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Measuring Minimum Award Wage Reliance in Australia:  
The HILDA Survey Experience

*Roger Wilkins and Mark Wooden*



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**Roger Wilkins and Mark Wooden**

**Melbourne Institute of Applied Economic and Social Research,  
The University of Melbourne**

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**Melbourne Institute of Applied Economic and Social Research**

**The University of Melbourne**

**Victoria 3010 Australia**

**Telephone (03) 8344 2100**

**Fax (03) 8344 2111**

**Email [melb-inst@unimelb.edu.au](mailto:melb-inst@unimelb.edu.au)**

**WWW Address <http://www.melbourneinstitute.com>**

### **Abstract**

An important group of interest for industrial tribunals in Australia is those workers who are reliant on awards for their pay and other employment conditions. Research on award reliance and its consequences, however, has long been hampered by the lack of good quality micro-data. Most obviously, there are relatively few data sets in Australia that identify the method by which pay is set and also provide detailed information about individuals and the households in which they live. The HILDA Survey, however, is an exception to this, with information about award reliance, and methods of pay setting more generally, being collected for the first time in its 8<sup>th</sup> survey wave (in 2008). This paper reviews the quality of the data on award reliance that is being collected from this source. It then provides two examples of how these data can inform policy-relevant research questions: (i) to what extent are award-reliant workers found living in income-poor households; and (ii) what role does award reliance play in contributing to the gender pay gap? The results confirm that award-reliant workers are not especially concentrated in poor households, and that for award-reliant workers there is no evidence of any gender-based pay gap.

**JEL classification:** J31, J50, D31

**Keywords:** Award reliance, Australia, gender pay equity, HILDA Survey, income distribution, minimum wages

## Introduction

The needs of the low-paid have long been central to award wage determination processes in Australia. This is currently reflected in provisions in the *Fair Work Act 2009* that require the Minimum Wage Panel of Fair Work Australia (FWA) to take into account the ‘relative living standards and the needs of the low paid’ when setting minimum wages. Informed decision-making, however, has been hampered by a lack of good quality data. This was emphasised in a recent review conducted for FWA by Healy et al. (2011). They observe that studies investigating minimum wage coverage in Australia have typically focused on the low-paid, usually defined by reference to some point in the overall earnings distribution, rather than the population of award wage reliant (or, in their jargon, minimum wage reliant) employees. While there will be considerable overlap in the composition of these two groups, many low-paid employees are not award reliant, and many award-reliant employees are not among the low-paid. Further, Healy et al. conclude that the limited research that has been undertaken into award wage reliant employees has been ‘constrained by data limitations’ (Healy et al., 2011: iv). Most obviously, there are relatively few data sets in Australia that identify the method by which pay is set, let alone also provide detailed information about individuals and the households in which they live.

Again as observed by Healey et al. (2011: 45-46), a notable exception is the Household, Income and Labour Dynamics in Australia (HILDA) Survey, which in its 8<sup>th</sup> wave (in 2008), and largely driven by submissions made by the then Department of Employment and Workplace Relations, introduced a new question intended to identify the main method by which pay is set. The inclusion of this question initially met considerable resistance from the survey designers, who took the view that many individuals would be unaware of the industrial instrument that determined their pay, and hence would not be able to provide accurate answers. Indeed, the question was originally proposed for inclusion in wave 7, but

was not proceeded with because of concerns about the quality of responses collected during the wave 7 pre-tests. Despite these concerns, a question asking respondents to identify how their pay is set was eventually included in wave 8 and has been repeated in each subsequent survey wave.

This paper examines the quality and usefulness of the data on method of pay determination being collected in the HILDA Survey. After a very brief review of relevant literature, we summarise the key features of the HILDA Survey and discuss the measure of award reliance that can be derived from the data. We then present statistical comparisons with employer-provided data from the August 2008 Survey of Employee Earnings and Hours as a test of its usefulness. The sections that follow use the HILDA Survey data to consider two questions that should be of interest to wage setting bodies, but which have not previously been investigated using a direct measure of award reliance. First, to what extent are award-reliant workers found living in income-poor households, and second, what role does award reliance play, if any, in contributing to the gender pay gap?

## **Other Data Sources and Relevant Research**

During the 1990s the measurement of award reliance was a contentious issue, mainly because of its importance in calculating the cost of minimum wage claims. As summarised in various Joint Governments Submissions (1998, 2000) to the annual Safety Net Reviews, numerous data sources provided estimates of the number of employees that depended on awards for pay increases, or what we describe in this paper as award reliance.<sup>1</sup> These data sources included the 1995 Australian Workplace Industrial Relations Survey, the Business Longitudinal Survey conducted by the Australian Bureau of Statistics (ABS) over the period 1994-95 to 1997-98, the Melbourne Institute Quarterly Wages Report produced since 1998, and the 1999

Award and Agreement Coverage Survey conducted by the Department of Employment, Workplace Relations and Small Business. Debate about award reliance in the late 1990s mainly revolved around the related question of how many employees were covered by enterprise agreements and how many employees were dependent on awards, and hence safety net adjustments, in determining their pay. The datasets were not used, and were mostly not suitable, for analysing how award reliance impacted on workers.

This debate about the level of award wage reliance effectively ended following the introduction of a question on method of setting pay in the biennial ABS Survey of Employee Earnings and Hours (SEEH). The SEEH involves a large sample of Australian employers (approximately 10,000 in 2008) covering all industries except agriculture, forestry and fishing. The sampled employers are then asked to draw a random sample of employees from payrolls (resulting in a sample of approximately 57,000 employees in 2008), and to report on the earnings and hours paid for in respect of each. From 2000 the SEEH has collected data on whether an employee's pay was set by individual agreement, collective agreement or award, though consistent data are only available since 2002, when the data item was changed to refer to the industrial instrument by which the *main* part of an employee's pay was set (see ABS, 2009: 44). These data have also been used by researchers for purposes other than to quantify award reliance and coverage by different forms of agreement. Unit record data from the May 2006 SEEH have, for example, been used by Bolton and Wheatley (2010) to describe in more detail the characteristics and earnings distribution of employees on minimum award rates of pay. Very differently, Rozenbes (2010) used the SEEH data over the period 2000 to 2008 to examine the extent to which compositional change in the workforce has been affecting minimum award wage reliance.

The SEEH, however, has two major shortcomings. First, it collects very little data about workers and their families. In addition to weekly earnings, hours paid for, and method of

setting pay, the only other variables of note available are sex, age (but only distinguishing adults from juniors), casual employment status, occupation, industry, sector (private or public), employer size, and State. These data can thus tell very little about the impacts of award wage increases on households. For example, there is no capacity to assess the household income situation of award-reliant workers.

The second major limitation of the SEEH is that the original unit-record data are not easily accessible by researchers. To date only one confidentialised unit record file has ever been made available to researchers external to the ABS (for the May 2006 survey), and confidentiality concerns meant that key variables such as industry were suppressed (Healy et al., 2011: 48).

The absence of information in SEEH on workers' characteristics reflects a broader lack of (publicly available) contemporary information on award reliance in conjunction with detailed information on workers and their families. This has led researchers to turn to data sources that do not actually collect method of pay setting. For example, in assessing the extent to which minimum wage workers live in poor households, studies have switched the focus away from award-reliant workers per se to low-wage workers, typically defined either by reported earnings being below some critical threshold (e.g., Richardson, 1998; Harding & Richardson, 1999; Leigh, 2007) or by the position of workers in the hourly earnings distribution (e.g., Wooden, Wilkins & McGuinness, 2007).

More recently, Healy (2011) used 2004 SEEH data on the proportion of employees award reliant in each of 70 occupation-by-earnings cells to identify groups in the workforce who were, in his words, 'likely safety net adjustment (SNA) recipients', based on at least 40 percent of workers in the cell being award reliant. He then used that information to derive an income distribution for this group with data from the 2003-04 Survey of Income and

Housing. But as Healy (2011: 10) himself makes clear, this approach does not actually identify beneficiaries of safety net adjustments.

Ultimately, data sets are needed that provide both information about reliance on awards and extensive information about workers and their families, and which are easily accessible by researchers. The requirement for information on workers and their families suggests the need for data collected from workers themselves. The problem here, however, is that it is widely assumed (usually without any solid evidence) that workers are not well placed to answer questions about how their pay and conditions are determined, and as a result such information is not routinely collected in worker or household surveys. The HILDA Survey is one exception to this.

Another exception is the Australia@Work Survey, a five-wave annual telephone-based panel study that commenced in 2007. Conducted by the Australian Workplace Research Centre at the University of Sydney, it is following a sample of over 8000 workers and jobseekers. Like the HILDA Survey, this survey collects data on the instruments workers believe determine their wages and conditions. These data have been at the centre of a series of reports (van Wanrooy et al., 2007, 2008, 2009), with the focus of attention on the characteristics of workers with different agreement types and the extent to which agreement type is correlated with the opportunity to negotiate pay with employers. Consideration, albeit limited, has also been paid to associations with labour market outcomes, such as earnings, hours of work and labour mobility.

The Australia@Work Survey, however, is still very limited in the information it collects about households. Its focus is on the situation of individual workers rather than their household. As a result, the only available measure of household income comes from a single question asking respondents to estimate the total income received by all household members (measured either on a weekly or annual basis), with responses then assigned to a pre-coded



banded category. The data are also a long way from being accessible by researchers outside the Australian Workplace Research Centre. In contrast, the HILDA Survey was established with the explicit objective of generating data in a timely fashion for widespread use by the research community. It thus releases data in unit-record form, on an annual basis, and with very little information withheld or perturbed, with data from the first nine waves (covering the period 2001 to 2009) becoming available in December 2010.

## **The Measurement of Award Reliance in the HILDA Survey**

### **The HILDA Survey**

Discussed in more detail in Wooden and Watson (2007) and Watson and Wooden (2010), the HILDA Survey is a household panel survey that began, in 2001, with a large nationally representative sample of Australian household members occupying private dwellings. All members of responding households from wave 1 (n=19,194) form the basis of the panel to be followed over time, though interviews are only conducted with those household members aged 15 years or older. Interviews are conducted every year.

While the survey has a longitudinal design, it employs following rules that, with one caveat, are designed to ensure the sample maintains its cross-sectional representativeness over time. This is achieved by adding other people who join households in which original sample members reside. Most important here are children of original sample members. The one obvious weakness in the sample generation process is that immigrants who arrive in Australia after the initial sample was selected have relatively little chance of being included in the sample.<sup>2</sup>

Sample composition is, however, affected by attrition. While the annual wave-on-wave response rates are high, rising from 86.8 percent in wave 2 to 96.3 percent by wave 9, the

cumulative effect of attrition means that out of a total of 13,969 respondents in wave 1, only 9245 (or 66 percent) were still participating in wave 9 (which at the time of writing was the latest wave for which data were publicly available).<sup>3</sup> Nevertheless, and reflecting the self-replenishing nature of the sample design, the total number of completed interviews achieved in wave 9 was still 13,301. In addition to the 9245 persons who participated in wave 1, this total included 259 persons who were adult members of the original sample but did not respond in wave 1, 1787 persons who were members of the original sample but only turned 15 years of age after wave 1, and 2010 persons who joined the sample in subsequent waves.

Given the focus here on methods of pay determination, the statistics and analyses reported in this paper only make use of data from waves 8 and 9. Further, and reflecting the population at which the pay determination question is targeted, all analyses are restricted to employees. The total number of cases potentially available for analysis is 7092 in wave 8 and 7219 in wave 9.

To account for possible biases, sample weights have been constructed that both correct for observable differences in the probability of different individuals responding each wave and ensure population estimates on key selected variables (such as age, sex and labour force status) match known totals for the population of households in Australia. All analyses in this paper make use of weighted data.

### **The HILDA Survey Question on How Pay is Set**

Award reliance is derived from responses to a question, asked of all persons currently in paid employment, but excluding the self-employed, about how their pay is determined. The question, which as previously noted was first included in wave 8 of the HILDA Survey, reads: ‘Can you look at SHOWCARD C23 and tell me which category best describes how your pay is currently set?’ The accompanying showcard provides five alternative response

options, along with some additional descriptive text. These options are similar to the alternatives that the ABS uses when it collects data on methods of pay determination from employers in the SEEH.

The full text of the showcard is reproduced in Figure 1. Award-reliant employees are defined as those persons who respond that they are paid exactly the award rate.

### **Comparisons with the ABS Survey of Employee Hours and Earnings**

Table 1 reports estimates of the distribution of the employee workforce in Australia according to method of pay from both the HILDA Survey and the SEEH. The SEEH is an obvious benchmark for assessing the quality of the data collected in the HILDA Survey given the SEEH involves the collection of data from employers who, almost by definition, have the knowledge necessary to accurately classify employees according to the industrial instrument that determines their pay. The approach used to identify methods of pay determination in SEEH differs from that used in the HILDA Survey in that employers are required in the SEEH to report how the *main* part of each employee's pay is set. However, this should have no implications for comparisons of measures of award reliance given that neither survey attempts to measure award coverage; the SEEH identifies workers who rely only on an award in determining their pay, while the HILDA Survey identifies those paid exactly the award rate. These are not precisely the same concepts, but they seem close enough to permit meaningful comparisons.

We use the 2008 SEEH, which reports on data in respect of a pay period in August 2008, and wave 8 of the HILDA Survey, which is conducted over a 6-month period commencing late August 2008, but with most interviews conducted in September and October. As noted previously, the scope of the SEEH excludes enterprises primarily engaged in agriculture,

forestry and fishing and hence we have excluded from the HILDA Survey data reported in Table 1 any workers who report that their main job is in these industries.

On first appearances the data from the HILDA Survey do not appear to line up well with the SEEH data. In part, this reflects the difference in the way the two surveys measure method of pay setting, with the HILDA Survey explicitly allowing for respondents to choose both collective and individual agreement. It also reflects the relatively large uncertainty many employees have in answering, with 4.5 percent of HILDA Survey respondents either indicating that they don't know or providing responses that were unable to be easily classified. The latter, for example, includes respondents who were aware that they earned more than the award rate but were unsure what sort of agreement applied to them. But even among the majority who do provide a clear answer, the evidence is suggestive of considerable inaccuracy in response. Most obviously, 28.5 percent of respondents stated that they were paid exactly the award rate compared with only 17.4 percent of employees according to the SEEH. Perhaps coincidentally, the Australia@Work Survey reports a similarly high estimate for award reliance – 29 percent – in the 2008 wave of their study (van Wanrooy et al., 2008: 22).

Further examination of the HILDA Survey data reveals that a large part of the difference with the SEEH data lies in the responses of employees in the public sector. As shown in Table 1, according to the SEEH, virtually no public sector employees are reliant on an award for their pay. In the HILDA Survey data, however, 29 percent of employees working in the public sector reported that they were paid exactly the award rate. One possible source of this over-reporting in the public sector lies in the definition of award reliance used on the showcard, and in particular the parenthetical reference to the Australian Pay and Classification Scale. These were a creation of the *Workplace Relations Amendment (Workchoices) Act 2005*, and notionally replaced wage rates in federal awards, before

becoming obsolete with the *Fair Work Act 2009*. The term almost certainly failed to acquire any currency with respondents, but its use on the showcard may have confused some respondents, and especially those in the public service, who may have interpreted this as equivalent to Australian Public Service pay scales.

If we restrict attention to just employees in the private sector, the apparent degree of overstatement of award reliance in the HILDA Survey is much reduced – now only 5 percentage points – but still difficult to ignore. As already noted, the Australia@Work Survey is confronted by a similar overstatement of award reliance, with the chief researchers of that study speculating that this most likely reflects award workers that do not realise they are benefitting from over-award arrangements (van Wanrooy et al., 2009: 65).

This overstatement, however, is arguably not a large problem provided the workers identified as award reliant in the HILDA Survey are not fundamentally different from those identified as being award (or pay scale) only workers in the SEEH, which would seem a reasonable expectation if the level of over-award pay for the misreporting employees was modest. As a test of this we compared the distribution of weekly earnings of award-reliant employees in the HILDA Survey, who we define as excluding any employees in the public sector, with that of award-only employees in the SEEH. The need to maximise comparability meant that this exercise was restricted to full-time, non-managerial adult employees.<sup>4</sup> The results are presented in Figure 2.

Figure 2 shows that the earnings distribution of award-reliant full-time employees in the HILDA Survey does differ from the comparable distribution derived from the SEEH. Most obviously the modal category in the HILDA Survey data is the \$500 to \$599 per week range, whereas in the SEEH the mode lies in the \$600-699 range. Further, in the HILDA Survey data there is a fatter tail at the upper end of the distribution, which we suspect is the result of reporting errors. This is reflected in the difference in means, with average weekly earnings of

full-time award-reliant workers according to the HILDA Survey data being \$817 compared with only \$778 in the SEEH.

Nonetheless, while important differences exist, the similarities in these two distributions are more striking than the differences. The distributions are certainly more alike to each other than either is with the overall earnings distribution (as represented for the SEEH data by the dashed line in Figure 2). We are thus drawn to the conclusion that, once public sector employees are treated as not being reliant on awards, the HILDA Survey generates data that can be used to draw meaningful inferences about the award-reliant population of workers.

### **Award Reliance and the Distribution of Household Income**

Past research has consistently shown that most low-paid workers are not particularly concentrated in poor households (e.g., Harding & Richardson, 1999; Leigh, 2007; Wooden, Wilkins & McGuinness, 2007). Wooden (2010), however, was the first to attempt to directly show whether such conclusions could be extended to the group of workers on award wages. We replicate that analysis here, but with the significant (indeed, critical) modification that all public sector employees are assumed not to be award reliant. We also extend the analysis to include all employees, rather than just restrict it to adults. The income variable used is once again disposable (that is, after tax) household income for the 2007-08 financial year, adjusted by an equivalence scale in order to take into account the impact of family size.<sup>5</sup> We also report distributions for other groups, including not only the low-paid (defined here as workers in the bottom quintile in the distribution of usual hourly earnings in the main job), but also all employees and the unemployed.

The results are reported in Figure 3 and show very clearly that most award-reliant workers are not living in households clustered at the bottom of the income distribution – just 11.7

percent of award-reliant employees are living in the poorest 20 percent of households. Instead, award-reliant employees are found scattered throughout the income distribution, but are most concentrated in the middle. These findings are consistent with previous research, but nevertheless suggest that the proportion of employees dependent on awards for wage increases that live in poor households may be smaller than previously thought. Harding and Richardson (1999), for example, reported that around 10 per cent of low-wage workers lived in households in the bottom decile of the income distribution in 1995-96, almost exactly twice the size of the figure we find for award-reliant employees in 2008.

Figure 3 also shows that the distribution of award-reliant employees is similar to that for low-wage employees. This may not seem surprising given it is often assumed that award reliance is synonymous with low wages. Healy (2011), however, argues that such assumptions are flawed and shows, using data from the May 2004 SEEH, that only around 40 percent of adult employees on the lowest weekly wages (less than \$400 in May 2004) were award reliant. The analysis reported here is quite different in that low-wage workers are identified according to their position in the hourly earnings distribution rather than the weekly earnings distribution, but nevertheless we obtain a very similar finding to that reported by Healy. In the HILDA Survey data just 45 percent of the lowest paid quintile of employees are award reliant (and only 41 percent of award-reliant employees are in this low-paid group). Minimum wage decisions thus do not immediately affect the pay of the majority of low-wage employees (though many may benefit eventually via flow-on effects).

Finally, Figure 3 also shows the position of unemployed jobseekers in the household income distribution. This group too is found dispersed across the income distribution, but unlike the employed groups, the unemployed are very much over-represented in low-income households. Almost 40 percent of the unemployed are found living in the poorest 20 percent

of households. A similar finding (not shown in Figure 3) is obtained if we extend this analysis to people who rely on income support from government.

One weakness of the descriptive analysis presented so far is that it makes no accounting for hours worked. Part of the reason why we observe employees living in low-income households may have more to do with the low number of hours worked rather than low wages. Consistent with this hypothesis, we find that, of those award-reliant employees residing in households in the bottom quintile of the income distribution, 62 percent worked part-time (that is, usually worked less than 35 hours per week). Among other employees in the bottom quintile of the income distribution the incidence of part-time work is lower, but still high – 50 percent.

If we restrict the population of interest to full-time employees (defined as those employees working 35 hours per week or more in all jobs), the proportion of award-reliant employees in low-income households (i.e., in the bottom quintile of the income distribution) is expected to fall. As shown in Table 2, this is exactly what we find. Like Figure 3, this table presents information on the distribution of employees according to their position in the equivalised household disposable income distribution. Indeed, the first row in Table 2 is the tabular equivalent of the line describing award-reliant employees in Figure 3. The second row of this table shows the effect of restricting the population of interest to full-time employees. Thus we can see that the proportion of award-reliant employees in the bottom two deciles declines from around 12 per cent to close to 9 per cent. For comparative purposes we also present figures for all other (that is, non-award) employees in the bottom half of this table.

Another weakness with the graphs presented in Figure 3 is that they relate to income over a 12-month period, whereas employment status is observed at a single point in time. Some employees will be observed in low-income households not because their current wage is low but because they experienced periods of joblessness during the financial year. This suggests



the need for comparable figures using a measure of current income (as in Harding and Richardson, 1999). A measure of disposable current income, however, is quite difficult to derive from the HILDA Survey data. As an alternative, therefore, we consider the sub-sample of employees who were continuously employed during the financial year over which income was measured. This is shown by the third row in Table 2. Compared with all award-reliant employees, award-reliant employees who were continuously employed during the financial year are, as we would expect, somewhat more concentrated in higher income households.

Finally we present, in row 4, the distribution for award-reliant employees who are both currently working full-time and who were continuously employed. Very few are in the bottom income decile, and just 6 percent are in the bottom quintile. Indeed, well over half (57 per cent) of this group live in households in the top half of the income distribution.

In summary, the descriptive data presented here confirms what previous research has long suggested but has not been able to directly measure; that award-reliant workers are not especially concentrated in poor households.

## **Gender Equity and Award Reliance**

Another objective that the FWA is required to take into account when setting minimum wages is equal remuneration for work of equal value. This principle is invariably linked to the concept of gender pay equity, with women's skills often thought to be undervalued in the workplace. There is, for example, considerable evidence internationally that demonstrates that wages are lower in highly 'feminized' industries and occupations (e.g., Anker, 1998; European Communities, 2006). That said, the evidence in Australia, especially with respect to the impact of occupation segregation, is more mixed (for a review, see Cassells, Vidyattama, Miranti & McNamara, 2009).

Nevertheless, it is widely assumed that the greater dependence of Australian women on awards places them at a greater disadvantage in terms of pay and conditions relative to men (e.g., van Gellecum, Baxter & Western, 2008; van Wanrooy, 2009). Certainly the SEEH data show that female employees are much more likely to be reliant on awards for pay increase than male employees – 19.9 percent of females compared with 13.3 percent of males in August 2008 (ABS, 2009: 26). A similar sized differential exists in the HILDA Survey data, though as discussed earlier, and even after assuming that no public sector employees are award reliant, the estimated levels of award reliance are higher – 22.9 percent and 17.9 percent for females and males, respectively, in wave 8.

The HILDA data furthermore indicate that the higher award reliance of females for the most part does not reflect differences between male and female employees in personal and work characteristics. Estimating probit models of award reliance, we find that the male-female differential is largely unaffected by the inclusion of controls for characteristics such as age, education, work experience, type of employment contract and occupation.<sup>6</sup> It is only when we control for industry (at the two-digit level) that the estimated greater level of female dependence on awards declines, from just over five percentage points to three. This reflects the tendency for female-intensive industries to be more likely to be award reliant.

But does this greater dependence on awards affect pay? The HILDA Survey data can be, and has been, used to throw light on the size of the gender pay gap in Australia, and the extent to which that gap can be explained by differences in worker characteristics and endowments. Barón and Cobb-Clark (2010), for example, use data from the first six waves of the HILDA Survey and report no evidence of a gender pay gap at the bottom of the income distribution once worker characteristics such as labour market experience and education are taken into account. In contrast, the portion of the pay gap that cannot be explained by wage-related characteristics remains very large among workers in the top half of the earnings

distribution.<sup>7</sup> Such findings are consistent with both the hypothesis that awards help to eliminate gender pay gaps for lower paid (and less skilled) workers, and with the hypothesis that women are at a disadvantage relative to men in bargaining situations. That said, the evidence is only indirect; they did not (and were unable to) directly measure any association between earnings and award reliance.

In what follows we present evidence that tests this hypothesis more directly. Specifically, we pool data from waves 8 and 9 and estimate an hourly wage equation that includes among its set of explanatory variables the measure of award reliance interacted with sex. We again assume that all public sector employees are not award reliant. We also omit any other cases (in the private sector) where the method of setting pay could not be clearly established. The dependent variable is constructed as usual weekly earnings in the main job divided by usual weekly hours in the main job, and is specified in logarithmic form, thus enabling coefficients on binary variables to be interpreted as simple percentage differences from the reference group. The list of control variables is closely based on that used in Barón and Cobb-Clark (2010), and can be roughly divided into four categories: demographic characteristics (such as age, country of birth, partnership status, presence of children, and educational attainment), work experience characteristics (job tenure, occupation tenure, and years of labour market experience), job characteristics (such as contractual employment status, union membership, occupation, and firm size), and industry. Industry would also be normally considered a job characteristic but in this analysis we test separately the influence of industry given awards are often closely aligned with industry.

The estimates on the key coefficients of interest are reported in Table 3.<sup>8</sup> We report results for five different specifications, with the variables of interest identifying four sub-groups of employees: award-reliant males (the reference category); award-reliant females; other males; and other females. Specification I only includes the variables of interest and a constant term,

and hence the coefficients simply reflect the raw (weighted) mean differences in hourly wages. The estimated coefficient for the award-reliant female group is .029, implying that the hourly wages of award-reliant female employees are actually higher than that of award-reliant male employees. The magnitude of this difference – 2.9 percent – however is not large enough to achieve statistical significance (as reflected in the t-statistic of 0.9). This finding is broadly consistent with the mean hourly earnings reported in the August 2008 SEEH (ABS, 2009: 34), though in the SEEH the gap in favour of women is larger (6.6 percent).

Men and women who are reliant on awards would thus appear to have hourly earnings that are much the same. When we look at other employees, covered by individual and collective agreements, we see, as expected, that on average they earn much more than award-reliant employees. But more importantly, among this group, males on average earn much more – 11.4 per cent more – than females.

These estimated differentials, however, take no account of systematic differences between men and women in experience, education and other endowments. In specification II we, therefore, introduce controls for a long list of demographic characteristics. We now see the coefficient on award-reliant females become negative, but as in specification I, the estimated 2.8 percent deficit is not large enough to achieve statistical significance. The magnitude of the other coefficients also shrink markedly, though the wage gap between other females and other males remains large and indeed gets slightly larger, rising from 11.4 percent to 12.5 percent. When we add controls for work experience and job characteristics (in specifications III and IV) the coefficient on the award-reliant female term shrinks to a number very close to zero, and this result is unaffected by the inclusion of controls for industry (specification V).

In summary, there are, on average, no obvious differences between the hourly pay of male and female employees who are award-reliant that cannot be explained by differences in other characteristics that are usually thought to influence pay, such as health and disability,

experience, education and skills. In contrast, among other employees who rely on bargaining or individual negotiations for their pay, the gap between men and women's pay that cannot be explained by other characteristics is sizeable, ranging from 8.5 percent when industry is controlled for to 11.2 percent when it is not.

These findings provide support for the hypothesis that awards have an equalizing effect on the pay of men and women. They also seem to be consistent with the argument that that the gradual shift towards more decentralized forms of wage setting have been detrimental for gender pay equity (e.g., Boreham, Hall, Harley & Whitehouse, 1996; van Gellecum, Baxter & Western, 2008; van Wanrooy, 2009). The results, however, also show that both men and women fare better when not dependent on awards; it is just that men do a lot better than do women. For women the average advantage ranges from 13 per cent controlling for demographic characteristics down to four per cent when additionally controlling for job characteristics, including industry. For men, the advantage ranges from 25 per cent controlling for demographic characteristics down to 13 per cent if job characteristics, including industry, are controlled for. But is there anything that the FWA can do about this? We think not. While we have not attempted here to identify where in the earnings distribution the advantage to men lies, the evidence presented by Baron and Cobb Clark (2009), and by others (e.g., Miller, 2005; Kee, 2006) strongly suggests that it lies in the upper part of the earnings distribution where award-reliant workers are not found. Thus, even if the declining trend in award reliance could be reversed it would still not impact much on that part of the workforce where the inequity is most substantial.

## Conclusions

Measurement error is clearly a significant problem for measures of the method by which pay is set derived from employee reports. The high proportion of ‘don’t know’ responses indicates there is considerable uncertainty among employees about how their pay is set, and comparisons with data derived from employer reports show a clear tendency to overstate award reliance and understate reliance on collective agreements. Nonetheless, similarities between the HILDA Survey and SEEH in the distribution of earnings among those employees classified as award-reliant provide strong indications that the data are meaningful. Given the significant benefits of having detailed information on both workers’ characteristics and the method by which their pay is set readily available for analysis by researchers, the case for collecting such information in household surveys would seem to be quite strong.

Two examples in this paper have shown some of the potential value of this type of data, and the potential exists to greatly extend upon and improve these analyses. Healy (2011), for example, in studying the impact of safety net adjustments in alleviating household need, emphasised the usefulness of moving beyond an exclusive focus on household income to also consider measures of financial stress. Such measures are routinely collected in the HILDA Survey. Further, we will soon have data from wave 10 which includes detailed information about household wealth (such information is only collected every four years), thus facilitating complementary analyses of where award-reliant workers sit in the household wealth distribution. Very differently, in studying gender pay gaps we should, with these data, be able to say much more about the role of collective and individual agreements in contributing to those gaps.

Of course, the hallmark of the HILDA Survey is its longitudinal nature, suggesting that the most innovative research might lie in studying career and pay progression and the role that

awards and agreements might play (or might not play) in facilitating or hindering such progression. Questions of obvious importance include the extent to which award reliance is a permanent state, and under what condition do workers move between different pay setting regimes.

## Endnotes

<sup>1</sup> The term award reliance is often confused with award coverage. The two, however, are quite distinct. Award coverage describes the fraction of employees to whom the minimum conditions set down in awards apply, which will be considerably larger than the proportion of employees who are reliant on awards for pay increases.

<sup>2</sup> This weakness will be at least partially rectified in wave 11 when the sample is expected to be augmented by an additional 2000 responding households.

<sup>3</sup> Some of this attrition is due to death. Excluding sample members who are known to have died sees the nine-wave response rate rise to 70 per cent.

<sup>4</sup> Definitional differences ensure that this comparison is far from perfect. First, the 2008 SEEH explicitly includes amounts salary sacrificed; in wave 8 of the HILDA Survey respondents are not given explicit instructions on how to deal with salary sacrifice. Second, in the SEEH an adult employee is anyone aged 21 years or over or anyone under 21 being paid the full adult rate. In the HILDA Survey data whether someone is on adult or junior award rates is not observed and hence we simply restrict the sample to persons aged 21 years or over. Third, in the SEEH a full-time employee is any ‘employee who normally work[s] the agreed or award hours for a full-time employee in their occupation’. In contrast, in the HILDA Survey data we define a full-time employee as anyone whose usual weekly hours of work are 35 or more. Finally, managerial employees in the SEEH are defined as ‘employees who are in charge of a significant number of employees and/or have strategic responsibilities in the conduct or operations of the organisation’. In contrast, for this comparison we have simply excluded from the HILDA Survey data any employee whose reported occupation places them in the Managers occupation group (as per the ANZSCO system).

<sup>5</sup> We use the so-called modified OECD scale, first proposed by Hagenaars, de Vos and Zaidi (1994), which assigns a value of 1 to the household head, 0.5 to each additional adult member and 0.3 to each child (and in this analysis a child is defined as anyone under the age of 15).

<sup>6</sup> Estimation of a probit model of award reliance that included a similar set of control variables as used in the wage equation reported on in Table 3, resulted in a pseudo R-squared term of 0.28 when industry was excluded, and 0.32 when it was included. The coefficient on the female gender dummy was always positive and highly significant (z-scores ranging from 2.98 to 4.96), with an estimated mean marginal effect of 0.053 in the absence of industry dummies, and 0.031 in their presence. Detailed results from the estimation of these models can be obtained from the authors.

<sup>7</sup> In an earlier analysis Kee (2006) reports similar results for the private sector, but with the noticeable difference that she reports evidence of a significant, though still small, unexplained pay gap at the bottom of the earnings distribution.

<sup>8</sup> A complete list of all variables included in the analysis can be found in the notes to Table 3.

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**Table 1** *Method of setting pay (% of non-agricultural employees<sup>a</sup>) by sector – HILDA survey and SEEH compared*

<i>Method of setting pay</i>	<i>HILDA Survey, wave 8</i>			<i>SEEH, August 2008</i>		
	<i>Private</i>	<i>Public</i>	<i>Total</i>	<i>Private</i>	<i>Public</i>	<i>Total</i>
Award only	27.0	28.8	28.5	21.7	0.4	17.4
Collective agreement	18.9	48.3	27.4	28.0	96.5	41.9
Individual agreement	44.3	5.4	35.1	50.2	3.1	40.7
Combination of collective and individual	4.7	22.4	4.5			
Not able to be classified	0.8	0.7	0.7			
Don't know / Not stated	4.3	3.7	3.8			

*Notes:* Data are population weighted.

<sup>a</sup> Owner-operators of incorporated businesses have been excluded.

*Sources:* SEEH data are from Australian Bureau of Statistics, *Employee Earnings and Hours, August 2008*, ABS cat. no. 6306.0. HILDA Survey data are from the HILDA Survey confidentialised unit record file, release 9.0 (waves 1-9).

**Table 2** *Distribution of equivalised annual household disposable income of selected employee groups: HILDA Survey wave 8*

	<i>Household income decile</i>									
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
<b>Award-reliant employees</b>										
All	4.7	7.0	12.0	16.9	12.8	11.7	10.6	11.8	7.9	4.5
Full-time	2.7	6.1	9.5	14.7	12.4	11.3	12.3	15.1	10.1	5.9
Continuously employed	2.8	6.0	11.3	15.3	14.1	11.7	11.5	13.4	8.8	5.1
Full-time + continuously employed	1.1	5.0	9.3	14.3	13.1	10.9	12.4	16.6	10.6	6.7
<b>Other employees</b>										
All	2.4	3.0	6.3	8.8	9.7	12.2	14.0	13.4	15.6	14.6
Full-time	1.6	1.9	4.8	7.9	9.0	12.2	13.5	14.7	17.7	16.6
Continuously employed	1.6	2.3	5.4	8.0	9.6	12.5	14.5	14.2	16.3	15.6
Full-time + continuously employed	1.1	1.5	4.3	7.3	9.0	12.4	13.7	15.2	18.3	17.2

*Notes:* Data are population weighted.

*Source:* HILDA Survey confidentialised unit record file, release 9.0 (waves 1-9).

**Table 3** *Estimated effect of award reliance on (ln) hourly wages in main job*

	Coeff.	t-stat	R <sup>2</sup>	N
I No controls			0.117	13628
Award-reliant female	.029	0.90		
Other female	.367	11.70		
Other male	.481	15.46		
II Demographics only			0.336	13619
Award-reliant female	-.028	0.92		
Other female	.127	4.30		
Other male	.252	8.79		
III Demographics + work experience			0.308	12029
Award-reliant female	-.003	0.10		
Other female	.128	4.55		
Other male	.236	8.56		
IV Demographics + work experience + job characteristics			0.382	11438
Award-reliant female	-.006	0.22		
Other female	.048	1.66		
Other male	.160	5.41		
V Demographics + work experience + job characteristics + industry			0.431	11200
Award-reliant female	.009	0.32		
Other female	.044	1.59		
Other male	.129	4.90		

*Notes:* Estimates are population weighted. All t-statistics are adjusted to account for the cross-wave correlation in error terms.

The list of control variables included is as follows:

Demographics: Age and age squared; aboriginal or Torres Strait Islander; born overseas in a mainly English-speaking country; born overseas in other country; presence of long-term health condition; presence of work-limiting disability; partnered; presence of children by age of child (3 dummies); educational attainment (6 dummies); State (7 dummies); region (major urban and other urban).

Work experience: Job tenure and tenured squared; occupation experience and occupation experienced squared; labour market experience and labour market experience squared

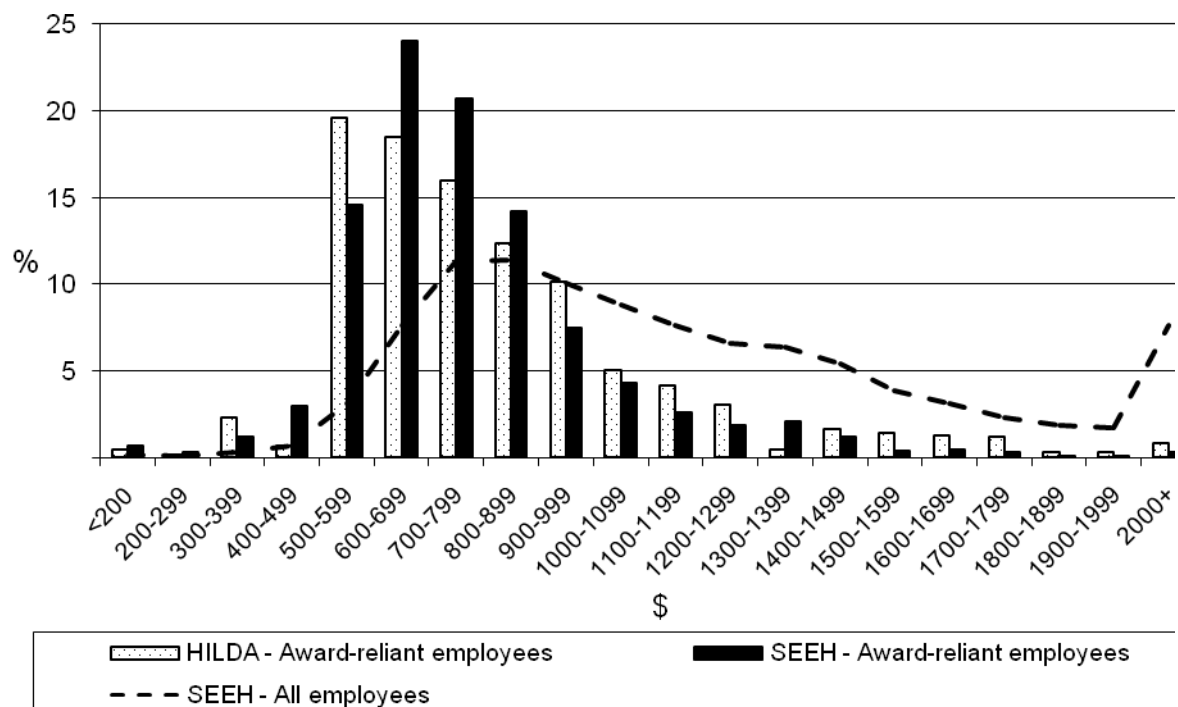
Job characteristics: Part-time employed; casual employee; union member; occupation (48 dummies); firm size (2 dummies); private sector.

Industry: 85 dummies.

**Figure 1** *Showcard used in HILDA Survey methods of pay question*

<b>SHOWCARD C23</b>	
<b>Collective (enterprise) agreement .....</b>	<b>1</b>
An agreement made at your workplace or firm between your employer and either a union or a group of employees.	
<i>It may sometimes be known as an Enterprise Bargaining Agreement (EBA) or a Certified Agreement (CA).</i>	
<b>Individual agreement (or contract) .....</b>	<b>2</b>
An agreement between you and your employer. It may be verbal or written. It could simply be a letter of appointment.	
<i>Included here are Australian Workplace Agreements (AWAs), individual employment contracts, and informal individual arrangements.</i>	
<b>Combination of collective / enterprise agreement and individual agreement .....</b>	<b>3</b>
This will apply in those cases where you are covered by a collective (i.e., enterprise) agreement, but are paid above the rate specified in that agreement.	
<b>Paid exactly the Award rate (or rate specified in the Australian Pay and Classification scale) .....</b>	<b>4</b>
<b>None of the above .....</b>	<b>8</b>
Other arrangement ( <i>please describe</i> )	

**Figure 2** *Distribution of weekly earnings among award-reliant employees: August 2008 SEEH and HILDA Survey wave 8 compared*

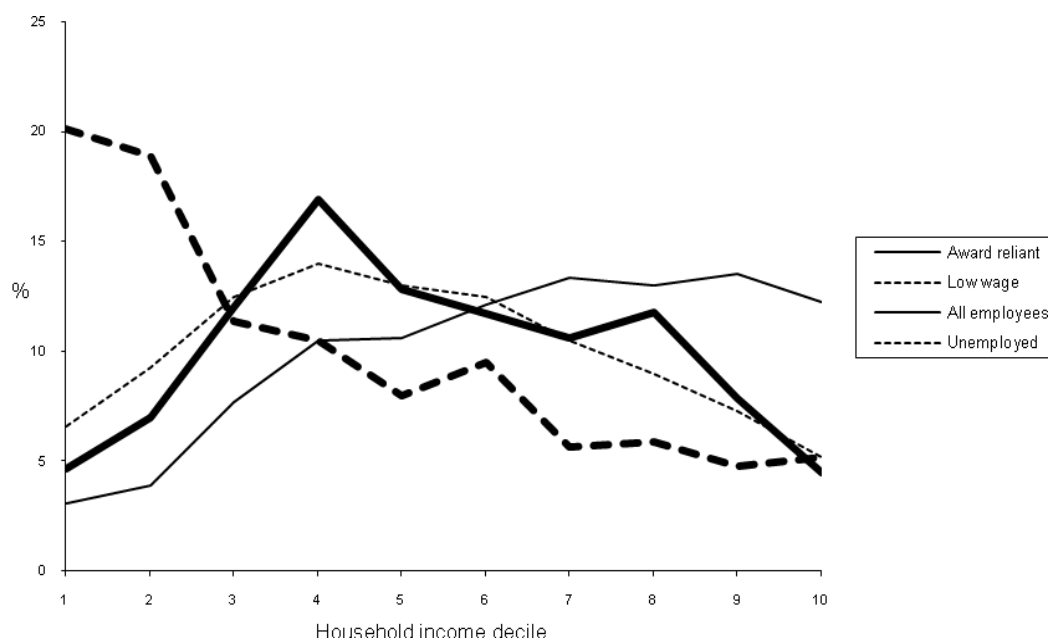


*Notes:* Data are population weighted.

\* Population restricted to full-time non-managerial adult employees (and excluding employees in the Agriculture, forestry and fishing industry).

*Sources:* As for Table 1.

**Figure 3** *Distribution of equivalised annual household disposable income of selected groups: HILDA Survey wave 8*



*Notes:* Data are population weighted. Low wage employees are those employees in the bottom 20 percent of the hourly wage distribution for employees.

*Source:* HILDA Survey confidentialised unit record file, release 9.0 (waves 1-9).