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Employees earning below the Federal Minimum Wage: Review of data, characteristics and potential explanatory factors

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Minimum Wages and Research Branch—Fair Work Australia

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The contents of this paper are the responsibility of the author and the research has been conducted without the involvement of members of the Minimum Wage Panel of Fair Work Australia.

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This research undertaken by Fair Work Australia for the Annual Wage Review 2010–11 has been agreed by the Research Group. The Research Group comprises a Chair from the Minimum Wages and Research Branch of Fair Work Australia, and representatives nominated by:

- Australian Chamber of Commerce and Industry (ACCI);
- Australian Industry Group (Ai Group);
- Australian Council of Social Services (ACOSS);
- Australian Council of Trade Unions (ACTU);
- Australian Government; and
- State and Territory governments.

This paper, *Employees earning below the Federal Minimum Wage: review of data, characteristics and potential explanatory factors*, is the work of Lucy Nelms, Peter Nicholson and Troy Wheatley of the Minimum Wages and Research Branch, Fair Work Australia.

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The contents of this research paper, however, remain the responsibility of the authors, Lucy Nelms, Peter Nicholson and Troy Wheatley.

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List of abbreviations

ABS	Australian Bureau of Statistics
AFPC	Australian Fair Pay Commission
AFPCS	Australian Fair Pay and Conditions Standards
APCS	Australian Pay and Classification Scale
AQF	Australian Qualifications Framework
ATO	Australian Taxation Office
CSA	Child Support Agency
CURF	Confidentialised Unit Record File
DSP	Disability Support Pension
EEH	Employee Earnings and Hours
FBT	Fringe Benefits Tax
FMW	Federal Minimum Wage
FW Act	<i>Fair Work Act 2009</i>
FWO	Fair Work Ombudsman
HILDA	<i>Household, Income and Labour Dynamics in Australia (Survey)</i>
NCVER	National Centre for Vocational Education Research
NMW	National Minimum Wage
SEARS	<i>Survey of Employment Arrangements, Retirement and Superannuation</i>
SIH	<i>Survey of Income and Housing</i>
SWS	Supported Wage System
WR Act	<i>Workplace Relations Act 1996</i>

Executive summary

This report focuses on adult employees who were shown to be earning below the standard Federal Minimum Wage (FMW) in 2007–08. It considers explanations for why the data show there were adult employees earning below the FMW, including whether identifiable categories of employees fall into this group, and the extent this phenomenon is due to data problems. The period 2007–08 has been chosen for analysis as this is the most recent period for which these questions can be explored across a number of datasets.

Healy and Richardson (2007) recommended that the reasons why earnings data show that a ‘non-trivial’ percentage of adult employees earned less than the FMW should be explored, claiming that ‘holes in the safety net’ undermine its function. Although, as a result of the introduction of the *Fair Work Act 2009* (FW Act), the FMW has since been removed and a National Minimum Wage (NMW) has come into effect, the question of why data shows employees earning below the FMW remains relevant.

In 2007–08, the large majority of federal system adult employees were covered by an Australian Pay and Classification Scale (APCS) that was equal to or higher than the ‘standard FMW’. The standard FMW was the minimum wage which applied to all employees not covered by an APCS bar those specifically excluded by section 194 of the *Workplace Relations Act 1996*. The standard FMW was distinguished from other FMW rates such as special FMWs, which could apply to certain groups of employees excluded from the coverage of the standard FMW (s. 197) such as junior employees, employees to whom training arrangements applied and employees with disability.

The three main data sources used for this report are the *Survey of Employment Arrangements, Retirement and Superannuation* (SEARS); the *Survey of Income and Housing* (SIH) and the *Household, Income and Labour Dynamics in Australia* (HILDA) Survey, as they give a wide range of relevant information at an individual and household level. The ABS *Employee Earnings and Hours* (EEH) survey, which includes information on the method by which pay is set, is another relevant data source. For this paper, we use data from 2007 and/or 2008 for each of the three main data sources, and data from 2006 for the EEH survey.

None of the data sources mentioned above directly measure hourly rates of pay, meaning that it can not be directly determined who was earning an hourly wage rate below the FMW. Hourly rates of pay for HILDA and SEARS have been derived by dividing usual employee income per week by usual hours worked per week; however, for SIH we can only use most recent income. Nevertheless, the distributions of hourly rates of pay are fairly similar across the datasets. The three main datasets showed that around seven to nine per cent of adult employees with one job earned below the FMW in 2007–08.

Compared to all adult employees, the types of employees who were over-represented among those earning below (or just above) the FMW included:

- women;
- employees aged 21 to 24 or aged 65 and over;
- part-time employees;
- casual employees;
- employees in Agriculture, forestry, and fishing, Retail trade, Accommodation and food services, Administrative and support services, or Other services;

- workers employed as Labourers, Sales workers, or Community and personal service workers;
- employees with low educational attainment;
- employees in small businesses;
- employees working 60 hours or more;
- single people; and
- employees with children.

These findings hold regardless of whether or not employees with multiple jobs are included in the samples, or whether or not earnings are adjusted for a casual loading. Employees earning below the FMW do not appear to have been a markedly different group to those employees earning just above it; rather there appears to be a gradual shift in the characteristics of employees as one moves further down the wage distribution.

There are a number of major reasons why the datasets may show that there are adult employees earning below the FMW. First, there were groups of employees who were specifically excluded from the FMW, such as some of the adult employees to whom training arrangements apply, and some of the employees with disability not otherwise covered by APCs which set wages equal to or above the FMW. Second, some employees may be recorded as earning below the FMW on an hourly basis due to working long hours and/or working unpaid overtime. Third, the earnings data for some employees may not reflect the value derived through non-cash remuneration, involving either salary sacrifice or employer deductions from net earnings. Fourth, some work arrangements may not be in compliance with the laws regarding the payment of minimum wages. A fifth reason is measurement error. Of these explanations, the limited evidence on non-compliance is consistent with the patterns we observe for below FMW employment in relation to industry, occupation, and age group, and employees working long hours appeared to account for a notable percentage of employees who were observed to earn below the hourly FMW. However, it is difficult to ascertain from the available data how many employees were specifically excluded from the FMW or not otherwise covered by APCs which set wages equal to or above the FMW, and similarly, how many employees were being paid below the FMW as a result of non-compliance with the law.

There are several possible changes to collecting earnings information in the datasets used in this report which would have improved estimates of the incidence of below FMW employment. However, the potential changes that would have made the most difference to the results— i.e. accurate information on the industrial instrument by which an employee's pay is set and information on cash-in-hand employment—would have been difficult to implement.

In conclusion, there is not sufficient evidence to indicate that the phenomenon of adult employees being measured as earning below the FMW was primarily due to data problems. Having said this, data issues should be kept in mind when examining employees at the lower end of the hourly wage distribution. There appears to be no single explanation for the phenomenon of below FMW employment; rather the evidence indicates it may be a combination of a number of factors.

1 Introduction

This report focuses on adult employees who were shown to be earning below the standard Federal Minimum Wage (FMW) in 2007–08. It considers explanations for why the data show there were adult employees earning below the FMW, including whether identifiable categories of employees fall into this group, and the extent this phenomenon is due to data problems. The period 2007–08 has been chosen for analysis as this is the most recent period for which these questions can be explored across a number of datasets.

Healy and Richardson (2007) recommended that the reasons for why earnings data show that a ‘non-trivial’ percentage of adult employees earned less than the FMW should be explored. They claimed that:

Holes in the safety net undermine its function, since there is little reason to expect that individuals working for well below the wage floor are benefiting from increases in it. (Healy and Richardson:6)

Although, as a result of the introduction of the *Fair Work Act 2009*, the FMW has since been removed, and a National Minimum Wage (NMW) has come into effect, the question of why data shows employees earning below the FMW remains relevant.

In 2007–08 the large majority of federal system adult employees were covered by an Australian Pay and Classification Scale (APCS) that was equal to or higher than the ‘standard FMW’. The standard FMW was the minimum wage which applied to all employees not covered by an APCS bar those specifically excluded by section 194 of the *Workplace Relations Act 1996* (WR Act). The standard FMW was distinguished from other FMW rates such as special FMWs, which could apply to certain groups of employees excluded from the coverage of the standard FMW (s. 197) such as junior employees, employees to whom training arrangements applied and employees with disability. Currently, the NMW applies as a minimum for award and agreement free employees,¹ and like the preceding FMW, excludes coverage of groups such as junior employees, employees to whom training arrangements applied and employees with disability.

Note that, for the purposes of this paper, only adult employees are considered; that is, adults who worked for a public or private employer and who received remuneration in wages, salary, commissions, or piece rates. Adults working as volunteers and family workers, while they may have been earning below the FMW, are not considered in this analysis.

The report is divided into the following sections. Section 2 describes the data sets used in this report. Section 3 discusses various methods for deriving hourly rates of pay, and compares the distributions of hourly rates of pay across the data sets. Section 4 compares the size and characteristics of those employees earning below the FMW across data sets. Section 5 analyses the possible factors which may lead the data to show that there were employees earning below the FMW. Finally, section 6 suggests some possible methodological improvements for measuring hourly rates of pay, and section 7 is the report’s conclusion.

¹ It is not a guaranteed minimum rate that applies to enterprise agreements, modern awards or transitional wage instruments. Therefore, it is possible for the base rate of pay under these instruments to be lower than the NMW (although this is unlikely in an agreement given it must pass the Better Off Overall Test).

2 Data sources

There are a range of possible data sources through which to explore the characteristics and circumstances of adult employees who appear to have been earning below the FMW.

Three household surveys that are appropriate for this task are the *Survey of Employment Arrangements, Retirement and Superannuation* (SEARS); the *Survey of Income and Housing* (SIH) and the *Household, Income and Labour Dynamics in Australia* (HILDA) Survey. These serve as the three main data sources for this report, as they give a wide range of relevant information at an individual and household level. These surveys are broadly comparable in their coverage of the Australian population. The *Employee Earnings and Hours* (EEH) survey, conducted with employers, is another relevant data source.

The SEARS, SIH and EEH surveys are conducted by the Australian Bureau of Statistics (ABS), and data for each of these surveys are available in a confidentialised unit record file (CURF). For this paper, data from 2007 and/or 2008 for each of the three main data sources (with the most recent SEARS and SIH having been conducted during this period), and data from 2006 for the EEH survey (as this is the only EEH survey for which a CURF is available) is used. Table 2.1 compares the details of these various datasets.

Table 2.1: Survey data sets for analysing employees earning below the FMW

Data set	Date of data collection	Approximate sample size	Method of data collection
EEH CURF 2006	May 2006	9000 employers 57 000 employees	Mail-out/mail-back questionnaire (some telephone follow-up)
HILDA Wave 7	Aug 2007 – Feb 2008 (85% Sept – Oct)	7000 households 12 800 persons	Mostly face-to-face (some telephone) questionnaire plus self-complete questionnaire
SEARS CURF 2007	Apr 2007 – July 2007	13 700 households 27 000 persons	Face-to-face individual questionnaire
SIH CURF 2007–08	Aug 2007 – June 2008	9300 households 18 300 persons	Face-to-face household questionnaire and individual questionnaires for residents 15 years and over.

Sources: ABS (2007a), *Employee Earnings and Hours, Australia, May 2006* (reissue), cat no. 6306.0, ABS, Canberra, 2007. ABS (2009b), *Information Paper: Survey of Income and Housing, User Guide, Australia: 2007–08*, cat. no. 6553.0, ABS, Canberra. ABS (2008), *Employment Arrangements, Retirement and Superannuation, User Guide, Australia, April To July 2007*, cat. no. 6361.0.55.002, ABS, Canberra. ABS (2007b), *Labour Statistics: Concepts, Sources and Methods*, April 2007, cat. no. 6102.0.55.001, ABS, Canberra. Melbourne Institute of Applied Economic and Social Research (2010), *HILDA Survey: Annual Report 2008*, Melbourne Institute of Applied Economic and Social Research, Melbourne.

2.1 HILDA Survey

The HILDA Survey commenced in 2001 and is run by the Melbourne Institute of Applied Economic and Social Research on behalf of the Australian Government. It is a panel survey in which the sample of responding households in Wave 1 form the basis of the panel for an indefinite period. Data are collected annually from the members of these households over the age of 15.² The HILDA Survey was designed to be nationally representative of the Australian population in 2001 (although persons in non-private dwellings such as prisons, some persons in remote areas and homeless persons were excluded from the initial sample); and is designed to remain broadly representative over time.

HILDA is the smallest of the surveys used in this paper. Wave 1 comprised around 14 000 respondents in 7700 households. In Wave 7, there were around 12 800 respondents (including 9600 who were first interviewed in Wave 1) in 7000 households. Although it offers the capacity for longitudinal analysis, this will not be exploited for this study.

The HILDA Survey collects extensive demographic data and data around economic and subjective well-being, labour market dynamics and family dynamics.

Income data are collected at the individual level. Within the earnings data used in this report it is likely that salary sacrifice/fringe benefits are under-reported as there were no prompts for these in the questionnaires. HILDA does capture some forms of non-cash remuneration, such as the value of rent-free accommodation, along with income derived from government transfers, child support, investments, workers' compensation and superannuation/allocated pension. (From Wave 10, information on salary sacrifice and non-cash benefits is collected).

Employment characteristics collected by the survey include: industry and occupation, type of employment contract (where casual status is defined by both lack of access to paid leave and by self-identification), employer size and sector, tenure with employer and in occupation, and a range of other job characteristics (e.g. whether the job involves supervisory responsibilities).

2.2 SEARS

The ABS first conducted SEARS in 2007. It is similar in focus to the *Survey of Employment Arrangements and Superannuation 2000*, although due to methodological changes is not strictly comparable. SEARS 2007 has a sample scope that includes persons aged 15 years and over who were usual residents of private dwellings throughout Australia excluding very remote areas, which covers about 97 per cent of the people living in Australia. Private dwellings included in the survey for each state and territory were selected at random using a stratified, multi-stage cluster sample design. Around 13 700 households are included in the final sample.

Broadly, SEARS aims to capture the diversity of employment arrangements in Australia, retirement plans of people aged 45 years and over, characteristics of retirement and the superannuation coverage of individuals. SEARS also collects a range of personal characteristics of respondents.

Income data are collected at the individual level. Within the earnings data collected in SEARS, benefits derived from salary sacrifice are likely to be under reported as only salary-sacrificed superannuation contributions are prompted for in the questionnaire. Other income sources captured in the survey include income derived from government payments, child support, investments, workers' compensation and superannuation/allocated pension.

² The HILDA Survey sample is extended to include new children born or adopted by members of the households. New household members resulting from changes in the composition of the original households are also included while they remain in the same household. Note though that those who have a child with an existing permanent sample member and immigrants who arrived after Wave 1 always become permanent sample members.

Employment characteristics collected by the survey include: industry and occupation, type of employment contract (permanent / fixed term / casual), employer size and sector, tenure with employer and working patterns and flexibility.

2.3 SIH

Since 2003–04 SIH has been conducted every two years by the ABS. In 2007–08, around 18 300 persons from 9300 households were included in the final SIH sample, making it the largest of the three main data sources used. SIH uses the same sampling scope as SEARS (which was described above).

The SIH collects detailed information about the income, wealth, and personal and household characteristics of its sample. The SIH includes information at the household level, the income unit level, and the individual level.

The income data collected in the SIH is extensive. Of the three data sources it offers the most comprehensive data on benefits derived from salary sacrifice and the value of non-cash benefits from the employer, including the value of net imputed rent of housing benefits from the employer. Detailed income data around receipt of government payments, superannuation/allocated pension and investment income are also collected.

Employment characteristics collected by the survey include: industry and occupation, but not employer size or sector. Unfortunately it does not collect information on employment contract which, as explained further in section 3, means that we can not make any adjustments to the earnings of casual employees for a casual loading.

2.4 EEH

The EEH survey is comparatively the largest of the surveys, representing 57 000 employees. EEH offers detailed job information, including method of pay setting, as well as industry, occupation, employer size and sector. Earnings data are provided as total cash earnings and total ordinary time cash earnings, both of which include amounts salary sacrificed.

Given that it is reported directly from the payroll, employer-provided data on earnings is likely to be more reliable than that provided by an individual employee in a household survey.³ However, as a survey of employers, the EEH survey offers a narrower range of demographic and personal data than the other surveys. In particular, it does not collect information about household circumstances. Furthermore, business activity outside the regulated market—such as work performed for cash—will not be captured, which limits the extent to which below FMW employment can be examined through this survey. Hence, the EEH survey is primarily used in this report for information about the method of setting pay for employees earning below the FMW (see section 4.5).

³ For example, around 28 per cent of adult employees in the weighted HILDA sample referred to a pay slip during their interview, and this figure was slightly lower among those earning below or just above the FMW (as defined across all jobs, see section 3).

3 Deriving hourly rates of pay and defining below FMW employment

None of the data sources mentioned above directly measure hourly rates of pay, meaning that it can not be directly determined who was earning an hourly rate of pay below the FMW. This section discusses issues in relation to both deriving hourly rates of pay and defining which employees earned below the FMW.

3.1 Deriving hourly rates of pay

There are several different ways in which hourly rates of pay for employees can be derived. The following discusses some of the relevant issues.

3.1.1 Income measure

There are various measures of income from employment across the datasets.

- The HILDA dataset includes:
 - gross (and net) amount of most recent pay in main and other jobs, which are also available as derived weekly figures;
 - usual pay, if different from most recent pay; and
 - gross (and net) wages and salary from the last financial year.

These data are provided as a continuous variable in whole dollars. In a very small percentage of cases where the data for these variables are missing, the values have been imputed within the dataset.

- The SEARS dataset includes:
 - income (before income tax) from wages and salaries usually received from an employee's main and second job, converted to a weekly figure.

These data are provided as a continuous variable to the nearest cent, although responses tend to be in whole dollars.

- The SIH dataset includes:
 - most recent income (before income tax) from all jobs, converted to a weekly figure. One measure includes salary sacrifice and another measure also includes overtime, bonuses, and non-cash benefits; and
 - income received from all jobs over the previous financial year.

These data are provided as a continuous variable to the nearest cent, although responses tend to be in whole dollars. Other measures of employee income (such as cash income for an employee's main and second job) are collected for the SIH, but are not available in the CURF.

3.1.2 Hours measure

As with income, there are various measures of hours in employment across the datasets.

- The HILDA dataset includes:
 - usual hours worked per week in main and all jobs; and
 - average hours worked per week, over a four week period, in main and all jobs for those employees who indicate their hours vary.

- The SEARS dataset includes (for up to four jobs):
 - usual hours worked each week in each job;
 - actual hours worked last week in each job, less time off but counting paid and unpaid overtime; and
 - extra hours compensated for.
- The SIH dataset includes:
 - usual hours worked each week in main and second job.⁴

3.1.3 Hourly rate of pay measure

In deriving an hourly rate of pay, usual income and usual hours worked rather than income and hours worked most recently has been used, for the reason that this should give a better indication of how much an employee usually earns on an hourly basis. The exception is the SIH dataset, for which usual hours worked and most recent income is used. This mismatch of variables unavoidably results in measurement error in the SIH results; only in cases where earnings in recent weeks are the same as usual earnings will the hourly rate of pay measure correspond to that of HILDA and SEARS.

Another issue with measures of hours is that both SEARS and SIH do not differentiate hours worked for employees working 60 hours or more. As a result, in this report, we have ‘top-coded’ the number of hours worked at 60 hours per week across all the datasets (i.e. employees who are recorded as working more than 60 hours per week will be considered to have only worked 60 hours).⁵ Top-coding is a common practice for dealing with employees who are recorded to be working very long hours. It will, however, reduce the percentage of employees who are measured to be earning below the FMW. We further discuss the effects of top-coding in section 5.2.

An issue with the hours worked categories in the SEARS dataset is that all employees who work between one and five hours per week are grouped together. The procedure used for splitting these employees was as follows: the distributions of usual hours worked for those adult employees working between one and five hours were derived from the HILDA and SIH datasets, and then these were applied to the distribution in the SEARS dataset of total weekly income from employment for adult employees working between one and five hours per week. If, for example, based on the HILDA and SIH datasets, **x** per cent of those employees working between one and five hours were assumed to work one hour per week, then it was assumed that the lowest **x** per cent of the weekly income distribution for employees working one to five hours per week from the SEARS dataset worked one hour per week. If then, based on the HILDA and SIH datasets, **y** per cent of those employees working between one and five hours were assumed to work two hours per week, then it was assumed that the next lowest **y** per cent of the weekly income distribution for employees working one to five hours per week worked two hours per week, and so on. Once these assumptions had been made, income per hour for these employees was then calculated, in the usual way, as total income from employment divided by hours worked.

4 In the expanded CURF, usual hours are provided in one hour intervals, however in the basic CURF these data are provided in categorical form at two hour intervals. The SIH questionnaire also includes items on average hours worked per week, but these are not available in the CURF.

5 This restriction is not made for some of the analysis involving long hours and unpaid overtime (see section 5.2).

3.1.4 Multiple job holders

A complicating factor in deriving hourly rates of pay is that people may earn income from more than one job. There are several options for handling this issue, some of which are discussed below.

- Derive an employee's hourly rate of pay using the income and hours from their main job. This method would mean that an employee's derived hourly rate of pay would be largely determined by the position that makes up the bulk of their employment. However, it also means the analysis will not capture any information about an employee's pay outside their main job—so it would, for example, not capture instances where an employee earned below the FMW in their second job.
- Derive an employee's hourly rate of pay using the income and hours from all of their jobs. This method would take account of an employee's earnings and hours across all their forms of employment. However, for some multiple job holders, the derived hourly rate of pay may be quite different from the hourly rate of pay they receive in *any* of their jobs. For example, an employee classified as earning 120 per cent of the FMW may have earned well above this rate in their main job but well below this rate in their second job.
- Restrict the analysis to employees with one job. This method would simplify the analysis, but would also mean that a sizeable, even if relatively small, proportion of employees are excluded.⁶
- Count the employee's jobs separately, so that the analysis shifts to which *jobs* are associated with pay below the FMW. This method would mean that all jobs within the dataset are captured so it would, for example, capture all instances within the dataset when an employee was earning below the FMW but it would also mean that some employees are counted more than once.

Given that there are relatively few multiple job holders, the results would not be expected to differ significantly across these various options. The first and last of these options are not feasible for the SIH dataset, as it does not separate out the income received from each job. (The last option would also not be feasible for the SEARS or HILDA datasets for any person working more than two jobs.)

3.1.5 Treatment of casual loadings

Generally, people employed on a casual basis receive a loading on their basic rate of pay to compensate them for the lack of entitlements such as annual and sick leave. This has the effect of raising their measured earnings, so that, for example, an employee who received only 90 per cent of the FMW as their basic periodic rate of pay but also received a 20 per cent casual loading would be found to earn 108 per cent of the FMW.

None of the datasets used in this report indicate what level of casual loading was received by the employee, with the SIH also not indicating whether the employee was employed on a casual basis or not. For the purpose of the analysis, it is assumed that each employee who is known to be employed on a casual basis received a 20 per cent casual loading. The Award Review Taskforce (2006:42) found that, in 2006, casual loadings varied from the 0–14 per cent range to the 100–149 per cent range, with 20 per cent being the most common award loading at that time. Twenty per cent was also the default casual loading percentage specified in the Australian Fair Pay and Conditions Standard (WR Act s. 186). The assumption of a 20 per cent casual loading will mean that employees with a lower casual loading will be more likely to be classified as earning below the FMW than they otherwise would be, and employees with a higher casual loading will be more likely to be classified as earning above the FMW.

⁶ Multiple job holders represent around seven per cent of the SEARS adult employee sample, around eight per cent of the corresponding HILDA sample, and around six per cent of the SIH sample.

3.2 Distributions of hourly rates of pay

Comparisons of hourly rates of pay across the datasets should be treated with caution given the differences between them. Particular points to note include:

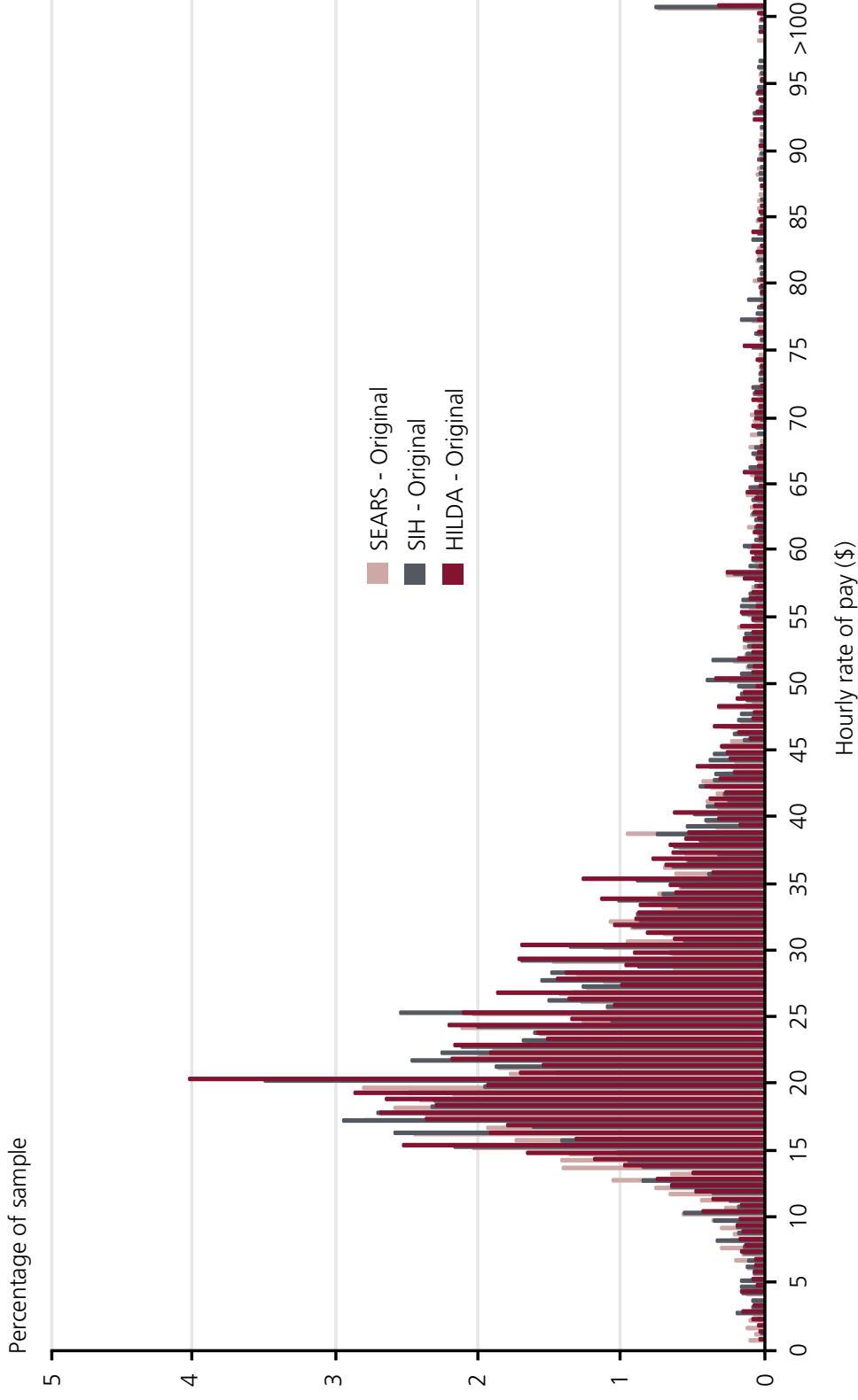
- Hourly rates of pay for HILDA and SEARS have been derived by dividing usual employee income per week by usual hours worked per week; however, for the SIH we can only use most recent employee income.
- Employee income may be measured on a different basis in each dataset; in particular, employee income in SIH includes the value of income that has been salary sacrificed, whereas the corresponding income measures in HILDA and SEARS may not.
- The SIH dataset does not indicate whether an employee was employed on a casual basis or not, so employee income in the SIH can not be deflated for a casual loading.

For multiple job holders, employee income in the SIH dataset can not be separated out for each job.

Figure 3.1 shows the distributions of gross hourly rates of pay for adult employees with one job generated from the SEARS, SIH and HILDA datasets. With the above mentioned caveats in place, the distributions of hourly rates of pay are fairly similar across the datasets. Given that there are few multiple job holders, the distributions are similar whether or not the population is restricted to those employees with only one job.

Figure 3.2 shows the same distribution adjusted using a kernel smoothing method, which is used to reduce the variability between adjacent wage intervals. In this chart, the similarities are more apparent, with the peaks of the distributions being around \$17–18 per hour.

Figure 3.1: Distributions of gross hourly rates of pay for adult employees with one job

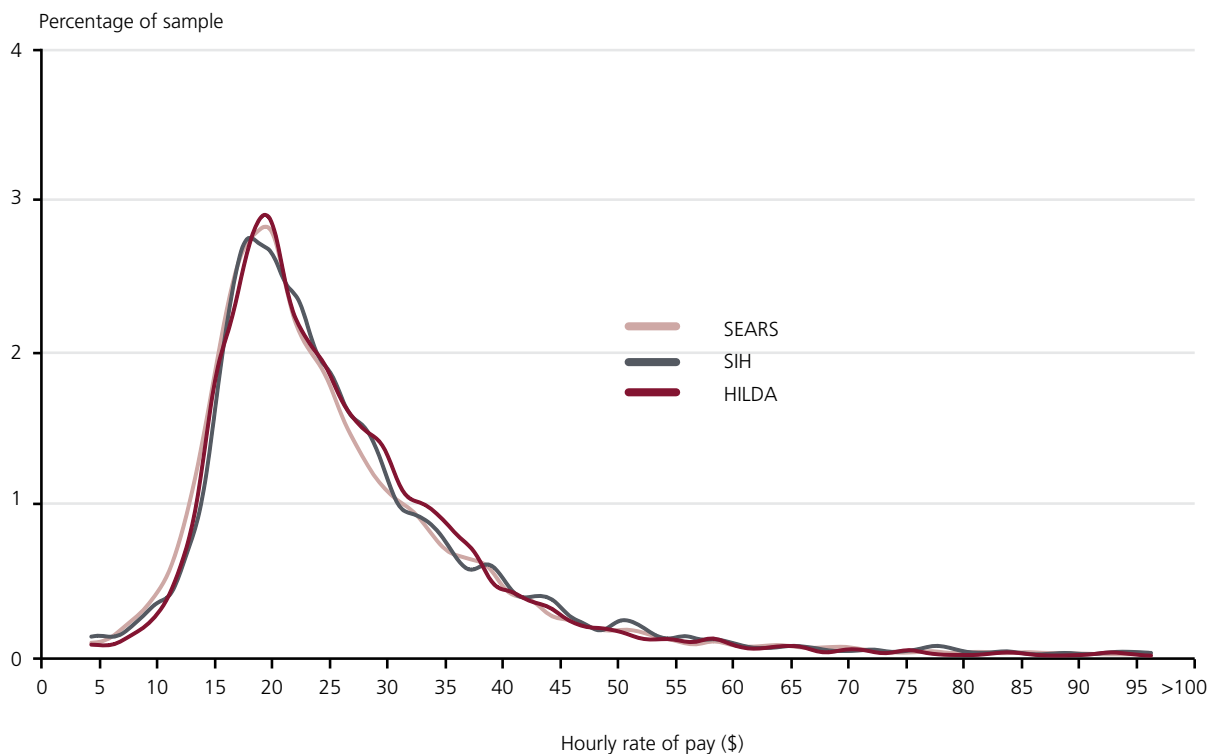


Sources: HILDA Survey, Wave 7 (2007); ABS, Microdata: Employment Arrangements, Retirement and Superannuation, Expanded CURF, Australia, Apr to Jul 2007, cat. no. 6361.0.55.001;

ABS, Microdata: Income and Housing, Expanded CURF, Australia, 2007-08, cat. no. 6541.0.30.001.

Notes: Hourly rates of pay for HILDA and SEARS calculated by dividing usual employee income per week by hours usually worked per week; hourly rates of pay for SIH calculated by dividing total current employee income per week (including salary sacrifice) by hours usually worked per week. Employees earning \$100 per hour or more have been grouped together. No adjustment has been made for casual loading.

Figure 3.2: Distributions of hourly rates of pay for adult employees with one job, adjusted using kernel smoothing method



Sources: HILDA Survey, Wave 7 (2007); ABS, *Microdata: Employment Arrangements, Retirement and Superannuation, Expanded CURF, Australia, Apr to Jul 2007*, cat. no. 6361.0.55.001; ABS, *Microdata: Income and Housing, Expanded CURF, Australia, 2007–08*, cat. no. 6541.0.30.001 .
 Notes: Hourly rates of pay for HILDA and SEARS calculated by dividing usual employee income per week by hours usually worked per week; hourly rates of pay for SIH calculated by dividing total current employee income per week (including salary sacrificed) by hours usually worked per week. Employees earning \$100 per hour or more have been grouped together. No adjustment has been made for casual loading.

3.3 Defining below FMW employment

A very simple way of defining below FMW employment is to define it as any employee with an hourly rate of pay that is below the hourly rate of the adult FMW however this definition does not take into account the complex issues involved in capturing this population. There are numerous alternatives to this definition including:

- Define below FMW employment as any employee with a weekly income from employment that is less than the weekly equivalent of the FMW. This definition would capture a significant proportion of part-time workers, particularly those who work few hours.
- Define below FMW employment as any employee with an hourly rate of pay that is less per hour than the hourly rate of the FMW *and* with a weekly rate of pay that is less per week than the weekly equivalent of the FMW. This definition would lower the chance that people who work long hours would be considered as earning below the FMW. This would be a similar approach to that used in Hahn and Wilkins (2008).
- Define below FMW employment as any employee with an hourly rate of pay that is less per hour than some percentage of the hourly rate of the FMW, either just below 100 per cent (for example, 80 per cent), or just above it (for example, 120 per cent). These definitions might be used if one wanted to allow some leeway as to which employees were defined as ‘below FMW’ due to possible mismatches between hours and earnings.

In this report, we have decided to focus upon three groups of employees:

- adult employees earning an hourly rate of pay less than 80 per cent of the FMW, which we will refer to as the 'well below FMW' category;
- adult employees earning an hourly rate of pay equal to or greater than 80 per cent of the hourly FMW but less than 100 per cent of the FMW, which we will refer to as the 'just below FMW' category; and
- adult employees earning an hourly rate of pay equal to or greater than 100 per cent of the hourly FMW but less than 120 per cent of the FMW, which we will refer to as the 'just above FMW' category.

The particular cut-off points have been chosen to allow us to compare and contrast the characteristics of employees earning well below the FMW to those earning just below the FMW and those earning just above it, and so that each category has a sample of sufficient size to draw meaningful conclusions.

The rate of the FMW applied varies across the datasets given the different timing of data collection. The hourly FMW rate that was applicable from October 2007—\$13.74 per hour—is used for HILDA and SIH, while the relevant rate used for SEARS, given its April – July 2007 data collection period, is \$13.47 per hour. This is a potential source of difference between the estimates of below FMW employment; if there are employees whose wages are unaffected by adjustments to minimum wages, then an increase in the FMW may increase the number of employees earning below the FMW.

4 Prevalence and characteristics of below FMW employment

This section examines, for each of the datasets, the percentage and characteristics of employees who are shown to earn below the FMW, as well as just above it.

For all of the surveys, the population of those in employment has been restricted so as to exclude: employees aged under 21, owner/managers of incorporated businesses, and those employees with zero/negative hours or earnings.⁷ This group will be referred to as 'all adult employees'.⁸

In addition, for the purposes of comparing across datasets (sections 4.1 and 4.2), this report makes the following restrictions:

- Employees with more than one job have been excluded. This restriction has been made because, as mentioned above, the income from an employee's main job is not separated out in the SIH dataset.⁹
- No employee's income has been adjusted for casual loadings. As mentioned above, the SIH dataset does not indicate whether an employee was employed on a casual basis or not.
- As SIH and SEARS do not differentiate between employees who work 60 hours per week or more, employees with hours per week exceeding that amount were assumed to only work 60 hours.

However, the report also discusses how the results change for the HILDA and SEARS datasets if multiple job holders are included and if an adjustment is made for casual loadings (section 4.4).

After excluding employees with more than one job, the size of the unweighted sample of all adult employees was 5452 for HILDA, 8490 for SIH, and 11 701 for SEARS. When employees with more than one job were included, the size of the sample was 5942 for HILDA, and 9019 for SIH (see footnote 12 for the reason why there is no corresponding sample size for SEARS). All data presented in this report are weighted.¹⁰

4.1 Percentage of employees paid below and just above the FMW

Table 4.1 shows the distribution in each of the datasets of adult employees among the three defined income categories (well below FMW employees, just below FMW employees and just above FMW employees), and those earning above 120 per cent of the FMW.

In terms of the percentage of employees paid below and just above the FMW, the results for all of the datasets were fairly similar. According to the SIH dataset, 7.5 per cent of all adult employees earned below the FMW, including 3.6 per cent who earned well below the FMW. For the SEARS dataset, the corresponding figures were 9.2 and 4.0 per cent, and for the HILDA dataset they were 6.8 per cent and 2.6 per cent.

The surveys showed that between 10 and 11 per cent of all adult employees earned between 100 and 120 per cent of the FMW.

7 In HILDA, the sample was also restricted to exclude those with inadequate information to derive an hourly wage rate, for example where responses to hours or earnings were 'don't know' or 'refused/not stated'.

8 In HILDA, employee was defined as those currently receiving income from wages and salaries, and by those persons whose current employment status was 'employee' (this excludes employers, employees of own business, and the self-employed). In SIH and SEARS, employee was defined as those persons whose employment status was 'employee', excluding owner-managers.

9 In sections 4 and 5, we refer to our sample of adult employees with one job as 'all adult employees'.

10 For the SIH and SEARS datasets, the person weight was used; for HILDA the responding person weight was used (calculated from the household weight, adjusted for person non-response and to person level benchmarks).

Table 4.1: Percentage of employees in each employee income category

Survey	Range of incomes expressed as percentage of FMW			
	Below 80%	80 to <100%	100 to <120%	Above 120%
	Well below FMW	Just below FMW	Just above FMW	Well above FMW
HILDA	6.8% paid below the FMW		93.2 % paid above the FMW	
	2.61%	4.18%	10.99%	82.22%
SEARS	9.2% paid below the FMW		90.8% paid above the FMW	
	3.98%	5.23%	10.65%	80.14%
SIH	7.4 % paid below the FMW		92.6 % paid above the FMW	
	3.56%	3.86%	10.54%	82.04%

Sources: HILDA Survey, Wave 7 (2007); ABS, *Microdata: Employment Arrangements, Retirement and Superannuation, Expanded CURF, Australia, Apr to Jul 2007*, cat. no. 6361.0.55.001; ABS, *Microdata: Income and Housing, Expanded CURF, Australia, 2007–08*, cat. no. 6541.0.30.001.
 Note: Sample restricted to adult employees with one job. and earnings are not adjusted for casual loadings.

4.2 Characteristics of employees paid below and just above the FMW

4.2.1 Demographic characteristics

The discussion below refers to the figures provided in Table 4.2.

4.2.1.1 Gender

Compared to all adult employees, the datasets generally show that women are over-represented among those employees who earned below and just above the FMW. In particular, in HILDA, while women comprise 47 per cent of all adult employees, they comprise more than half (between 50 and 57 per cent) of those who earned in the below FMW groups (the well below FMW and just below FMW groups) and the just above FMW group. In two of the three datasets (SIH being the exception), a slightly lower percentage of women earned well below the FMW compared with the proportion earning just below the FMW and just above the FMW.

4.2.1.2 Age

The three surveys show some similar patterns in relation to age groups. The 21 to 24 year age group is over-represented in the below FMW groups and just above FMW group, particularly in the HILDA dataset. Across the three surveys, this age group comprises between 10 and 14 per cent of all adult employees. In comparison, it comprises between 16 and 24 per cent of the just above FMW group, between 17 and 26 per cent of the just below FMW group, and between 13 and 22 per cent of the well below FMW group. Generally all three surveys also show an over-representation of those paid below the FMW or just above the FMW in the 65 years and over age group. In the main employees between 25 and 59 are under-represented among the below FMW groups and just above FMW group.

4.2.1.3 *Educational attainment*

Across the three surveys, an increase in educational attainment is associated with a reduced propensity to have been paid below the FMW. Employees who had completed Year 11 or below constituted between 20 and 23 per cent of all adult employees, but 30–38 per cent of those earning below or just above the FMW. At the other extreme, employees who have completed a masters or doctorate account for four to six per cent of all adult employees, but around one to four per cent of those earning below or just above the FMW.

4.2.1.4 *Region of Birth*

Interpretation of the results for the region of birth is hindered by the small sample sizes resulting from the disaggregation of employees into a large number of categories. Generally employees born in Western Europe, the Americas, Oceania (and possibly India) appear to be less likely to have been paid below the FMW than those born elsewhere, while those born in Asia (particularly East Asia), North Africa and the Middle East appear to be more likely to have been paid below the FMW. The results for those born in Australia vary across datasets.

4.2.1.5 *Whether single or partnered*

All the datasets show that, compared with all adult employees, employees who are partnered are less likely to have earned below or just above the FMW. For the SIH and SEARS datasets, employees who are partnered comprise around 70 per cent of all adult employees, but between 57 and 65 per cent of the below FMW and just above FMW groups. The differences are slightly greater in the HILDA dataset, where employees who are partnered comprise around 64 per cent of adult employees, but between 46 and 57 per cent of the below FMW and just above FMW groups.

4.2.1.6 *Family Composition*

Single parents are more likely to have been paid below the FMW and just above the FMW than childless one-person households. While employees who live alone are not noticeably over-represented amongst these groups, one-parent families account for around four to five per cent of all adult employees, but, for example, between five and 11 per cent of those earning well below the FMW. Similarly, for two-adult families, having dependent children increases the likelihood of being paid below the FMW, but generally to a lesser extent than for single-adult households.

4.2.1.7 *Geographic location*

Those residing in areas other than a major city were over-represented in the groups earning below and just above the FMW. Those living outside major cities represent 27–29 per cent of all adult employees in the HILDA and SIH samples, but 36 per cent (SIH) and 44 per cent (HILDA) of those earning well below the FMW, and between 33 and 40 per cent of those earning just below and just above the FMW.

The codings used in the SEARS data set for geographic location were not compatible with those used in SIH and HILDA, therefore these estimates are not provided.

Table 4.2: Demographic characteristics of employees in each employee income category— employees with one job, (%)

	HILDA			SEARS			SIH							
	Range of hourly income, expressed as percentage of FMW			Range of hourly income, expressed as percentage of FMW			Range of hourly income, expressed as percentage of FMW							
	<80%	80–100%	100–120%	<80%	80–100%	100–120%	<80%	80–100%	100–120%					
Gender	Male	49.9	46.0	43.1	52.9	54.5	50.1	46.9	53.1	50.7	52.3	47.5	53.8	
	Female	50.1	54.1	56.9	47.1	45.5	49.9	53.1	46.9	46.9	49.3	47.7	46.2	
Age group	21–24	21.8	25.2	23.6	13.5	14.6	17.3	16.5	10.1	13.0	20.4	20.0	10.7	
	25–34	23.9	20.3	23.3	23.6	20.2	22.7	27.7	26.6	21.2	24.3	24.7	25.6	
	35–44	23.6	15.8	20.3	26.2	24.6	21.0	18.4	25.2	24.4	19.5	22.5	26.1	
	45–54	15.8	25.9	19.3	23.3	27.2	26.4	24.0	23.3	20.2	20.2	20.1	23.3	
	55–59	9.3	6.5	6.0	8.1	7.1	6.3	7.1	8.2	8.2	6.7	6.2	6.8	
	60–64	2.7	4.8	7.0	4.1	3.5	5.1	4.7	4.4	4.4	4.7	7.3	4.2	
Educational attainment	65+ years	2.9	1.5	0.5	1.3	5.6	5.6	5.3	4.3	6.8	2.1	1.8	1.6	
	Postgraduate - masters or doctorate	1.5	0.8	0.7	4.2	1.8	2.3	1.6	5.5	3.8	0.6	2.4	4.8	
	Graduate diploma or certificate	1.3	1.9	2.2	6.6	2.3	0.5	1.5	4.0	0.9	0.4	0.6	2.8	
	Bachelor or honours	7.3	5.6	9.3	17.8	13.8	9.8	8.3	22.4	16.8	10.0	11.4	21.7	
	Advanced diploma, diploma	9.8	9.0	11.3	10.3	8.0	8.9	8.8	10.5	8.7	8.3	7.3	10.1	
	Certificate III or IV	17.4	22.5	20.8	22.8	17.4	21.7	22.2	19.0	18.1	16.6	23.2	19.0	
	Certificate I or II	5.2	2.8	2.7	1.7	0.6	1.4	1.3	0.4	0.4	1.3	0.4	0.6	
	Certificate not defined	1.0	0.6	0.7	0.3	0.1	0.7	0.4	0.5	2.2	0.1	0.3	0.4	
	Year 12	21.4	23.6	22.1	15.4	21.7	20.2	18.3	16.0	16.4	30.4	30.4	21.3	17.5
	Year 11 and below	35.1	33.4	30.3	20.8	34.3	34.5	37.6	21.7	31.9	33.1	32.2	32.0	23.0
Region of birth	Australia	82.3	76.8	77.5	75.3	68.0	71.5	73.8	73.1	73.0	70.7	71.8	72.0	
	India	3.9	4.9	3.2	5.2	0.4	1.2	0.9	1.5	2.4	2.7	2.7	2.0	
	Oceania & Antarctica (incl. New Zealand; excl. Australia)	4.2	3.7	6.1	4.3	1.9	2.8	5.2	3.8	1.0	2.6	3.6	3.5	
	North West Europe (incl. Germany, United Kingdom)	0.4	1.6	2.5	1.9	7.9	7.3	6.6	8.2	4.7	4.4	5.9	7.3	
	Americas	0.0	0.5	1.0	0.8	1.5	0.6	1.1	1.3	1.0	1.2	0.7	1.5	
	Sub-Saharan Africa	0.0	0.0	0.1	0.9	1.8	1.0	0.9	1.4	0.2	0.8	1.1	1.9	
	Italy	1.3	0.2	1.3	1.0	0.6	0.4	0.6	0.6	0.3	0.8	0.5	0.5	
	Southern & Eastern Europe (excl. Italy)	0.0	1.8	1.1	1.0	2.7	2.8	2.4	2.2	3.3	2.2	1.1	2.0	
	South & Central Asia (excl. India, incl. Philippines)	1.2	3.0	1.7	2.4	2.7	2.4	2.5	2.0	3.1	3.7	3.7	2.5	
	East Asia (excl. Vietnam & Philippines, incl. China)	4.6	4.6	3.6	4.5	10.3	8.3	4.7	4.8	9.7	8.0	6.3	5.1	
Social marital status	North Africa & Middle East	0.9	1.4	0.7	1.2	1.5	1.4	1.0	0.8	0.5	2.4	2.0	1.2	
	Partnered	46.7	56.5	51.2	63.6	60.8	64.3	62.1	69.0	61.9	60.7	57.2	67.7	
	Not partnered	53.3	43.6	48.8	36.4	39.2	35.7	37.9	31.0	38.1	39.3	42.8	32.3	
	Couple family with dependent children only	38.4	37.1	30.2	36.7	30.1	26.1	22.7	30.4	28.1	26.8	24.9	30.0	
	Couple family with dependent children and other persons	0.5	1.5	2.6	1.2	13.8	11.2	6.9	4.8	7.7	6.9	8.5	7.8	
	One-parent family with dependent children only	7.4	4.7	4.7	4.1	7.5	3.9	5.1	2.9	3.8	1.9	4.4	2.5	
	One-parent family with dependent children and other persons	2.0	0.0	0.5	0.4	3.2	1.9	2.3	0.9	1.9	0.8	2.0	1.3	
	Couple only	19.6	22.1	18.0	24.1	11.5	16.3	22.8	27.6	20.2	24.2	17.1	23.0	
	Other one-family households	21.7	22.4	28.0	19.3	16.4	23.1	17.4	12.6	14.9	19.6	20.4	14.1	
	Multiple-family households	0.0	0.0	0.0	0.0	2.0	1.9	2.4	1.3	2.2	2.4	3.5	2.6	
Family	Lone-person household	8.5	11.6	14.2	12.7	9.4	8.0	11.8	13.4	12.5	10.7	6.9	10.4	
	Group household	1.9	0.6	1.9	1.6	3.4	5.1	5.8	4.0	8.7	6.0	12.3	8.5	
	Not determined	0.0	0.0	0.0	0.0	2.9	2.6	2.8	2.0	0.0	0.0	0.0	0.0	
	Major city	55.6	60.1	66.3	71.4	N/A	N/A	N/A	N/A	N/A	64.3	66.8	72.2	
	Other	44.4	39.9	33.7	28.6	N/A	N/A	N/A	N/A	35.7	33.2	36.9	27.8	

Note: Sample restricted to employees with one job, and earnings are not adjusted for casual loadings.

4.2.2 Job characteristics

The discussion below refers to the figures provided in Table 4.3.

4.2.2.1 Full-time or part-time employment

All three surveys indicate that, the lower the wages, the more likely it is that an employee was employed on a part-time basis. Across the three datasets, around one-quarter of all adult employees consists of part-time workers. In comparison, the HILDA dataset shows that 55 per cent of employees earning well below the FMW worked part-time, although the corresponding figures were somewhat lower for the SIH and SEARS datasets, at around 41 per cent. For the just below FMW group, the part-time share of employment was between 35 and 47 per cent, and for the just above FMW group it was between 30 and 35 per cent.

4.2.2.2 Permanent, casual or fixed term employment

Both the HILDA and SEARS datasets show that casual employees were considerably over-represented at the lower end of the wage distribution. For SEARS, while only 16 per cent of all adult employees were employed on a casual basis, this figure rises to 28 per cent for the just above FMW group, 38 per cent for the just below FMW group, and 46 per cent for the well below FMW group. For HILDA, 41 per cent of employees in the well below FMW group were employed on a casual basis, compared with 34 per cent of the just below FMW group, 19 per cent of the just above FMW group, and 15 per cent of all adult employees. As mentioned above, the SIH dataset does not indicate whether an employee is employed on a casual basis.

4.2.2.3 Industry

Compared to all adult employees, employees earning below the FMW and just above the FMW were clearly more likely to be employed in Agriculture, forestry, and fishing, Retail trade, Accommodation and food services, Administrative and support services, and Other services.

Accommodation and food services and Agriculture, forestry and fishing were particularly over-represented in the below FMW groups across the three surveys.

- Accommodation and food services accounted for around four to five per cent of all adult employees, but between 10 and 14 per cent of those in the below FMW groups.
- Agriculture, forestry and fishing accounted for around one to two per cent of all adult employees, but around three to eight per cent of those in the below FMW groups.

Retail trade was only slightly over-represented in the well below FMW group (except for the SEARS dataset, where it was more strongly over-represented), and more strongly over-represented in the just below FMW and just above FMW groups. While Retail trade accounted for between nine and 11 per cent of all adult employees, it accounted for around one-fifth of employees within the just below FMW and just above FMW groups across all three surveys.

In contrast, employees earning below the FMW and just above the FMW were less likely to be employed in Mining; Electricity, gas, water and waste services; Information media and telecommunications; Financial and insurance services; Professional, scientific and technical services; Public administration and safety; and Education and training. Manufacturing is characterised by an under-representation of employees earning below the FMW and an over-representation in two of the three surveys in the group earning just above the FMW.

4.2.2.4 Occupation

Compared to all adult employees, employees earning below the FMW and just above the FMW were clearly more likely to be employed as Labourers, Sales workers, and Community and personal service workers.

- Labourers formed around eight to 12 per cent of all adult employees but generally around 20 per cent of the below FMW and just above FMW groups across the three surveys.
- Sales workers formed around five to eight per cent of all adult employees, but generally between 10 and 20 per cent of employees in the just below and just above-FMW groups. Consistent with the patterns for Retail trade, all three surveys show that a higher proportion of the just below FMW group are sales workers than for the well below FMW group.
- Community and personal service workers made up between seven and 11 per cent of all adult employees, but around nine to 17 per cent of those in the below FMW groups, and around 11–14 per cent of those earning just above the FMW.

In contrast, employees earning below the FMW and just above the FMW were less likely to be employed as Professionals, and employees earning below the FMW were less likely to be employed as Clerical and administrative workers. Employees earning well below the FMW were somewhat more likely to be Professionals than employees earning just below the FMW or just above the FMW.

4.2.2.5 Size of employer

The HILDA and SEARS dataset show a clear trend for below FMW employees to have been working for employers with fewer employees. The HILDA dataset shows that businesses with one to nine employees employed 42 per cent of the well below FMW group, and 36 per cent of the just below FMW group, compared with 20 per cent of all adult employees. The SEARS dataset shows that businesses with one to nine employees employed 39 per cent of the well below FMW group, and 36 per cent of the just below FMW group, compared with 20 per cent of all adult employees. At the other end of the scale, employers with 100 or more employees account for around 36 per cent of all adult employees, but around 14–22 per cent of each of the below FMW groups and the just above FMW groups.

4.2.2.6 Number of hours worked per week

Consistent with the results above, employees working part-time hours tended to be over-represented among the below FMW groups and just above FMW group.

- Employees working between one and nine hours per week constituted about three per cent of all adult employees, but generally between four and eight per cent of the employees in the below FMW groups.
- Employees working between 10 and 19 hours per week constituted about seven per cent all adult employees, but generally between 10 and 15 per cent of each of the below FMW groups and the just above FMW groups.
- Employees working between 20 and 29 hours per week constituted about 10 per cent of all adult employees, but around 13–20 per cent of each of the below FMW and just above FMW groups.

Of the employees working full-time hours, the only group that was noticeably over-represented among the below FMW groups and just above FMW groups was those working 60 hours or more (who were all assumed to work 60 hours). For example, these employees constituted around five to eight per cent of all adult employees, but around eight to 20 per cent of those employees in the well below FMW group.

Table 4.3: Job characteristics of employees in each employee income category—employees with one job, (%)

	HILDA				SEARS				SIH							
	Range of hourly income, from employment, expressed as percentage of FMW				All adult employees				Range of hourly income, from employment, expressed as percentage of FMW				All adult employees			
	<80%	80–<100%	100–<120%	>120%	<80%	80–<100%	100–<120%	>120%	<80%	80–<100%	100–<120%	>120%	<80%	80–<100%	100–<120%	>120%
Full or Part-Time	Full-time	45.2	53.4	69.6	74.8	59.1	64.1	68.3	75.6	59.3	64.4	65.3	74.6			
	Part-time	54.8	46.6	30.4	25.2	40.9	35.9	31.7	24.4	40.7	35.6	34.7	25.4			
Permanent or Casual	Permanent	47.8	58.6	72.6	75.9	46.9	54.5	63.9	78.6	N/A	N/A	N/A	N/A			
	Fixed term	9.8	7.1	8.7	9.1	7.6	8.0	7.8	5.2	N/A	N/A	N/A	N/A			
	Casual	40.6	34.3	18.5	14.7	45.5	37.5	28.4	16.2	N/A	N/A	N/A	N/A			
	Other	1.8	0.0	0.2	0.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Industry	Agriculture, forestry and fishing	7.6	4.6	3.1	1.6	4.2	3.1	3.1	1.6	6.1	3.7	2.8	1.3			
	Mining	0.0	0.0	0.6	2.2	0.8	0.0	0.2	2.0	0.3	0.0	0.2	1.9			
	Manufacturing	9.4	7.2	10.2	10.7	10.4	13.8	13.0	11.8	5.8	7.8	12.7	11.0			
	Electricity, gas, water and waste services	0.7	0.5	0.6	1.1	0.1	0.2	0.3	1.1	0.5	0.0	0.7	1.4			
	Construction	5.2	2.4	5.5	5.7	5.8	5.8	5.0	5.7	10.4	9.4	6.2	7.2			
	Wholesale trade	2.2	3.3	6.6	3.2	2.7	2.5	5.4	4.2	4.5	5.4	5.7	5.0			
	Retail trade	9.7	21.5	18.9	9.1	15.9	17.5	20.4	10.5	9.7	20.1	20.8	9.4			
	Accommodation and food services	13.9	10.0	9.1	4.7	13.7	12.8	9.6	4.8	12.6	11.0	9.0	5.1			
	Transport, postal and warehousing	4.2	3.5	2.8	5.1	2.9	3.9	5.2	5.5	5.5	6.6	5.3	5.0			
	Information media and telecommunications	0.2	1.7	1.4	2.9	1.9	1.1	1.0	2.6	4.3	2.1	1.8	2.8			
	Financial and insurance services	0.0	0.6	2.0	4.7	1.5	0.4	1.9	4.3	1.6	1.0	1.7	5.6			
	Rental, hiring and real estate services	1.1	2.2	1.3	1.3	1.6	2.2	2.5	1.8	3.0	2.2	2.2	1.8			
	Professional, scientific and technical services	7.8	4.6	4.9	8.0	3.4	2.7	3.3	6.8	4.8	3.4	3.8	7.3			
	Administrative and support services	7.6	7.8	3.6	2.7	3.6	4.8	5.1	3.4	3.2	5.5	3.9	2.8			
	Public administration and safety	2.7	2.4	3.3	7.9	3.7	1.6	2.3	8.2	3.3	4.0	4.0	8.5			
	Education and training	5.2	4.7	6.4	10.4	6.4	5.8	4.9	9.4	5.1	5.1	5.6	8.3			
	Health care and social assistance	14.9	12.2	13.4	14.3	12.0	13.6	11.3	11.8	9.1	7.8	7.8	11.2			
	Arts and recreation services	2.4	3.5	1.3	1.5	1.8	1.4	1.0	1.3	1.8	0.6	1.0	1.3			
	Other services	5.1	7.5	5.0	3.1	7.5	7.1	4.6	3.3	8.3	3.9	5.4	3.1			
	Inadequately described	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.4	0.0	0.0			
Managers	12.2	6.1	6.0	10.3	6.3	5.7	6.1	10.6	11.8	12.1	9.4	12.6				
Occupation	Professionals	12.7	6.4	8.9	25.5	12.0	7.1	8.2	23.5	17.9	7.2	6.6	23.0			
	Technicians and trade workers	13.9	14.6	14.4	13.7	18.9	15.3	12.4	12.6	12.9	16.9	12.7	13.2			
	Community and personal service workers	17.2	13.3	13.7	10.6	12.9	15.4	12.8	8.8	9.4	8.9	10.8	7.0			
	Clerical and administrative workers	6.4	11.8	17.0	17.2	13.6	9.9	14.6	17.3	9.5	12.0	17.3	17.3			
	Sales workers	9.2	19.3	13.3	7.1	10.9	17.5	14.9	8.0	6.2	11.4	14.7	5.8			
	Machinery operators	5.8	8.3	11.5	7.1	4.6	6.9	7.6	6.6	6.7	7.7	7.6	7.4			
	Labourers	22.7	20.2	15.3	8.5	20.7	22.2	22.9	11.8	20.0	21.1	18.1	10.2			
	Don't know	4.0	1.3	1.6	0.9	4.9	2.6	2.0	1.7	N/A	N/A	N/A	N/A			
	1 to 9 employees	41.7	35.8	32.0	20.0	39.1	35.8	32.7	19.8	N/A	N/A	N/A	N/A			
	10 to 19 employees	10.4	18.2	17.4	12.6	15.7	18.5	16.2	13.0	N/A	N/A	N/A	N/A			
Size of employer	20 to 99 employees	27.9	30.6	27.3	29.5	21.5	27.0	29.8	29.5	N/A	N/A	N/A	N/A			
	100 or more employees	16.0	14.1	21.6	36.1	18.7	16.1	19.3	36.0	N/A	N/A	N/A	N/A			
	1 to 9	4.0	6.4	1.7	2.6	7.1	2.6	3.0	2.9	7.9	4.2	3.7	2.8			
	10 to 19	22.1	14.6	10.4	7.2	11.7	11.0	9.0	6.7	11.5	11.8	10.4	7.0			
	20 to 29	20.1	16.5	13.1	9.7	17.4	16.4	15.1	10.4	14.0	13.3	12.7	10.3			
Hours of work	30 to 39	24.2	24.8	30.3	26.8	25.1	31.9	34.6	29.1	31.3	20.9	31.5	26.6			
	40 to 49	8.2	18.3	29.8	36.1	21.6	23.7	26.1	34.2	18.5	28.4	26.3	32.9			
	50 to 59	9.4	9.6	10.9	12.4	9.2	7.8	7.4	10.9	14.4	8.4	9.3	12.9			
	60+	11.9	9.8	3.9	5.2	7.9	6.7	4.8	5.8	20.4	13.1	6.1	7.6			

Note: Sample restricted to employees with one job, and earnings are not adjusted for casual loadings

4.3 Multivariate analysis

The data provided in the section above indicate what types of characteristics are associated with below FMW rates of pay, but the effects of these characteristics are mixed together; for example, women may have been over-represented among those earning below FMW rates of pay because they have a higher propensity to work on a part-time basis. In an attempt to 'disentangle' these various effects, a multivariate analysis was undertaken using the SIH data.

The multivariate analysis loosely followed the methodology in McGuinness, Freebairn and Mavromaras (2007). Results from the preferred models are provided in Appendix A. The models shown are all ordered probit models in which the dependent variable is an integer that assumes the value of zero or one based on the employee income per hour of the respondent. Whether an employee is assigned the value of zero or one depends upon which side of the 'cut-off' point in the wage distribution they sit. Three cut-off points are used: a) 80 per cent of the FMW; b) 100 per cent of the FMW; and c) 120 per cent of the FMW. For each of these cut-off points, two types of models are estimated. The first type includes only demographic (non-choice) variables as independent variables, which are gender, age, marital status, educational attainment, birth region, and composition of household. The second type also includes job (choice) variables, which are industry and occupation, full-time or part-time status, and hours of work. The reason for making this split is that particular demographic characteristics may be associated with particular job characteristics—for example, women may be more likely to choose to work in Retail trade—and so including job characteristics may lead to an underestimation of demographic effects.

In terms of interpreting the results, a higher value of the dependent variable is associated with lower hourly income, and therefore a higher probability of being in the lower hourly income group. Hence, a *positive* coefficient for a particular characteristic implies a *higher* probability that an employee with that characteristic will be in the lower hourly income group. All coefficients are relative to the reference group for each variable; in each case the reference group that was chosen is shown.

Many of the observations from the raw data are supported by the multivariate analysis. For example, the positive coefficients in each of the models for employees aged 65 and over implies that they have a higher probability of being in a lower hourly income group (with this coefficient being statistically significant at the one per cent level).

A greater proportion of the coefficients are statistically significant as the cut-off point is moved higher up the wage distribution; for example, sex has a statistically significant effect at the one per cent level on the probability of earning lower than 120 per cent of the FMW, but not on the probabilities of earning lower than 80 or 100 per cent of the FMW. When the cut-off point is moved down the wage distribution from 120 per cent of the FMW to 80 or 100 per cent of the FMW this reduces the size of the group of employees who earn less than the cut-off point, which in turn may lower the likelihood of finding statistically significant differences in characteristics between those employees earning less than the cut-off point and those earning more than the cut-off point.

Adding the job variables to the models tended to lower the effects of the demographic variables on the probabilities of earning above or below the cut-off points, with the exceptions of sex and marital status.

4.4 Multiple job holders and adjustment for casual loadings

The results in section 4.3 are restricted to employees with one job, and no adjustment is made for casual loadings. If we expand the sample to include employees with multiple jobs, and calculate hourly rates of pay based on earnings and hours across all jobs, then the broad conclusions made concerning whether particular groups have a propensity to be paid close to the FMW remain valid (see Appendix B, Table B.1). This is essentially because there are relatively few multiple job holders.¹¹

Using the HILDA Survey data, discounting the earnings of casual employees for a 20 per cent casual loading has a greater effect on results. Table 4.4 shows the population size of each of the income categories when employee income for casual employees is adjusted for a 20 per cent casual loading compared to when no adjustment is made. In HILDA, deflating earnings of casual employees increases the percentage of *all employees* earning below 120 per cent of the FMW by around four percentage points. As expected the effect of deflating earnings on the distribution of casual employees among the income categories is greater, with the percentage of *casual employees* earning below 120 per cent of the FMW increasing by over 20 percentage points. However, the effect is not uniform: the well below and just below FMW groups of casual employees increased by around six to seven percentage points each, but this represents an 83–85 per cent increase in each of these groups. In contrast, the just above FMW group of casual employees increased by around eight percentage points, but this represents a 58 per cent increase in this group.

Table 4.4: Population size of income categories with and without adjusting for a twenty per cent casual loading, (%)

	Well below FMW <80% FMW	Just below FMW 80 to <100% FMW	Just above FMW 100% to <120% FMW	>=120 FMW
Adult employees				
Unadjusted	2.6	4.2	11.0	82.2
Adjusted	3.8	5.5	12.4	78.3
Casual employees				
Unadjusted	7.5	9.2	14.0	69.3
Adjusted	13.9	16.8	22.1	47.2

Source: HILDA Survey, Wave 7 (2007).

Notes: Population restricted to adult employees with one job. Casual employee income is deflated by twenty per cent. Hours are top coded at 60.

There are also some notable differences in the characteristics of those employees earning below or just above the FMW (see Appendix B, Table B.2). Compared to the previous results, the main differences are:

- women are more over-represented among employees earning below the FMW;
- part-time and casual employees are more over-represented among employees earning below or just above the FMW; and
- employees working in Retail trade and employees working as Sales workers are now clearly over-represented among employees earning well below the FMW.

¹¹ No results are presented for multiple job holders for SEARS due to the difficulties involved with the SEARS CURF in adding up hours and income across different jobs.

4.5 Method of setting pay

None of the datasets mentioned above contain information on the method by which an employee's pay is set, including award reliance. This information is collected in the ABS' *Employee Earnings and Hours* (EEH) survey. This report uses the CURF for the May 2006 EEH survey, which includes data for approximately 57 000 employees. Although there has been a subsequent survey, conducted in August 2008, there is currently no CURF available for this survey.

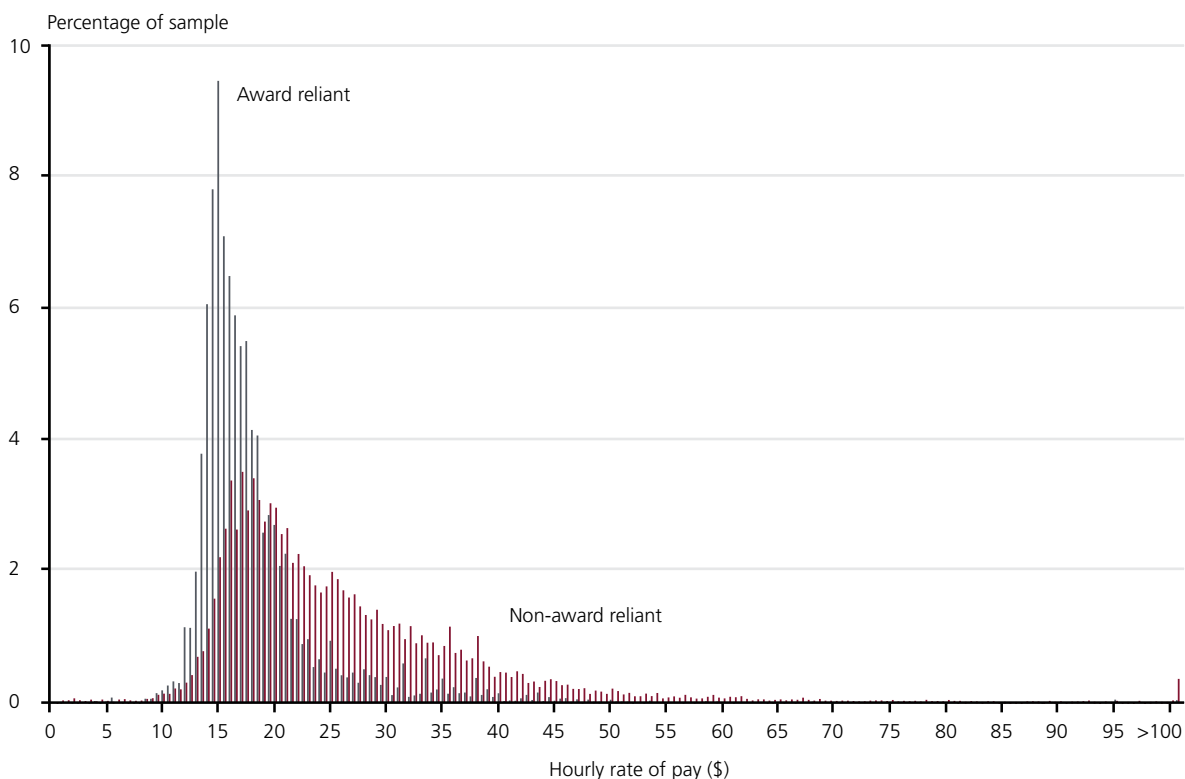
For the EEH survey, employers are asked to select a random sample of employees from their payrolls. As McGuinness, Freebairn and Mavromaras (2007:8) point out, 'cash in hand' employment will not be picked up by payroll data. They compared estimates from the EEH survey data and HILDA Survey data on the percentage of employees earning below and around the FMW, based on the amount that employees earn. Their estimates of these percentages were considerably higher using the HILDA data, which they attributed primarily to the inability of the EEH survey to capture 'cash in hand' employment.

An hourly wage for employees is derived by dividing weekly ordinary time cash earnings (which include amounts that are salary sacrificed) by weekly ordinary time hours paid for. According to the EEH survey, as of May 2006, only 1.8 per cent of employees (excluding working proprietors) who earned the adult rate of pay earned less than the then FMW of \$12.75 per hour, compared to around seven to nine per cent in the other datasets used in this report. This figure increases to 2.8 per cent if the earnings of employees who received a casual loading are discounted for a 20 per cent casual loading.

Figure 4.1 shows the EEH distribution of hourly ordinary-time cash earnings for employees receiving adult rates of pay, with earnings of casual employees discounted for a 20 per cent casual loading. Of the award reliant employees earning adult rates of pay, 4.7 per cent were earning less than the FMW compared to 2.3 per cent of non-award reliant employees.¹²

¹² Employees are defined as award reliant if they were earning the rate of pay specified in the relevant award or APCS.

Figure 4.1: Distribution from EEH survey of hourly ordinary-time cash earnings for employees receiving adult rates of pay, with earnings of casual employees discounted for a 20 per cent casual loading



Source: ABS, *Microdata: Employee Earnings and Hours, Expanded CURF, Australia, May 2006*, cat. no. 6306.0.55.001.
 Note: Employees earning \$100 per hour or more have been grouped together.

The method of setting pay by earnings category for employees receiving adult rates of pay is shown in Table 4.5 (again the earnings of casual employees are discounted for a 20 per cent loading). Compared with the entire group of adult employees, employees who were paid the rate of pay in the relevant award or APCS were significantly over-represented in the just below FMW and just above FMW earnings categories. However, they were slightly under-represented in the well below FMW category. In contrast, employees who had their pay set by a registered collective agreement were significantly under-represented (relative to the entire group of adult employees) in the just below FMW and just above FMW earnings categories, but only slightly under-represented in the well below FMW category. Employees who had their pay set by an unregistered individual agreement were over-represented in the well below FMW and just below FMW earnings categories.

Employees who were paid the rate of pay in the relevant award or APCS were likely over-represented among employees earning just below the FMW and just above the FMW since their pay rates, on average, tended to be well below those who were paid by other methods. However, it is possible that the award or APCS provided a level of protection for these employees from earning very low rates of pay, which could explain why they were slightly under-represented among employees earning well below the FMW.

Table 4.5: Method of setting pay by earnings category for employees receiving adult rates of pay, with earnings of casual employees discounted for a 20 per cent casual loading, (%)

Method of setting pay	Range of hourly income from employment			All adult employees
	<80% FMW earner	80 to <100% FMW earner	100 to <120% FMW earner	
Award or pay scale only	16.3	38.2	51.1	19.1
Registered collective	35.9	16.4	16.3	41.8
Unregistered collective	5.8	5.2	3.6	3.2
Registered individual	0.1	3.6	2.9	3.2
Unregistered individual	41.8	36.6	26.1	32.8
Total	100.0	100.0	100.0	100.0

Source: ABS, *Microdata: Employee Earnings and Hours, Expanded CURF, Australia, May 2006*, cat. no. 6306.0.55.001.

Wave 8 of the HILDA Survey, conducted in 2008, also includes information on method of setting pay; however concerns have been expressed about the quality of responses for this question.¹³ These data also show that employees paid exactly the award or APCS rate of pay were significantly over-represented in the just below FMW and just above FMW groups. They also show that employees paid exactly the award or APCS rate of pay and employees who had their pay set by an individual agreement were slightly over-represented among employees who earned well below the FMW.¹⁴

¹³ *HILDA news* email, 11 March 2010.

¹⁴ Employees paid exactly the award or APCS rate of pay made up 25 per cent of all adult employees, but 43 per cent of those earning just above the FMW, 49 per cent of those earning just below the FMW, and 31 per cent of those earning well below the FMW.

5 Contributing factors to below FMW employment

There are a number of reasons why the datasets may show that there are adult employees earning below the FMW. A range of these are discussed below, including where there was employment outside the coverage of the standard FMW, employees working long hours/overtime, authorised employer deductions and non-compliance.

5.1 Employment outside the coverage of the standard FMW

The WR Act (s. 194) specifically excluded the standard FMW from applying to certain groups of employees. These employees were:

- junior employees (defined by s. 178 of the WR Act to be employees under 21);
- employees with disability;
- employees to whom training arrangements applied (trainees and apprentices); and
- APCS piece rate employees.

In addition to these groups, there were other circumstances under the WR Act which would also allow for a federally covered employee to receive less than the standard FMW. Both of these groups are discussed further below.

5.1.1 Employees specifically excluded from the FMW by the WR Act

5.1.1.1 Junior employees

Under the WR Act, where junior employees were covered by an APCS or other industrial instrument, these instruments specified their statutory minimum wage (this may have been at levels above or below the standard FMW). Junior employees not covered by an industrial instrument were excluded from coverage by the standard FMW. Employees under the age of 21 have therefore been excluded from the analysis.

5.1.1.2 Employees to whom training arrangements apply

Under the WR Act, where employees to whom training arrangements apply (i.e. employees in registered training arrangements, which includes trainees and apprentices) were covered by an APCS or other industrial instruments, these instruments specified their statutory minimum wage (this may have been at levels above or below the standard FMW). Employees to whom training arrangements apply were not covered by the standard FMW.

The availability of specific rates for adult apprentices and trainees in APCS or other industrial instruments varied between industry and location. Where an adult apprentice or trainee rate was not specified in an instrument, the adult apprentice or trainee would only be entitled to receive the standard apprentice rate available to 'junior' apprentices/trainees.¹⁵

From October 2007, when the standard FMW rate was \$13.74 per hour, the preserved APCS derived from the *National Training Wage Award 2000* specified hourly minimum rates for trainees—that could have applied to adult trainees—of \$12.72, \$12.25 and \$11.06 per hour for Wage/Skill Levels A, B and C respectively. It also specified rates for 'adult trainees' who undertook Australian Qualifications Framework

¹⁵ Recent research undertaken by the Minimum Wages and Research Branch into apprentice wages in pre-modern award instruments indicates that most pre-reform instruments did not contain specific rates for adult apprentices. For example, a review of 157 awards across the top five occupations and metals industry revealed that 40 awards (25 per cent) had specific provisions relating to adult apprentices (Dunn et al. forthcoming).

(AQF) IV Certificate traineeships, with the rate being \$13.70 per hour for Wage/Skill Level A second year trainees. In addition, there were trainee rates below the FMW rate that could have applied to adults in some of the preserved APCs *not* derived from the preserved APC that was derived from the *National Training Wage Award 2000*. For example, the preserved APC derived from the *Australian Workers' Union Construction and Maintenance Award 2002* included a rate for Year 1/Stage 1 of a Civil Construction Traineeship that in 2007 was \$13.18 per hour (or \$13.17 in New South Wales).¹⁶

As well as trainee rates, adult apprentice rates in industrial instruments also varied. As examples, the lowest adult apprentice rates in the preserved APCs derived from the *Metal, Engineering and Associated Industries Award 1998*, *Graphic Arts - General - Award 2000* and *Furnishing Industry National Award 2003* were \$12.76, \$13.29 and \$13.54 per hour.

Where APCs did not provide separate scales for adult apprentices, the rates in these instruments tended to be lower than the standard FMW. For example, under the preserved APCs derived from the *Dry Cleaning Industry Award 2000* and *Postal Services Industry Award 2003*, the first-year apprentice rates were \$7.70¹⁷ and \$8.92 per hour.

It is possible to derive estimates of the size of the adult population undertaking an apprenticeship or traineeship from the National Centre for Vocational Education Research (NCVER) database on administrative reporting by state and territory training authorities—the National Apprentice and Trainee Collection. In the July 2007 quarter there were around 80 200 adult apprentices and around 115 200 adult trainees undertaking a Certificate I, II or III. Apprentices are those located in the technicians and trades workers occupations while trainees are located in all the other occupations (NCVER 2010). Using an estimate of 8 320 400 adult employees derived from the ABS *Labour Force Survey* (ABS 2010a: Data Cube LM2; ABS 2010b: Data Cube E05_aug94), adult apprentices represent around one per cent of the adult employee population, while adult trainees represent around 1.4 per cent. None of the data sources used in this study specifically enable the identification of those to whom training arrangements apply. Using HILDA, it is possible to observe those adults who in 2007 were undertaking a Certificate I, II or III qualification. This group accounted for just below eight per cent of those earning well below the FMW, around 10 per cent of those earning just below the FMW, and five per cent of those earning just above the FMW (defined by earnings across all jobs). This does not represent a large proportion of these employees, but may provide a partial explanation for earnings being measured as below the hourly FMW rate.

5.1.1.3 Employees with disability

Another group not covered by the standard FMW are employees with disability (as defined by the WR Act). This means that adult (and junior) employees with disability were excluded from the standard FMW. The Australian Fair Pay Commission (AFPC) subsequently created a Special FMW No.1 which maintained parity with the FMW for employees with disability without affected productivity; however employees with disability whose productive capacity was affected by their disability could earn wages below the FMW. This could occur if the employee was covered by:

- the Supported Wage System (SWS) schedule under the Special Federal Minimum Wage No. 2 (if not covered by an award/APCS);
- the Special Supported Wage System (Employees with a disability) Australian Pay and Classification Scale, [2007] APC 1 (if covered by an award/APCS);

¹⁶ Rates in section 5.1.1.2 cited are in line with the Pay Scale Summaries published by the former Workplace Authority.

¹⁷ Calculated as the average of the first year rate for the first six months of \$7.29 per hour and the first year rate for the second six months of \$8.11 per hour.

- a state issued Slow Worker or Special Wage permit (preserved in 2006 as APCSs);
- the Special Business Services (Employees with a disability) Australian Pay and Classification Scale, [2007] APCS 2;
- the preserved APCS derived from the *Liquor, Hospitality and Miscellaneous Union Supported Employment Services Award 2005* (LHMU APCS); or
- the preserved APCS derived from the *Cooma Challenge Limited Business Services (State) Award*.¹⁸

Employees covered by these instruments could receive either a proportional rate of the standard FMW, according to their productive capacity and as specified in the relevant instrument, or the minimum rate payable.¹⁹

According to the Disability Service Census 2007, conducted by the Department of Families, Housing, Community Services and Indigenous Affairs, there were an estimated 17 800 employees classed as workers/independent workers in the Disability Enterprises Sector. This estimate excludes those in the SWS in open employment and therefore the number of employees with disability potentially earning below the FMW is higher. The national average gross hourly wage rate for employees in the Disability Enterprises Sector was \$3.03 (Pointon et al. 2009:24–25, 33).

The potential data sources for this study do not allow for identification of employees with disability being covered by any of these instruments, or more specifically employees with disability whose productive capacity was affected by their disability. The receipt of Disability Support Pension (DSP) is a rather weak proxy indicator as the WR Act definition of an employee with disability refers to whether an employee is 'qualified' for the DSP (and also includes some employees excluded under DSP eligibility conditions) rather than the receipt of the DSP (WR Act s. 178).

Using HILDA data, it is possible to identify whether an employee reported a long-term health condition that limits the amount/type of work they can undertake in conjunction with receipt of DSP. Around a quarter of those earning well below the FMW in HILDA (defined by earnings across all jobs) reported a long-term health condition limiting the type/amount of work they could undertake, of which around one-third were receiving DSP. Hence, around nine per cent of the well below FMW group met these two conditions, although this figure was only about one per cent for both the just below and just above FMW groups. Again, this may provide a partial explanation indicating that this is one of the possible explanations for employees apparently earning below the FMW.

5.1.1.4 APCS piece rate employees

The standard FMW did not apply to APCS piece rate employees. An APCS piece rate employee was defined by the WR Act to be:

an employee in relation to whom the following paragraphs are satisfied:

- (a) the employee's employment is covered by an APCS;
- (b) the rate provision of the APCS determine one or more basic piece rates of pay that apply to the employment of the employee (WR Act s. 196).

¹⁸ From January 2010, employees under the final three instruments now fall under Australian Disability Enterprises.

¹⁹ From October 2007 this minimum weekly payment was increased to \$66 per week, linked to the income-test free threshold of the Disability Support Pension.

A piece rate of pay was further defined to be one 'expressed as a rate for a quantifiable output or task' (WR Act s. 178), for example the rate paid per bucket of fruit picked, as opposed to being for a period of time worked.

It was possible for an adult employee to be able to earn below the standard FMW if they were defined by the WR Act to be an APCS piece rate employee. This is because the WR Act only guaranteed basic piece rates of pay at the rate guaranteed by the APCS for an 'employee of average capacity' (s. 191), and did not guarantee parity with the standard FMW. Therefore, it was possible that if the piece rate employee did not achieve (for example) the requisite number of pieces per hour, then that employee may have earned below the standard FMW.

In reality though, as the AFPC noted in its Wage-Setting Decision 1/2006, there appeared to be few true arrangements of this kind in awards:

Despite what appears to be a relatively small proportion of preserved Pay Scales [APCSs] that establish basic piece rate Pay Scales, their operation appears diverse, reflecting industry specific circumstances, and the historical methods of adjustment appear obscure. There is some evidence of previously award-free employees whose informal or common law remuneration arrangements reflected basic piece rate pay practices. (AFPC 2006:130)

Further, most 'piece rates' in awards were found to have had both a base rate of pay and an incentive-based rate of pay on top which meant that, at the commencement of the Work Choices amendments, the base rates were adjusted to the level of the standard FMW and the incentive component removed from the APCS (as required by the WR Act (s. 190)). Also, piece rate employees who had been award-free at reform commencement were guaranteed the standard FMW.

Both the SEARS and SIH questionnaires ask about working/payment arrangements with an option for 'paid by the piece/item produced'. However these data are not available in the CURFs (or in the publications and tables associated with these datasets) and so it is not possible to provide an estimate of the size of the population earning piece rates or the proportion of piece-rate employees earning below or just above the FMW. However, based on the Award Review Taskforce conclusion that, 'Due to the relatively small number of awards containing piece rates and the high level of diversity in them, the Taskforce does not consider the rationalisation of piece rates a priority' (ART 2006:51), it could be assumed that those earning piece rates comprise a small proportion of total employees.

5.1.2 Other circumstances where employees could earn below FMW wages

5.1.2.1 Employees covered by other jurisdictions

In 2007–08, federal system employees who were covered by the FMW included those employed by Australian constitutional corporations, the Commonwealth, persons/entities operating in the Australian Capital Territory, Northern Territory and Victoria,²⁰ and those employing flight crew officers, maritime employees and waterside workers (WR Act ss 6 and 858).

Results from the 2008 EEH survey show that 13 per cent of employees were covered by a State Registered Agreement (ABS 2006:33). However, state minimum wages in Queensland, South Australia, Tasmania, Western Australia and New South Wales exceeded the FMW for the majority of 2007–08. Therefore, coverage by another jurisdiction would not in itself provide an explanation for why there were apparently adult employees earning below the FMW.

²⁰ However, it did not apply to employees in Victoria who were within a work classification or subject to an award or agreement (WR Act s. 865).

5.1.2.2 *Commission-based arrangements*

Although most commission-based arrangements in awards in 2007–08 contained a base rate of pay (which meant they had a base rate of pay guaranteed to, at a minimum, maintain parity with the standard FMW), some awards did have commission-only arrangements preserved. This means that some adult commission-only employees may have been able to receive wages below the FMW.

For example, some awards allowed sales people to 'opt out' of hourly award rates by entering into agreements with their employer, and these agreements were preserved at the commencement of the *Workplace Relations (Work Choices) Amendment Act 2005*. These arrangements could only continue if the employee had exercised this option prior to the commencement of the Work Choices amendments. In these circumstances, the agreements for commission-only pay continued to apply until the agreement ended and this could mean adult employees under such arrangements could have earned less than the FMW in the reference period.

The SEARS and SIH questionnaires ask participants about working/payment arrangements with options for 'commission-only' and 'commission with retainer'. However, these data are not available in the CURF form and therefore it is not possible to provide an estimate of the proportion of employees on commission-based arrangements earning below or just above the FMW.

5.1.2.3 *Averaging of wages to meet the AFPCS*

The *Workplace Relations Regulations 2006* provided an additional way in which an employee could report hourly wages below the FMW at a given point in time, by allowing for circumstances in which wages could be averaged over a period of time in order to meet an employee's wage guarantee. Regulation 7.1(3) provides examples of employers meeting the AFPCS through earnings being averaged over a period of time. For example, an employee paid by commission, rather than weekly pay, could agree that their wage guarantee would be satisfied at the end of each quarter. In this scenario, if the employee's commission earnings over a particular quarter fell below the amount guaranteed for the same quarter, then the employer would make up any shortfall at the end of the quarter. Another example provided under this regulation is for seasonal employees working in an industry with significant seasonal fluctuations in work demands. An employee may be required to work more hours during peak season and fewer in the off season in a 12-month period. In this scenario, the employee's workplace agreement may require the employee to be paid the same amount each pay period despite the fluctuations; however the wage guarantee could be complied with over a 12-month period *if*, over this period, the employee is paid on average at least the guaranteed basic rate of pay, and the employer and employee have agreed in writing to this effect.

In summary, it is difficult to ascertain what percentage of employees who appeared to have earned below the FMW were specifically excluded from the FMW by the WR Act and/or were legitimately paid beneath this threshold. From the limited conclusions that can be drawn, however, it appears that these circumstances provide only a partial explanation for this phenomenon.

5.2 Long hours/unpaid overtime

Some employees may be recorded as earning below the FMW on an hourly basis due to working long hours and/or working unpaid overtime. Examples of where this could occur include:

- employees working for a fixed salary and working long hours; and
- employees paid hourly but working a number of unpaid hours, either voluntarily or involuntarily.

Using HILDA data, it is possible to see what percentage of employees within the two below FMW categories and the just above FMW category would not be in those categories if those categories were defined based on an employee's weekly earnings and relative to the full-time weekly equivalent of the FMW (which is based on a 38 hour week). This is intended to in part capture the extent to which employees 'fall' into the below FMW category as a result of working long hours. For this part of the analysis, hours worked were not top-coded at 60 hours when deriving hourly rates of pay (and there was no adjustment for casual loadings). The results of this analysis are seen in Table 5.1.

In HILDA, 11.8 per cent of those employees who were measured as earning less than 80 per cent of the (hourly) FMW earned 100 per cent or more of the full-time weekly equivalent of the FMW. For employees who were measured as earning between 80 per cent and 100 per cent of the FMW, 28.0 per cent earned 100 per cent or more of the 'weekly FMW'.²¹ Thus, these results suggest that a sizable percentage of what we observe as below FMW employment is associated with employees working more than 38 hours per week.

Table 5.1: Percentage of employees in each hourly employee income category (as defined by main job) who are in each weekly employee income category

	Earned \geq 80 per cent and $<$ 100 per cent of the "weekly FMW"	Earned \geq 100 per cent and $<$ 120 per cent of the "weekly FMW"	Earned $>$ 120 per cent of the "weekly FMW"
Percentage of employees earning $<$80 per cent of the hourly FMW	9.6	6.8	5.0
Percentage of employees earning \geq80 per cent and $<$100 per cent of the hourly FMW		13.0	15.0
Percentage of employees earning \geq100 per cent and $<$120 per cent of the hourly FMW			30.0

Source: HILDA Survey, Wave 7 (2007).

Notes: Income category defined by income in main job. Earnings not adjusted for casual loading. Usual hours worked not top-coded at 60 hours.

As shown in section 4.2, employees working 60 hours or more were clearly over-represented among employees earning both well below the FMW and just below the FMW. Table 5.2 details the distribution in HILDA of usual hours worked by employees in their main job by income category (defined by earnings in their main job). Once the top-coding at 60 hours is removed, the data show that employees working 60 hours or more are only clearly over-represented among the well below FMW group. In the just below FMW group, employees are far more likely to work between 41 and 60 hours per week than they are to work over 60 hours.

²¹ The results are similar if employees are assigned to income categories based on their hourly earnings across all jobs.

Table 5.2: Usual hours in main job by employee income category (as defined by main job), (%)

	Well below FMW <80% FMW	Just below FMW 80 to <100% FMW	Just above FMW 100% to <120% FMW	All adult employees
40 hours or less	74.3	73.5	74.1	74.0
41–50	8.7	16.0	17.5	15.7
51–60	7.3	7.0	5.1	5.9
61–70	4.5	2.7	2.1	2.6
71–80	2.5	0.8	0.5	0.9
81–90	2.1	0.2	0.6	0.7
91–100	0.0	0.0	0.2	0.1
100+	0.6	0.0	0.0	0.1

Source: HILDA Survey, Wave 7 (2007).

Notes: Income category defined by income in main job. Earnings not adjusted for casual loading. Usual hours worked not top-coded at 60 hours.

Table 5.3 shows the results (for the HILDA survey) on the percentage of adult employees found to have been earning well below, just below and just above the FMW of not top-coding hours compared with top-coding hours at 60, 50 or 40 hours. The population of adult employees earning below 120 per cent of the FMW is reduced by 0.4 percentage points when hours are top-coded at 60 hours, by 1.0 percentage point when top-coding occurs at 50 hours, and by 3.1 percentage points when top-coding occurs at 40 hours.

Table 5.3: Population size of income categories with hours not top-coded and top-coded at selected points, (%)

	Well below FMW <80% FMW	Just below FMW 80 to <100% FMW	Just above FMW 100% to <120% FMW	>=120 FMW
Not top-coded	2.85	4.15	11.34	81.66
Top-coded at 60 hours	2.75	4.14	11.10	82.01
Top-coded at 50 hours	2.60	3.94	10.81	82.65
Top-coded at 40 hours	2.29	3.42	9.54	84.74

Source: HILDA Survey, Wave 7 (2007).

Notes: Population restricted to adult employees. Income category defined by income in main job. Earnings not adjusted for casual loading.

In relation to unpaid overtime, only the SEARS dataset contains data on extra hours worked. According to SEARS, of the employees with one job who earned below the FMW, around 92–95 per cent did not work unpaid extra hours in the last week in their main job (the corresponding figure for all adult employees was about 90 per cent). Furthermore, only about 33 per cent of those who earned well below the FMW and those who earned just below the FMW said that they *usually* worked any extra hours or overtime in their main job, whether paid or unpaid (compared to around 49 per cent for all adult employees). Around 25–30 per cent of employees who earned below the FMW were required to be on-call or standby (similar to the percentage for all adult employees). Hence, the indications are that unpaid overtime is only a minor explanation of the observed level of below FMW employment.

5.3 Authorised employer deductions

The earnings data (net or gross) for employees may not reflect the value that may be derived through non-cash remuneration, involving either employer deductions from pre-income tax wages (i.e. salary sacrifice)²² or employer deductions from net earnings. For example while the HILDA Survey asks respondents for their gross income from wages and salary before deductions, it is anticipated that all deductions may not be included in reported earnings.

The WR Act did not have express provisions on authorised employer deductions. The Act left matters relating to the payment of wages for the states to regulate (under s. 16 (3)(h-j) of the WR Act at that time).²³ State provisions varied, but they allowed employer deductions in certain circumstances with the written consent of the employee and where authorised by an award or enterprise agreement.²⁴ For example, the now repealed *Victorian Workers' Wages Protection Act 2007* (s. 7) allowed for deductions from wages to be made in accordance with an employee's written authorisation or where the employer is required or authorised by law, court order or an industrial instrument to make the deduction.

5.3.1 Non-cash remuneration: salary sacrifice

Non-cash remuneration in the form of salary sacrifice (commonly referred to as salary packaging or total remuneration packaging) is an arrangement under which an employee chooses to forgo an amount payable to the employee in relation to the performance of work in return for the employer providing them with benefits of a similar value (ATO 2010b). Employees only pay income tax on the reduced salary. Their employer is liable to pay the Fringe Benefits Tax (FBT) (which taxes the value of benefits given to employees and their associates); however, as part of the salary sacrifice agreement an employee's salary may be reduced by the amount of FBT paid by the employer. Lyons and Ward (2005) found evidence to support the view that the provision of benefits also occurs on an informal basis to avoid FBT compliance costs. Through a salary sacrifice arrangement, given the reduced income tax payable, an employee's earnings (excluding the salary sacrificed component) are reduced, potentially to an hourly rate below the FMW.

There is no restriction on the types of benefits that can be salary sacrificed. Common benefits, subject to FBT, include: cars; property (including goods, real property such as land and buildings, and shares or bonds); and expense payments (such as the payment of your loan repayments, school fees, child care costs and home phone costs). Other work-related items, that are exempt from FBT, include: portable electronic devices, computer software, protective clothing, a brief case or a tool of trade (ATO 2010b).

Superannuation is another area of salary sacrifice. When paid to a complying fund for an employee, it is not a fringe benefit but subject to superannuation tax law. When paid for an associate of the employee such as a spouse, it is considered a fringe benefit (ATO 2010b).

22 Non-cash benefits (fringe benefits) provided by an employer to an employee represent another form of non-cash remuneration, but as they do not involve deductions from an employee's pay and do not have the potential to reduce an employee's cash wage, they are not of relevance here. They may include anything from car parking to accommodation/board to a free meal per shift in a cafe/ pub/restaurant.

23 The exception is that regulation 7.1(4) of the *Workplace Relations Regulations 2006* specified that salary sacrifice arrangements, for the purpose of determining compliance with the Australian Pay and Classification Standard, were deemed not to breach the standard where there was a written election given by the employee to the employer for such an arrangement and where the wages would have met the standard had they been paid to the employee.

24 The *Fair Work Act 2009* (s. 324) has a provision relating to deductions an employer is permitted to make from the amount payable to an employee. The authority for these deductions can come: in writing by the employee and be principally for the employee's benefit; under an enterprise agreement, modern award or Fair Work Australia order; or under a law of the Commonwealth, a state or a territory, or an order of a court. Therefore, authorised employer deductions continue to be a potential explanation for employees apparently earning below minimum wages.

Results from the August 2008 *Employee Earnings and Hours* survey show that 17 per cent of all employees had a salary sacrifice arrangement (using the Australian Tax Office (ATO) definition), with an average amount of \$251 salary sacrificed per week. Of full-time managerial employees, 24 per cent had a salary sacrifice arrangement, with an average amount of \$547 salary sacrificed per week. The corresponding figures were 21 per cent and \$217 per week for full-time non-managerial employees, and nine per cent and \$216 per week for part-time employees (ABS 2009a).

Treasury estimates indicate that superannuation is the most common item for which salary sacrifice arrangements are utilised (around 520 000 individuals), while motor vehicles represent the highest average amount (approximately \$290 per week) (Treasury 2008).

Certain organisations are exempt from FBT, and salary sacrifice arrangements are common within these. These organisations include: public benevolent institutions (non-profit institutions organised for the direct relief of poverty, sickness, suffering of distress, misfortune, disability or helplessness) and health promotion charities, both of which have a threshold cap of \$30 000 per employee; and public and non-profit hospitals public ambulance services, which have a \$17 000 cap. Religious institutions may also be eligible for FBT concessions in relation to benefits they provide to religious practitioners, live-in carers, and domestic employees. Also, if a non-profit company's activities include caring for elderly or disadvantaged people, it can provide exempt benefits to live-in carers (ATO 2010a).

An example from a non-profit sector salary packaging company is provided below. The benefit for this hypothetical employee is the \$3398 difference in tax paid on the original salary (\$6450) compared with that paid on the reduced packaged salary (\$3052).

	Earned >= 80 per cent and <100 per cent of the "weekly FMW"	Earned >= 100 per cent and <120 per cent of the "weekly FMW"
Total annual salary	\$40 000	\$40 000
Less before-tax mortgage payments		– \$16 050
Total cash salary	\$40 000	\$23 950
Less tax payable (income tax and Medicare levy)	–\$6 450	–\$3 052
Available cash	\$33 550	\$20 898
Less after-tax mortgage payments	– \$16 050	
Remaining cash	\$17 500	\$20 848

Source: Community Salary Packaging (2010).

Notes: These calculations are based on tax parameters for 2009–10. These calculations do not consider the effect of salary packaging on a range of other factors including the Medicare levy surcharge, HECS/HELP payments, Centrelink benefits, Family Tax Benefit.

If it is assumed that the hypothetical employee works on a full-time basis (38 hours per week), the gross hourly pay rate before salary packaging would be \$20.24, while after salary packaging it would be \$12.12.²⁵ This example is based on tax parameters for 2009–10, and given that the gross hourly pay rate is below the transitional FMW that was applicable at the time (\$14.31), it would place this employee in the 'just below' (80–<100% of) the FMW category.

It should be noted, however, that not all FBT-exempt organisations offer salary packaging. CSi (a specialist remuneration consultancy, now owned by Hewitt) found that 53 per cent of not-for-profit organisations pass tax savings through salary packaging on to employees in full, while 29 per cent partially pass them on and 18 per cent do not offer any at all (cited in Donaldson 2010). Furthermore, for a range of reasons, not all employees choose to enter into such arrangements.

²⁵ Before salary packaging example: (\$40 000 / 52 weeks) / 38 hours per week = \$20.24 gross hourly wage rate. After salary packaging example: (\$23 950 / 52 weeks) / 38 hours per week = \$12.12 gross hourly wage rate.

There are no reliable estimates around the prevalence and extent of salary sacrifice arrangements in these categories of employers, which is likely due to the lack of publicly available data that would enable such an estimate. The Henry Tax Review cited an estimate of the *value* of the exemptions and FBT rebates to not-for-profit employers in 2008–09 at \$995 million (Treasury 2010).

As already stated, the EEH and SIH surveys collect the amounts salary sacrificed, but HILDA does not, and the SEARS questionnaire only prompts for salary-sacrificed superannuation contributions. The way in which employees would report the value of what is obtained through a salary sacrifice arrangement is unclear. Issues with reporting salary sacrificed include:

- whether it would be usual for an employee to report their take-home cash wage in addition to the estimated financial benefit to their total remuneration from their salary sacrificed component;
- in many cases, the value of salary packaging can be difficult to estimate as a range of factors can affect the value of salary packaging; for instance, the 'grossed up salary' may push an employee over the threshold for payment of Medicare levy surcharge, a higher rate of HECS/HELP repayment, or reduced child support or Family Tax Benefits; and
- in the case of FBT-exempt employees, salary packaging arrangements may occur via an administrative third party, and the employee receives the amount salary sacrificed in cash transfers throughout the year for which they provide receipts of expenditure, or they are provided with a card for the specific purchases they have packaged (e.g. rent or mortgage payments). It is unclear how this might affect the way in which employees report their wages or salary.

These issues illustrate how it is problematic to compare the wages of employees who are in a salary sacrifice arrangement with those who are not, and how the way in which salary sacrifice is reported could affect whether or not an employee is observed to be earning above the FMW.

5.3.1.1 Salary sacrifice arrangements among those earning below or just above the FMW

The SIH data show that around 17 per cent of all adult employees had a salary sacrifice arrangement, with the mean amount salary sacrificed being \$288 per week (Table 5.4). EEH data (ABS 2009a) also show 17 per cent as the proportion with a salary sacrifice arrangement, with a mean amount salary sacrificed per week (\$252) that is relatively close to the SIH amount.

However, salary sacrifice was far less prevalent among employees earning below and just above the FMW, with only around four to five per cent of employees in each of these groups having salary sacrifice arrangements.

Table 5.4: Proportion of employees in each income category with a salary sacrifice arrangement and mean amount salary sacrificed

	<80% FMW	80 to <100% FMW	100% to <120% FMW	All adult employees
Proportion of group who salary sacrifice (%)	4.1	4.5	5.2	16.8
Mean amount salary sacrificed (\$ pw)	112.50	157.00	88.60	288.30

Source: ABS, *Microdata: Income and Housing, Expanded CURF, Australia, 2007–08*, cat. no. 6541.0.30.001.

Notes: Mean amounts salary sacrificed rounded to nearest ten cents. Sample restricted to employees with one job.

In the total sample of adult employees (restricted to employees with one job), the industries with the highest proportions of employees reporting income that included a salary sacrificed amount were: Health care and social assistance (32 per cent), Information media and telecommunications (28 per cent), Education and training (27 per cent), Electricity, gas, water and waste services (27 per cent), and Mining (25 per cent).²⁶ Of these industries, only Health care and social assistance was over-represented by workers earning just above or below the FMW. Within this industry though, the proportions of those employees earning below or just above the FMW in this industry with a salary sacrifice arrangement (between 10–17 per cent) was well below the 32 per cent recorded for the total industry sample. Further, the average amount sacrificed per week in these income categories ranged between 48 and 67 per cent of the average amount sacrificed in the industry (\$257).

The occupational groups that recorded the highest incidence of employees with a salary sacrifice arrangement were Professionals (27 per cent), Managers (24 per cent), and Community and personal service workers (16 per cent). Again, among these three occupational groups, the proportions of employees earning below or just above the FMW with a salary sacrifice arrangement, as well as the average amount sacrificed, was uniformly below (and sometimes substantially below) the figures for all adult employees in those occupational groups.

Table 5.5 focuses on the types of salary sacrifice arrangements among adult employees with one job in the SIH data. Amounts salary sacrificed for superannuation was the most common form of arrangement among those earning below or just above the FMW (ranging from 3.1 to 3.5 per cent, as it was for all adult employees (10.9 per cent). No other form of salary sacrifice was used by more than one per cent of the employees earning below or just above the FMW.

Table 5.5: Proportion of employees in each income category with a given salary sacrifice arrangement, (%)

	<80% FMW	80 to <100% FMW	100% to <120% FMW	All adult employees
Child care	0.0	0.0	0.0	0.1
Computer	0.0	0.4	0.2	1.1
Housing	0.1	0.2	0.7	1.7
Other benefits	0.0	0.5	0.7	1.9
Superannuation	3.2	3.5	3.1	10.9
Telephone charges	0.3	0.4	0.0	0.4
Vehicle	0.0	0.6	0.2	2.6
Payment of household / personal bills	0.8	0.0	0.3	1.5

Source: ABS, *Microdata: Income and Housing, Expanded CURF, Australia, 2007–08*, cat. no. 6541.0.30.001.
 Note: Sample restricted to employees with one job.

If the totals of each column are added for each group of employees, then these totals do not far exceed the total proportion of each of those groups with a salary sacrifice arrangement (around four to five per cent, as shown in Table 5.3). This suggests that the great majority of employees earning below or just above the FMW with a salary sacrifice arrangement only salary sacrifice in one category, typically superannuation.

²⁶ The industries with the lowest percentage of employees with some form of salary sacrifice arrangement were Agriculture forestry and fishing (three per cent) and Accommodation and food services (four per cent).

An unlikely possibility is that the HILDA and SEARS datasets do not capture any amounts salary sacrificed as it could be expected that at least some employees would include these in their reported employee income (in SEARS for example, salary sacrificed superannuation contributions are prompted for). However, in this unlikely event, to make the SIH data comparable, amounts salary sacrificed would need to be subtracted from employee income. In SIH, if the amount salary sacrificed was subtracted from employee income, then the well below FMW group would expand from 3.6 per cent of all adult employees to 4.3 per cent, and the just below FMW group would expand from 3.9 per cent to 4.4 per cent. Therefore, any under-reporting of salary sacrifice in HILDA and SEARS would not appear to have a large effect on the size of the below FMW groups, as further evidenced by the similar size of the below FMW groups across the three surveys.

The EEH survey also shows that only a small percentage (four per cent) of those employees who earned below the FMW sacrificed part of their salary (where earnings are not adjusted for casual loadings). However, if salary sacrificed amounts are subtracted from ordinary-time earnings, then this expands the group who are measured to be earning below the FMW quite considerably, from 1.8 per cent of adult employees to 2.8 per cent, and under this assumption, 37 per cent of those employees who would have been observed to have earned below the FMW, sacrificed part of their salary.

In HILDA, the only area relevant to salary sacrifice asked about is housing. Around 2.4 per cent of those earning well below the FMW and 1.3 per cent of those earning just below the FMW were receiving housing as part of their job compensation. This was the case for less than one per cent of all adult employees (and for those earning just above the FMW). However, no estimates of the value of these arrangements are available from the dataset, and it is unclear as to whether the housing is a formal part of their remuneration (and involves employer deductions) or not.

In summary, while salary sacrifice may be a contributing factor to the group of employees who are measured as earning below the FMW, there is little evidence to show that it is a major factor, with the SIH showing that relatively low proportions of employees who were measured as earning below or just above the FMW had a salary sacrifice arrangement.

5.3.2 Employer deductions from after-tax earnings

An employer might be authorised by an award/agreement, or by the employee, to make deductions from net earnings. These may involve payments to a third party, for things such as health insurance premiums or union fees, or for the purchase of items such as an annual public transport ticket. Deductions may also be made for the purpose of recovering costs directly incurred by the employer as a result of the employee's voluntary private use of an employer's property; for example, the cost of items for personal use purchased on the employer's credit card. Another set of deductions are those arising from garnishee arrangements through a court order for repayment of fines or debts (for example Centrelink debts).

An array of other legislation may provide for employer deductions from after-tax earnings. It is not within the scope of this report to canvass all of these possibilities. One example is the *Child Support (Registration and Collection) Act 1988* providing for Child Support Agency (CSA) to notify an employer when it decides to collect a registered maintenance liability through a 'withholding arrangement'. In this case the employer is obligated to withhold money from salary and wages and to forward it to CSA. A protected earnings rate exists of 75 per cent of the maximum fortnightly basic rate of Newstart Allowance on 1 January each year; in 2008 this rate was \$290.85 per week (CSA 2010), an amount well below the weekly FMW at the time.

All of these types of deductions are made from after-tax or net amounts of salary and there is potential for them to reduce an employee's earnings to below the FMW threshold. HILDA, SEARS or SIH do not collect information about these types of after-tax deductions, so it is not possible to gain an indication of how prevalent these types of arrangements were among those earning just below or above the FMW.

5.4 Non-compliance

5.4.1 Potential reasons for non-compliance

Another reason why employees may be shown to earn below the FMW is that employers, either with or without the knowledge of the employee, may not be in compliance with the laws regarding the payment of minimum wages.

In some circumstances, employers may be unwittingly non-compliant with respect to minimum wages (for example, they have neglected to apply the most recent adjustments to those wages) or it may be a conscious act by an employer. An employer may have financial incentives for the underpayment of wages, given that doing so can reduce wage costs. Furthermore, where an employer pays 'cash-in-hand', payment of a casual loading (in lieu of paid leave entitlements), paid leave or other on-costs would be unlikely to apply. On-costs reflect items such as payroll tax, workers compensation insurance, superannuation and long service leave, which will vary across employees.²⁷ Avoidance of these on-costs could reduce the total cost of labour by a significant proportion.

Ashenfelter and Smith (1979) showed that an employer's decision of whether or not to comply with minimum wage laws will depend on the expected costs of complying with those laws compared with the expected costs of not complying (assuming the employer is aiming to maximise profits). Their results predict that the likelihood of non-compliance will rise as:²⁸

- the difference between the wage that employers must pay and the difference between the wage they would like to pay becomes larger—this suggests that jobs with lower skill requirements that are subject to set wage rates would be at a greater risk of non-compliance;
- the absolute value of the elasticity of demand for labour becomes larger;
- the probability of detection of non-compliance becomes smaller—this implies that businesses with a higher probability of non-detection, such as those located in industries with high entry and exit rates or operating in the 'underground' economy, will be more likely to choose non-compliance; and
- the penalty associated with non-compliance becomes larger.

Croucher & White (2004) surveyed UK employers and employees, and identified several reasons, apart from employers wishing to minimise wage costs, for non-payment of the UK National Minimum Wage. These included:

- employers not being aware of how the rates of pay worked;
- inadequate monitoring systems, so that when workers became eligible for the adult NMW this was not identified;
- workers being paid for a fixed number of hours when they in fact worked for longer than those hours;
- issues around whether workers should be defined as employees or self-employed; and
- employers wishing to maintain wage differentials between workers.

²⁷ For a permanent employee, on-costs may vary, for example, by state or whether Leave Loading is offered or whether an employee offers contributions above the Superannuation Guarantee Levy of nine per cent.

²⁸ See also Weil (2005) for a discussion of the factors that, according to the Ashenfelter and Smith's (1979) results, will affect the probability of non-compliance.

An employer's willingness to pay below minimum rates may perhaps be bolstered by a belief that it is their 'right' to do so. In social research undertaken for the AFPC involving employers of workers most affected by minimum wage adjustments, some employers expressed the view that the employer should have greater freedom to determine the rate of pay for individuals. These employers felt that some employees should be paid below the minimum rate given their value to the business (Southwell et al. 2008b:76).

In some cases, those employees in a weak position within the labour market may be more affected by the underpayment of wages. For example, the social research for the AFPC showed that several recent migrants feared losing their job if they were to confront their employer about being paid below the minimum wage (Southwell et al. 2008b:56). Other examples highlighted in the research include those who were long-term unemployed or those with language, health or disability barriers that limited their level of choice and opportunity.

In other circumstances, however, the employee may be in collusion with the employer, as cash wages may enable them to stay beneath income test levels for social security payments,²⁹ or to work illegally (i.e. below the minimum legal age or without an appropriate visa).³⁰ For some employees, the incentive may be avoidance of income tax (potentially providing a higher net hourly wage when compared with a worker on the same gross rate of pay). Workers on low wages evading tax would not gain a huge proportion³¹, however, it may be more common among multiple job holders who can only claim the tax free threshold from their first job.

In this range of cases, an employee may be willing to receive a wage below what they should be legally paid. An internet search for cash jobs reveals a wide range of potential employers offering cash-in-hand employment at rates below the current NMW, as well as individuals offering their labour for cash for work as, for example, a babysitter/nanny, gardener, cleaner, car detailer, driver, or kitchen hand. Some job search websites have specific sections for cash-in-hand employment. In some cases, employers may offer what they feel (and possibly what the employee feels) is significant non-cash remuneration in order to offset a below minimum rate of pay. These are circumstances that do not involve authorised deductions from the employee's pay. One example found was an individual advertising for a person to perform 20 hours of child care for payment in cash of \$100 per week, in addition to which a room with ensuite, food, bills and a mobile phone were to be provided.

In the social research for the AFPC, participants cited wage rates that were below the FMW, and several were working for cash-in-hand (Southwell et al. 2008b:45; Southwell et al. 2008a:102). As one unemployed participant said, 'Gaining simple under-the-counter cash from hospitality, for instance, is not hard at all. It can be a messy job and strange hours but really [it] is always around.' (Southwell et al. 2008a:66).

29 Research conducted for the then Department of Family and Community Services found through a nation-wide survey of 7646 Australians that, although there were slightly higher rates of working for cash-in-hand among those receiving Family Tax Benefit (13 per cent) compared with those receiving no benefits at all (eight per cent), this difference disappeared when differences in social demographic characteristics and lifestyle factors were controlled for. The report found little evidence to suggest that people engaged in cash economy activity in order to maximize their Family Tax Benefit either from the quantitative or qualitative parts of the study (Braithwaite et al. 2005:7). Although other research finds that cash economy workers were more likely to be in receipt of a youth or student allowance or a benefit for the unemployed (Braithwaite, Reinhart & Job 2005:66).

30 It is unclear what the implications for data reporting would be for cash-in-hand employment compared to formal under payment. One possibility may be that a respondent would be less likely to report informal cash-in-hand employment.

31 In October 2007 a single full-time FMW reliant worker would have paid an average nine per cent of their weekly \$522.12 wage in income tax (Fair Work Australia modelling) given the applicable effective tax-free threshold of \$11 000 for the 2007–08 financial year.

5.4.2 Evidence of non-compliance/cash-in-hand employment

Given that it is difficult to accurately estimate the number of individuals who were specifically excluded from the minimum FMW level of pay, it is also difficult to accurately estimate the extent of non-compliance amongst those earning below or close to the FMW. Hicks, Conn and Johnson (2009) found a similar problem in relation to the United Kingdom National Minimum Wage.

Unpublished data obtained from the Fair Work Ombudsman (FWO) provides some insight into the industries and sub-industries where non-compliance in the form of underpayment of wages is most common. These data are not able to provide evidence of payment below the FMW or the period over which the underpayment occurred, however, given the paucity of data in this area they provide important context about underpayment of wages in the labour market more generally.

In 2007–08, FWO recorded around 24 000 complaint cases. The industries recorded as having the highest raw numbers of complaint cases were Retail trade (which equated to 17 per cent of complaints), Accommodation and food services (16 per cent), Construction (eight per cent), Health care and social assistance (six per cent), Manufacturing (six per cent), and Administrative and support services (five per cent). The specific industry was not recorded for around one-fifth of complaints.

In this period, there were around 5600 substantiated contraventions³² by underpayment of wages, representing around 19 per cent of all monetary contraventions in 2007–08. Underpayment of wages generally excludes other monetary breaches that relate more specifically to, for example, overtime, penalty rates, allowances and public holidays. The two industries that had the highest proportion of wage related breaches were Accommodation and food services (19 per cent) and Retail trade (18 per cent). These were two industries that were notably over-represented among those earning wages below or just above the FMW. The industries with the next highest proportions of wage-related breaches were Construction (eight per cent), Health care and social assistance (six per cent), and Administrative and support services (six per cent).³³ Again the specific industry was not recorded for around one-fifth of wage-related contraventions.

Where sub-industry was specified, the highest raw number of wage-related contraventions occurred in the following sub-industries (in order of highest frequency):

- Food and beverage services (Accommodation and food services);
- Other store-based retailing (Retail trade);
- Administrative services (Administrative and support services);
- Construction services (Construction);
- Food retailing (Retail trade);
- Personal and other services (Other services); and
- Road transport (Transport, postal and warehousing).

³² Substantiated contraventions are complaints that have been confirmed through FWO investigation.

³³ Note that Retail trade is an industry that had the greatest share of those employed (11.8 percent in seasonally adjusted terms at the November quarter 2007), while Accommodation and food services represented a 6.5 per cent employment share. Health care and social assistance and Construction also hold large employment shares (10.3 and 9.9 per cent respectively) (ABS 2010b:Table 4).

In 2009–10, there were around 40 per cent of the number of wage related breaches there were in 2007–08. (However, note that the 2009–10 figures do not include the complaints (or resulting contraventions) referred to the states under State Referral of Industrial Relations powers arrangements.) The two industries with the highest proportion of wage related breaches remained the same: Accommodation and food services (20 per cent) and Retail trade (19 per cent). Other services (another industry that was over-represented among those earning below or just above the FMW) was next highest with 16 per cent.

The United Kingdom Low Pay Commission regularly publishes statistics on complaints of non-compliance with the hospitality sector having the most complaints, followed by retail and hairdressing. These results are not inconsistent with the data from FWO.

Schneider (2002) ranked Australia 14th of 21 Organisation for Economic Co-operation and Development countries in terms of the size of its informal economy. Size was estimated using the currency demand method³⁴ or the dynamic multiple-indicators multiple-causes method.³⁵ Australia's cash economy is an estimated 14 per cent of Gross Domestic Product (at the upper end is Greece at 29 per cent, and at the lower end is the United States and Switzerland at nine per cent). The size of the cash economy of all countries increased between 1989–90 and 1999–2000, although the growth of Australia's informal economy during this period was relatively low, at 4.2 percentage points (calculations based on Schneider 2002:20).

Research conducted by the Centre for Tax System Integrity into the factors driving cash economy activity at the level of the individual taxpayer found that the most visible cash economy activity involves home maintenance, home-based services (e.g. child care, cleaning), teaching/tuition, and entertainment. Of those surveyed, almost 20 per cent either paid for cash economy work or performed it themselves (although the amounts involved in such activities are relatively small). The research found that those who supply such labour tend to be younger, are more likely to have their own businesses, and are more likely to distance themselves from the tax system (Cash Economy Task Force 2003:2–3).

According to an aggregated data set,³⁶ the percentage of Australians who reported that they had worked in the cash economy in the past 12 months was six per cent. The kinds of jobs that people most commonly reported doing for cash-in-hand involved household services (34 per cent), home repair (22 per cent), teaching and training (19 per cent), and garden work (eight per cent). Findings from panel data revealed that this type of activity was temporary, with only two per cent of those working for cash-in-hand considered 'stayers' (Braithwaite, Reinhart & Job 2005:63). Further analysis showed that the most marked differences among those working for cash-in hand relate to education, age and work sector. Men, the young, the self-employed and the unmarried are over-represented as suppliers of labour in the cash economy (Braithwaite, Reinhart & Job 2005:65). As shown earlier, both young people and unmarried people were over-represented among employees earning below the FMW, while men were under-represented. While skilled work in the cash economy (managerial/professional or trades/clerical/sales) is more likely to be undertaken in the regulated economy by those with the required skills, most skilled cash

34 The currency demand method is an approach that assumes an increase in the size of the informal economy will increase the demand for currency. To identify the resulting 'excess' demand for currency, an equation is econometrically estimated over time. Factors assumed to be causing individuals to engage in the informal economy including the direct and indirect tax burden, government regulation, and the complexity of the tax system, are included in the equation. Other factors such as the development of income, payment habits and interest rates are controlled for (Schneider 2002:36).

35 The dynamic multiple-indicators multiple-causes method involves a two-part model that links the unobserved variables to observed indicators. As Schneider (2002:41–2) explains, 'The structural equations model specifies causal relationships among the unobserved variables. In this case, there is one unobserved variable, the size of the informal economy. It is assumed to be influenced by a set of indicators for the informal economy's size, thus capturing the structural dependence of the informal economy on variables that may be useful in predicting its movement and size in the future.'

36 This aggregated data set combined data from the *Community Hopes, Fears and Actions Survey* (a national survey of randomly selected Australians conducted in 2000) and a random sample from the follow-up *Australian Tax System: Fair or Not Survey*, conducted in 2001–02. The total number of respondents was 3253 (Braithwaite, Reinhart & Job 2005:60)

economy workers take on work outside their main occupation; in contrast unskilled workers who move into the cash economy stay within the unskilled category of labour (Braithwaite, Reinhart & Job 2005:66). The average amount earned in the cash economy was in the vicinity of \$2000, with 62 per cent earning less than \$1000 and 11 per cent earning more than \$5000.

None of the data sets offer the capacity to confidently estimate the prevalence of non-compliance amongst employees reporting below FMW hourly wage rates. Possibly the only area in which an indication of non-compliance can be gained is through the reported receipt of government cash transfers (pensions and allowances particularly) among the below FMW group where full-time work is also being undertaken. While this is by no means a direct indicator, especially as some payments such as Parenting Payment and Disability Support Pension are structured to supplement earnings from part-time paid work for some recipients, arguably none of the payments listed in Table 5.6 is designed specifically to be received by those engaging in full-time work.

As mentioned above, cash wages may enable employees to stay beneath income test levels for social security payments. The HILDA data show that a proportion of those earning below or just above the FMW were also receiving government pensions, benefits and allowances.³⁷ Table 5.6 shows the receipt of selected pensions and allowances among full-time workers by income category (defined by income in all jobs). It is clear that receipt of pensions/allowances is much higher among the full-time employees earning well below the FMW than their counterparts earning just below or just above the FMW.

Table 5.6: Receipt of selected pensions and allowances among full-time workers in each income category, (%)

Payment type	<80% FMW	80 to <100% FMW	100% to <120% FMW	All adult employees
Age Pension	1.1	0.0	0.2	0.1
Newstart Allowance	7.9	0.0	0.0	0.2
Disability Support Pension	9.2	1.3	0.0	0.2
Parenting Payment	3.2	1.7	1.4	0.6
Austudy/Abstudy	0.0	0.0	0.2	0.0

Source: HILDA Survey, Wave 7 (2007).

Notes: Restricted to full-time workers (those working 35 hours and over). Income categories defined by earnings from all jobs. Hours top-coded at 60.

Receipt of DSP was the payment received by the highest proportion of below FMW earners. However as section 5.1.1.3 highlights, it is possible that some of these recipients may have legitimately been working and earned below FMW wages through a range of industrial instruments if they were employees with disability whose productive capacity was affected. Receipt of Newstart Allowance among full-time workers earning well below the FMW was the next most common benefit, received by eight per cent of these workers.

³⁷ This proportion was 23 per cent for well below FMW earners, eight per cent for just below-FMW earners, and three per cent for those earning just above the FMW (compared to an average for the total restricted population of two per cent, where the results are based on earnings across all jobs).

In summary, there is evidence to indicate that non-compliance and cash-in-hand employment provide at least a partial explanation of why employees were observed to have been earning below the FMW. The limited evidence available is reasonably consistent with the patterns that were observed on below FMW employment by industry, occupation, and age group. However, given that the other legitimate explanations for an employee's wage falling below the FMW (discussed above) cannot be accurately estimated from the available data sources, it is not possible to draw any firm conclusions about to what extent this phenomenon is a result of non-compliance with the law.

5.5 Other data issues

Some employees may not actually be earning below the FMW, but may be shown to be so due to data errors. Potential issues include:

- Rounding of weekly hours and/or income: that is, respondents may round weekly hours and/or income to the nearest 'round figure' (for example, 20 or 30 hours; or \$500 per week). Hicks, Conn and Johnson's (2009:69) analysis showed 20 per cent of jobs paid below the United Kingdom NMW were reported at £5.50 pounds per hour, the NMW for adults at this time being £5.52. However, analysis of the SIH indicates that the degree of rounding is barely more prevalent amongst below FMW employees than above FMW employees.³⁸
- Mismatches between income and hours variables: respondents may confuse their income from employment for the most recent week with their usual income, and similarly for hours, causing a mismatch between income and hours in the data. This may be more likely to occur for employees with variable earnings and/or hours. In HILDA, for example, 11 per cent of adult employees reported their most recent pay in their main job was not their usual pay, and this proportion was higher for those earning below or just above the FMW. Mismatches may also occur because it is not possible to match up, for example, both usual income and usual hours within a dataset, as discussed in section 3.³⁹
- Deflation for casual loading: for the purposes of this analysis it was assumed that the casual loading for each employee working on a casual basis was 20 per cent. However, in cases where the actual casual loading received is less than this amount then some employees may have been classified as 'below FMW' when they were in fact earning above the FMW.
- Imputation error: where data is imputed, errors may occur, for example, in cases where only net earnings figures are provided and earnings need to be 'grossed up' and imputed. However, looking at the HILDA Survey, the incidence of imputed gross earnings among all adult employees is very low, at 0.7 per cent (although higher in HILDA's full sample, at two per cent). While, in identifying which wage category an employee belonged to, the analysis did not account for imputed data, the incidence of imputed gross earnings was low for those employees identified as earning below or just above the FMW. There were no cases of imputed earnings for these employees' main job. For these employees' other jobs, earnings were imputed for none of those employees earning well below the FMW, for 0.6 per cent of those employees earning just below the FMW, and 1.1 per cent of those employees earning just above the FMW.
- Under-reporting of income or over-reporting of hours: employees may have a systematic tendency to under-report their income and/or over-report hours worked, perhaps because it may be considered 'socially desirable' to work longer hours.

38 This proportion was 23 per cent for well below FMW earners, eight per cent for just below-FMW earners, and three per cent for those earning just above the FMW (compared to an average for the total restricted population of two per cent, where the results are based on earnings across all jobs).

39 This proportion was 23 per cent for well below FMW earners, eight per cent for just below-FMW earners, and three per cent for those earning just above the FMW (compared to an average for the total restricted population of two per cent, where the results are based on earnings across all jobs).

6 Possible data changes

There are several possible changes to collecting earnings in the datasets used in this report that could be made which would likely have improved estimates of the incidence of below FMW employment, and which could improve future analysis in this area. However, some of these changes may have been difficult to implement.

One possible change would be for hourly rates of pay to have been collected directly. This would mean that employees earning less than the FMW could be seen directly, rather than having to derive their hourly rates of pay. This would perhaps facilitate the greatest improvements in accuracy for groups of employees paid by the hour, however, decisions would need to be made about how to contend with workers who receive a range of pay rates in the same job because of variable penalty loadings. Moreover, derived rates of pay are potentially subject to error due to the rounding of hours and earnings, and mismatches between income and hours variables. However, it may be considerably more difficult to obtain information from employees on their hourly rates of pay than on their weekly or annual pay. Even in the case that hourly rates of pay could be obtained they could still be subject to error from rounding or mismatches. A possibility is that, given warning, respondents could present a payslip for reference when the survey is conducted.⁴⁰

In the absence of direct collection of hourly rates of pay, survey questionnaires could routinely accompany questions on most recent or usual earnings with an additional question along the lines of 'How many hours work was that for?' This would link the data on earnings and hours worked much more clearly and thereby help to improve the accuracy of derived hourly rates of pay, although it may remain difficult for some salaried employees to nominate their precise number of work hours.

For the SIH dataset more specifically a few of the following changes would have been useful:

- The collection of matching hours and earnings variables. The SIH dataset provided variables for most recent income (from all jobs) but usual hours worked (in main and second job), resulting in measurement error when an hourly rate of pay measure was created. Only in cases where earnings in recent weeks were usual was the hourly rate of pay measure compatible with that derived in HILDA and SEARS.
- The collection of type of employment contract so as to enable identification of which employees were employed on a casual basis. This would have allowed comparisons of the findings across the three datasets after earnings had been adjusted for casual loadings (even though the size of adjustment is somewhat arbitrary). This would have been useful as adjusting for casual loadings arguably gives a slightly more accurate picture of what types of employees were earning below the FMW, and there were some groups of employees, including women and part-time employees, that were more highly over-represented among employees earning below the FMW when these adjustments were made.
- Another limitation of the SIH CURF is the inability to separate out the earnings from the main job and other jobs for each employee.

A possible change for the HILDA Survey would have been to report on salary sacrifice arrangements (as noted earlier, from HILDA Wave 10 these data are collected), and for the SEARS questionnaire to prompt on salary sacrifice arrangements other than superannuation. As explained in detail in section 5.3, not accounting for salary sacrifice has the potential to lower an employee's earnings from above the FMW to below the FMW. However, as that section also showed, accounting for salary sacrifice does not appear to have a large effect on the percentage of employees who are observed to be earning below the FMW.

⁴⁰ The SEARS questionnaire does include payslip information, but the relevant questions primarily relate to superannuation.

Neither SEARS or SIH had information on whether an employee is undertaking an apprenticeship or traineeship. Such information could have helped in terms of estimating the percentage of below FMW adult employees who were apprentices or trainees.

Some variables, such as commission-based payments, were collected by SEARS and SIH, but not included in the CURFs. The variables included in the CURFs could be subject to review for future releases, and consideration could be given to offering alternative versions suited to different topics.

The two most useful changes to the datasets for the purposes of this report would have been to know: a) by which industrial instrument each employee's pay was set; and b) whether or not an employee received cash-in-hand for their work. This would have helped us to estimate the percentage of employees who were legally paid below the FMW, and the degree of non-compliance. In terms of the first change, obtaining any information about how an employee's pay is set is very difficult even at the broad level, let alone the detailed level, as employees' knowledge of the industrial instruments by which their pay is set is generally poor. In terms of the second change, an employee's knowledge of whether they are paid cash-in-hand is likely to be better than that of the relevant industrial instrument, but there would likely be problems with obtaining truthful responses.

In summary, the potential changes that would have made the most difference to undertaking analysis in this area would likely have been very difficult to implement. Of the potential changes that would have been less difficult to implement, the inclusion of whether or not an employee was employed on a casual basis in SIH may have made the most difference.

7 Conclusion

This report focused on adult employees who were shown to be earning below the standard FMW in 2007–08. The three large household surveys used showed that around seven to nine per cent of adult employees (with one job) had hourly earnings below the rate of the FMW in this period. In 2007–08, most federal system adult employees would have a statutory right to be paid at least the 'standard FMW', raising the questions of who these employees were and why they were earning below the FMW rate.

The datasets show that the types of employees who were over-represented among those earning below the FMW included:

- women;
- employees aged 21 to 24 or aged 65 and over;
- part-time employees;
- casual employees;
- employees in Agriculture, forestry, and fishing, Retail trade, Accommodation and food services, Administrative and support services, or Other services;
- workers employed as Labourers, Sales workers, or Community and personal service workers;
- employees with low educational attainment;
- employees in small businesses;
- employees working 60 hours or more;
- single people; and
- employees with children.

In general, these were the types of employees who were over-represented among those earning just above the FMW (although employees earning below the FMW were somewhat more likely to be working part time, in a small business, or working 60 or more hours). Hence, employees earning below the FMW do not appear to have been a markedly different group to those employees earning just above it; rather there appears to be a gradual shift in the characteristics of employees as one moves further down the wage distribution.

In the absence of any marked differences between the groups, and given the lack of information in the datasets around issues such as who was legally paid below the FMW and non-compliance, it is difficult to make any firm conclusions around the main causes why employees were observed to have been earning below the FMW rate. The limited evidence on the types of employees who are most likely to be affected by non-compliance is consistent with the patterns that were observed in relation to the characteristics of below FMW employees. Employees being specifically excluded from the FMW, employees working long hours, and employees with salary sacrifice arrangements all appear to be partial explanations for the observed degree of below FMW employment but, particularly in the former case, it is difficult to accurately estimate their effect.

In conclusion, there is not sufficient evidence to indicate that the phenomenon of adult employees being measured as earning below the FMW was primarily due to data problems. Having said this, data issues should be kept in mind when examining employees at the lower end of the hourly wage distribution. There appears to be no single explanation for the phenomenon of below FMW employment; rather the evidence indicates it may be a combination of a number of factors.

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Workplace Relations Act 1996 (Cth)

Workplace Relations (Work Choices) Amendment Act 2005 (Cth)

Workplace Relations Regulations 2006 (Cth)

Appendix A

Table A1: Results from models of the probability of earning a lower hourly wage

Model group	Characteristic group	Characteristic	Below 80% FMW		Below 100% FMW		Below 120% FMW	
			Non choice only	Full model	Non choice only	Full model	Non choice only	Full model
Non choice variables	Gender reference group is male	Female	0.070 (0.062)	0.125 (0.081)	0.069 (0.049)	0.124++ (0.063)	0.178+++ (0.041)	0.184+++ (0.052)
		Marital status reference group is partnered	Not partnered	0.162 (0.141)	0.168 (0.144)	0.246++ (0.103)	0.246++ (0.105)	0.316+++ (0.084)
	Geographic location reference group is major city	Other than major city	0.187+++ (0.068)	0.074 (0.072)	0.188+++ (0.054)	0.079 (0.057)	0.289+++ (0.047)	0.203+++ (0.05)
		Qualification reference group is year 12	Postgraduate	-0.063 (0.15)	-0.073 (0.162)	-0.560*** (0.141)	-0.485*** (0.151)	-0.607*** (0.113)
	Graduate		-0.434* (0.23)	-0.394 (0.249)	-0.815*** (0.192)	-0.716*** (0.21)	-0.952*** (0.147)	-0.711*** (0.159)
	Bachelor		-0.088 (0.102)	-0.078 (0.118)	-0.419*** (0.083)	-0.336*** (0.096)	-0.558*** (0.07)	-0.338*** (0.078)
	Advanced diploma		-0.008 (0.119)	0.026 (0.124)	-0.199** (0.095)	-0.142 (0.099)	-0.260*** (0.078)	-0.160* (0.083)
	Certificate III		0.016 (0.1)	-0.009 (0.108)	-0.167** (0.078)	-0.197** (0.085)	-0.009 (0.065)	0.004 (0.069)
	Certificate II		0.289 (0.306)	0.291 (0.275)	0.119 (0.278)	-0.141 (0.237)	0.186 (0.28)	0.201 (0.262)
	Certificate NFD		1.034+++ (0.306)	1.060+++ (0.332)	0.544+ (0.294)	0.490 (0.314)	0.392 (0.285)	0.252 (0.299)
	Year 11		0.175+ (0.09)	0.164+ (0.095)	0.061 (0.071)	0.038 (0.076)	0.166+++ (0.06)	0.126++ (0.064)
	Age grouping reference group is 35 to 44	Age 21 to 24	0.114 -0.119	0.125 -0.125	0.293+++ -0.091	0.282+++ -0.095	0.432+++ -0.082	0.367+++ -0.086
		Age 25 to 34	-0.030 -0.096	-0.037 -0.095	0.058 -0.075	0.045 -0.076	0.084 -0.062	0.063 -0.063
		Age 45 to 54	0.036 -0.091	0.006 -0.092	0.063 -0.073	0.033 -0.075	0.026 -0.060	-0.006 -0.062
		Age 55 to 59	-0.040 -0.126	-0.087 -0.133	-0.036 -0.102	-0.099 -0.107	-0.016 -0.084	-0.056 -0.086
		Age 60 to 64	0.002 -0.147	-0.015 -0.154	0.197+ -0.113	0.183 -0.116	0.169+ -0.098	0.128 -0.100
		Age 65 and over	0.823+++ -0.187	0.722+++ -0.207	0.686+++ -0.164	0.577+++ -0.178	0.590+++ -0.142	0.486+++ -0.149

Table A1: Results from models of the probability of earning a lower hourly wage
 (continued)

Model group	Characteristic group	Characteristic	Below 80% FMW		Below 100% FMW		Below 120% FMW	
			Non choice only	Full model	Non choice only	Full model	Non choice only	Full model
Non choice variables	Birth region reference group is Australia	India	-0.104 (0.228)	-0.058 (0.245)	0.224 (0.177)	0.244 (0.19)	0.523+++ (0.147)	0.445+++ (0.155)
		Oceania & Antarctica (incl. New Zealand; excl. Australia)	-0.439** (0.192)	-0.445** (0.212)	-0.262* (0.154)	-0.237 (0.169)	-0.061 (0.113)	-0.047 (0.122)
		North West Europe (incl. Germany, United Kingdom)	-0.151 (0.121)	-0.120 (0.13)	-0.160* (0.096)	-0.145 (0.1)	-0.069 (0.074)	-0.046 (0.077)
		Americas	-0.049 (0.267)	-0.111 (0.284)	-0.001 (0.21)	-0.075 (0.216)	-0.099 (0.169)	-0.164 (0.178)
		Sub-Saharan Africa	-0.725** (0.353)	-0.748** (0.379)	-0.484** (0.202)	-0.514** (0.22)	-0.297 (0.191)	-0.281 (0.203)
		Italy	-0.363 (0.409)	-0.408 (0.401)	0.009 (0.331)	0.048 (0.355)	0.017 (0.254)	0.050 (0.259)
		Southern & Eastern Europe (excl. Italy)	0.342+ (0.179)	0.379++ (0.19)	0.287+ (0.155)	0.295+ (0.161)	0.076 (0.139)	0.059 (0.144)
		South & Central Asia (excl. India, incl. Philippines)	0.220 (0.232)	0.228 (0.232)	0.359++ (0.168)	0.319+ (0.168)	0.567+++ (0.125)	0.474+++ (0.126)
		East Asia (excl. Vietnam & Phil., incl. China)	0.422+++ (0.119)	0.446+++ (0.13)	0.501+++ (0.1)	0.499+++ (0.107)	0.542+++ (0.085)	0.480+++ (0.088)
		North Africa & Middle East	-0.311 (0.288)	-0.298 (0.319)	0.216 (0.211)	0.218 (0.232)	0.476+++ (0.176)	0.436++ (0.182)
	Household composition reference group is couple only	Greece	0.649+ (0.351)	0.654+ (0.356)	0.670++ (0.29)	0.669++ (0.289)	0.613++ (0.271)	0.698++ (0.274)
		Couple family with dependent children only	0.067 (0.088)	0.044 (0.093)	0.007 (0.07)	-0.029 (0.073)	0.070 (0.058)	0.026 (0.061)
		Couple family with dependent children and other persons	-0.047 (0.138)	-0.035 (0.146)	-0.183* (0.108)	-0.209* (0.114)	-0.043 (0.091)	-0.065 (0.093)
		One-parent family with dependent children only	0.111 -0.206	0.063 -0.213	-0.183 -0.166	-0.255 -0.169	0.052 -0.134	-0.045 -0.136
		One-parent family with dependent children and other persons	0.041 -0.267	0.052 -0.274	-0.311 -0.221	-0.361 -0.228	-0.164 -0.207	-0.225 -0.228
		Other one-family households	-0.054 -0.134	-0.075 -0.135	-0.097 -0.101	-0.119 -0.103	0.075 -0.084	0.030 -0.085
		Multiple-family households	-0.113 -0.282	-0.085 -0.284	-0.182 -0.198	-0.207 -0.198	0.016 -0.147	-0.067 -0.15
		Lone-person household	-0.020 -0.171	-0.020 -0.175	-0.168 -0.13	-0.191 -0.133	-0.284** -0.111	-0.318*** -0.113
		Group household	0.007 -0.178	-0.047 -0.171	-0.220 -0.136	-0.307** -0.134	0.067 -0.103	-0.005 -0.105

Table A1: Results from models of the probability of earning a lower hourly wage
(continued)

Model group	Characteristic group	Characteristic	Below 80% FMW		Below 100% FMW		Below 120% FMW	
			Non choice only	Full model	Non choice only	Full model	Non choice only	Full model
Choice variables	Industry reference group is education	Agriculture, forestry and fishing		0.771+++ -0.234		0.650+++ -0.195		0.723+++ -0.176
		Mining		-0.56 -0.419		-1.070*** -0.409		-1.236*** -0.273
		Manufacturing		-0.037 -0.179		-0.200 -0.132		-0.057 -0.11
		Electricity, gas, water and waste services		-0.177 -0.404		-0.683* -0.405		-0.527** -0.237
		Construction		0.321+ -0.173		0.138 -0.136		-0.004 -0.123
		Wholesale trade		0.278 -0.205		0.139 -0.155		0.166 -0.129
		Retail trade		0.182 -0.183		0.277++ -0.131		0.379+++ -0.113
		Accommodation and food services		0.485+++ -0.182		0.376+++ -0.137		0.266++ -0.122
		Transport, postal and warehousing		0.258 -0.183		0.188 -0.141		0.094 -0.126
		Information media and telecommunications		0.510++ -0.226		0.198 -0.175		0.029 -0.149
		Financial and insurance services		-0.189 -0.236		-0.461** -0.192		-0.592*** -0.15
		Rental, hiring and real estate services		0.459+ -0.26		0.256 -0.211		0.172 -0.165
		Professional, scientific and technical services		0.070 -0.174		-0.038 -0.141		-0.080 -0.124
		Administrative and support services		0.107 -0.227		0.205 -0.161		0.192 -0.144
		Public administration and safety		0.000 -0.179		-0.155 -0.134		-0.313*** -0.116
		Health care and social assistance		0.062 -0.153		-0.038 -0.12		-0.178* -0.102
		Arts and recreation services		0.264 -0.259		-0.009 -0.228		-0.130 -0.205
		Other services		0.626+++ -0.19		0.391++ -0.153		0.438+++ -0.137

Table A1: Results from models of the probability of earning a lower hourly wage
(continued)

Model group	Characteristic group	Characteristic	Below 80% FMW		Below 100% FMW		Below 120% FMW	
			Non choice only	Full model	Non choice only	Full model	Non choice only	Full model
Choice variables	Occupation reference group is technical and trade	Managers		-0.196 -0.132		-0.217** -0.101		-0.152* -0.084
		Professionals		0.010 -0.129		-0.191* -0.105		-0.325*** -0.086
		Community and personal service workers		-0.011 -0.137		-0.038 -0.108		0.196++ -0.093
		Clerical and administrative workers		-0.232* -0.129		-0.248** -0.097		-0.063 -0.077
		Sales workers		-0.121 -0.171		-0.121 -0.132		0.176+ -0.104
		Machinery operators		-0.083 -0.159		-0.099 -0.125		-0.031 -0.097
		Labourers		0.153 -0.118		0.156+ -0.091		0.264+++ -0.08
		Full or part-time reference group is full-time	Part-time		0.642+++ (0.15)		0.441+++ (0.114)	
	Hours of work reference group is 40 to 49 hours	1 to 9 hours		-0.099 -0.218		-0.101 -0.175		-0.044 -0.145
		10 to 19 hours		-0.300 -0.189		-0.221 -0.146		-0.116 -0.128
		20 to 29 hours		-0.329* -0.189		-0.273* -0.143		-0.128 -0.117
		30 to 39 hours		-0.316*** -0.118		-0.242*** -0.083		0.014 -0.061
		50 to 59 hours		0.378+++ -0.107		0.204++ -0.087		0.187++ -0.072
		60 plus hours		0.788+++ -0.107		0.757+++ -0.089		0.644+++ -0.084
	Model summary statistics	Constant		-2.045*** -0.132	-2.379*** -0.211	-1.530*** (0.098)	-1.595*** (0.158)	-1.244*** (0.08)
Number of observations			8490	8490	8490	8490	8490	8490
Pseudo R ²			0.049	0.142	0.054	0.132	0.081	0.148
Number of free variables			36	68	36	68	36	68
X ² statistic			96.51	270.62	168.06	402.27	418.85	769.26

Sources: Fair Work Australia modelling, using data from ABS, *Microdata: Income and Housing, Expanded CURF, Australia, 2007–08*, cat. no. 6541.0.30.001. Appendix B Further results for characteristics of employees in each employee income category.

Note: Standard errors in parentheses

+ Significant at 10%; ++Significant at 5%; +++Significant at 1% (positive)

* Significant at 10%; ** Significant at 5%; *** Significant at 1% (negative)

Appendix B

Table B.1: Characteristics of employees in each employee income category (defined by all jobs), (%)

	HILDA				SIH				
	Range of hourly income, from employment, expressed as percentage of FMW		All adult employees	Range of hourly income, from employment, expressed as percentage of FMW		All adult employees	Range of hourly income, from employment, expressed as percentage of FMW		All adult employees
	<80%	80–<100%		100–<120%	<80%		80–<100%	100–<120%	
Gender	Male	51.3	46.8	42.5	52.2	48.5	51.5	46.7	53.6
	Female	48.7	53.2	57.5	47.8	51.5	48.5	53.3	47.3
Age group	21–24	20.2	25.2	22.9	13.9	15.8	20.7	20.4	10.8
	25–34	22.0	20.4	23.0	23.2	20.3	22.9	24.2	25.3
	35–44	21.6	15.8	19.9	25.8	24.5	20.4	22.3	26.2
	45–54	19.8	26.3	20.6	23.6	22.4	21.1	20.4	23.5
	55–59	10.1	6.1	6.3	8.1	6.8	5.5	6.9	8.1
	60–64	3.1	4.8	6.7	4.1	3.9	7.3	4.0	4.5
Educational attainment	65+ years	3.3	1.4	0.6	1.3	6.3	2.1	1.7	1.7
	Postgraduate - masters or doctorate	1.5	3.6	0.7	4.2	3.6	0.8	2.5	4.8
	Graduate diploma or certificate	1.3	1.9	2.2	6.6	0.8	0.3	0.7	2.8
	Bachelor or honours	7.3	5.6	9.3	17.8	18.1	11.7	11.6	22.0
	Advanced diploma, diploma	9.8	9.0	11.3	10.3	8.2	9.2	7.4	10.4
	Certificate III or IV	17.4	22.5	20.8	22.8	17.6	15.2	24.0	18.9
	Certificate I or II	5.2	2.8	2.7	1.7	1.3	0.3	1.2	0.6
	Certificate not defined	1.0	0.6	0.7	0.3	2.2	0.1	0.3	0.4
	Year 12	21.4	23.6	22.1	15.4	16.2	30.7	21.1	17.4
	Year 11 and below	35.1	33.4	30.3	20.8	31.9	31.5	31.2	22.6
	Australia	82.4	78.0	76.8	75.4	74.2	71.5	71.5	72.0
	Region of birth	India	0.0	0.0	0.1	0.9	1.5	2.1	2.8
Oceania & Antarctica (incl. New Zealand; excl. Australia)		2.9	3.1	2.3	3.5	0.9	2.8	3.4	3.5
North West Europe (incl. Germany, United Kingdom)		3.4	7.4	4.2	6.5	4.5	7.2	5.9	7.4
Americas		0.8	0.7	1.6	1.4	0.9	1.0	0.8	1.5
Sub-Saharan Africa		2.1	1.3	1.2	1.4	0.2	0.7	1.0	1.9
Italy		0.0	0.7	0.6	0.3	0.6	0.7	0.7	0.6
Southern & Eastern Europe (excl. Italy)		1.9	2.0	3.1	2.3	3.2	2.2	1.2	1.9
South & Central Asia (excl. India, incl. Philippines)		0.3	0.8	1.8	2.4	3.0	3.6	3.7	2.6
East Asia (excl. Vietnam & Philippines, incl. China)		5.0	4.3	6.6	4.8	9.0	7.9	6.4	5.3
North Africa & Middle East		1.1	1.6	0.9	1.1	0.5	2.1	1.9	1.2
Greece		0.0	0.0	1.1	0.2	1.7	0.8	0.6	0.4
Not stated, inadequately described		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
Social marital status	Partnered	48.5	58.7	53.5	66.0	61.2	61.4	57.8	67.6
	Not partnered	51.5	41.3	46.5	34.0	38.8	38.6	42.2	32.4
	Couple family with dependent children only	36.1	38.8	30.2	36.8	28.6	26.2	24.6	30.0
	Couple family with dependent children and other persons	0.5	1.4	2.4	1.2	9.8	7.4	8.8	8.0
	One-parent family with dependent children only	8.3	4.8	4.8	4.4	3.6	2.0	2.5	1.3
	One-parent family with dependent children and other persons	1.7	0.0	0.7	0.5	1.7	0.8	1.9	1.3
Family	Couple only	18.4	22.0	17.5	23.7	19.2	24.4	17.4	22.8
	Other one-family households	24.3	21.3	28.4	19.1	14.1	19.8	20.7	14.0
	Multiple-family households	0.0	0.0	0.0	0.0	2.5	3.3	3.3	2.7
	Lone-person household	0.0	0.0	0.0	0.0	12.9	10.2	6.8	10.3
	Group household	8.6	11.1	14.1	12.7	7.6	6.0	12.3	8.4
	Not determined	2.1	0.6	2.0	1.7	0.0	0.0	0.0	0.0
Geographic location	Major city	56.6	59.7	65.8	71.0	62.0	65.7	63.0	71.7
	Other	43.4	40.4	34.2	29.0	38.0	34.3	37.0	28.3

Appendix B

Table B.1: Characteristics of employees in each employee income category (defined by all jobs), (%) (continued)

	HILDA				SIH				
	Range of hourly income, from employment, expressed as percentage of FMW		All adult employees	Range of hourly income, from employment, expressed as percentage of FMW		All adult employees			
	<80%	80 – <100%		<80%	80 – <100%				
Full or part-time	Full-time	48.7	54.4	69.8	74.3	59.0	64.5	64.8	73.8
	Part-time	51.3	45.6	30.2	25.7	41.0	35.5	35.2	26.2
Permanent or casual	Permanent	46.0	57.6	72.0	74.8	N/A	N/A	N/A	N/A
	Fixed term	10.3	7.4	8.3	9.3	N/A	N/A	N/A	N/A
	Casual	41.3	34.9	19.4	15.6	N/A	N/A	N/A	N/A
	Other	2.4	0.0	0.2	0.3	N/A	N/A	N/A	N/A
	Agriculture, forestry and fishing	8.0	5.2	2.9	1.6	6.5	4.0	2.9	1.3
Industry	Mining	0.0	0.0	0.5	2.1	0.3	0.0	0.2	1.8
	Manufacturing	9.4	7.1	10.8	10.3	5.7	6.9	12.0	10.5
	Electricity, gas, water and waste services	0.6	0.5	0.6	1.0	0.4	0.0	0.9	1.4
	Construction	5.3	2.7	5.8	5.5	10.0	9.8	6.2	7.0
	Wholesale trade	2.0	3.0	6.4	3.1	4.1	5.2	5.8	5.0
	Retail trade	8.5	21.3	18.2	9.1	9.3	20.1	20.9	9.6
	Accommodation and food services	14.3	9.4	9.7	14.2	9.4	11.1	8.8	5.2
	Transport, postal and warehousing	5.6	3.5	2.7	4.9	5.3	5.9	4.9	4.9
	Information media and telecommunications	0.2	1.6	1.5	2.9	4.0	1.8	1.6	2.7
	Financial and insurance services	0.0	0.6	1.9	4.7	0.6	1.2	1.7	5.5
	Rental, hiring and real estate services	1.0	2.0	1.2	1.3	2.8	2.5	1.7	1.8
	Professional, scientific and technical services	7.2	4.3	4.8	7.9	5.0	3.4	3.9	7.2
	Administrative and support services	6.9	7.3	3.7	2.7	3.3	5.3	3.8	2.8
	Public administration and safety	2.4	2.8	3.1	7.9	2.9	4.0	4.0	8.3
	Education and training	7.5	5.7	6.8	10.9	4.8	5.4	5.6	8.6
	Health care and social assistance	14.6	12.8	13.2	14.7	9.9	8.9	8.3	11.9
	Arts and recreation services	2.1	3.3	1.4	1.5	2.1	0.6	1.1	1.4
Occupation	Other services	4.5	7.0	4.9	3.0	7.5	3.5	5.5	3.0
	Inadequately described	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0
	Managers	10.7	6.3	5.8	10.0	11.9	12.8	9.3	12.5
	Professionals	14.1	6.4	9.3	26.4	17.3	7.3	6.8	23.3
	Technicians and trade workers	13.4	14.9	14.6	13.2	11.7	16.1	12.7	12.8
	Community and personal service workers	16.2	15.0	14.0	10.9	12.5	9.0	10.9	7.4
	Clerical and administrative workers	7.5	11.3	16.5	17.0	9.9	12.7	17.3	17.2
	Sales workers	8.1	18.6	12.8	7.0	6.0	12.0	15.0	6.0
	Machinery operators	8.1	8.2	10.8	6.9	8.2	7.0	7.2	7.2
	Labourers	21.9	19.5	16.2	8.7	19.6	20.4	17.6	10.0
	Don't know	3.9	1.8	1.5	0.8	N/A	N/A	N/A	N/A
	1 to 9 employees	42.2	36.1	32.4	20.5	N/A	N/A	N/A	N/A
	10 to 19 employees	12.2	18.4	17.1	12.6	N/A	N/A	N/A	N/A
	20 to 99 employees	27.1	30.4	28.4	30.3	N/A	N/A	N/A	N/A
	100 or more employees	14.5	13.3	20.6	35.7	N/A	N/A	N/A	N/A
	1 to 9	3.8	6.0	1.6	2.6	6.9	3.7	3.6	2.7
	10 to 19	20.2	14.4	10.2	7.3	10.7	12.4	10.3	7.3
20 to 29	18.7	16.2	13.3	10.0	16.2	12.3	12.6	10.6	
30 to 39	23.2	24.7	29.0	26.1	13.6	20.4	31.2	26.0	
40 to 49	13.0	18.8	29.7	35.6	17.3	27.4	26.2	32.5	
50 to 59	8.9	9.2	11.8	12.6	13.5	10.3	9.9	13.0	
60+	12.2	10.8	4.4	5.8	21.9	13.4	6.1	8.0	

Sources: HILDA Survey, Wave 7 (2007); ABS, Microdata: Survey of Employment Arrangements, Retirement and Superannuation, Australia, Expanded CURF, cat. no. 6361.0.55.001, Apr to Jul 2007; ABS, Microdata: Survey of Income and Housing, Expanded CURF, Australia, cat. no. 6541.0.30.001, 2007–08.

Notes: Income category defined by earnings across all jobs. Sample includes employees with multiple jobs; and earnings are not adjusted for casual loadings. Hours are top-coded at 60.

Appendix B

Table B2: Characteristics of employees in each employee income category (defined by main job), adjusted for casual loading, (%)

		HILDA				All adult employees
		Range of hourly income, from employment, expressed as percentage of FMW				
		<80%	80- <100%	100- <120%		
Gender	Male	44.8	41.9	44.0	52.2	
	Female	55.2	58.1	56.0	47.8	
Age group	21-24	26.9	24.4	23.4	13.9	
	25-34	21.2	18.4	22.4	23.2	
	35-44	19.7	18.5	21.0	25.8	
	45-54	19.0	23.1	20.1	23.6	
	55-59	7.0	8.4	5.8	8.1	
	60-64	2.8	6.2	5.8	4.1	
	65+	3.4	0.9	1.5	1.3	
Educational attainment	Postgraduate - masters or doctorate	0.9	0.9	0.5	4.4	
	Graduate diploma or certificate	2.9	1.8	2.5	6.8	
	Bachelor or honours	10.4	7.6	9.5	18.2	
	Advanced diploma, diploma	7.4	11.3	9.7	10.3	
	Certificate III or IV	18.6	21.6	20.8	22.3	
	Certificate I or II	4.2	1.7	2.8	1.7	
	Certificate not defined	1.2	0.2	0.5	0.3	
	Year 12	23.9	21.6	22.1	15.7	
Region of birth	Year 11 and below	30.6	33.3	31.6	20.3	
	Australia	81.1	78.3	76.7	75.4	
	India	0.0	0.0	0.2	0.9	
	Oceania & Antarctica (incl. New Zealand; excl. Australia)	2.2	3.7	2.2	3.5	
	North West Europe (incl. Germany, United Kingdom)	3.8	5.4	6.2	6.5	
	Americas	1.0	0.5	1.4	1.4	
	Sub-Saharan Africa	1.4	2.8	0.4	1.4	
	Italy	0.0	0.5	0.5	0.3	
	Southern & Eastern Europe (excl. Italy)	2.5	1.7	3.2	2.3	
	South & Central Asia (excl. India, incl. Philippines)	0.2	1.3	1.5	2.4	
	East Asia (excl. Vietnam & Philippines, incl. China)	6.0	3.5	6.2	4.8	
	North Africa & Middle East	1.8	1.7	1.0	1.1	
	Greece	0.0	0.7	0.6	0.2	
	Not stated, inadequately described	0.0	0.0	0.0	0.0	
Social marital status	Partnered	45.6	54.5	50.3	63.1	
	Not partnered	54.4	45.5	49.7	37.0	
Family	Couple family with dependent children only	41.7	30.2	30.3	36.8	
	Couple family with dependent children and other persons	0.3	1.9	2.3	1.2	
	One-parent family with dependent children only	9.9	5.6	6.1	4.4	
	One-parent family with dependent children and other persons	1.2	0.5	0.6	0.5	
	Couple only	16.8	21.6	17.5	23.7	
	Other one-family households	20.1	23.6	27.8	19.1	
	Multiple-family households	0.0	0.0	0.0	0.0	
	Lone-person household	8.3	14.7	13.1	12.7	
	Group household	1.8	1.9	2.3	1.7	
Not determined	0.0	0.0	0.0	0.0		
Geographic location	Major city	61.6	59.7	67.4	71.0	
	Other	38.4	40.3	32.6	29.0	

Appendix B
Table B2: Characteristics of employees in each employee income category (defined by main job), adjusted for casual loading, (%) (continued)

		HILDA				All adult employees
		Range of hourly income, from employment, expressed as percentage of FMW				
		<80%	80– <100%	100– <120%		
Full or part-time	Full-time	40.1	49.8	64.3	74.3	
	Part-time	59.9	50.2	35.7	25.7	
Permanent or casual	Permanent	37.6	46.0	63.3	74.8	
	Fixed term	8.5	6.1	7.7	9.3	
	Casual	52.2	47.6	29.0	15.6	
	Other	1.7	0.4	0.0	0.3	
Industry	Agriculture, forestry and fishing	6.2	4.5	3.1	1.6	
	Mining	0.0	0.0	0.8	2.1	
	Manufacturing	8.0	6.3	10.2	10.3	
	Electricity, gas, water and waste services	0.6	1.0	0.1	1.0	
	Construction	4.0	5.5	5.0	5.5	
	Wholesale trade	1.4	5.3	5.3	3.1	
	Retail trade	13.8	17.6	20.7	9.1	
	Accommodation and food services	13.2	13.6	9.5	4.7	
	Transport, postal and warehousing	4.0	3.4	2.6	4.9	
	Information media and telecommunications	1.2	1.1	1.7	2.9	
	Financial and insurance services	0.0	0.6	2.6	4.7	
	Rental, hiring and real estate services	1.4	2.2	1.3	1.3	
	Professional, scientific and technical services	5.8	4.3	5.2	7.9	
	Administrative and support services	8.6	4.7	3.3	2.7	
	Public administration and safety	2.7	2.7	3.3	7.9	
	Education and training	7.9	6.0	6.7	10.9	
	Health care and social assistance	13.2	11.7	13.6	14.7	
	Arts and recreation services	3.4	2.3	1.5	1.5	
	Other services	4.7	7.5	3.5	3.0	
	Inadequately described	0.0	0.0	0.0	0.0	
Occupation	Managers	9.8	3.5	6.0	10.0	
	Professionals	12.6	6.2	8.5	26.4	
	Technicians and trade workers	12.1	16.1	12.0	13.2	
	Community and personal service workers	17.4	15.2	15.0	10.9	
	Clerical and administrative workers	7.0	12.9	17.2	17.0	
	Sales workers	13.9	17.4	15.0	7.0	
	Machinery operators	6.1	7.0	11.8	6.9	
	Labourers	21.1	21.7	14.6	8.7	
Hours of work	1 to 9	9.8	4.5	4.0	2.9	
	10 to 19	24.6	17.6	12.8	8.0	
	20 to 29	19.6	23.2	11.4	10.4	
	30 to 39	22.7	22.7	31.1	26.8	
	40 to 49	8.6	17.1	27.8	35.2	
	50 to 59	6.8	8.3	8.8	11.8	
	60+	8.0	6.7	4.1	5.0	
Size of employer	Don't know	3.8	2.6	1.2	0.8	
	1 to 9 employees	41.1	37.6	32.9	20.5	
	10 to 19 employees	13.2	20.2	16.2	12.6	
	20 to 99 employees	26.4	27.1	29.3	30.3	
	100 or more employees	15.6	12.5	20.4	35.7	

Source: HILDA Survey, Wave 7 (2007).

Note: Income category defined by earnings in main job. Sample includes employees with multiple jobs; earnings adjusted for casual loadings. Hours are top-coded at 60.

