Author/s:
Lass, I;Wooden, M

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Inga Laß ORCID iD: 0000-0003-4912-0356

Mark Wooden ORCID iD: 0000-0003-2236-4166

Non-standard Employment and Wage Growth in Australia

Inga Laß[a] and Mark Wooden[b]

[a] *Federal Institute for Population Research, Wiesbaden*

[b]*Melbourne Institute of Applied Economic and Social Research,*

University of Melbourne

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Corresponding author: Mark Wooden, email <m.wooden@unimelb.edu.au>.

Abstract

Using data from the HILDA Survey, and after restricting attention to employees, we observe an increase over time in the non-standard employment share, all of which is concentrated in the period since 2009. Further, we find clear evidence that employees in non-standard forms of employment have experienced relatively low rates of growth in hourly wages when compared with permanent full-time employees. Nevertheless, decomposition analysis suggests that changes in workforce composition by employment type have had a very small (and insignificant) impact on the overall rate of wage growth in recent years.

Keywords: Non-standard employment, Wage growth, HILDA Survey

1. Introduction

Recent decades have seen increased concern, both in Australia and elsewhere, about changes in the nature of work, and more specifically growth in non-standard forms of employment (such as part-time and casual work), and what this implies for the quality of jobs (see Laß and Wooden 2020). Changes in the mix of 'standard' and 'non-standard' jobs may also have implications for wages. Andrew Haldane (2017), Chief Economist at the Bank of England, for example, identifies the changing nature of work, and especially growth in self-employment, temporary employment and zero-hours contracts, as a factor contributing to weak wage growth in the UK. Similarly, in Australia, Cassidy and Parsons (2017) point to the potential role that growth in the part-time employment share may have played in restraining real wage growth. More specifically, they point to both the concentration of part-time jobs in low-paying occupations and industries and relatively low levels of bargaining power among part-time workers as factors that could drive down observed wage growth. In a similar vein, Pickering (2018) points to the rise not just in part-time jobs, but in jobs where workers have no paid leave entitlements (i.e., casual employment), as a likely contributing factor to relatively low real wage growth in recent years. That said, the wage floors created by minimum award wages may have shielded many of the lower paying non-standard jobs from any erosion in real wage growth. Prima facie evidence for this is provided by growth in minimum award wages in recent years (19.6 per cent in the six years to 2019) that has been considerably above the growth in consumer prices over that same period (11.7 per cent).

Despite these arguments, we are unaware of any previous research that has examined the link between growth in non-standard employment and wage growth in

Australia within a multivariate framework. Previous research has focused on associations with the wage level (e.g., Booth and Wood 2008; Green et al. 2010; Laß and Wooden 2019; Watson 2005), but not with the rate of growth in wages. The aim of this paper is therefore to re-assess the strength and validity of arguments linking changes in the prevalence of employment types to wage growth in Australia.

Using data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey we find that the share of non-standard employment in total employment has, perhaps surprisingly, not increased much since the turn of the millennium. However, a major factor working against growth in non-standard employment has been self-employment – the self-employment rate in Australia has been in long-term decline. If we restrict attention to employees, which seems appropriate for an analysis of wages, then we do observe an increase over time in the non-standard employment share. Further, all of this increase is concentrated in the years since the Global Financial Crisis (GFC) – over the period 2001 to 2008 the share of employees with non-standard employment contracts actually declined.

Such trends are suggestive of an association with low wage growth, with most indicators showing real wage growth declining to, and persisting at, quite low levels in recent years. Nevertheless, while it is true that some types of non-standard employment (notably casual work) are associated with relatively low wages, once we control for worker characteristics these differences disappear: Indeed, if anything, permanent part-time, casual and fixed-term contract workers earn hourly wage premiums. Such findings are in line with previous research using the HILDA Survey data (e.g., Booth and Wood 2008). However, we also find clear evidence that employees in non-standard forms of employment have, throughout the period covered

by this study (2001 to 2017), experienced relatively low rates of growth in hourly wages when compared with permanent full-time employees. Growth in the share of non-standard types of employment in total dependent employment (i.e., employees) thus might be one factor contributing to slower rates of real wage growth in recent years. Nevertheless, a simple decomposition analysis suggests that the magnitude of this effect is small (and insignificantly different from zero).

2. Non-standard Employment in Australia – A Brief Definition

As discussed at greater length in Laß and Wooden (2020), non-standard employment has most commonly been defined as any job that differs from full-time, permanent, dependent (i.e., wage and salary) employment. This covers a broad and disparate array of employment arrangements, including self-employment, part-time work, and any job where there is no commitment on the part of the employer to a long-term relationship (e.g., fixed-term contracts and casual employment).

In line with this definition, we operationalise non-standard employment as comprising five sub-groups of workers:

(i) the self-employed;

(ii) contributing family workers;

(iii) employees on fixed-term contracts;

(iv) casual employees; and

(v) permanent employees working part-time hours.

Note that we treat all owner managers, regardless of the legal status of their businesses, as self-employed. We define part-time jobs based on the number of hours worked in the main job (rather than all jobs), and in line with Australian Bureau of Statistics (ABS) practice, use a 35 weekly hours threshold.

Note further that, unlike previous research (Laß and Wooden 2019), we do not separately identify labour hire workers. These workers are different from other workers in that the firm to whom they provide their labour is not the firm that is their employer. However, according to the HILDA Survey, this group is very small, accounting for just 2.5 per cent of all employees in 2017. Further, just like any other employee, they are employed on either a permanent, fixed-term or casual contract; in fact, most are employed on either a casual basis (61 per cent) or a fixed-term contract (22 per cent) and therefore already included in our typology of non-standard employment types.

3 Data and Methods

3.1 Data and Sample

As noted previously, the data source for this study is the HILDA Survey, and more specifically Release 17 (Department of Social Services / Melbourne Institute of Applied Economic and Social Research 2018), which provides longitudinal data spanning the period 2001 to 2017. Critically, the HILDA Survey is the only source we are aware of that enables a simple disaggregation of employment into both standard and non-standard types, and among the latter into the five groups identified above, on an annual basis over an extended period.[1]

The survey commenced with a nationally representative sample of private Australian households. Members of households that responded at wave 1 are followed over time, with interviews sought on an annual basis with all original sample members aged 15 years or older, as well as any other adults who, in later waves, are residing with an original sample member.[2] In addition, a population refreshment sample was introduced in 2011.[3] In total, Release 17 contains 253,182 observations on 31,206 unique individuals.

Following the approach used in previous related research (Laß and Wooden 2019), the sample for the multivariate analysis is restricted to employees aged between 21 and 64 years (and hence avoiding the complications introduced by junior rates of pay). This exclusion does, however, markedly reduce the incidence of non-standard employment, especially casual employment, given such forms of employment are particularly pervasive among young workers.

Observations where the respondent did not report whether they were employed on a permanent, fixed-term or casual contract, where hourly wages could not be calculated due to missing information on usual weekly working hours, or where the derived hourly wage seemed extreme (below A$6 and above A$200 in 2017 prices), were also excluded. These exclusions resulted in the loss of just 266, 236 and 1565 observations respectively. The final working sample comprised 9312 men and 9504 women, contributing 57,615 and 58,062 observations respectively.

For the analysis of wage growth, the sample is smaller due to the effective loss of one wave of data given the need to observe working hours and earnings at two consecutive waves. The working sample for this analysis comprised 7103 men and 7296 women, contributing 44,884 and 44,242 observations respectively.

3.2 Method

First, we provide simple descriptive analyses on the trends in the prevalence of non-standard employment over time and on wages and wage growth by employment type. We then move on to examining more closely the links between employment contract type and wages using multivariate regression. More specifically, we estimate:

(i) wage equations where the log of hourly wages ($\ln w_t$) is regressed against measures of employment contract type and other worker characteristics; and

(ii) wage growth equations where the outcome is the annual difference in log hourly wages ($\ln w_{t+1} - \ln w_t$) and where all explanatory variables are measured at time t.[4]

We conduct analyses of both wage levels and wage growth in order to provide a comprehensive picture of the wage issues connected with non-standard employment. The wage level analysis tells us to what extent non-standard workers receive a wage premium or penalty compared to permanent full-time workers. This gives us an indication of how an increase in the non-standard employment share in the population (including an influx from outside employment) can change overall wage levels in the population. The wage growth analysis is focused on changes in wages of individual workers, and can thus tell us something about the role of having a non-standard employment contract for the wage trajectories of current employees.

When estimating wage equations where wages are expressed as levels we report results from both pooled OLS models (but which allow for clustering of observations within individuals over time) and fixed effects models (where estimates are identified by persons that change employment type over time). The importance of controlling for

person-specific effects when attempting to estimate the association between employment contract type and hourly wages has previously been emphasised by Booth and Wood (2008). Indeed, based on an analysis of the first four waves of the HILDA Survey data set, they find that workers employed on part-time and / or casual contracts typically earn hourly wage premiums, but these premiums only became apparent once unobserved individual heterogeneity was taken into account.

When estimating models of wage growth the case for controlling for person-specific effects is less clear. We thus only report results from pooled OLS models in this case.

3.3 Key Measures

Our wage measure is real hourly earnings. It is constructed by dividing reported usual gross weekly wages and salaries in the main job by usual weekly hours of work in that job, and then deflating by the underlying rate of price inflation using the Consumer Price Index trimmed mean series.

Note that usual hours of work in the HILDA Survey covers all hours spent working on the (main) job, including both paid and unpaid overtime, and including hours worked both in the workplace and at home (and indeed at any location). Hours reported by workers need not (and often will not) align perfectly with the hours that an employer would record as the hours paid for.

While hourly earnings is not the same as what is measured by the ABS in its Wage Price Index (WPI), the annual rates of growth suggested by the two series follow similar paths, with both suggesting a slowdown in nominal wage growth in recent years. This can be seen in Figure 1. The nominal hourly earnings data from the

HILDA Survey exhibit far more volatility than the WPI, which is to be expected given the greater noise that is inherent in individual self-reported survey data. Also, with the exception of the first observation, the rates of growth in hourly earnings from the HILDA Survey tend to lie above the rates of growth in the WPI. This is understandable given the WPI is designed to be unaffected by changes in the nature and quality of the work performed or by changes in the characteristics of job occupants.

The way we classify workers into different contractual employment types has been briefly discussed earlier. We operationalise this classification in two ways. In a first specification, we focus only on employment type at time *t* and differentiate between four different categories of employment: permanent full-time employment (the reference category); permanent part-time employment; fixed-term contract employment; and casual employment. The advantage of this specification is its simplicity – we only need to include three dummy variables to cover our employment types. The disadvantage is that it does not account for the fact that workers can change employment type between time *t* and *t+1*. The wage growth estimate we will receive for, say, the casual worker dummy, is thus a mix of the wage growth for workers who are casual workers in both *t* and *t+1* and those who are casual workers in *t* but in a different employment type in *t+1*.

In this context, Appendix Table A1 presents information on the frequency of year-to-year transitions between employment types in our sample. Overall, the vast majority of workers (81.9 per cent of men and 74.7 per cent of women) stay in the same employment type from one year to the next. However, the balance of stayers and changers varies considerably by employment type. Changes of employment type are

most frequent among fixed-term contract workers, with only 43.2 per cent of men and 46.2 per cent of women staying in that employment type from one year to the next. In contrast, permanent full-time work is the most stable, as 90.8 per cent of men and 84.5 per cent of women in this employment type in one wave are still in this employment type in the next.

In order to account for these changes in employment type, we also use a second specification for the wage growth models that considers both employment type at *t* and at *t+1*. We include 15 dummy variables representing all 16 possible combinations of employment types, with "permanent full-time employment in both years" as reference category.

As previously noted, the sample is restricted to employees and hence the self-employed are excluded. Such an exclusion might be problematic for our analysis if the composition of the self-employed group has been changing. Exclusion of freelancers and gig workers, who are often associated with relatively low skilled and poorly remunerated work and who are widely thought to have become more important in recent years (e.g., Peetz 2019), might lead us to understate the impact of non-standard employment on rates of wage growth. The HILDA Survey data, for example, suggests modest growth in the relative importance of independent contractors in recent years (from 56 per cent of all self-employed in 2008 to 60 per cent in 2018). In contrast, other evidence suggests that gig work is still restricted to a relatively small proportion of the workforce, most of whom are engaged in sporadic employment involving relatively few hours (McDonald et al. 2019).

3.4 Control Variables

Similar to Laß and Wooden (2019), our preferred specification includes controls for a range of socio-demographic and work-related characteristics. We include age (in quadratic form), six dummies for the highest educational level, and a separate dummy for full-time students. The household context is considered by including a dummy for individuals living with a partner and another for those living with their own children below the age of 15. An indicator for the presence of a long-term health condition that impacts on work is also included. We account for regional differences in wage levels in two ways: first, by the inclusion of variables identifying residence in a major city, an inner-regional area, or a more remote area; and second, through the inclusion of indicators for the eight different Australian states and territories. We also control for time effects through the inclusion of year dummies. In the pooled cross-sectional models, we additionally control for indigenous origin and region of birth. Regarding employment-related variables, we include controls for length of tenure with the current employer (specified as a quadratic), whether employed in the public sector, whether has supervisory responsibilities, whether works a schedule other than a regular day schedule, whether had experienced any unemployment in the past year, and membership of a trade union or employee association.

Additionally, we also include a measure of the unemployment rate of the region in which the individual resides, where region is measured at the SA4 level – there are 107 SA4 regions (see ABS 2016). This required accessing more detailed data on geography from the restricted HILDA Survey data release and merging that into our analytical data file.

Appendix Table A2 provides an overview of the distribution of job characteristics by employment type in our sample. We see that non-standard employment types are spread across all occupations and industries. However, reading down the columns, we can see that permanent part-time workers are over-represented among community and personal service workers, clerical and administrative workers, and sales workers. (Combined, these three occupation groups account for just over 52 per cent of all permanent part-time workers, yet only cover about 35 per cent all employees.) They are also very prevalent in industries such as health care and social assistance, retail trade, and education and training, and they are more likely than average to work in the public sector. Fixed-term contract workers are frequently found among professionals, in the education and training industry, in the public sector, and in large firms. Casual workers in turn are over-represented among community and personal service workers, sales workers and labourers. They are concentrated in accommodation and food services, retail trade, among labour hire workers, and among small firms.

4 Results

4.1 Trends in the Prevalence of Non-Standard Employment and Wages

Figure 2 shows how the share of standard and non-standard forms of employment, and its composition by employment type, has evolved since the beginning of the millennium. As previously reported in Laß and Wooden (2020), the share of non-standard employment in total employment at the end of our period, in 2017 (55.6%), was little different to the share at the start, in 2001 (54.9%). However, the non-standard employment share would have grown had it not been for the relative decline in self-employment – the self-employment share in these data fell from 17.5 per cent in 2001 to 14.0 per cent by 2013, before stabilising in more recent years.

Given our interest here in the association between non-standard employment and wages, it might be preferable to ignore the self-employed (and contributing family workers) – after all, a meaningful (and comparable) measure of labour income for the self-employed cannot be readily constructed. Once we restrict attention to the population of employees, we find the share of non-standard work rising from 44.9 per cent of employees in 2001 to 48.3 per cent in 2017. Growth in this share has not, however, been evenly distributed over time. Indeed, the non-standard employment share fell over the period 2001 to 2008. In the following 9 years, the share of non-standard employment in total dependent employment rose by 5.5 percentage points. Casual employment and fixed-term contracts each account for 2.1 percentage points of this recent growth and permanent part-time employment for 1.4 percentage points.

The coincidence of a rising non-standard employment share in the latter half of the period with a period of weaker aggregate wage growth is suggestive of a link between the two. Nevertheless, the aggregated data do not support a straightforward relationship. In Table 1 we divide our data period into three sub-periods: (i) the pre-GFC period, 2001-2008, during which the non-standard employee share fell; (ii) the period immediately following the GFC, 2008-2013; and (iii) the period since 2013, when nominal wage growth (at least according to the Wage Price Index [WPI]) has barely kept pace with the rate of price inflation. As can be seen, the period of weakest real wage growth (2013 to 2017) has been associated with relatively modest increases in the non-standard employment share, whereas the period of strongest growth in non-standard employment (2008-2013) was a time when real wage growth was comparatively strong by recent historical standards.[5]

4.2 Hourly Wage Levels

Table 2 summarises the mean hourly wages for men and women by employment type within the sample. The results reflect the well-known gender wage gap, with women on average receiving A$31 per hour and men A$36. Women also earn less than men in every single employment type, although the difference is quite small among both permanent part-time and casual employees. When comparing wages across employment types, for both men and women, fixed-term contract workers receive the highest hourly wages (though among women the difference in the mean hourly wage of fixed-term contract workers and permanent part-time employees is not statically significant) and casual employees the lowest. Among men, but not women, we can also see a marked difference in the wages of permanent full-time and permanent part-time employees, with the latter earning on average around 13 per cent less than the former.

In summary, an increase in the casual employment share can be expected to be associated with an increase in the relative importance of relatively low-paying jobs, while the reverse is true of an increase in the share of fixed-term contract work. Permanent part-time jobs are also relatively lowly paid, though only among men.

But workers in casual and part-time jobs are also expected to have lower levels of human capital, as reflected in lower levels of experience, education and job-relevant skills and abilities. We thus estimate regression equations that attempt to control for these influences on wage outcomes. Estimates of the parameters of interest are reported in Table 3. The results from simple OLS regressions on the pooled data set are consistent with the descriptive results discussed above. Among men, both casual employment and permanent part-time employment are associated with significant

wage penalties relative to permanent full-time employment (of 3.7 per cent and 6.0 per cent, respectively), while fixed-term contract work is associated with a wage premium (of 5.4%).[6] However, similar to what was found by Booth and Wood (2008), the results from the fixed effects regressions tell a very different story: Both casual employment and permanent part-time work are now associated with large and significant hourly pay premiums (of 6.0 per cent and 9.3 per cent respectively). In other words, the relatively low hourly wages paid to men in casual or permanent part-time employment are not simply a function of their employment contract type, but instead a function of unobservable person-specific traits that are associated with lower productivity (e.g., lesser skills and abilities). Fixed-term contract work meanwhile continues to attract a pay premium, but in this case the magnitude of that premium declines in the presence of individual fixed effects, implying that such workers typically have unobserved traits that are pro-productivity.

Among women the situation is slightly different. In this case, it is only casual employment that attracts a significant negative coefficient in the pooled OLS regression. However, in the presence of individual fixed effects the coefficients on all three non-standard employment types become positive and significant, and imply wage premiums ranging from 4.6 per cent for fixed-term contract workers to 9.1 per cent and 9.3 per cent for permanent part-time and casual employees respectively.

We further checked whether the magnitudes of these differentials have been changing over time by re-estimating the fixed effects regressions for three different sub-periods: 2001-2008, 2009-2012, and 2013-2017. The results from these estimations are summarised in Table 4. There is some variation over time, with the coefficients on the indicators of casual and part-time employment largest in the

immediate post-GFC period (when the non-standard employee share was rising fastest). Over the longer term, however, there are few differences; with the exception of men on fixed-term contracts, the magnitudes of the estimated wage differentials with permanent full-time employment are much the same in the last sub-period as they were in the first.

We also subjected our results to a number of robustness checks. This involved re-estimating our models after:

(i) including additional controls (for industry, occupation and firm size);

(ii) including additional variables identifying persons who were no longer responding at *t+1* or were no longer an employee at *t+1* (as a crude means of identifying whether results are affected by selection);

(iii) omitting observations from wave 1 (given, as shown in Figure 1, the relatively low rate of mean nominal wage growth between waves 1 and 2 of the HILDA Survey); and

(iv) omitting cases where reported usual hours were greater than 60 per week or fewer than 5 per week.

In each of these cases our main findings were qualitatively unaffected; that is, the magnitude of the estimated coefficients on the employment type dummies changed very little.

Finally, we draw attention to the fact that the estimated magnitude of the wage premium for casual employment – around 6 per cent for men and 9 per cent for women – is still well below the 25 per cent premium currently mandated in awards (or

the 20 per cent premium that was widely accepted as the norm in the period prior to July 2010) (see also Laß and Wooden 2019). Given the value of non-wage benefits that casual employees forego (such as paid leave and paid public holidays) is usually assumed to be substantially greater than 6 per cent to 9 per cent, our results support the claim that casual employment is generally not very well rewarded. However, no aggregate measure of wage inflation in use in Australia, including the WPI, takes account of non-wage benefits – they all measure growth in cash earnings. Growth in casual employment should thus be adding to wages pressure (as captured in the WPI) relative to growth in permanent full-time employment, while at the same time reducing overall labour costs.

4.3 Annual Changes in Hourly Wages

While the evidence presented shows that non-standard employment in Australia is associated with a wage premium once other characteristics and endowments are controlled for, it is still possible that non-standard employees have not done as well as other workers at securing pay rises in recent years. Descriptive statistics presented in Table 5 are mostly consistent with this hypothesis.

This table reports the median change in real hourly earnings.[7] Perhaps the first noteworthy feature of this table is that the median annual rate of real wage growth over this period (1.9 per cent for men and 1.7 per cent for women) is considerably higher than the annual rates of change derived from cross-section data. Most workers who maintain employment from one year to the next have clearly experienced positive real wage growth. Even in the most recent years (2013 to 2017), while real wage growth has slowed, more than half of the employed adult workforce have experienced real wage growth in excess of 1.2 per cent. By comparison, the WPI suggests wages

have barely been keeping pace with inflation, growing by just 0.2 per cent per annum over this period. The most obvious explanation for this difference lies in measurement. The WPI measures the wage attached to a specific job, and thus excludes the impact on wages from annual increments, promotions, reclassifications or changing employers, whereas the HILDA Survey is measuring the wages received by individuals and thus includes the effects of these influences.

But returning to the issue at the centre of this paper, Table 5 also shows that the median annual rate of growth in real hourly wages has been relatively low for permanent part-time employees and, among women, casual employees. Further, as wage growth has slowed, these growth differentials have mostly widened. This is most obvious with respect to permanent part-time employment, where median wage growth over the entire period has been negative (men) or close to zero (women), and where real wage declines are most marked in the most recent years.

Further confirmation for the hypothesis that real wage growth has been relatively slow among employees with non-standard working arrangements is provided by results from regression models. These are reported in Table 6. While the explanatory power of these models is extremely poor[8], two of our employment type variables attract relatively large and statistically significant negative coefficients. Among men the coefficients imply rates of real wage growth (when averaged over the entire sample period) that are about 7 and 3.5 percentage points lower among permanent part-time and casual employees, respectively, than among permanent full-time employees. Among women the comparable differences are around 4.5 and 5.5 percentage points lower. Table 6 also shows that these negative growth differentials are relatively stable over time. In contrast, for both sexes, the difference in the rate of

wage growth between fixed-term contract workers and permanent full-time workers is small and statistically insignificant.

So we now have the puzzle that, other things held constant, workers in non-standard jobs appear to be relatively well paid (at least when earnings are measured solely in cash terms), yet both casual and permanent part-time employees have clearly been experiencing relatively low rates of real wage growth. One possible resolution to this puzzle lies in changing employment status – that is, that the largest declines in real wages are experienced by those that shift out of non-standard employment into permanent full-time employment. We would, for example, expect many casual employees to suffer an immediate reduction in hourly earnings upon conversion to permanent employment because of the loss of the casual pay loading. But even among permanent part-time employees (and fixed-term contract employees) there may be a willingness to trade off current wages for the benefits that 'standard' employment might bring, including most obviously access to steeper earnings trajectories in the future. Very differently, changes in hourly wages may simply reflect changes in working hours and, more importantly, the measured return to those hours.

We thus re-estimate our wage growth models after replacing our three employment type dummies with a set of 15 dummies that identify all of the 16 possible combinations of observed employment type at both time *t* and time *t+1*. A summary of the key results is presented in Table 7. These results confirm that the groups that experience the lowest and highest rates of hourly wage growth are those where employment type changes over the one-year window. Perhaps surprisingly, however, it is not those exiting or entering casual employment who experience the largest wage changes. Instead, the largest changes in hourly wages are incurred by those moving

between permanent full-time and permanent part-time employment. Among those that move from full-time to part-time employment, the rate of wage growth is almost 21 percentage points higher among men and 16 percentage points higher among women. Conversely, permanent employees that transit in the opposite direction – from part-time work into full-time – experience relatively slower wage growth (16 percentage points lower among men and 14 percentage points lower among women).

Our hypothesis is that this, at least in part, reflects a systematic link between the level of unpaid overtime and the likelihood of being classified as full-time or part-time worker. Recall our full-time/part-time classification depends on usual working hours, which is the sum of paid and unpaid hours. Therefore, part-time workers with agreed-upon (and paid) working hours near the full-time threshold (so somewhat below 35 hours) will be classified as part-time if, and only if, they really only work these agreed hours. If they usually work unpaid overtime, they will surpass the 35 hours threshold and thus be classified as full-time. So, from a longitudinal perspective, a change from no or little unpaid overtime to numerous unpaid overtime hours can result in a change from part-time to full-time work. Associated with this change is a decline in the hourly wage, even though the job and the weekly wage may not have changed at all. Similarly, a worker who manages to reduce unpaid overtime may fall from above the 35-hour threshold to below the threshold, which simultaneously results in a change from full-time to part-time work and in an increase in hourly wages.

Casual workers who transit into a permanent full-time job also typically experience subdued wage growth, while movements in the other direction are associated with stronger wage growth compared to persistent permanent full-time workers. As noted above, this is to be expected given the presence of the casual pay loading. And again,

the surprise here is that the changes are not far greater given the magnitude of the casual pay loading. With a relative decline of about 6 per cent among men and 9 per cent among women, shifts into permanent employment out of casual employment may well be welfare enhancing for the worker given both the value of the non-wage benefits and the access to greater promotion prospects and hence higher earnings in the long run.

In contrast, among workers in non-standard jobs who do not change employment type from one year to the next, the disadvantages in wage growth compared to persistent permanent full-time workers are much smaller – no larger than 2.4 percentage points. Indeed, among fixed-term contract workers who remain in a fixed-term contract one year later, and male casual workers who remain in a casual job, there are no differences with the reference group.

4.4 Decomposition Analysis

So, given the non-standard employee share has been rising, at least since 2008, and given that non-standard employment has been found to be associated with significantly lower rates of real hourly wage growth, it follows that the rise in the non-standard employee share should have contributed to low wage growth. But how large is this effect? To help us answer this question we decompose differences in the rate of real hourly wage growth at two periods in time using both weighted and unweighted Oaxaca-Blinder decomposition methods (but noting it is the weighted results we think are more meaningful). The two periods selected were 2009-10 and 2016-17.[9]

As reported in Table 8, in our data set annual real hourly wage growth in the latter period averaged (after weighting) about 0.7 per cent for men and about 1.7 per cent for women. This compares with about 4.3 per cent and 3.4 per cent in the earlier

period. More importantly, and reflecting the low explanatory power of our regression models, very little of these differences over time is explained by changes in individual or job characteristics, including changes in the composition of employees by employment type. At most, changes in the non-standard employee share account for about 0.2 of a percentage point of the decline in the real wage growth rate among men, and less than 0.1 of a percentage point among women. But, with one exception, all effects are, in statistical terms, insignificantly different from zero. Further, the only significant effect is found (for men) in our simpler, non-preferred specification and when data are not weighted. In short, the groups where estimated wage growth is relatively low (or relatively high) are tiny. And the sizes of the groups that account for most of the change in employment type over these two periods (e.g., persons that remain in casual employment over each one-year interval) are not changing rapidly enough to affect wage growth to any large extent.

5 Conclusions

Using panel data from the HILDA Survey, we have shown that, if we ignore the self-employed, the share of non-standard employees in total employment is noticeably higher today than at the start of the millennium, and all of this increase occurred since the GFC. We have also demonstrated that, after controlling for (observed and unobserved) worker characteristics, most types of non-standard workers earn higher hourly wages than permanent full-time workers. This suggests that the observed influx into non-standard employment should work towards increasing overall wages in the workforce, rather than decreasing them.

However, we have also established that, on an individual level, both casual and permanent part-time employment are associated with significantly lower rates of

growth in real hourly wages. This is especially the case for those who transition into permanent full-time jobs, possibly because of the loss of the casual loading or because not all additional hours worked are directly remunerated. To a lesser degree, it is also the case for those who remain casual and permanent part-time workers across consecutive survey waves (with the exception of male casual workers). Nevertheless, decomposition analysis suggests that changes in workforce composition by employment type have had a very small impact on the overall rate of wage growth within the group of existing employees in recent years.

Endnotes

References

Amuedo-Dorantes, C. and Serrano-Padial, R. 2007, 'Wage growth implications of fixed-term employment: an analysis by contract duration and job mobility', *Labour Economics*, vol. 14, pp. 829–47.

Australian Bureau of Statistics (ABS) 2016, *Australian Statistical Geography Standard (ASGS): Volume 1 – Main Structure and Greater Capital City Statistical Areas, July 2016* (cat. No. 1270.0.55.00), ABS, Canberra.

Booth, A.L. and Wood, M. 2008, 'Back to front down under? Part-time / full-time wage differentials in Australia', *Industrial Relations: A Journal of Economy and Society*, vol. 47, pp. 114-35.

Cassidy, N. and Parsons, S. 2017, 'The rising share of part-time employment', *RBA Bulletin*, September Quarter, pp. 19-26.

Department of Social Services / Melbourne Institute of Applied Economic and Social Research 2018, *Household, Income and Labour Dynamics in Australia (HILDA)*

Survey – General Release 17.0 (Waves 1-17), Australian Data Archives Dataverse, Australian National University, Canberra.

Giesecke, J. 2009, 'Socio-economic risks of atypical employment relationships: Evidence from the German labour market', *European Sociological Review*, vol. 25, pp. 629–46.

Green, C., Kler, P. and Leeves, G. 2010, 'Flexible contract workers in inferior jobs: Reappraising the evidence', *British Journal of Industrial Relations*, vol. 48, pp. 605–29.

Haldane, A. 2017, 'Work, wages and monetary policy', Speech delivered at the National Science and Media Museum, Bradford (UK), 20 June. [https://www.bis.org/review/r170630f.pdf]

Laß, I. and Wooden, M. 2019, 'The structure of the wage gap for temporary workers: Evidence from Australian panel data', *British Journal of Industrial Relations*, vol. 57, pp. 453–78.

Laß, I. and Wooden, M. 2020, 'Trends in the prevalence of non-standard employment in Australia', *Journal of Industrial Relations*, vol. 62, pp. 3–32.

McDonald, P., Williams, P., Stewart, A., Oliver, D. and Mayes R. 2019, *Digital Platform Work in Australia: Preliminary Findings from a National Survey*, Report commissioned by the Victorian Department of Premier and Cabinet. https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/6915/6081/7253/Digital_Platform_Work_in_Australia_-_Preliminary_Findings_18_June_2019.pdf

Mertens, A. and McGinnity, F. 2004, 'Wages and wage growth of fixed-term workers in East and West Germany' *Applied Economics Quarterly*, vol. 50, pp. 139–63.

OECD 2015, *In it Together: Why Less Inequality Benefits All*, OECD Publishing, Paris.

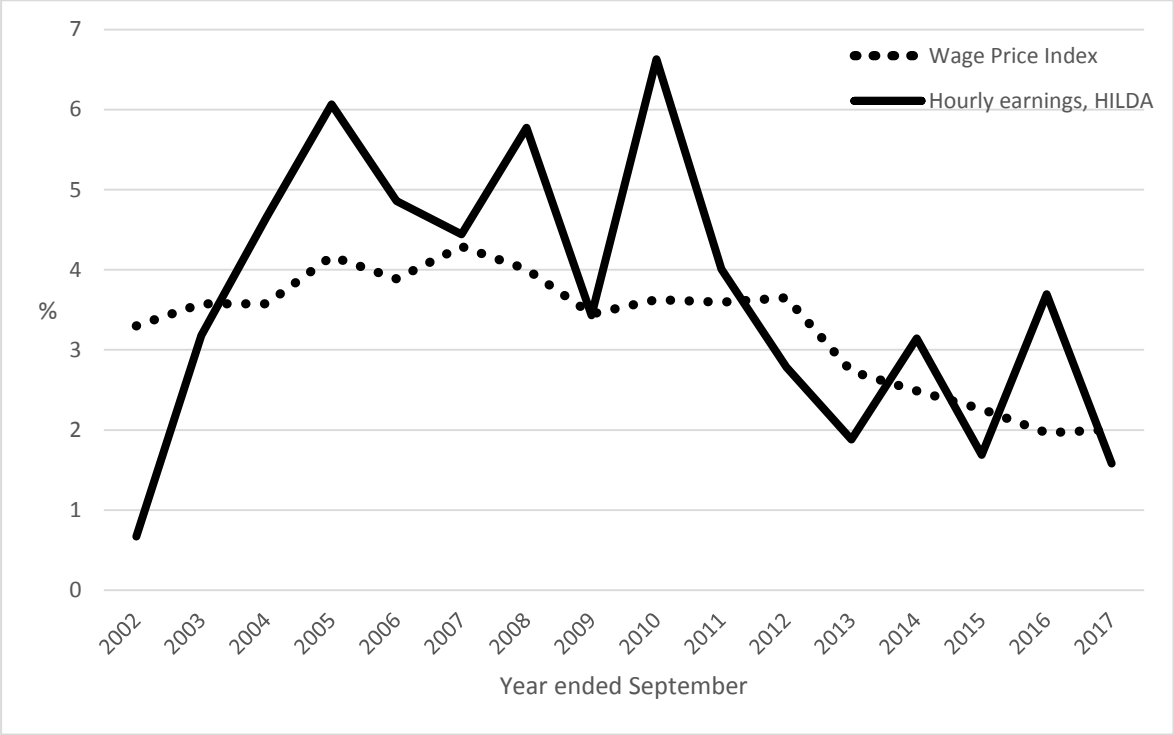
Peetz, D. 2019, *The Realities and Futures of Work*, ANU Press, Canberra.

Pickering, C. 2018, *Australian Low Wage Growth: Was it Inevitable?* Indeed. [Downloaded from: https://www.hiringlab.org/au/blog/2018/11/27/australian-low-wage-growth/]

Watson, I. 2005 'Contented workers in inferior jobs? Re-assessing casual employment in Australia', *Journal of Industrial Relations*, vol. 47, pp. 371–92.

Watson, N. and Wooden, M. 2012, 'The HILDA Survey: A case study in the design and development of a successful household panel study', *Longitudinal and Life Course Studies*, vol. 3, pp. 369–81.

Figure 1 Annual % Change in Nominal Wages: WPI vs HILDA Survey

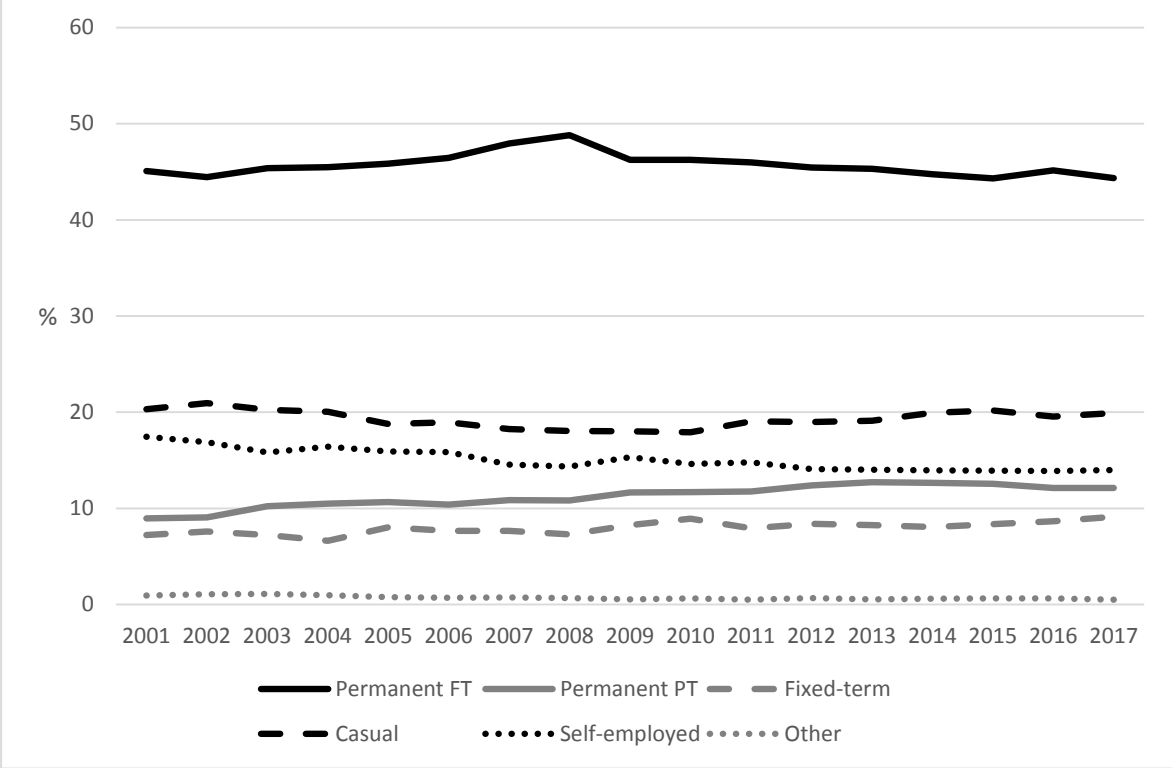


Note: Annual changes in the Wage Price Index are calculated for the year ended September using the series for total rates of pay excluding bonuses, private public and sector, and all industries (but note that enterprises primarily engaged in agriculture, forestry or fishing are not covered by the WPI).

Sources: ABS, *Wage Price Index, Australia* (cat. No. 6345.0), Time Series Spreadsheets Table 1.

HILDA Survey Release 17 (Department of Social Services / Melbourne Institute of Applied Economic and Social Research 2018).

Figure 2 Trends in Employment Arrangements, 2001-2017 (% of All Employed Persons)



Notes: 'Other' includes both contributing family workers and a small number of employees whose contractual status could not be determined.

n=160,174. Data weighted using responding person weights.

Source: HILDA Survey Release 17 (Department of Social Services / Melbourne Institute of Applied Economic and Social Research 2018).

Table 1 The Changing Share of Employees in Non-standard Jobs (2001-2017) by Sub-period

Period	*Change in non-standard employee share*		*Real wage growth (WPI)[(a)] (average annual % change)*
	Total % point change	*Annual average % point change*	
2001-2008	-2.1	-0.3	0.7% – Modest real wage growth
2008-2013	+4.3	+0.9	0.8% – Modest real wage growth
2013-2017	+1.2	+0.3	0.2% – Low real wage growth

Note: (a) The real wage series used here is the Wage Price Index for total hourly rates of pay excluding bonuses (private and public sector) divided by the Consumer Price Index trimmed mean. We take numbers for each year from the September quarter to align with the median interview date in the HILDA Survey.

Sources: Non-standard employment: HILDA Survey Release 17 (Department of Social Services / Melbourne Institute of Applied Economic and Social Research 2018).

Wages: ABS, *Wage Price Index, Australia* (cat. No. 6345.0), Timeseries Spreadsheet Table 1.
Prices: ABS, *Consumer Price Index Australia* (cat. No. 6401.0), Timeseries Spreadsheet Table 8.

Table 2 Average Pooled Hourly Wages (Constant Prices) by Employment Type and Gender

	Men	*Women*
Hourly wages ($)		
Permanent FT employees	36.94	31.33
Permanent PT employees	32.24	31.94
Fixed-term contract employees	39.69	32.76
Casual employees	28.47	27.70
All employees	35.81	30.87
Wage differences ($)		
Permanent FT vs Fixed-term	-2.75 (3.75)**	-1.43 (3.31)**
Permanent FT vs Casual	8.47 (16.80)**	3.63 (11.04)**
Permanent FT vs Permanent PT	4.70 (5.26)**	-0.61 (1.56)
Fixed-term vs Casual	11.22 (13.53)**	5.06 (10.25)**
Fixed-term vs Permanent PT	7.45 (7.63)**	0.82 (1.60)
Casual vs Permanent PT	-3.77 (4.35)**	4.24 (10.19)**

Notes: Cross-sectional responding person weights applied.

Wages are in constant (2017) dollars.

Figures in parentheses are absolute values of the t-test of significance of wage differences.

** and * denote statistical significance at the .01 and .05 levels, respectively.

Table 3 Non-standard Employment and Real Hourly Wages

(Estimates from Pooled OLS and Fixed Effects Regression; Outcome = ln Real Hourly Wage)

Employment type	*Men*		*Women*	
	No fixed effects	*Fixed effects*	*No fixed effects*	*Fixed effects*
Permanent full-time	[Ref. category]	[Ref. category]	[Ref. category]	[Ref. category]
Permanent part-time	-0.062**	0.089**	0.011	0.087**
Fixed-term contract	0.053**	0.026**	0.007	0.045**
Casual	-0.038**	0.058**	-0.029*	0.089**
N	56577	56587	56929	56941
R^2	0.29		0.27	
R^2 (within)		0.15		0.11
R^2 (between)		0.15		0.19
Rho		0.70		0.60
Hausman test		1117.0**		935.9**

Notes: ** and * denote statistical significance at the .01 and .05 levels, respectively.

Table 4 Non-standard Employment and Real Hourly Wages by Time Period

(Fixed Effects Regression Estimates; Outcome = ln Real Hourly Wage)

	2001-2008	*2009-2012*	*2013-2017*
Men			
Permanent full-time	[Ref. category]	[Ref. category]	[Ref. category]
Permanent part-time	0.088**	0.149**	0.132**
Fixed-term contract	0.034**	0.030*	0.012
Casual	0.069**	0.092**	0.063**
N	23106	13321	20160
R^2 (within)	0.10	0.06	0.04
R^2 (between)	0.13	0.01	0.11
Rho	0.72	0.85	0.78
Women			
Permanent full-time	[Ref. category]	[Ref. category]	[Ref. category]
Permanent part-time	0.088**	0.117**	0.102**
Fixed-term contract	0.046**	0.041**	0.051**
Casual	0.102**	0.142**	0.094**
N	23040	13384	20517
R^2 (within)	0.06	0.05	0.04
R^2 (between)	0.17	0.10	0.04

Rho	0.63	0.70	0.71

Note: ** and * denote statistical significance at the .01 and .05 levels, respectively.

Table 5 Median Annual Change (%) in Real Hourly Wages by Employment Type and Time Period

	2001-02 to-2016-17	*2001-02 to 2007-08*	*2008-09 to 2012-13*	*2013-14 to 2016-17*
Men				
Permanent full-time	+2.0	+2.5	+1.9	+1.3
Permanent part-time	-1.8	-1.5	-1.0	-3.8
Fixed-term	+2.7	+2.6	+3.3	+1.5
Casual	+1.6	+1.1	+0.3	+2.6
Total	+1.9	+2.2	+1.9	+1.2
Women				
Permanent full-time	+2.8	+3.0	+2.7	+2.8
Permanent part-time	+0.1	+0.6	+0.2	-1.0
Fixed-term	+2.8	+2.4	+3.8	+2.5
Casual	-0.5	+0.3	-1.3	-1.6
Total	+1.7	+2.0	+1.7	+1.4

Notes: Paired longitudinal weights applied. Employment type measured at time t.

Table 6 Non-standard Employment and Real Hourly Wage growth by Sub-period

(OLS regression estimates; Outcome = Annual Change in ln Real Hourly Wage)

	2001-02 to 2016-17	*2001-02 to 2007-08*	*2007-08 to 2012-13*	*2013-14 to 2016-17*
Men				
Permanent full-time	[Ref. category]	[Ref. category]	[Ref. category]	[Ref. category]
Permanent part-time	-0.072**	-0.063**	-0.070**	-0.084**
Fixed-term contract	-0.008	-0.005	-0.005	-0.013
Casual	-0.035**	-0.033**	-0.036	-0.039**
N	44056	16599	13747	13718
R^2	0.008	0.008	0.009	0.009
Women				
Permanent full-time	[Ref. category]	[Ref. category]	[Ref. category]	[Ref. category]
Permanent part-time	-0.045**	-0.037**	-0.050**	-0.049**
Fixed-term contract	-0.008	-0.009	-0.011	-0.005
Casual	-0.057**	-0.052**	-0.061**	-0.060**
N	43349	16085	13573	13702
R^2	0.008	0.007	0.009	0.010

Notes: Employment type measured at time t. ** and * denote statistical significance at the .01 and .05 levels, respectively.

Table 7 Transitions Between Employment Type and Real Hourly Wage growth

(OLS regression estimates; Outcome = Annual Change in ln Real Hourly Wage)

Employment type at t	*Employment type at t+1*	*Men*	*Women*
Permanent FT	Permanent FT	[Ref. category]	[Ref. category]
Permanent FT	Permanent PT	0.190**	0.152**
Permanent FT	Fixed-term contract	0.017*	0.035**
Permanent FT	Casual	0.052**	0.118**
Permanent PT	Permanent FT	-0.174**	-0.147**
Permanent PT	Permanent PT	-0.024**	-0.011**
Permanent PT	Fixed-term contract	0.030	-0.001
Permanent PT	Casual	-0.082*	0.026
Fixed-term contract	Permanent FT	-0.009	-0.001
Fixed-term contract	Permanent PT	0.032	0.022
Fixed-term contract	Fixed-term contract	0.009	0.002
Fixed-term contract	Casual	-0.042	0.062*
Casual	Permanent FT	-0.063**	-0.096**
Casual	Permanent PT	-0.049	-0.033*
Casual	Fixed-term contract	-0.035	-0.064**
Casual	Casual	-0.011	-0.024**

N	43979	43275
R^2	0.015	0.022

Note: ** and * denote statistical significance at the .01 and .05 levels, respectively.

Table 8 Results from Decomposing the Difference in Mean Log Real Hourly Wage growth, 2009-10 vs 2016-17

	Men		*Women*	
	Spec I	*Spec II*	*Spec I*	*Spec II*
Weighted				
Mean log wage growth 2009-10	0.042	0.042	0.033	0.033
Mean log wage growth 2016-17	0.007	0.007	0.017	0.017
Difference	0.035**	0.036**	0.016	0.016
Explained component	0.0010	0.0016	-0.0010	-0.0014
Due to employment type	0.0016	0.0021	0.0002	0.0007
Unexplained component	0.0338**	0.0334**	0.0173	0.0174
Change in non-standard employment share (employees aged 21-64)	0.043		0.015	
Unweighted				
Mean log wage growth 2009-10	0.034	0.034	0.027	0.027
Mean log wage growth 2016-17	0.021	0.021	0.018	0.018
Difference	0.014	0.014	0.018	0.018
Explained component	0.0014	0.0014	0.0009	0.0008
Due to employment type	0.0019**	0.0015	0.0003	0.0016

Unexplained component	0.0124	0.0128	0.0116	0.0102
Change in non-standard employment share (employees aged 21-64)		0.025		0.022

Notes: Specifications I and II only differ in the way employment type is represented. Specification I includes three employment dummies measuring employment type at time t, while Specification II includes 15 dummies representing combinations of a person's employment types at time *t* and *t+1*.

** and * denote statistical significance at the .01 and .05 levels, respectively.

Appendix

Table A1 Number of Pooled Year-to-Year Transitions Between Employment Types in the Sample (row percentages in parentheses)

	Employment type at year t + 1				
Employment type at year t	*Permanent FT*	*Permanent PT*	*Fixed-term*	*Casual*	*All employees*
Men					
Permanent FT	30,786	388	1,756	977	33,907
	(90.8)	(1.1)	(5.2)	(2.9)	(100.0)
Permanent PT	431	944	109	193	1,677
	(25.7)	(56.3)	(6.5)	(11.5)	(100.0)
Fixed-term	1,971	104	1,748	221	4,044
	(48.7)	(2.6)	(43.2)	(5.5)	(100.0)
Casual	1,314	259	375	3,221	5,169
	(25.4)	(5.0)	(7.3)	(62.3)	(100.0)
All employees	34,502	1,695	3,988	4,612	44,797
	(77.0)	(3.8)	(8.9)	(10.3)	(100.0)
Women					
Permanent FT	17,208	1,373	1,221	571	20,373
	(84.5)	(6.7)	(6.0)	(2.8)	(100.0)
Permanent PT	1,398	8,050	607	805	10,860
	(12.9)	(74.1)	(5.6)	(7.4)	(100.0)
Fixed-term	1,472	684	2,149	349	4,654
	(31.6)	(14.7)	(46.2)	(7.5)	(100.0)
Casual	962	1,070	642	5,593	8,267
	(11.6)	(12.9)	(7.8)	(67.7)	(100.0)
All employees	21,040	11,177	4,619	7,318	44,154
	(47.7)	(25.3)	(10.5)	(16.6)	(100.0)

Note: Sample is employees aged 21 to 64 years (unweighted).

Table A2 Characteristics of Jobs by Employment Type in the Sample (column percentages)

	Permanent FT	*Permanent PT*	*Fixed-term*	*Casual*	*All employees*
Occupation					
Managers	15.8	4.5	13.4	2.7	11.7
Professionals	27.3	28.9	38.8	13.2	26.2
Technicians and trades	14.9	4.7	11.0	10.1	12.3
Community & personal service	7.1	18.2	10.0	20.8	11.3
Clerical & administrative	16.0	23.4	14.0	12.8	16.3
Sales workers	5.1	10.7	5.3	13.1	7.3
Machinery operators & drivers	7.8	1.4	3.5	8.3	6.6
Labourers	5.9	8.1	3.9	19.0	8.3
Labour hire worker	0.8	0.9	5.4	8.4	2.6
Industry					
Agriculture, forestry and fishing	1.3	0.6	1.1	3.5	1.6
Mining	2.7	0.3	2.7	1.2	2.1
Manufacturing	12.2	3.0	5.9	7.2	9.4
Electricity, gas, water & waste	1.6	0.3	1.2	0.7	1.2
Construction	7.2	1.3	4.8	6.3	5.9
Wholesale trade	4.4	1.7	2.4	2.5	3.5
Retail trade	6.6	12.7	6.8	13.7	8.7
Accommodation & food	2.6	3.4	1.9	14.7	4.8
Transport, postal, warehousing	5.5	2.7	3.0	4.8	4.7

Information media & telecom	2.7	1.3	2.7	1.5	2.3
Financial & insurance services	5.2	4.2	3.3	0.9	4.1
Rental, hiring & real estate	1.5	1.0	1.2	1.1	1.4
Professional, scientific & technical services	8.2	5.1	7.0	4.2	7.0
Administrative & support services	2.2	2.6	2.1	4.3	2.6
Public administration & safety	10.6	5.1	9.9	2.7	8.4
Education & training	9.8	16.0	22.4	10.4	12.0
Health care & social assistance	11.0	34.7	17.1	14.1	15.5
Arts & recreation services	1.3	1.3	1.9	3.1	1.6
Other services	3.3	2.7	2.7	3.1	3.1
Public sector	27.6	32.9	40.9	14.9	27.5
Firm size					
Less than 20 employees	15.4	19.5	12.4	34.3	18.9
20–99 employees	15.2	12.9	13.8	16.0	14.8
100–499 employees	14.1	9.8	13.6	10.4	12.8
500 or more employees	51.5	50.0	54.6	28.3	47.6
Unknown/implausible	3.9	7.8	5.6	11.1	5.8

Note: Sample is employees aged 21 to 64 years (unweighted).

1 The ABS Characteristics of Employment Survey (together with its predecessor, the Forms of Employment Survey) is the most obvious alternative. It is, however, difficult to produce a consistent annual series for each of the employment sub-components from what is made readily available from this source. But for a discussion of how HILDA Survey estimates compare with estimates from this source in 2016, see Laß and Wooden (2020).

2 All original sample members, children born to original sample members, and temporary sample members who have a child with an original sample member are added to the sample on a "permanent" basis. In addition, since wave 9 (2009) all temporary sample members who

were born overseas and arrived in Australia after 2001 are converted to permanent sample members. From wave 16 this was changed to immigrants arriving after 2011.

3 For more details about the sample and survey design, see Watson and Wooden (2012).

4 This, for example, is the set up employed by both Mertens and McGinnity (2004) and Giesecke (2009) in their studies of the association between different forms of non-standard employment and wage growth in Germany. Far more complex is the approach used by Amuedo-Dorantes and Serrano-Padial (2007) in their study of the impact of fixed-term employment on wage growth in Spain. They differentiate between job stayers and job movers and so apply a switching regression model. Nevertheless, the basic set up is one where the rate of growth in wages is regressed against contract type observed one year earlier.

5 Since 2017 the rate of real wage growth has accelerated, averaging 0.6 per cent per annum over the two-year period ended September 2019.

6 These wage premiums and penalties are calculated from $e^{\beta}-1$, where β is the relevant estimated coefficient.

7 We report median rather than mean changes given the distribution of the percentages changes is highly asymmetric – by definition it has a lower bound of -100 and no upper bound, with all negative values obviously lying in the range -100 to 0.

8 The only other control variables included that achieve statistical significance are age (and its quadratic), partnership status, the presence of children (for women), public sector employment, and union membership (for men).

9 Selection of a different base year (e.g., 2010-2011) does not lead to qualitatively different conclusions. The difference in rates of wage growth, however, is always smaller and as a result, both the magnitude and significance of estimates tend to be smaller.