changed in recent years?
- How has the decline in union density in Australia affected the incidence of collective agreements?
- How has the incidence of collective agreements in Australia been affected by changes in workforce composition?

## **3.2 Data**

Data on collective agreement coverage are available from:

- The biennial Employment, Earnings and Hours (EEH) survey, produced by the Australian Bureau of Statistics (ABS); and
- The quarterly Workplace Agreements Database (WAD), collated by the Commonwealth Department of Employment.

There are several important features of these data sources. First, the scope of the EEH captures all workers in Australia covered by collective agreements, whereas the WAD is restricted to workers covered by federal agreements that have not passed their expiry date. Hence, the estimated incidence of collective agreements is higher when measured using the EEH than the WAD.

Second, a strength of WAD is that it can distinguish between union and non-union agreements, and between new and replacement agreements. Third, a limitation of the EEH is that, as a survey of employers, it produces estimates of the distribution of employment by (for example) industry and occupation that differ from the benchmark monthly ABS Labour Force Survey.

### **3.3 How has the incidence of collective agreements in Australia changed in recent years?**

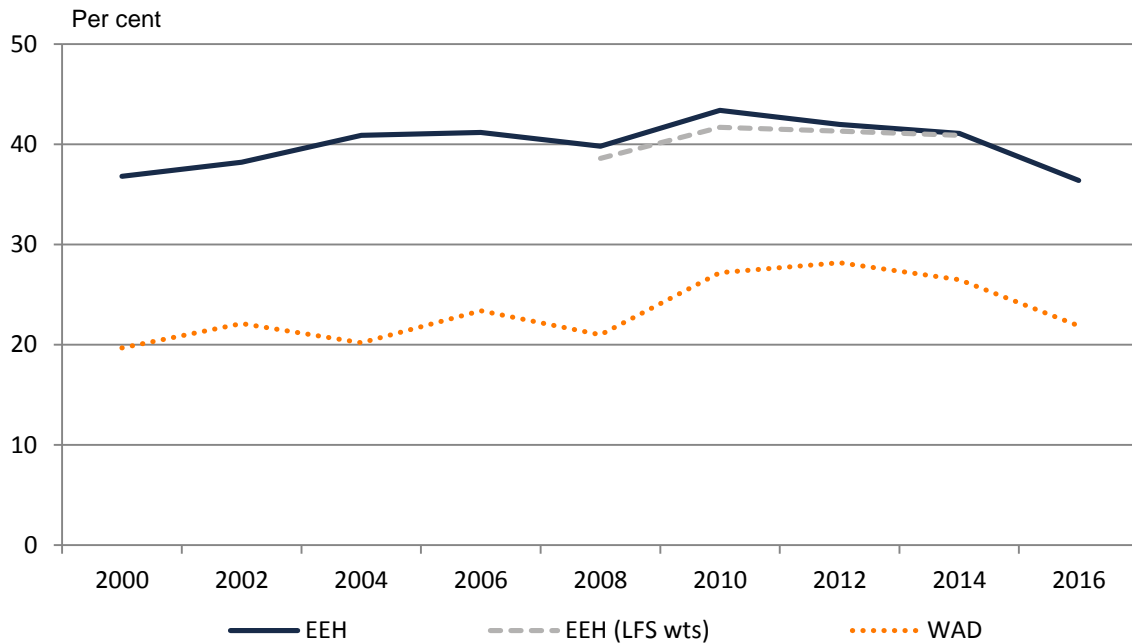
During the 2000s, the coverage of collective agreements in Australia increased. The percentage of employees in Australia covered by collective agreements rose from 36.8 per cent to 43.4 per cent between 2000 and 2010 (EEH). Similarly, the percentage of employees on current federal agreements grew from 19.7 per cent to 28.8 per cent between 2000 and 2011 (WAD).

Since the early 2010s, however, that trend has reversed, with a decline in the coverage of collective agreements in Australia that has been particularly pronounced in the period from 2014 to 2016. The percentage of employees covered by collective agreements decreased from 43.4 per cent to 36.4 per cent between 2010 and 2016, and 4.7 percentage points of this decrease occurred after 2014 (EEH). The percentage of employees on current federal agreements fell from 28.8 per cent to 21.9 per cent between 2011 and 2016, with a decline of 4.6 percentage points after 2014 (WAD).

An adjusted EEH measure of coverage of collective agreements that uses industry employment weights from the LFS can also be calculated. The adjusted EEH measure shows a smaller decrease in the coverage of collective agreements in Australia between 2010 to 2014 than the measure using EEH employment weights—a decrease of 0.8 percentage points compared to 2.3 percentage points.

Figure 1 presents the EEH and WAD measures of the coverage of collective agreements in Australia for two-year intervals between 2000 and 2016; as well as the adjusted EEH measure between 2008 and 2014.

**Figure 1: Coverage of collective agreements in Australia, 2000 to 2016**

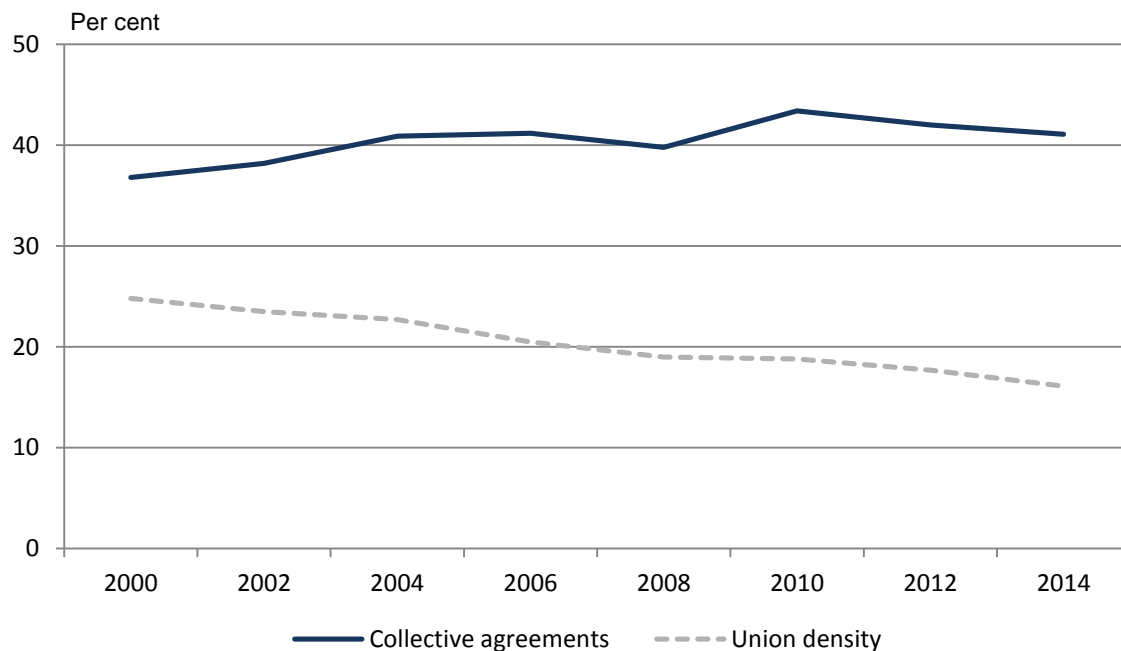


Source: ABS, *Employee Earnings and Hours, Australia, May 2016*, Catalogue No. 6306.0; Department of Employment, *Trends in Federal Enterprise Bargaining*, September quarter 2016, <<http://employment.gov.au/trends-federal-enterprise-bargaining>>.

### 3.4 How has the decline in union density in Australia affected the incidence of collective agreements?

In Australia, union density decreased from 24.8 per cent to 16.1 per cent between 2000 and 2014. Coverage of collective agreements is higher among union than non-union workers. Hence, the decline in union density in Australia should have caused a decrease in the overall coverage of collective agreements. Figure 2 shows union density and the coverage of collective agreements in Australia between 2000 and 2014.

**Figure 2: Coverage of collective agreements and union density in Australia, 2000 to 2014**



Source: ABS, *Employee Earnings, Benefits and Trade Union Membership*, various, Catalogue No. 6310.0; Department of Employment, *Trends in Federal Enterprise Bargaining*, September quarter 2016, <<http://employment.gov.au/trends-federal-enterprise-bargaining>>.

From Figure 2 it can be seen that between 2000 and 2014 the decline in union density in Australia was much greater than the decline in coverage of collective agreements. It might be seen as a puzzle why the decline in union density has not caused a larger decrease in coverage of collective agreements.

One explanation is an increase over time in ‘free riding’. Even while union density was declining there was an increase in the proportion of workers covered by union agreements between 2009 and 2014. Another explanation is the existence of a time lag between the effect of changes to union density on coverage of collective agreements—for example, a worker may leave a union but remain covered by a collective agreement.

Looking specifically at the period after 2010, the continuing decrease in union density appears to be a major explanation for the decrease in coverage of collective agreements. While decreases in the proportions of workers covered by both non-union and union collective agreements have occurred, the large decline between 2014 and 2016 has been exclusively due to a fall in the coverage of union agreements. Table 2 shows this information on the coverage of federal collective agreements in Australia by the type of agreement between 2009 and 2016.

The substantial drop in coverage of replacement federal union agreements between 2011 and 2016, which is likely to reflect declining pressure for replacement agreements in previously highly unionised workplaces, also suggests that a time lag between changes to union density and changes to coverage of collective agreements has been important in explaining the pattern in coverage of collective agreements in Australia

**Table 2: Coverage of union and non-union federal agreements, 2009–16 (June quarter)**

Year	Employees		Coverage density		Total (%)
	Union agreement (000s)	Non-union agreement (000s)	Union agreement (%)	Non-union agreement (%)	
2009	1526.3	530.0	17.3	6.0	23.3
2010	1934.3	508.7	21.6	5.7	27.3
2011	2182.7	467.4	23.8	5.1	28.9
2012	2261.3	397.1	24.0	4.2	28.2
2013	2151.5	318.2	22.6	3.3	25.9
2014	2308.0	225.8	24.2	2.4	26.5
2015	2220.0	202.2	22.7	2.1	24.7
2016	1927.4	243.3	19.5	2.5	21.9

Source: Department of Employment, *Trends in Federal Enterprise Bargaining*, September quarter 2016, <<http://employment.gov.au/trends-federal-enterprise-bargaining>>.

### 3.5 How has the coverage of collective agreements in Australia been affected by changes in workforce composition?

Changes in the structure of employment can affect the incidence of collective agreements.

Suppose, for example, that the coverage of collective agreements differs by the industry in which a worker is employed. Then if the composition of employment shifts towards industries where the coverage of collective agreements is higher (lower), it follows that the overall incidence of collective agreements will increase (decrease).

A shift-share analysis is used to decompose changes in the overall incidence of collective agreements in Australia between the effects of:

- changes in the composition of employment by job characteristics; and
- changes in the coverage of collective agreements within categories of job characteristics.

The job characteristics studied are industry, occupation, sector and employment status.

The main finding is that structural changes in the composition of employment have not significantly driven the decline in the incidence of collective agreements in Australia. If anything, structural changes have acted to increase the incidence of collective agreements. Hence, the decline in the incidence of collective agreements is primarily explained by decreases in the coverage of collective agreements within categories of job characteristics such as industry or occupation.

Table 3 shows some findings from the shift-share analysis: the change in the incidence of collective agreements in Australia between 2000 and 2014 that can be explained by changes in the structure of employment.

It is evident that changes in the composition of employment by industry, occupation, status in work, and hours of work have had relatively small positive effects on the incidence of collective agreements. For example, there was a substantial shift away from full-time and towards part-time employment between 2000 and 2014, and since the coverage of collective agreements is slightly higher for part-time than full-time employees (for example, 45.8 per cent compared to 38.0 per cent

respectively in 2014), therefore the effect of this change in the composition of employment was to cause a small increase in the coverage of collective agreements.

Changes in the composition of employment by sector, however, had a large negative effect on the coverage of collective agreements. In 2014, the coverage of collective agreements was 87.2 per cent in the public sector and 30.4 per cent in the private sector. Hence, the decline in public sector employment, from 19.9 per cent in 2000 to 14.0 per cent in 2014, has had quite a large negative effect on the overall coverage of collective agreements in Australia.

**Table 3: Structural effects of changes in the composition of employment on the incidence of collective agreements, Australia, 2000 to 2014**

Category	Effect on incidence of collective agreements
Actual	+4.30
Industry	+1.21
Sector	-3.36
Occupation	+0.32
Permanent/Casual	+0.22
Full-time/Part-time	+0.33

Source: Peetz D & Yu S (2017), *Explaining recent trends in collective bargaining*, Fair Work Commission Research Report 4/2017, February.

Since changes in the structure of employment have not been a major driver of changes in the overall incidence of collective agreements, therefore it must be that changes in the coverage of collective agreements within categories of job characteristics explain the overall change. An example is the coverage of collective agreements within industries. Analysis of the data on federal agreements by industry from WAD shows that all of the decrease in the overall incidence of collective agreements between 2014 and 2016 can be explained by decreases in the coverage of collective agreements within three industries—Retail trade, where coverage was estimated to have decreased by 57 per cent, in Public administration and safety where coverage fell by 32 per cent, and in Health and community services where coverage declined by 17 per cent.

## 4 Award-reliant workers in the household income distribution

*Carlos Jimenez and David Rozenbes (Fair Work Commission)*

### 4.1 Background

The objective of this report is to analyse the location and characteristics of award-reliant workers across the distribution of household disposable income. This is relevant to the minimum wage and modern awards objectives of the Act which require the Commission to have regard to relative living standards and the low paid. It is award-reliant workers who will have their wages adjusted as a result of the annual wage review by the Commission.

### 4.2 Methodology and data

Undertaking this analysis requires individual-level data on household disposable income and on whether employees are award reliant. The only data source with this information, the Household, Income and Labour Dynamics in Australia (HILDA) survey, is used in this study.

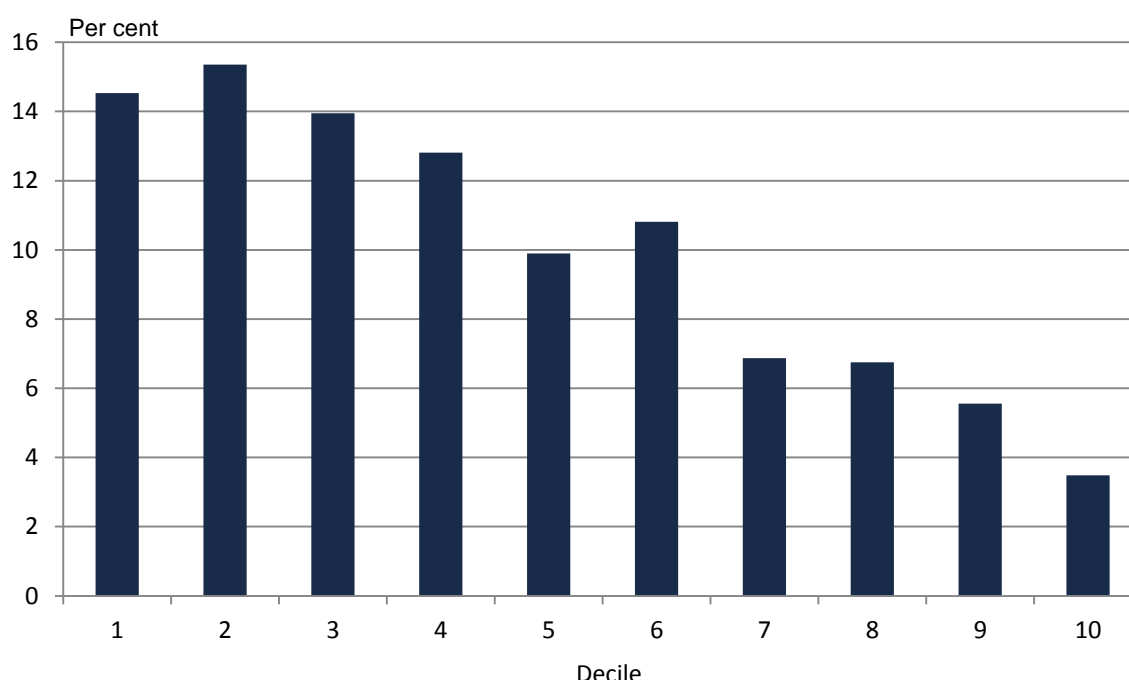
There are several main steps in constructing the data set for the analysis. First, a household financial year disposable income variable was created and equivalised for differences in household size. Second, households were ranked according to their level of equivalent disposable income, and each household was assigned to a decile (from 1st (lowest) to 10th highest)). Third, the indicator for a household’s decile was assigned to each member of the household, along with household characteristics. Fourth, individual characteristics of each household member (such as award reliance) were linked to their household characteristics, including the decile in the income distribution. It is then possible to identify the location of award-reliant employees in the distribution of income, and to study how the individual and household characteristics of those employees vary across the distribution of income.

The sample for this study is restricted to households which have at least one employee as a member. This is done to accord with the view of the Expert Panel (2015–16 Review, para. 410) that: ‘The potential contribution of increases in the minimum wage and award classification wages is made more apparent by the focus on employee households.’

### 4.3 Main findings

Figure 3 describes the location of award-reliant employees in the distribution of household disposable income for employee households. Award-reliant employees are concentrated at the bottom of this distribution. There are 67 per cent of award-reliant employees in the bottom half of the distribution of income and 44 per cent in the bottom three deciles. By contrast, only 16 per cent of award-reliant employees are in the top three deciles of the distribution.

**Figure 3: Distribution of award-reliant employees across the distribution of household disposable income for employee households**



Source: Jimenez C & Rozenbes D (2017), *Award-reliant workers in the household income distribution*, Fair Work Commission Research Report 1/2017, February, p. 8.



An alternative perspective is obtained by considering the fraction of employees in each decile of the distribution of household disposable income who are award reliant. This fraction declines across the distribution. For example, 39 per cent of employees in the bottom decile are award reliant, about 20 per cent in the middle two deciles, and only 7 per cent in the top decile.

#### 4.3.1 Individual, work and household characteristics of award reliant workers

Table 4 presents information on the location of award-reliant workers in the distribution of household disposable income, disaggregating by their individual, work and household characteristics. Three summary measures are shown:

- 1) The shares of the total group of award-reliant workers accounted for by workers in each category;
- 2) The shares of workers in the sub-group of award-reliant workers who are located in the bottom three deciles of the distribution; and
- 3) The share of award-reliant workers in each category who are located in the bottom three deciles of the distribution.

As an example of how to interpret the table, the row for females shows that:

- 1) Females account for 56 per cent of award-reliant employees;
- 2) Females account for 54 per cent of award-reliant employees in the bottom three deciles of the distribution of household disposable income; and
- 3) From the group of female employees who are award reliant, 43 per cent are located in the bottom three deciles of the distribution.

**Table 4: Share of award reliant workers by individual, work and household characteristics**

Type of worker	[1] All award-reliant workers (%)	[2] Award-reliant workers in bottom three deciles of distribution (%)	[3] Share of award-reliant workers in bottom three deciles of distribution (%)
<b>Gender</b>			
Female	56	54	42
Male	44	46	46
<b>Age</b>			
15–24	37	32	38
25–44	35	43	54
45+	28	25	38
<b>Location</b>			
Regional	39	40	46
City	61	59	43
<b>Hours of work</b>			
0–19	29	33	50
20–34	26	27	46
35+	46	41	39

Type of worker	[1] All award-reliant workers (%)	[2] Award-reliant workers in bottom three deciles of distribution (%)	[3] Share of award-reliant workers in bottom three deciles of distribution (%)
<b>Hours preferences</b>			
More hours	33	37	50
About same	57	54	41
Less hours	10	9	38
<b>Industry</b>			
Retail	18	17	41
Accommodation and food services	20	22	49
Health care and social assistance	17	17	46
Manufacturing	8	9	50
Other	78	34	40
<b>Earners status</b>			
Primary earner	18	25	61
Secondary earner	21	14	30
Lone	8	13	67
Other	53	48	40
<b>Dependent children</b>			
Dependent children	27	36	59
No dependent children	73	64	38

Source: Jimenez C & Rozenbes D (2017), *Award-reliant workers in the household income distribution*, Fair Work Commission Research Report 1/2017, February.

The key findings from this analysis are:

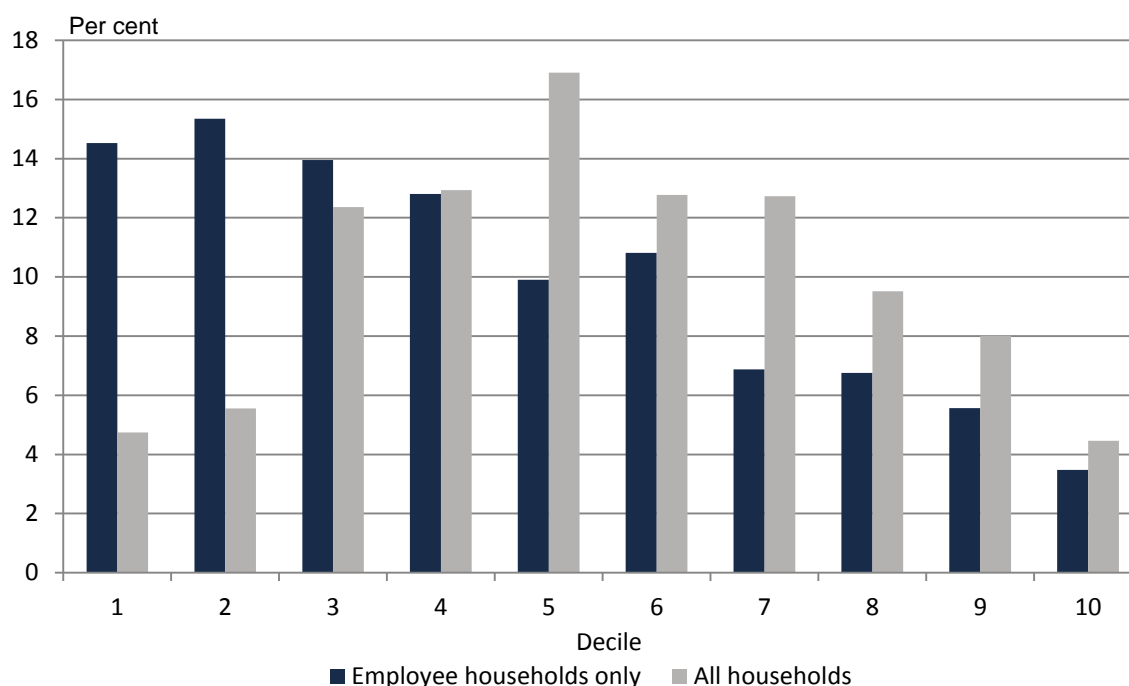
- **Gender:** Award-reliant employees are 56 per cent female and 44 per cent male. For both males and females, over 40 per cent of award-reliant employees are concentrated in the bottom three deciles of the income distribution.
- **Age:** Young workers (15–24 years) account for a relatively large share, 37 per cent, of award-reliant workers. However, from amongst award-reliant workers, it is prime age workers (25 to 44 years) who are most concentrated (over 50 per cent) in the bottom three deciles of the income distribution.
- **Location:** There are 61 per cent of award-reliant employees who live in a city and 39 per cent in regional areas. Each group has a similar degree of concentration in the bottom three deciles of the income distribution.
- **Hours of work:** Employees who work less than 20 hours per week account for 27 per cent of award-reliant workers. They are disproportionately concentrated at the bottom of the income distribution with 52 per cent being in the bottom three deciles.

- **Hours preferences:** Award-reliant employees who would like to work more hours account for 33 per cent of the total group, but 37 per cent of the sub-group in the bottom three deciles of the income distribution.
- **Industry:** There are 55 per cent of award-reliant employees in just three industries—Retail; Accommodation and food services; and Health care and social assistance. These industries account for about 56 per cent of award-reliant employees in the bottom three deciles of the income distribution. As well, almost 50 per cent of employees in Accommodation and food services and in Health care and social assistance are concentrated in the bottom three deciles.
- **Earners status:** Primary earners and lone earners account for only 26 per cent of award-reliant employees. But they constitute 38 per cent of award-reliant employees in the bottom three deciles of the income distribution. Of primary earners who are award reliant, 61 per cent are in the bottom three deciles, and 67 per cent of lone earners who are award reliant are in those bottom three deciles of the income distribution.
- **Dependent children:** About one-quarter of award-reliant employees have dependent children. They are disproportionately concentrated in the bottom three deciles of the income distribution, accounting for 36 per cent of award-reliant employees in those deciles.

#### 4.3.2 Comparing to previous studies

Some previous studies (Wooden and Wilkins, 2011; and Productivity Commission, 2016) have also examined the location of award-reliant workers in the distribution of household income using the HILDA survey. These studies have found that award-reliant workers are not highly concentrated at the bottom of the distribution of income. The difference in findings from this report is explained by the different samples of households examined. The previous studies examine the location of award-reliant workers in the distribution of household disposable income for all households, whereas in this report attention is restricted (for the reason already described) to households with at least one employee. Figure 4 shows that, when the sample of households is expanded beyond households with employees, similar findings are obtained to the previous studies.

**Figure 4: Distribution of award-reliant employees across the distribution of household disposable income for employees and all households**



Source: Jimenez, C and Rozenbes, D (2017), *Award-reliant workers in the household income distribution*, Fair Work Commission Research Report 1/2017, p. 9, Figure 1.

## 5 The youth labour market

*Part I: David Rozenbes and Samantha Farmakis-Gamboni (Fair Work Commission)*

*Part II: Chris Ryan and David Ribar (Melbourne Institute of Applied Economic and Social Research, The University of Melbourne)*

### 5.1 Background

The objective of this report is to examine aspects of the youth labour market in Australia. This is relevant to the annual wage review since youth have an above-average likelihood of being reliant on award wages. The motivation for a separate analysis of youth in the Australian labour market is the distinct features of the market—with young people being disproportionately represented amongst jobseekers and hence more sensitive to business cycle fluctuations; and often being involved in both study and labour market activity.

The report addresses two main topics:

- What factors influence the labour market outcomes of youth?; and
- What are the different labour force outcomes between youth who are full-time students and youth who are not, and why? Has this changed over time?

The first topic is examined through a review of recent literature, and econometric analysis of the determinants of youth labour market outcomes. The second topic is examined using descriptive information and econometric analysis. The data source used for the original analysis in this report

is the HILDA survey (waves 1 to 15). The youth labour market is defined to include the population aged 15 to 24 years.

## 5.2 Descriptive information

Table 5 presents descriptive information on labour market outcomes for youth and the rest of the working age population (25–64 years) in Australia in 2001 and 2015. Youth have a lower employment-population rate than the rest of the population, and are more likely to be employed part-time. In 2001, the labour force participation rate for youth was only slightly lower than for the rest of the population, but by 2015 there was a larger gap of about 10 percentage points. Youth have a higher unemployment rate than the rest of the population, and are more likely to experience underemployment.

**Table 5: Summary of labour force statistics, 2001 and 2015**

	Youth		Rest	
	2001	2015	2001	2015
Total employment (000s)	1600.6	1830.5	7268.6	9491.8
Employment/population rate	61.1	58.5	71.0	75.6
Proportion of employment in part-time jobs	44.1	52.4	23.3	25.7
Labour force participation rate	70.7	67.3	74.9	79.3
Rate of unemployment	13.5	13.1	5.2	4.8
Rate of underemployment	11.8	17.0	4.4	5.7

Source: Rozenbes D & Farmakis-Gammoni S (2017), *The youth labour market*, Fair Work Commission, Research Report 2/2017, Part I, February, p. 6, Table 1.

## 5.3 What factors influence the labour market outcomes of youth? Review of recent literature

The review of recent literature provides a variety of insights on the youth labour market:

- 1) **Work as a student:** It has been estimated that one-third of school students combine study and work. Having a job while studying is more likely to occur for students who live in cities, and less likely for students who come from single parent families or non-English speaking backgrounds (NESB).
- 2) **Determinants of employment and full-time/part-time status:** A higher level of education attainment is consistently found to improve employment prospects for youth. A stronger history of work experience (including as a student) is also positively related to the likelihood of employment. Since young people are the group who are most likely to be making the transition from study to employment, they are also the group whose employment outcomes will be most sensitive to business cycle conditions—for example, during the downturn following the global financial crisis.
- 3) **Trends since the early 2000s:** Youth in Australia are less likely to be in full-time employment and are likely to commence full-time employment at a later age due to spending longer time in full-time study. Government policy appears to have influenced youth to remain in school for longer periods of time, but the global financial crisis does not seem to have affected year 12 completion rates. From the late 2000s there has been an increase in the proportion of youth aged 20–24 years who are disengaged; that is, not in full-time study, full-time employment, or

both part-time study and part-time employment. One main factor associated with disengagement is being from a low SES household. While the incidence of disengagement has increased, one study has found that the majority of youth who become disengaged spend a relatively short time not in employment or education/training.

#### **5.4 What factors influence the labour market outcomes of youth? Econometric analysis**

Two main types of econometric analysis are undertaken in this section of the report:

- an analysis of the determinants of the labour force status (employed, unemployed and not in the labour force) of youth and the rest of the working age population; and
- an analysis of the determinants of satisfaction with work hours (employed full-time; adequately employed part-time; underemployed) for youth and the rest of the working age population.

A variety of factors are found to be associated with labour force status. Some of these factors are common to youth and the rest of the working age population. For example, higher socioeconomic status and living with parents at age 14 increase the probability of employment, and being born in a NESB country reduces the probability of being in the labour force. The association between labour force status and several other factors varies between youth and the working age population. One such factor is studying – for youth being a student is associated with a lower probability of unemployment, whereas for the rest of the working age population the risk of unemployment is higher for students. Another example is living in a mining region – which increases the probability of employment for youth, but has no effect for the rest of the working age population.

The determinants of satisfaction with work hours are found to be generally similar for youth and the rest of the working age population. Being award reliant is associated with a lower probability of full-time employment and a higher probability of underemployment or adequate part-time employment. Being a student is associated with a lower probability of full-time employment, a higher probability of being adequately employed for youth, and a higher probability of underemployment for the rest of the population. Occupation and industry classification of a worker's job are found to affect satisfaction with work hours for both youth and the rest of the working age population.

#### **5.5 What are the different labour force outcomes between youth who are full-time students and youth who are not, and why? Has this changed over time?**

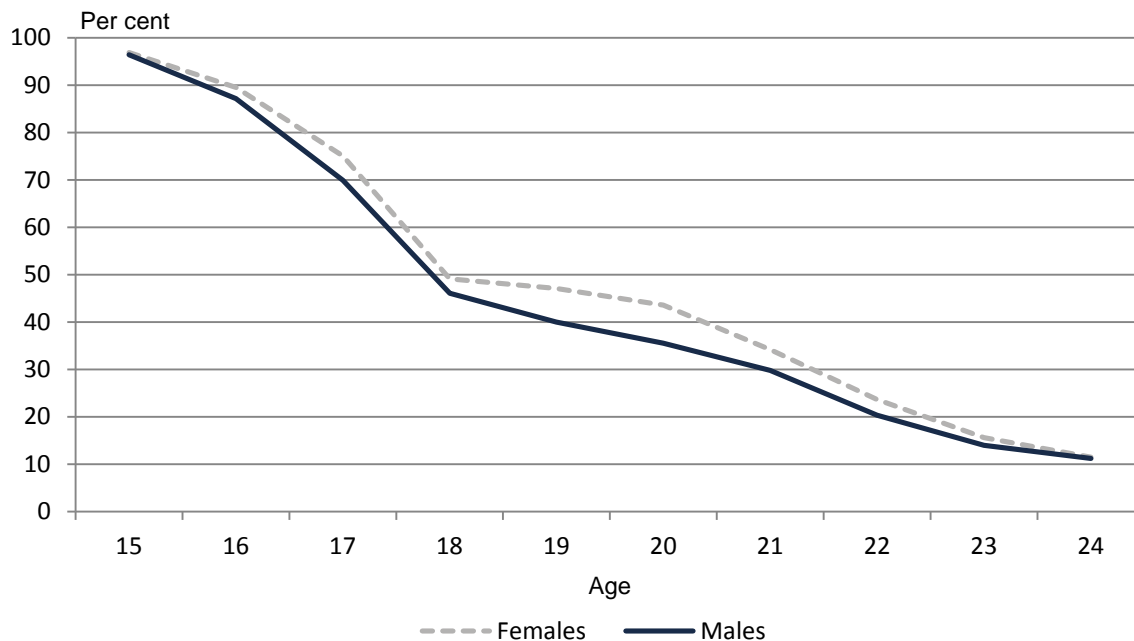
Three main types of analysis are undertaken in this section of the report:

- descriptive analysis of how youth make the transition out of full-time schooling and how they progress through different labour market states as they age;
- descriptive analysis of how the student status and labour market status of youth have changed between 2001 and 2015; and
- econometric analysis of the determinants of labour force status (employed full-time; part-time adequately employed; underemployed; not in the labour force; unemployed).

### 5.5.1 Transition from schooling

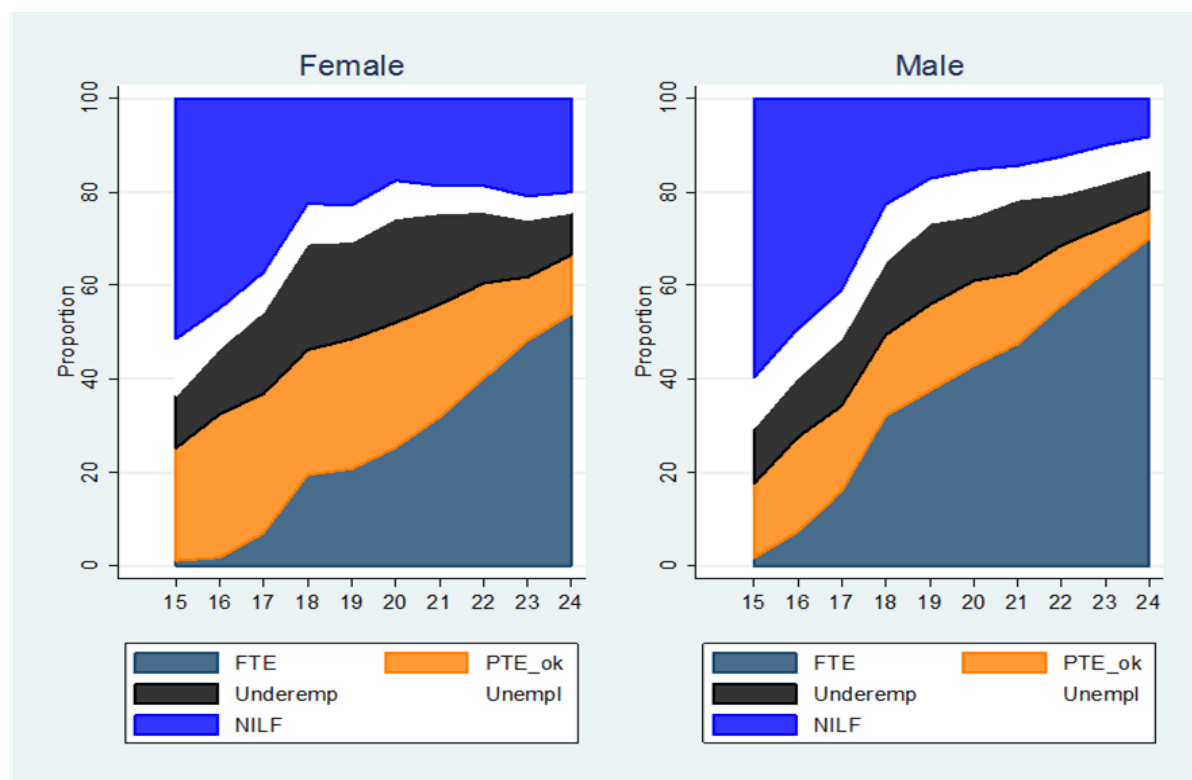
At age 15, almost 100 per cent of youth in Australia are full-time students. This proportion falls steadily with age, so that by 24 years the proportion is about 15 per cent. This pattern can be seen in Figure 5 which shows the proportions of males and females who are full-time students by age.

**Figure 5: Proportions of males and females by age who are full-time students, 2001–2015**



Source: Ryan C and Ribar DC (2017), *The youth labour market*, research commissioned by the Fair Work Commission, Research Report 2/2017, Part II, Melbourne Institute of Applied Economic and Social Research, February, p. 28, Figure B1.

Consistent with their full-time student status, at age 15 most Australian youth are not in the labour force. At older ages there is a progressive shift towards greater engagement in the labour market. By the time they reach 24 years, a majority of youth in Australia are in full-time employment (70 per cent of males and 54 per cent of females), and over 80 per cent are in the labour force. This pattern can be seen in Figure 6 which shows the labour market status activities of Australian youth by age.

**Figure 6: Female and male labour market activities by age, 2001–15**


Source: Rozenbes D et al. (2017), *The youth labour market*, Fair Work Commission Research Report 2/2017, February, p. 28, Figure B2.

### 5.5.2 Labour market status for students and non-students

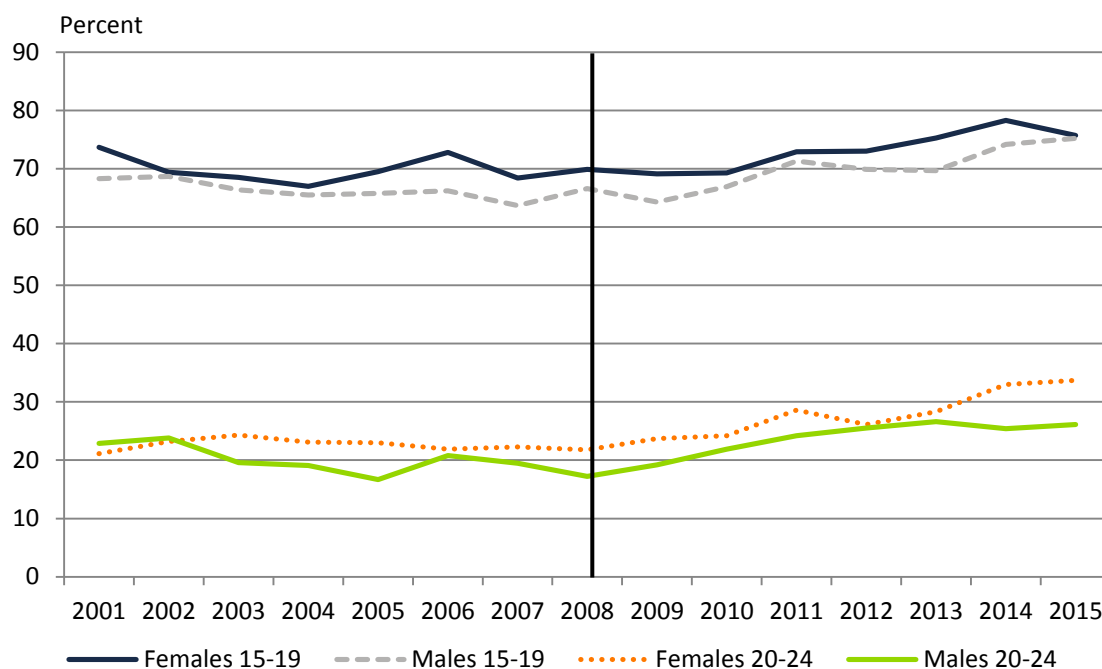
Engagement with the labour market differs substantially between youth in Australia who are students and non-students. Much smaller proportions of students work full-time (less than 10 per cent of males and 5 per cent of females compared to over 60 and just under 50 per cent for male and female non-students); while more students work part-time or are not in the labour force. Econometric analysis finds the same association between being a full-time student and labour force status. And while the effect of being a full-time student does vary by age and has become marginally smaller over the past 15 years, there is still at present a strong association between being a full-time student and the type of labour market activity engaged in. Because the incidence of full-time work varies by industry and occupation, it follows from the differences in the proportions of students and non-students working full-time, that they are distributed differently across industries and occupations.

### 5.5.3 Changes in labour market outcomes between 2001 and 2015

Between 2001 and 2015 the proportion of youth in Australia who are full-time students has increased substantially. This is evident from Figure 7 which shows the proportions of 15–19 and 20–24 year olds who were full-time students over that period. The full-time study participation rate has ranged from 64 to 78 per cent for youth aged 15–19 years, and from 17 to 34 per cent for those aged 20–24 years.



**Figure 7: Proportion of 15–19 and 20–24 year olds who are full-time students. 2001 to 2015**



Source: Ryan C and Ribar DC (2017), *The youth labour market*, research commissioned by the Fair Work Commission, Research Report 2/2017, Part II, Melbourne Institute of Applied Economic and Social Research, February, p. 29, Figure B4.

The main recent change in labour market outcomes for youth in Australia occurred following the global financial crisis. After a period of strong growth in full-time employment for youth until 2008, the economic downturn since that time has been associated with a decrease in the proportion of youth who are working full-time and higher proportions working part-time, underemployed or out of the labour force. The pattern of declining job opportunities has been more marked for males than females. The decrease in full-time employment has also impacted more on non-students than students.

Econometric analysis is used to examine whether changes in employment outcomes have been due to changes in the characteristics of youth or due to changes in the economic environment. The results suggest that changes in the labour market activities undertaken by Australian youth between 2001 and 2015 overwhelmingly reflect changed circumstances in the labour market such as slower rates of economic growth following the global financial crisis.

## 6 Research affecting apprenticeships and traineeships

*Part I: Background and supply side factors affecting commencements and completion of apprenticeships and traineeships Lucy Nelms, Kelvin Yuen, Alice Pung, Sabrin Farooqui (Fair Work Commission) and Joseph Walsh*

*Part II: Demand side factors affecting commencement and completion of apprenticeships and traineeships, Tom Karmel*

## **6.1 Background**

The objective of this report is to provide an overview of supply and demand influences affecting commencements and completions of apprenticeships and traineeships in Australia. This is relevant to the annual wage review where the Commission must set a special national minimum wage for award/agreement-free employees to whom training arrangements apply, including apprentices and trainees.

Together, Parts 1 and 2 of this Report, address several main topics:

- the main institutional features of the apprenticeship and traineeship system in Australia;
- a descriptive overview of the characteristics of apprentices and trainees and trends over time; and
- influences on the supply of, and demand for, apprentices.

## **6.2 About apprentices and trainees**

An apprentice or trainee is a person who is undertaking a contract of training with an employer and training provider. The distinctive feature of apprenticeships and traineeships is that they can only be undertaken if the individual is employed.

The nature of an apprenticeship or traineeship varies between occupations. In some situations, in which an occupation is licensed (such as plumbing), the apprenticeship or traineeship is the dominant pathway into employment. In other situations, the apprenticeship or traineeship may be incidental to obtaining a job in a desired occupation (such as a sales or management position in retail).

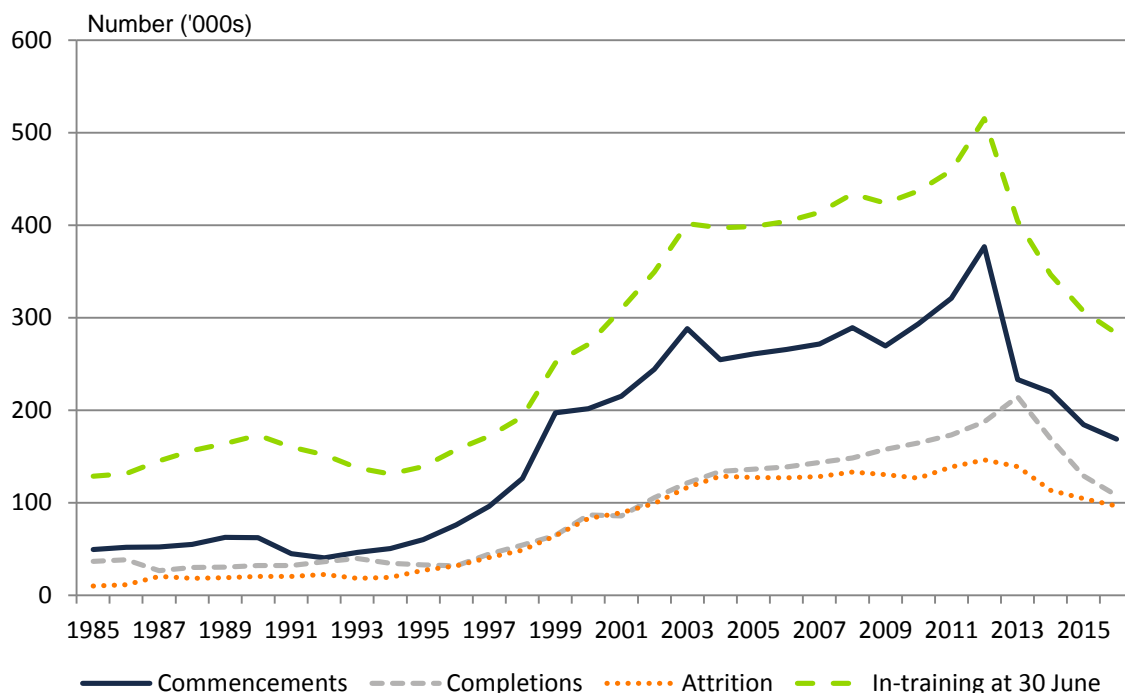
## **6.3 Descriptive overview of apprentices and trainees**

### **6.3.1 Aggregate**

At June 30 2016 there were 282,900 apprentices and trainees in training in Australia. Over the previous year there had been 168,800 commencements, 107,900 completions and 96,600 training contracts that were terminated prior to successful completion (including contracts that are transferred to a change in employer).

Figure 8 shows the levels of apprentice and trainee commencements, completions, in-training and attrition between 1985 and 2016. The number of apprentices and trainees in training increased steadily from the mid-1990s until 2012. After 2012 there has been a sharp decline in the number of apprentices and trainees. The share of employment accounted for by apprentices and trainees followed a similar pattern, increasing from about 2 per cent in the mid-1990s to 4.5 per cent in 2012, and then declining to about 2.5 per cent in 2016. The variation over time in the number of apprentices and trainees in training has been driven primarily by changes in the number of commencements; and those changes in commencements were mainly in non-trade occupations.

**Figure 8: Apprenticeships and traineeships, Australia, June 1985 to June 2016**



Source: Nelms L, Yuen K, Pung A, Farooqui S & Walsh J (2017), *Factors affecting apprenticeships and traineeships*, Fair Work Commission, Research Report 3/2017, Part I, February, p. 14, Figure 1.

### 6.3.2 By occupation

Currently the main occupations for apprentices and trainees are Technicians and trade workers (46 per cent), Community and personal service workers (18 per cent), and Clerical and administrative workers (12 per cent). The spread across these occupations is part of a shift over time towards more diversity in the occupations where apprentices and trainees are located. In 1995, for example, apprentices and trainees were predominantly (72 per cent) Technicians and trade workers.

The duration and completion rates of apprenticeships and traineeships vary between occupations. Over the period from 1994 to 2016 the highest rate of completion was in printing trades (65 per cent) and the lowest was for food preparation assistants (34 per cent). The average duration of a completed contract of training (including terminations) varied from 2.8 years in electro-technology and communications to 0.9 years for sales representatives and agents and inquiry clerks and receptionists.

### 6.3.3 By characteristics of apprentices and trainees

In 1995, commencing apprentices and trainees were more likely to be male (75 per cent), employed full-time (98 per cent), and aged 19 years and under (77 per cent). Almost all commenced their training at a Certificate III qualification level or below (90 per cent), and over three-quarters of commencements were in Victoria, NSW and Queensland. In 2015, a smaller, but still majority, share of apprentices and trainees were males (65 per cent), and much lower proportions were employed full-time and aged 19 years and under (74 per cent and 42 per cent, respectively). A larger proportion commenced their training at Certificate IV or Diploma level (15

per cent), and the degree of concentration of commencements in Victoria, NSW and Queensland had reduced slightly (73 per cent).

#### **6.4 Some main influences**

Changes in recent years in the pathways by which young Australians transition from compulsory schooling to working life have been a main influence on the apprenticeship and traineeship system. Increased rates of year 12 completion and entry to university study have reduced the potential supply of apprentices and trainees, caused an increase in the average age of commencement in those programs, and meant that new apprentices and trainees have lower average academic achievement and are from lower average SES backgrounds. With a major expansion in training and study options in the VET system, traditional trade apprenticeships now account for only 10 per cent of the activity in that system; and there has been a shift away from the traditional four year Certificate III delivery model for apprenticeships towards shorter durations of training, due in part to greater emphasis on competency-based assessment.

Changes in the composition of apprentices and trainees between 1995 and 2015 also partly reflect the increased share of non-trade occupations in apprenticeships and traineeships over that time—for example, the share of female and part-time apprentices and trainees in non-trade occupations is larger than in trade occupations.

As well, significant changes have occurred in the institutional environment since 2012 that are likely to have affected commencements in apprenticeships and traineeships—including the removal of Commonwealth government-funded commencement incentives for various categories of apprenticeships and traineeships; the introduction in Victoria of a new fee and funding regime for all new course commencements; and the review by the Commission of apprentice pay rates in modern awards that make provision for apprentices.

#### **6.5 Supply of and demand for apprentices and trainees**

The number of apprentices and trainees will depend on the interaction of supply and demand factors. The supply-side influences the number of qualified apprentices and trainees in the workforce via the number of individuals who are willing to commence an apprenticeship or traineeship and who are then willing to complete their training. The demand-side influences the number of qualified apprentices and trainees in the workforce through the number of these positions that employers are willing to offer and by the extent to which they support the apprentices and trainees to complete their training.

There is some evidence that it is the demand-side for apprentices and trainees that is the main determinant of the level of commencements. First, unsuccessful applications suggest an excess of supply of potential apprentices and trainees over demand. Second, the sensitivity of the level of commencements to financial incentives for employers also indicates that it is employer decision-making that ultimately determines the number of apprenticeships and traineeships. Third, the apparent emphasis on the job rather than on training in many non-trades apprenticeships and traineeships is consistent with a key role for the demand-side.

#### **6.6 Influences on the supply of apprentices and trainees**

A range of factors are likely to influence the commencement and completion rates of apprenticeships and traineeships: individual characteristics; job characteristics; perceptions of the return to an apprenticeship or traineeship.

### **6.6.1 Individual characteristics**

Individuals with higher levels of educational attainment are less likely to undertake an apprenticeship or traineeship. However, having done a VET subject in Year 12 does increase the likelihood of entering an apprenticeship. Age is negatively related to the probability of doing an apprenticeship or traineeship; however, older apprentices and trainees are more likely to complete the program. Males are more likely than females to commence an apprenticeship or traineeship, but this effect is reducing over time. Being from a country with an English-speaking background increases the probability of both commencing and completing an apprenticeship or traineeship. Individuals with higher (actual or self-perceived) academic ability are less likely to commence an apprenticeship or traineeship. Individuals from low SES households (and from government schools) have a higher probability of undertaking apprenticeships and traineeships, but are also less likely to complete the program. Being from a rural region increases the likelihood of undertaking an apprenticeship or traineeship, and also of completing the program (as does living in a region where there is a concentration of trade workers).

### **6.6.2 Job and training characteristics**

The likelihood of commencing and then completing an apprenticeship or traineeship both vary by the type of job in which a new worker is employed—with, for example, the highest incidence being for workers employed as Technicians and trade workers. Specific aspects of the job and training—such as full-time/part-time status of contract and the level of qualification also matter for the probability of completion (with full-time jobs and higher levels of qualification being associated with higher completion rates). Duration of the training program also appears to be related to the likelihood of completion—for example, being an explanation for why the completion rate in non-trades occupations is higher than in trade occupations.

Intrinsic interest in and enjoyment of a job is likely to be a factor that motivates many individuals to be willing to participate in an apprenticeship or traineeship. It has been suggested that this motivation will depend on the occupational identity attached to a job, and hence will be strongest for trade occupations.

Apprentices' and trainees' experiences of training and working conditions have been found to be an important determinant of completion rates. This encompasses perceptions of the quality and relevance of training being provided, and the quality of the workplace—including the safety of the work environment, fairness of treatment by the employer, and the quality of supervision.

### **6.6.3 Perceptions of the costs of and return to an apprenticeship/traineeship**

Undertaking an apprenticeship or traineeship is an investment. There is an up-front cost to an apprentice or trainee via the lower training wage and any foregone opportunity to earn a higher wage in another job. The return on the investment is for an apprentice or trainee to earn a higher wage after completing their training and acquiring a higher level of skills, compared to the wage that would otherwise be available.

There is a variety of evidence consistent with perceptions of financial costs and benefits influencing individuals' willingness to undertake and complete apprenticeships and traineeships. One type of evidence establishes a negative effect of the low training wage on uptake of apprenticeships. A second type of evidence finds that the foregone income during an apprenticeship or traineeship can be substantial (for example, \$5,000 to \$10,000 per annum for non-trade occupations; and \$10,000 to \$15,000 per annum for trade occupations), and is likely to have a negative effect on

incentives for individuals to commence those programs. A third type of evidence concerns the financial return from the apprenticeship or traineeship. Wage premiums associated with the completion of training vary widely between different jobs. For some jobs the premium has been estimated at \$30,000 per annum, but for some non-trade apprenticeships and traineeships a negative premium has been found. Some research finds that the size of wage premium is related to the likelihood of completing a training program.

Changes in aggregate labour market conditions may affect the costs of and returns to training, and hence the level of commencements and completions of apprenticeships and traineeships. It appears that this effect is mixed. While there is a small amount of evidence that improved labour market conditions encourage individuals to commence apprenticeships and traineeships, there is a much larger body of evidence that finds completion rates are inversely related to labour market conditions—that is, extra job opportunities cause apprentices and trainees to cease their training in order to take advantage of newly available jobs. The negative effect on completions is found to be higher for young than older workers.

#### **6.6.4 Attitudes to apprenticeships and traineeships**

Some individuals appear to be deterred from commencing apprenticeships and traineeships by the notion that they are primarily associated with dirty, old-fashioned and low status jobs. However, this does not seem to be a barrier for those who express a strong preference for working in a trade. Perceptions of apprenticeships and traineeships have been found to be strongly influenced by parents and schools—for example, individuals who have family members working in trades that have required apprenticeships are less likely to have negative attitudes towards them. The role of government and RTOs in promoting apprenticeships and traineeships may also affect perceptions.

#### **6.7 Influences on demand for apprentices and trainees**

The level of demand by employers for apprentices and trainees in an occupation will depend on two factors:

- the level of demand for workers in that occupation; and
- the proportion of jobs in the occupation that an employer decides to have as apprenticeships or traineeships.

Influences on the proportion of jobs that an employer decides to allocate to apprentices and trainees will include:

- the cost of hiring an apprentice or trainee relative to their productivity (depending, for example, on the level of the training wage and size of government subsidies for hiring apprentices and trainees);
- the degree of difficulty in hiring fully trained workers in the external market;
- the value of being able to personally train a worker and the opportunity to assess the ability of the individual before offering an ongoing employment contract; and
- altruistic motives such as wanting to give back to the industry via training new workers.

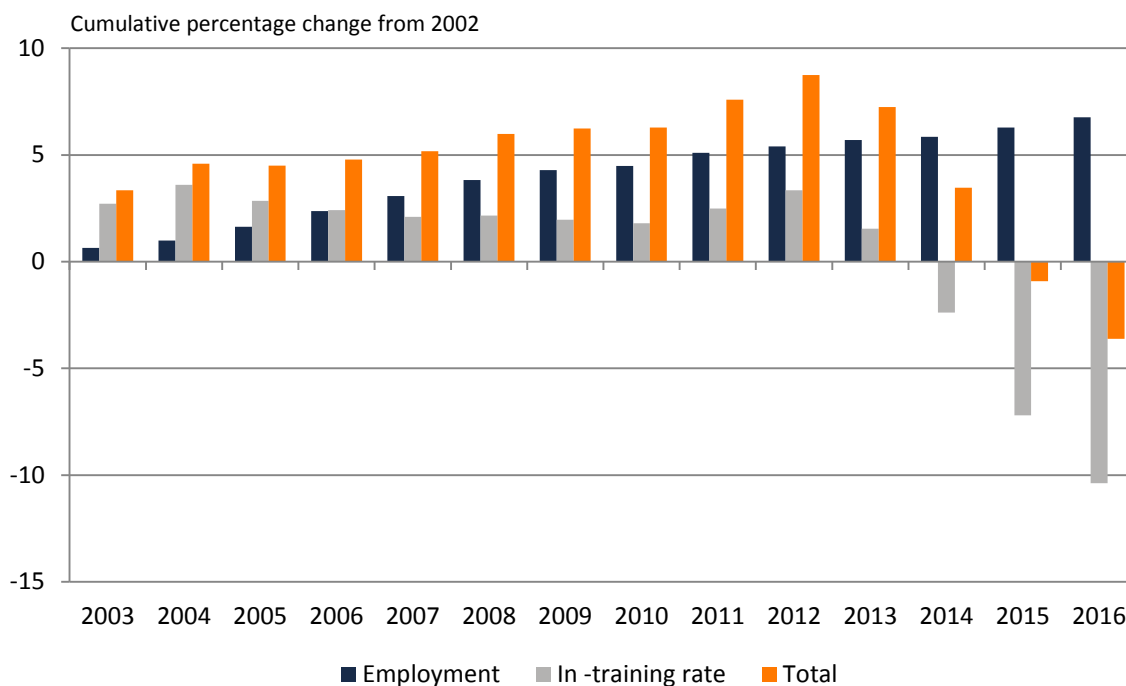
It is possible to identify how the rate of growth in the total number of apprentices and trainees in Australia has been affected by the two main components of demand:

- changes in the employment growth rate; and

- changes in the proportion of workers who are apprentices or trainees.

This can be done using a decomposition analysis. Chart 9 presents the results from the decomposition analysis of sources of changes in the total number of apprentices and trainees in Australia between 2002 and 2016.

**Figure 9: Decomposition of sources of changes in the numbers of apprentices and trainees, Cumulative percentage change from 2002 to 2016**



Source: Karmel T, *Factors affecting apprenticeships and traineeships*, research commissioned by the Fair Work Commission, Research Report 3/2017, Part II, February, p 13, Figure 3.

Growth which occurred in the total number of apprentices and trainees in Australia from 2002 to 2012 was mostly driven by aggregate employment growth. After 2012, aggregate employment growth continued to exert a positive influence on the number of apprentices and trainees; but that effect was more than offset by a huge decrease in the proportion of employment accounted for by apprentices and trainees. The latter effect was so large that the number of apprentices and trainees fell between 2012 and 2016. As another way of making this point, if the share of apprentices and trainees had remained the same in 2016 as in 2002 the total number of apprentices and trainees would have been 7 per cent higher in 2016 than 2002.

A similar pattern has occurred in every one-digit occupation group. That is, employment growth has acted to increase the number of apprentices and trainees; and a decrease in the share of workers in apprentices and trainees has acted in the opposite direction. In some occupations, such as Managers and Technicians and trade workers, the former effect has been larger than the latter, so that there has been overall growth in the number of apprentices and trainees. But in other occupations, such as Sales workers, it is the latter effect that has dominated, so that the number of apprentices and trainees has decreased.

In occupations within the category of Technicians and trade workers, there have also been different outcomes. For example, in automotive and engineering trades there has been only slow

employment growth, but the proportion of apprentices and trainees has remained stable, so that the number of apprentices and trainees has grown slowly. By contrast, for chefs and cooks, although there has been strong employment growth, the decline in the proportion of the occupation who are apprentices or trainees has been so large as to cause a decline in the number of apprentices and trainees.

Changes in the availability of government subsidies (notably for existing workers and part-time workers in some occupations) appear to have had an effect on incentives for employers to offer apprenticeships and traineeships. Similarly, the Commission decision to increase apprentice wages may have played a role, but it seems that any effect is likely to have been minor given the prevalence of over-award payments to apprentices. Further research is required to account for why employers are becoming less enamoured with the apprenticeship and trainee model.

## 7 Research Reference List—Annual Wage Review 2016–17

The Research Reference List includes citations for Australian and international literature, relevant to the minimum wages and modern awards objectives, published in the preceding year.

Relevant Australian research is grouped into categories:

- 1.1 The national economy
  - 1.1.1 Economic indicators (5 references)
  - 1.1.2 Labour market indicators (6 references)
- 1.2 Social inclusion through increased workforce participation (4 references)
- 1.3 Relative living standards and the needs of the low paid (4 references)
- 1.4 Equal remuneration for work of equal value (1 reference)
- 1.5 Junior employees, employees to whom training arrangements apply and employees with disability (2 references)
- 1.6 The need to encourage collective bargaining (1 reference)

The relevant international literature (15 references) is primarily on the topics of the employment and distributional consequences of the minimum wage in the United States and Europe.