Characteristics of Minimum Wage Employees

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Executive summary

The Melbourne Institute of Applied Economic and Social Research was commissioned by the Australian Fair Pay Commission (AFPC) to provide an overview of the likely coverage of the Federal Minimum Wage (FMW) and the typical characteristics of low waged employees. The study was based primarily on data from Wave 4 for 2004 of the Household, Income and Labour Dynamics in Australia (HILDA) Survey, but it also drew on Australian Bureau of Statistics data on employer recorded hours and earnings of employees.

It is estimated that during 2004, 403,000 full-time and 499,000 part-time low waged employees were active in the Australian economy, which is equivalent to almost 13 per cent of all employees aged 21 and over. Of these, we estimate that 346,000, or 4.9 per cent of all employees, earned a wage that lay below the federal minimum.

A number of possibilities are put forward to explain the incidence of below minimum wage earnings. These explanations include no award coverage, time lags associated with award implementation, differences between state and federal award rates, non-wage remuneration, non-compliance, and measurement error. On the basis of sensitivity analysis, and taking measurement error as given, it is concluded that the vast majority of below minimum wage payments relate to individuals not covered by awards and to non-compliance.

In relation to individual and job characteristics, low waged employees were more likely to be single, aged between 21 and 30 if employed full-time and over 60 if employed part-time, be educated to below year 10, be on casual contacts, and to have lower occupational tenure. Within the full-time distribution, migrants from non-English-speaking countries were more likely to be low waged. Full-time employees belonging to unions were less likely to be low wage earners. Low waged employees belonging to couples were more likely to be secondary earners. Although these distinguishing individual and job characteristics are found to offer significant explanations of employees earning low wages, the estimated magnitudes of their individual effects are not large, and in general they shift the probabilities to being low paid by no more than a few percentage points.

Full-time and part-time employees belonging to lone parent households were more likely to earn less. The higher incidence of low pay among lone parents is likely to be related, at least in part, to social security rules that give relatively more scope for such individuals to combine a low level of earnings with benefits. Relative to the average, there was no evidence that the existence of dependents in couple households substantially increased the likelihood of earning low pay.

Full-time low wage employees were more likely to belong to households at the very top of the income distribution than they were to belong to the very poorest households. The pattern with respect to part-time employees was somewhat different, with over 40 per cent of low earning part-time employees located in the poorest 30 per cent of households. Nevertheless, approximately 15 per cent of these employees were located in the top three household income deciles.

The labour market histories of low waged full-time employees indicate that they tended to be consistently in employment over the 2001 to 2004 period. The majority of labour market transitions into this grouping came from part-time employment, presumably also low paid. Almost one quarter of part-time employees who were low waged in 2004 were either economically inactive or unemployed in the previous year.

By tracking the 2004 employment status of individuals who had been low wage earners in 2001, we were able to get some sense of the extent to which such employment acts as a bridge to improved labour market status. Over 60 per cent of full-time employees and 40 per cent of part-time employees made the successful transition to higher wage levels by 2004. However, almost a quarter of the part-time grouping moved out of the labour force.

1. Background and introduction

Following the introduction of a series of industrial relations reforms, the Australian Fair Pay Commission (AFPC) has been given responsibility from 2006 for Standard Federal Minimum Wage (SFMW) setting in Australia. As part of an information gathering exercise, the Melbourne Institute has been commissioned by the AFPC to assess the extent of minimum wage coverage, and to provide a profile of low paid employees in terms of their individual, job and household characteristics. Similar work was conducted following the establishment of the Low Pay Commission in the United Kingdom and it was found that low paid employees tended to be disproportionately female, part-time, young and located in industries such as Hotels and Catering (Low Pay Commission 2003). With respect to the UK, it was also reported that low wage earners tended not to be concentrated towards the bottom of the household income distribution. UK evidence also indicated that the low waged who were members of couples tended to be secondary earners (Bryan & Taylor 2004).

Due to a lack of more recent data on employee characteristics, low wage employees are identified as of May 2004. For the purpose of our study, low waged employees will be categorised as earning within 10 per cent of the FMW which stood at $448 per week or $11.79 per hour in 2004.[1] Thus a low waged worker is defined as anyone earning less than $500 per week or $13.15 per hour. Anyone earning above these wage levels will be defined as non low waged. It would be preferable to provide a statistical profile of the characteristics of low waged employees in a more disaggregated fashion, for example using categorisations such as below minimum wage, around minimum wage ($11.79 −$13.15) and well above minimum wage (> $13.15), and indeed this was our initial intention, however, data constraints rendered this approach untenable.

To some extent the low waged cut-off point of 10 per cent above the minimum is somewhat arbitrary and was agreed after consulting with the AFPC; nevertheless, a cursory examination of the distribution of adult earnings provided to us by the ABS indicated that individuals earning below this level constituted the bottom few per cent of the adult earners, thus confirming that our decision to identify such persons as low waged is reasonable.

The rest of the report is structured as follows. Section 2 describes the data available and used. Estimates of the numbers and proportion of the full-time (FT) and part-time (PT) employee population aged 21 and over in 2004 who earned below minimum wages, around minimum wages, and above minimum wages are presented in Section 3. Sections 4 through to 7 provide simple bivariate comparisons of the characteristics of the low waged employees and the unemployed in terms of, respectively, job characteristics, individual characteristics, and household characteristics, including household income. Building on this descriptive background information, Section 8 then uses a multivariate regression model analysis to pick out, and to compare and contrast, the key distinguishing characteristics of FT and PT low waged employees and also characteristics of the unemployed. A preliminary analysis of labour market histories over the 2001 to 2004 period for FT and PT low waged employees is provided in Section 9 to provide a dynamic or multi-year picture of the labour market. A final Section 10 provides a summary and conclusions.

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[1]   The FMW of $11.79 is based on the AIRC 2003 Safety Net Review decision.

2. Data and methods

The analysis relies principally on the fourth wave of the Household, Income and Labour Dynamics in Australia (HILDA) Survey. Information from the 2004 Australian Bureau of Statistics (ABS) Survey of Employee Earnings and Hours (SEEH) is also used to provide additional information on the job characteristics of low wage employees.

Given that juniors[2] are subject to special FMW rates of pay, the analysis is restricted to adult employees aged 21 or over. Working proprietors are also excluded, as are any employees reporting zero earnings. Unfortunately, it was not possible to identify all employees potentially subject to special FMW rates, such as the disabled and adult trainees. Nevertheless, where possible, indirect controls are included in the analysis to account for such individuals.

The SEEH is carried out every second year by the ABS and collects information from approximately 9000 non-agricultural employers on the earnings and hours paid of their employees. The wage information is financially accurate as it is drawn from payroll information. It also has the advantage of distinguishing ordinary from overtime pay. A potential source of bias with this data is that it only reports hours paid which, in many cases, will be less than hours actually worked, implying that the hours recorded in the payroll system may not accurately reflect actual effort. However, the most significant potential drawback is that 'cash in hand' employment will not be picked up within the payroll data and this is likely to be most problematic within our population of interest, i.e., low waged employees. Furthermore, payroll information will not equate to gross income if employees choose to salary sacrifice, however, with the help of ABS we were able to adjust the data to account for this. Finally, it should be noted that the AFPC requested that the data taken from SEEH should relate to Hourly Ordinary Time Earnings (HOTE) as opposed to Weekly Ordinary Time Earnings (WOTE). As data on hours worked is not collected for managerial level staff within the SEEH, this resulted in that grouping also being excluded from the ABS based population.

The HILDA Survey is a longitudinal household panel survey that commenced in 2001. The fourth wave contains information on 12,403 individuals.[3] Given the weighting of observations, HILDA provides an accurate representation of the Australian economy and society more generally. The wage data in HILDA is based on the earnings in main job, and no distinction is made between overtime and ordinary time earnings. As a consequence, the HILDA data may tend to under-estimate the incidence of FMW coverage with respect to full-time (FT) employees since overtime payments will move some FMW employees outside the less than and around minimum wage bands. However, on the plus side, it can be argued that the HILDA data is free from the problems associated with the SEEH. Firstly, the wage variable in HILDA relates to gross weekly salary before anything else was taken out, and thus salary sacrifice will not be an issue here.[4] In addition, a FT worker is identified on the basis of hours per week usually worked in main job and, on the grounds

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2 Defined as individuals aged under 21 (HILDA) and aged under 21 earning below the adult rate (SEEH).

3 The sample size for HILDA can be small and limiting when we disaggregate into small cells, for example when classifying employees by wage level and then by both education level and age interval. The standard errors for the frequency of observation for such cells become large and we have to be careful in attaching statistical significance to the estimated magnitude of association. As a general guideline, ABS usually cautions on the reliability of estimates drawn from cells with less than 20 observations.

4 The HILDA wage variable includes imputed values.

that this is based on the average for the year, we can be relatively confident that the data is representative of the hours worked in an average week. Finally, and arguably most importantly, there is no obvious incentive for respondents to provide inaccurate information on earnings, thus 'cash in hand' payments are much more likely to be reflected in the data.

It is obvious from Table 1 that the estimated incidence of adult employees receiving below and around minimum wage ($448 to $500 per week or $11.79 to $13.15 per hour) varies quite a bit depending on whether HILDA or SEEH data is used and, to a lesser extent, on the method of data extraction applied to SEEH. According to weekly HILDA data (based on weekly total earnings), 3.0 per cent of all FT adult employees (excluding working proprietors) earned below the minimum wage and this is broadly in line with the WOTE estimate of 2.7 per cent from SEEH (SEEH1 or column 2 in Table 1). However, the SEEH estimate falls to 2.1 per cent when HOTE is used as the determining variable indicating that some employees normally employed on a full-time basis (38-hour week) will at times work fewer hours and have their salary adjusted accordingly. The third column then adjusts the SEEH data by adding the salary sacrifice element back in and, as a consequence, the below minimum wage estimate falls further to 1.7 per cent. The gap between the HILDA and SEEH estimates now becomes substantial and runs contrary to our prior expectation. Given that the HILDA wage variable incorporates some overtime elements, HILDA may have been expected to generate the lower estimates. Given the factors relating to data collection discussed earlier, and taking as given any differences in the sampling framework of both surveys, we suspect that the discrepancy in the estimates relates to problems of non-recorded hours and 'cash-in-hand' payments exerting a downward bias on the SEEH estimate. We also suspect that problems relating to 'cash-in-hand' omissions are likely to represent the largest component of this bias.

Table 1: Alignment of HILDA and SEEH data (% of employees)

	HILDA	SEEH1	SEEH2
Full-time			
% below minimum wage	3.0	2.1 (WOTE 2.7)	1.7 (WOTE 2.2)
% around minimum wage	4.2	2.8 (WOTE 3.2)	2.4 (WOTE 2.9)
% above minimum wage	92.8	95.1 (WOTE 94.1)	95.8 (WOTE 94.9)
Part-time			
% below minimum wage	10.7	2.8	2.1
% around minimum wage	7.0	2.8	2.6
% above minimum wage	82.3	94.4	95.3

WOTE = Weekly Ordinary Time Earnings
Source: HILDA (2004), ABS (2004)

Table 2 shows the proportion of employees identified as low waged in both HILDA and SEEH in those industries that account for the majority of FT employment. The greatest discrepancies are in the Retailing and Health and community services industries. While cash in hand payments seem an obvious explanation for the gap in Retailing, it will also be a factor within the Health and community services sector where many essential services such as cleaning and catering are contracted out to private firms. Nevertheless, the extent to which the informal economy varies by sector remains a matter of some speculation and is certainly an area for future research.

The gap between the HILDA and the SEEH below and around minimum employment estimates among PT employees was much more substantial (Table 1). After accounting for salary sacrifice, 2.1 per cent of PT employees were identified as below minimum wage earners in the SEEH2, compared with an estimate of 10.7 per cent in HILDA. An examination of the concentration of low waged employees across the dominant PT industries that account for approximately two-thirds of employment (Table 2) reveals large gaps between the SEEH and HILDA estimates in the Health and community services and Education industries. It is difficult to imagine that issues relating to unrecorded hours could generate such large differences, which again leads us to suspect that a good deal of presumably contracted out activity within these industries involves a substantial degree of low wage 'cash in hand' employment. Substantial gaps are also evident in the estimated incidences of low pay within Accommodation, cafés and restaurants, and Retailing with 'cash in hand' payments again providing the most likely explanation.

Table 2: HILDA / ABS low wage intensity by industry

	HILDA (% of employees)	SEEH2 (% of employees)
Full-time low wage		
Manufacturing	7.4	5.1
Construction	4.5	7.7
Retail	12.2	8.3
Property and business services	5.8	4.8
Government administration and defence	1.7	0.4
Education	2.5	1.3
Health and community services	10.3	3.3
All	**7.2**	**4.1**
Part-time low wage		
Retail	17.2	8.2
Accommodation, cafés and restaurants	21.9	5.7
Education	11.3	2.3
Health and community services	16.3	2.9
All	**17.7**	**4.7**

Source: ABS (2004), HILDA (2004)

3.   Minimum wage coverage

According to the ABS,[5] after excluding juniors, there were more than 5,185,000[6] full-time and 1,787,000 part-time employees active within the Australian economy in 2004. Given the difficulties that are inherent in the available data, it is impossible to be precise regarding the number of low waged earners in that year. On the grounds that the HILDA estimates presented in Table 2 are less prone to problems relating to 'cash in hand' payments and unrecorded hours, we can get a feel for the numbers involved by applying the HILDA based percentage to the ABS employee population figures. Consequently, we estimate that, in 2004, 155,000 FT employees were paid a rate that lay below the minimum wage with a further 218,000 receiving a weekly wage that was around the minimum. With respect to PT employees, an estimated 191,000 were paid an hourly rate that was below the minimum, with a further 303,800 paid around the minimum.[7] In total, therefore, it is estimated that 868,000 low waged employees earning below or around the FMW were active in the labour market during the period in question, which was equivalent to approximately 12.5 per cent of all employees. Furthermore, over one third of a million employees were estimated to have earned below the FMW in 2004, which equates to approximately 5 per cent of all employees.

Exactly why such a large number of employees earned below the minimum wage during 2004 cannot be established from the data. However, it is likely that the following factors, when taken together, will be responsible for a large part of the incidence of below minimum pay:

- A large number of employees will not have been covered by an award, and will not, therefore, have been subject to any minimum wage restrictions.
- Employees covered by state, as opposed to federal, awards could be paid less than the FMW if state rules allowed it.
- Where employees are subject to SFMW linked awards, delays in negotiating and registering new agreements may have resulted in some individuals falling below the award rate, albeit temporarily.
- Some employers will have been non-compliant during the period.
- Non-wage compensation elements, such as received, for instance, by many agricultural employees.
- Some individuals with special FMW entitlements could not be extracted from the data.
- The estimates are likely to incorporate some measurement error.

To get an assessment of the distribution of employees earning below the minimum wage, sensitivity analysis was carried out to determine the extent to which the number of such persons diminishes as we reduce the wage rate from the minimum level within the HILDA data. From Table 3 it is apparent that the pattern of wage dispersion around the minimum level is slightly less acute within the FT distributions with just 17 per cent of below minimum employees earning within 5 per cent of the FMW compared to over 20 per cent of PT employees. Figure 1 extends the analysis further and we can see that the patterns converge as the wage level is reduced further, with approximately 30 per cent of FT and PT employees earning within 10 per cent of the FMW. Thereafter the below wage distributions of PT and FT employees follow an almost identical pattern of steady

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5   ABS Cat No 6105.0
6   5,185,000 is derived by taking the figure of FT employees (with and without entitlements to paid leave) and subtracting those who are aged below 20 as an approximate adjustment for juniors. Owner-managers of incorporated enterprises were excluded.
7   In this instance the estimate based on the un-calibrated HILDA sample represented the upper bound.

decline as the wage rate is reduced further. However, the incidence of below minimum pay does not fall to zero as we reduce the wage cut-off point, with an estimated 31,000 FT and 25,000 PT employees earning a rate at least 50 per cent below the FMW. It is not possible to assess the relative importance of the factors listed earlier in explaining these distributions. However, it is reasonable to suggest that individuals covered by state awards, or a delayed federal award, are likely to earn within 10 per cent of the FMW rate, implying that non-award coverage, non-compliance, non-wage compensation and measurement error will account for approximately 70 per cent of the FT and PT figures. It should also be noted that if it is determined that such low waged employees are predominantly casually employed, then the above estimates can be considered conservative given that the HILDA wage data has not been adjusted to remove any casual loading.

Table 3: Sensitivity analysis

	FULL TIME EMPLOYEES (in 000's)			PART-TIME EMPLOYEES (in 000's)		
	Wage bands (000)	5% less (000)	10% less (000)	Wage bands (000)	5% less (000)	10% less (000)
Below MW	155.55	129.62	108.89	194.78	151.90	132.24
Above MV	5034.60	5055.54	5076.27	1592.35	1635.23	1654.89
Total	**5185.16**	**5185.16**	**5185.16**	**1787.13**	**1787.13**	**1787.13**

Source: HILDA percentages applied to ABS employee population figures (2004)

Figure 1: Distribution of below minimum earners
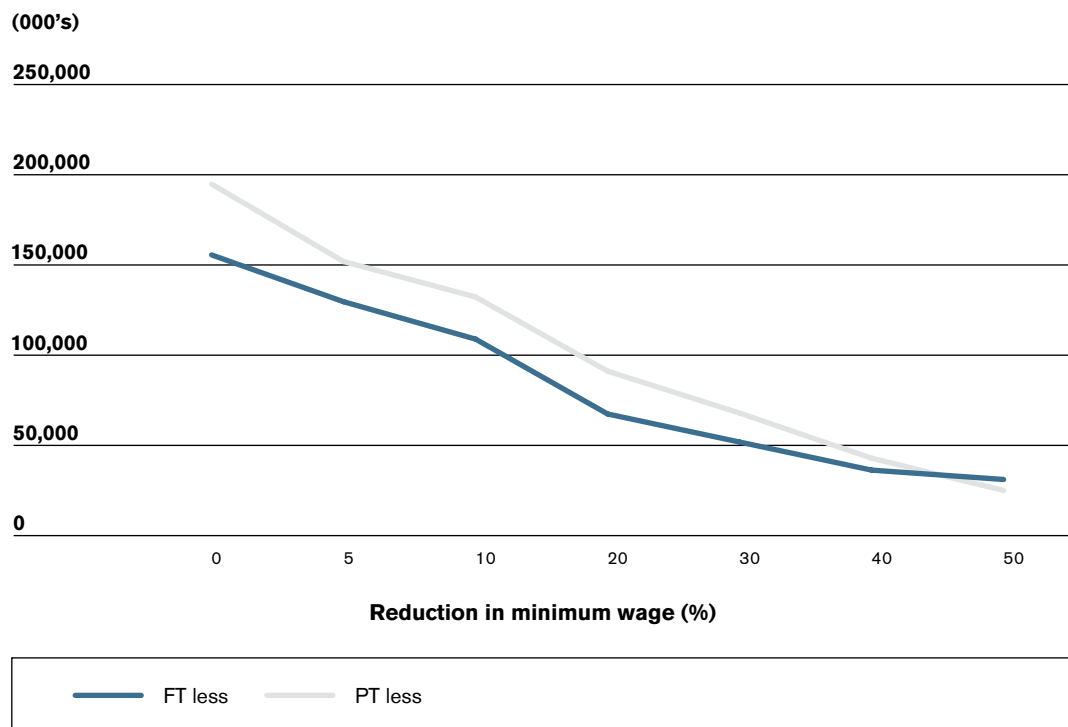
Source: HILDA (2004)

4. Job characteristics of low waged employees

Using cross tabulated data from the SEEH, we can gain some preliminary insights into how the incidence of low pay is distributed in the public relative to the private sector and by firm size. Although, due to data issues outlined earlier, the SEEH data may tend to under-estimate the incidence of low waged employment within industries, we would expect the general overall pattern across industries to be accurate. Private sector employees are much more likely to be low wage earners relative to their public sector counterparts (Table 4). While this is the case for both PT and FT employees, the incidence of low pay is slightly higher amongst private sector PT employees. On average, private sector employees are between six and eight times more likely to be low paid relative to their public sector counterparts.

In relation to firm size (Table 5), 10.2 per cent of FT and 9.1 per cent of PT employees in enterprises employing less than 20 individuals were found to be low wage earners. As firm size increased above the 20 employee level, the incidence of low pay among FT employees generally declines. The pattern observed for PT employees was somewhat different. The incidence of low pay among PT employees is higher in the 50–99 employee size band relative to the 20–49 grouping. However, while the ABS data gives us a feel for the relationship between low pay and firm size, it is likely that the relatively broad size bands used will obscure more important variations, particularly with respect to the smallest firms; these influences are more fully accounted for within subsequent empirical analyses carried out using the HILDA data.

Table 4: Incidence of low pay by public and private sector

Sector	Full-time (% of employees)	Part-time (% of employees)
Private sector	5.2	5.6
Public sector	0.7	0.9
All	**4.1**	**4.7**

Source: ABS (2004)

Table 5: Incidence of low pay by firm size

Firm size	Full-time (% of employees)	Part-time (% of employees)
<20	10.2	9.1
20–49	4.6	4.2
50–99	3.6	5.4
100–499	2.9	3.8
500–999	3.0	1.7
100+	0.3	1.2
All	**4.1**	**4.7**

Source: ABS (2004)

Returning to the HILDA data, Tables 6 and 7 detail the incidence of low pay across both industries and occupations. In relation to FT employees, and excluding Agriculture, in reverse order, the incidence of low pay was highest within the Accommodation, cafés and restaurants, Cultural and recreational services, Personal and other service, Retailing and Health and community services industries, all of which recorded a low wage incidence of over 10 percent. With respect to PT employees, it is worth noting that, relative to FT employees, the distribution of low paid employment is much more concentrated, with just the Health and community services, Retailing, Education and Business services industries accounting for over two-thirds of total employment. In terms of PT earnings, the Cultural and recreational services industry again stands out with over 35 per cent of PT employees paid a low wage, followed by Personal and other services which recorded a low pay incidence of approximately 30 per cent. Other industries to note were Property and business services, Construction, Accommodation, cafés and restaurants, and Manufacturing, with over a fifth of employees within these industries having been identified as low wage earners. With respect to both the FT and PT distributions, with the exception of Agriculture, those industries with the highest incidences of low pay are predominantly in the non-traded sector.

The pattern in terms of occupation is straightforward. Those professions with higher concentrations of less skilled labour (i.e., Elementary clerical sales and services employees and Labourers) experienced the highest incidences of low minimum pay amongst FT employees. Labourers again emerge as the most poorly paid PT employees. (Table 7.)

Table 6: Incidence of low pay by industry

	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)
Full-time			
Agriculture	19.7	80.3	2.1
Mining	0.0	100.0	2.2
Manufacturing	7.4	92.6	17.4
Electricity, gas and water	4.0	96.0	1.3
Construction	4.5	95.5	5.7
Wholesale	8.7	91.3	4.7
Retail	12.2	87.8	8.8
Accommodation, cafés and restaurants	19.6	80.4	2.9
Transport and storage	6.8	93.2	5.9
Communication	2.5	97.5	3.2
Finance and insurance	1.2	98.8	4.8
Property and business services	5.8	94.2	10.3
Government administration and defence	1.7	98.3	7.7
Education	2.5	97.5	9.1
Health and community services	10.3	89.7	8.5
Cultural and recreational services	14.2	85.8	2.3
Personal and other services	13.4	86.6	3.3
All industries	**7.2**	**92.8**	**100.0**
Part-time			PT (% of employees)
Agriculture	45.2	54.8	1.9
Mining	4.0	96.0	0.4
Manufacturing	20.4	79.6	4.3
Electricity, gas and water	0.0	100.0	0.6
Construction	22.1	77.9	1.6
Wholesale	12.8	87.2	2.2
Retail	17.2	82.8	17.5
Accommodation, cafés and restaurants	21.9	78.1	8.0
Transport and storage	7.6	92.4	2.1
Communication	2.1	97.9	1.4
Finance and insurance	6.5	93.5	2.4
Property and business services	23.3	76.7	8.4
Government administration and defence	10.7	89.3	3.6
Education	11.3	88.7	15.2
Health and community services	16.3	83.7	24.1
Cultural and recreational services	36.8	63.2	3.4
Personal and other services	29.7	70.3	3.0
All industries	**17.7**	**82.3**	**100.0**

Source: HILDA (2004)

Table 7: Incidence of low pay by occupation

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)
Managers and administration	3.7	96.3	8.9
Professionals	8.4	91.6	22.4
Associate professionals	10.8	89.2	14.2
Tradespersons and related	24.9	75.1	13.1
Advanced clerical and service	12.2	87.8	2.9
Intermediate clerical, sales and service	20.6	79.4	14.4
Intermediate production and transport	24.1	75.9	11.0
Elementary clerical, sales and service	17.9	82.1	5.5
Labourers and related	31.2	68.8	7.7
All occupations	**7.2**	**92.8**	**100.0**
Part-time			PT (% of employees)
Managers and administration	3.8	96.2	1.3
Professionals	3.6	96.4	21.6
Associate professionals	4.1	95.9	7.4
Tradespersons and related	6.1	93.9	4.2
Advanced clerical and service	1.1	98.9	5.1
Intermediate clerical, sales and service	10.7	89.3	29.2
Intermediate production and transport	6.6	93.4	5.2
Elementary clerical, sales and service	14.9	85.1	15.5
Labourers and related	20.4	79.6	10.5
All occupations	**17.7**	**82.3**	**100.0**

Source: HILDA (2004)

Finally, in relation to job characteristics, we consider the importance of the type of employment in terms of the incidence of low pay and, more particularly, the extent to which casual employees are more likely to be at the low end of the pay distribution relative to employees on permanent or fixed term contracts (Table 8). Casual employees are identified within the HILDA dataset as those employees without paid holiday or sick leave. They represent 9.4 per cent of FT employees, and one in every two PT employees.

Within the distribution of FT employees, casual employees are almost three times more likely to be low paid. Within the distribution of PT employees, casual employees are more than twice as likely to be low wage earners relative to their counterparts on permanent and fixed-term contracts. The higher incidence of low-paid employment amongst casual employees is somewhat surprising given that casuals receive a 15 per cent or higher pay loading to compensate for foregone leave and other entitlements. One possible explanation could be that casual contracts are more heavily used by employers when engaging low skilled employees. The result also suggests that the reported numbers of below minimum wage earners would rise considerably if the HILDA earnings data was adjusted to remove the casual loading, implying that the incidence of below-minimum pay may well be under-estimated here.

Table 8: Incidence of low pay by type of employment

	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)
Full-time			
Casual	17.6	82.4	9.4
Permanent / fixed-term worker	6.1	93.9	90.6
Total	**6.3**	**92.8**	**100.0**
			PT (% of employees)
Part-time			
Casual	23.1	76.9	51.4
Permanent / fixed-tern worker	11.9	88.1	48.7
Total	**17.7**	**82.3**	**100.0**

Source: HILDA (2004)

5. Individual characteristics of low waged employees

In this section, the importance of personal characteristics such as age, gender, education, marital status, ethnicity and location of FT and PT employees classified as low waged are compared with non low waged employees. Consistent with previous sections, the employment distribution for each characteristic is given. In addition, the distribution of unemployment across the various individual characteristics is included.

While females account for just over a third of FT employees, they make up almost 80 per cent of the PT workforce. The incidence of low pay was marginally higher for FT females. Conversely, PT females were slightly less likely to be low wage earners relative to PT males (Table 9). Taken together, these results suggest that the pervasive gender effects found in previous UK studies (Low Pay Commission 2003) may not be evident for Australia.

Table 9: Incidence of low pay by gender

	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
Full-time				
Female	8.6	91.4	33.7	52.9
Male	6.5	93.5	66.3	47.1
Total	**7.2**	**92.8**	**100.0**	
Part-time			PT (% of employees)	
Female	17.0	83.0	77.6	52.9
Male	20.1	79.9	22.4	47.1
Total	**17.7**	**82.3**	**100.0**	

Source: HILDA (2004)

With respect to age, while younger employees aged between 21 and 29 appear more likely to be low waged within the distribution of FT employees, there is little evidence to suggest that they are at any major disadvantage within the PT distribution (Table 10). In fact, within the context of the PT workforce, employees aged 60 and over appear the most disadvantaged, with almost one in four earning a low wage. The higher incidence of low pay amongst older employees is also observed, but to a lesser extent, within the FT distribution. Two potential explanations lie behind this somewhat unexpected result. Firstly, some individuals may be attempting to subsidise existing pensions with low wage employment, and secondly, the pattern may also reflect an increased desire amongst older people to remain active.

Table 10: Incidence of low pay by age

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
20–29	11.7	88.3	25.1	36.0
30–39	5.2	94.8	28.8	25.4
40–49	6.3	93.7	26.6	21.9
50–59	5.2	94.8	17.6	12.2
60 +	8.0	92.0	1.9	4.6
Total	**7.2**	**92.8**	**100.0**	**100.0**
Part-time			**PT (% of employees)**	
20–29	20.0	80.0	23.6	36.0
30–39	16.0	84.0	24.5	25.4
40–49	15.1	84.9	26.5	21.9
50–59	18.5	81.5	19.7	12.2
60 +	23.5	76.5	5.7	4.6
Total	**17.7**	**82.3**	**100.0**	**100.0**

Source: HILDA (2004)

Single persons account for just over a third of FT and PT employees, with employees belonging to couples making up the remaining two-thirds. In terms of FT employment, single persons are more than twice as likely to be low paid. The level of relative disadvantage amongst those PT single persons is less marked (Table 11).

Table 11: Incidence of low pay by marital status

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
Single	10.8	89.2	33.7	56.1
Couple	5.3	94.7	66.4	43.9
Total	**7.2**	**92.8**	**100.0**	**100.0**
Part-time			**PT (% of employees)**	
Single	22.7	77.3	33.6	56.1
Couple	15.1	84.9	66.4	43.9
Total	**17.7**	**82.3**	**100.0**	**100.0**

Source: HILDA (2004)

While the incidence of low pay among single employees is no surprise and consistent with UK results, it is worth examining further the composition of employees belonging to couples, given that this grouping accounts for the majority of both FT and PT employees. Specifically, we assess the extent to which low waged employees in couples tend to be in single, as opposed to dual earner, partnerships and, in the case of dual earners, the extent to which low earners are more likely to be primary, as opposed to secondary or equal[8] earners. Approximately 75 per cent of FT earners in couples were in dual earner relationships, with a corresponding figure of 80 per cent for PT employees. Relative to single persons, single earners in couples tended to have a lower incidence of low pay in both the FT and PT distributions (Tables 11 and 12). Turning to individuals in dual earner relationships, in terms of FT employment, the incidence of a primary earner receiving a low wage was only 1.1 per cent. However, almost 14 per cent of PT primary earners were low wage earners, nevertheless, primary earners accounted for only 20 per cent of the PT population. Therefore, low waged employees within couples were most likely to be secondary earners.[9] It is fair to conclude that the majority of secondary earners are likely to be female, given that previous Australian research found that males were the main breadwinner in over 60 per cent of couples (Drago, Black & Wooden 2005).

Table 12: Incidence of low pay amongst working couples

Full-time		Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)
Single earners		6.7	93.3	100
Dual earners				
	Primary earner	1.1	98.9	58.6
	Secondary earner	13.8	86.2	24.6
	Equal earners	4.4	95.6	16.8
Total		**4.8**	**95.2**	**100.0**
Part-time				PT (% of employees)
Single earners		16.1	83.9	100.0
Dual earners				
	Primary earner	13.8	86.2	20.0
	Secondary earner	13.4	86.6	70.6
	Equal earners	27.4	72.6	9.4
Total		**14.8**	**85.2**	**100.0**

Source: HILDA (2004)

The incidence of low pay declines with education level for both FT and PT employees. Around one fifth of FT employees have educational attainment levels of year 11 or below, with the proportion rising to just under a third for PT employees. Those individuals with the least education were most likely to earn a low wage within both distributions (Table 13). The incidence of low pay amongst PT employees with a graduate qualification appears somewhat higher than one might expect, however, it is likely that this finding relates to continuing education and, more specifically, the efforts of students to subsidise their postgraduate studies.

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8   Individuals are identified as equal earners if their annual income falls within the same $10,000 earnings bracket.

9   Approximately one in 5 equal PT earners were paid a low wage, nevertheless, this grouping accounted for less than 10 per cent of total PT employment.

Table 13: Incidence of low pay by education level

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
Masters or PhD	1.1	98.9	4.8	1.3
Grad. Diploma, Cert.	1.3	98.7	5.9	2.4
Bachelor	3.2	96.8	16.1	10.3
Advanced Diploma	5.0	95.0	9.2	5.2
Certificate	7.6	92.4	26.8	20.8
Year 12	8.7	91.3	15.0	19.7
Year 11 and below	12.3	87.7	22.2	40.4
Total	**7.2**	**92.8**	**100.0**	**100.0**
Part-time			**PT (% of employees)**	
Masters or PhD	9.0	91.0	2.6	1.3
Grad. Diploma, Cert.	5.2	94.8	6.0	2.4
Bachelor	11.0	89.0	16.0	10.3
Advanced Diploma	16.9	83.1	9.5	5.2
Certificate	15.3	84.7	16.3	20.8
Year 12	21.5	78.5	19.5	19.7
Year 11 and below	23.4	76.6	30.3	40.4
Total	**17.7**	**82.3**	**100.0**	**100.0**

Source: HILDA (2004)

Table 14 shows the incidence of low pay by geographic location. With respect to FT employment, there are no indications that any particular state or territory varies from the average in any substantial way. However, the situation is more variable with respect to PT employment. PT employees in Tasmania and South Australia are more likely to be low wage earners. Appendix 1 Table A1 provides a more disaggregated picture; however, the results are similar. Again with respect to the FT distribution, there is no strong evidence that any particular region departs substantially from the average in terms of the incidence of low pay. With respect to PT pay, Tasmania and the balance of South Australia stand out, as before. There is no strong evidence from either distribution that the occurrence of low pay is less pervasive in any of the major urban conurbations.

Finally with respect to ethnicity, relative to the mean, migrants from countries where the first language is not English appear more likely to be low earners within the distribution of FT employees. Migrants do not appear to be at any disadvantage within the PT distribution (Table 15).

Table 14: Incidence of low pay by state and territory

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
NSW	6.5	93.5	33.8	34.9
Vic	7.7	92.3	24.4	27.4
Qld	7.5	92.5	20.5	15.5
SA	9.6	90.4	6.7	7.5
WA	6.7	93.3	9.5	8.9
Tas	7.1	92.9	2.2	2.5
NT	6.5	93.5	0.9	2.0
ACT	4.0	96.0	2.0	1.4
Total	**7.2**	**92.8**	**100.0**	
Part-time			**PT (% of employees)**	
NSW	14.8	85.2	30.5	34.9
Vic	17.9	82.1	27.6	27.4
Qld	17.8	82.2	18.3	15.5
SA	23.2	76.8	7.8	7.5
WA	19.0	81.0	10.1	8.9
Tas	27.6	72.4	3.2	2.5
NT	10.1	89.9	1.0	2.0
ACT	15.8	84.2	1.5	1.4
Total	**17.7**	**82.3**	**100.0**	

Source: HILDA (2004)

Table 15: Incidence of low pay by country of birth

Full-time	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
Australia	6.6	93.4	75.4	70.8
Main English-speaking	5.0	95.0	10.5	9.4
Other	11.9	88.1	14.2	19.8
Total	**7.2**	**92.8**	**100.0**	**100.0**
Part-time			**PT (% of employees)**	
Australia	18.3	81.7	75.3	70.8
Main English-speaking	15.2	84.8	9.8	9.4
Other	16.0	84.0	15.0	19.8
Total	**17.7**	**82.3**	**100.0**	**100.0**

Source: HILDA (2004)

6. The household composition of low paid employees

In this section we examine the extent to which the incidence of low pay (and unemployment) varies by household type. As discussed earlier, individuals belonging to couples make up over two-thirds of both the FT and PT distributions. However, it should be noted that the proportion of employees belonging to couple households will exceed this due to situations where, for instance, single adults still live with their parents. With respect to both distributions, employees from lone parent households are more likely to be in receipt of a low wage (Table 16). This is likely to reflect the fact that income support rules allow lone parents greater scope to combine working with social security benefits. Within both FT and PT distributions, employees from households classified as Other also appear to have a substantially higher than average incidence of low earnings, however, this grouping accounts for a relatively small share of the FT and PT distributions (Table 16). Consistent with earlier results, employees belonging to single person households have higher than average incidences of low pay within both the FT and PT categories. However, the extent of the differentials is lower than those reported for marital status, suggesting that many low waged single employees still live with their parents. Finally, there is no sense that, relative to the average, the existence of dependents in couple households substantially increases the likelihood of experiencing a low wage.

Table 16: Incidence of low pay by household type

	Low waged (% of employees)	Non low waged (% of employees)	FT (% of employees)	Unemp (% of employees)
Full-time				
Couple, no dependants	6.4	93.6	35.2	22.6
Couple with dependents	5.3	94.7	36.6	30.6
Lone parent	11.0	89.0	8.4	19.4
Single	8.8	91.2	15.7	16.8
Other	16.3	83.7	4.1	10.5
Total	**7.2**	**92.8**	**100.0**	**100.0**
Part-time			PT (% of employees)	
Couple, no dependants	20.1	79.9	31.7	22.6
Couple with dependents	12.7	87.3	43.1	30.6
Lone parent	24.1	75.9	11.1	19.4
Single	20.2	79.8	10.5	16.8
Other	28.3	71.7	3.6	10.5
Total	**17.7**	**82.3**	**100.0**	**100.0**

Source: HILDA (2004)

7.   The low paid and the distribution of household income

In relation to household income, previous evidence from the UK demonstrated that low wage employees tended not to be heavily concentrated within the lowest income households (NIEC 1998; Bryan & Taylor 2004). Similarly, for Australia, the fact that low wage earners are not over-represented in the most socially disadvantaged households has been relatively well established and discussed within the recent literature (Harding & Richardson 1999; Tsumori 2004). To investigate the issue further, the distribution of low wage earners by household income decile is given in Figures 2 and 3.[10] For purposes of comparison, the distribution of the unemployed by household income is also included.

As we might expect, by virtue of the fact that the unemployed have a greater tendency to belong to households where no one works, unemployed individuals are heavily concentrated in the lowest income households. Over 50 per cent of unemployed persons are located in the poorest 30 per cent of households.

By contrast, FT employees earning a low wage are more likely to belong to the two highest household income deciles than they are to belong to the bottom two. However, such employees are slightly over-represented in the 3rd and 4th deciles of the income distribution (Figure 2). With respect to FT employees, the overall pattern is consistent with earlier research which suggests that such individuals are relatively evenly dispersed throughout the household income distribution.

The situation with respect to PT employees is somewhat different. Low waged employees are marginally over-represented in the poorest households (Figure 3). Over 40 per cent of PT low wage earners were in the bottom 30 per cent of households. The higher incidence of PT low waged employment among employees from low income households is again likely to reflect the ability of individuals to undertake some PT employment without adversely affecting any social security benefits at the household level. Nevertheless, despite this higher concentration of low waged PT employees in the lower regions of the household income distribution, over 15 per cent of PT low wage earners are located in the top three household income deciles (Figure 2).

In order to ensure that the results from the 4th wave of HILDA were representative, we duplicated Figures 2 and 3 for each of the previous waves of HILDA and the results are given in Appendix B, Figures B1 to B6. The patterns observed are wholly consistent with those in Figures 2 and 3.

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[10]   Household incomes are equivalised by dividing original household income by the square root of the number of persons in the household.

Figure 2: Household income deciles for full-time employees (2004)
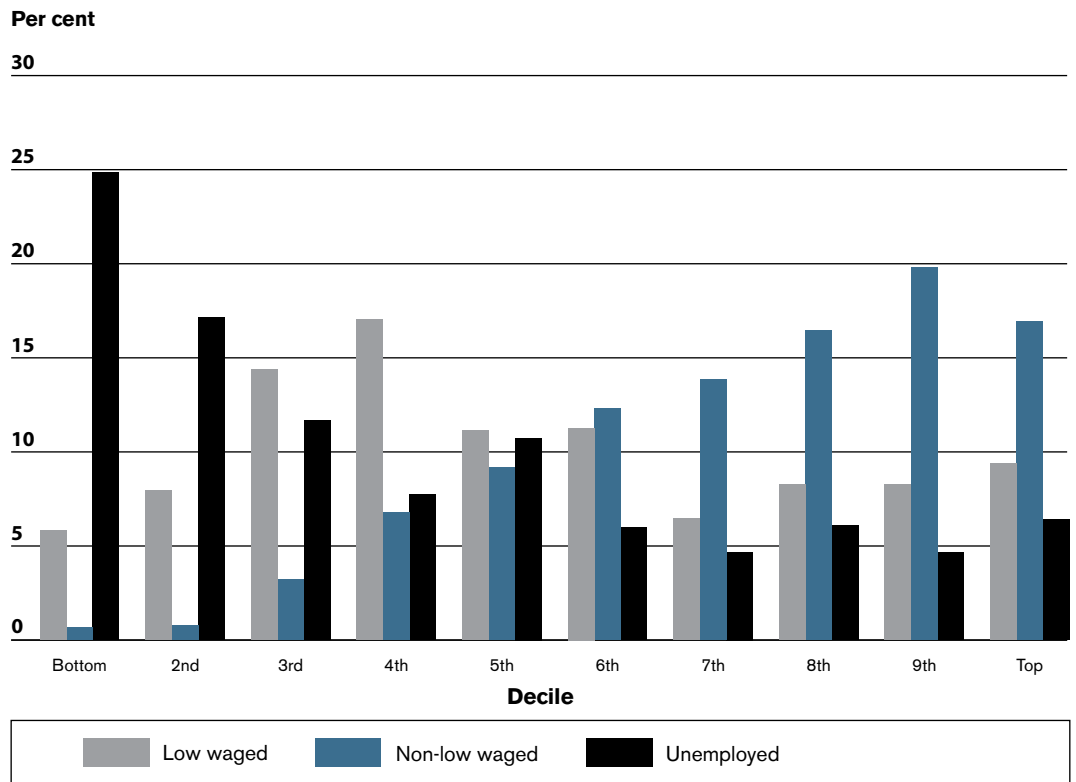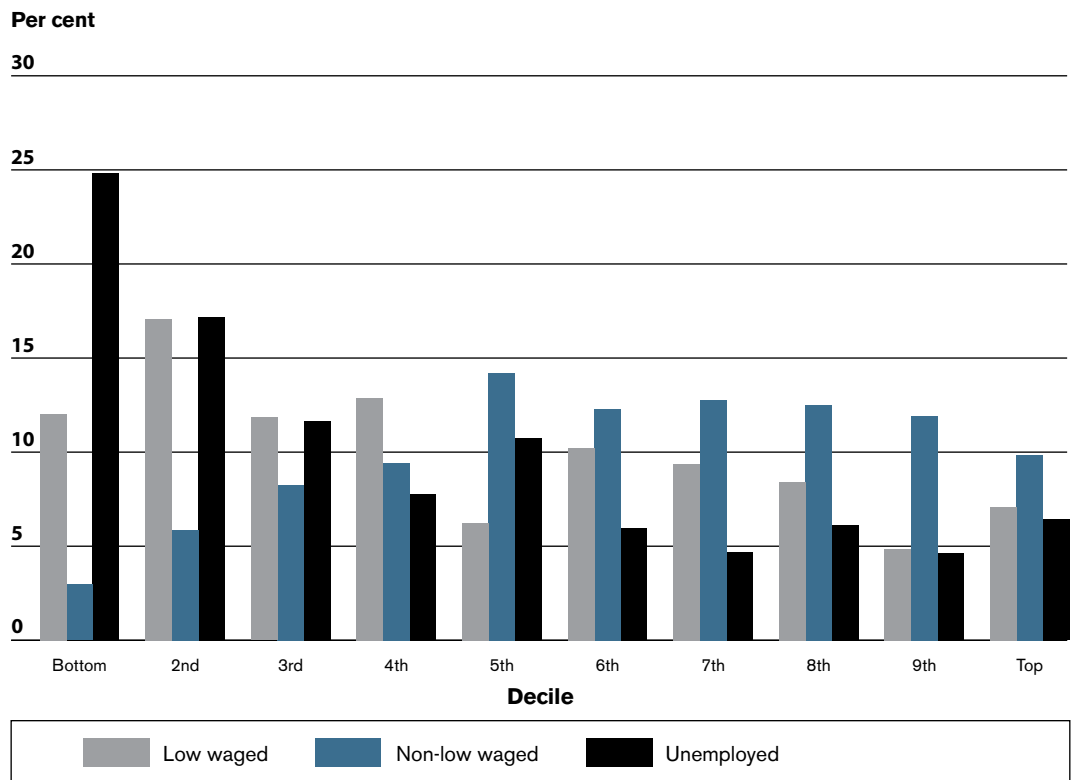
Per cent

Figure 3: Household income deciles for part-time employees (2004)

Per cent

Source: HILDA (2004)

8.   Multivariate analysis

One of the main disadvantages of the descriptive analysis presented in the previous sections is that it only reveals associations between wage levels and one characteristic of interest at a time. Consequently, this analysis ignores correlations between other characteristics as well as the possibility of the simultaneous association of wages with more than one characteristic. The present section addresses this issue using the HILDA data to carry out multivariate regressions. It should be clear from the outset that this section does not model the causal relationship between wages and the factors that determine them, as this would lie beyond the scope of this report. The limited but informative objective of this section is to show how several individual characteristics of employees may be *simultaneously* associated with the probability that an employee may be low waged and, where such associations are detected, to establish the degree to which they may be statistically significant and the magnitude of the effect of the particular characteristic on being low paid.

We retain the same sample that was used in the preceding analysis, namely low waged adult employees. We estimate the probability that an employee will be a low earner, and how these probabilities are affected by the different job, individual and household characteristics.

The appropriate estimation method for this problem is the Probit or the Logit model. The left hand side (LHS) variable, or the dependent variable to be explained, is defined to be 1 for those employees who belong to the group of interest and zero otherwise. Here we use the Probit estimation method, for no particular reason, as the two estimation methods yield practically indistinguishable results in this context. We define a separate LHS variable for each estimation. For example, when we estimate the probability of receiving low wages in FT employment, the LHS variable will be 1 for all FT employees with wages below the low waged threshold and zero for those FT employees earning above the low wage cut-off. We report estimates of the marginal effects of each explanatory characteristic instead of coefficients as they lend themselves to a natural interpretation in the present context. For example, in the estimation of receiving a low wage (Table C4 Appendix C), the marginal effect of 0.028 on the marital status variable (which takes the value of 1 if single and 0 otherwise) suggests that single people are 2.8 percent more likely to be observed as low earners than those with other marital states. Note that the sign of the marginal effect has a meaning only when looked at in conjunction with the way the variable has been defined in terms of the direction of measurement for continuous variables and in terms of the reference group for categorical variables.

Following the insights provided by the previous sections, several individual and job related characteristics have been included in the estimations. These include gender, marital status, education level, age, migration status, firm size, trade union membership, employer size, occupation and job experience, rural location, long-term health condition or disability and type of employment (part-time versus full-time, as well as contracts which do not provide paid holidays and sick pay). Several sectoral indicators have also been used as control variables. Unfortunately, we could not include household characteristics in the econometric framework. At least to some extent, these variables are an outcome of wages. A number of estimations have been tried in order to establish the satisfactory robustness of the model specifications we present. By robustness we mean the degree to which results may be unduly sensitive to the inclusion or exclusion of any specific variables.

Appendix C Table C1 gives the output of the model showing the principal characteristic differences of a FT low waged earner relative to other FT employees who are not low waged.[11] The table contains three specifications, with additional variables added within each consecutive specification up until model three which contains all variables. Within the first model, the estimated parameters for all the explanatory variables carry the expected sign. The results suggest that, relative to all other FT employees, those earning a low wage are more likely to be on casual contracts, be single, educated to year 9 or below, aged between 21 and 29 or over 60, be migrants from countries where the first language is not English, come from non-professional backgrounds, work in firms with 10 or less employees, have lower occupational tenure, and do not belong to a union. These results are wholly consistent with the earlier descriptive analysis. The model is relatively stable throughout, with the exception of the female effects which disappear in the final specification indicating that observed higher incidences of low pay amongst females is more likely to reflect certain job characteristics rather than direct gender discrimination. The model is also relatively well specified explaining approximately 20 per cent of the variation in the data. However, the magnitudes of the reported impacts are quite small. For instance, after taking all other factors into account, single and casual employees are approximately 2 and 3 per cent more likely to be low waged relative to married individuals or employees on a permanent or fixed-term contract.

The model for PT low waged employees is given in Appendix C Table C2. Relative to the model for FT employees, it is less well specified, explaining under 10 per cent of the variation in the data. The results indicate that, compared to other PT employees, those earning below the $13.15 per hour cut-off are more likely to be on casual contracts, single, be educated to year 12 or below, aged over 60, and employed in firms within the 10 to 19 and 20 to 49 size bands. An urban location and longer occupational tenure also lowers the likelihood of a low wage among PT employees. Again, the results from the multivariate regression analysis are broadly consistent with the descriptive analysis. However, relative to the model for FT employees, the marginal effects of some characteristics for PT employees are somewhat larger in magnitude. For example, single marital status increases the likelihood of a low wage by almost 6 per cent, and PT employees on casual contracts are over 7 per cent more likely to be low wage earners.

The principal factors distinguishing low waged FT employees from their PT counterparts are then determined by pooling the results from the two low pay models and testing for statistical differences between the coefficients in each model. The results of this exercise are reported in Appendix C, Table C3. Relative to their PT counterparts, FT low waged employees are more likely to have lower levels of schooling, be aged between 30 and 40 or 50 and 60, be employed in very small firms, and be migrants from a country where the first language is not English.

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[11]   A detailed description of the variables used in the multivariate analyses is proved in Appendix 3 Table A9.

Finally, we estimate a probit model for all low paid employees pooled across FT and PT employees. The results are given in Appendix C Table C4. Notwithstanding the differences identified in Table C3, the analysis gives us an indication of the factors associated with low wage employment more generally and allows us to test for important interaction effects. Specifically, the model contains controls for employment status interacted with contractual status on the grounds that we might expect PT employees on a casual wage to be more likely to earn a low wage. The model explains just under 17 per cent of the variation in the data, and the magnitudes of the estimated parameters are relatively stable throughout the three specifications. Although both PT and FT employees on casual contracts are likely to be low waged, a Wald test confirmed that the estimated likelihood of low wage employment being exactly the same for both types of worker is a somewhat surprising result. Other general associations include a higher incidence of low wages among employees who were female, single, educated to year 9 or below, aged other than 30 to 40, employed in firms with less than 50 people, migrants from non-English-speaking countries, living in rural areas, lower occupationally tenured and non-unionised.

Many of the above factors have been significant within the context of previous FT and/or PT models. It is also notable that each of the under 50 firm size bands are now significant, indicating a higher concentration of low paid employees within small and medium-sized enterprises. It is also clear that the gender effect that has become standard within many low wage studies is qualified in the sense that overall females are more likely to be low waged given that they are over-represented amongst PT employees who in turn have a higher incidence of low pay. When females are examined within the context of the FT and PT distributions separately, the gender effect is not present.

Finally, it is worth comparing the characteristics of low paid employees with those of the unemployed. Given that the unemployed will have no associated job characteristics, the models are based on individual characteristics only, which simplified the analysis considerably allowing a more straightforward estimation. The approach follows the previous format whereby models are estimated for FT and PT low waged employees separately and then for low wage employees generally. The results are given in Appendix B Table B6. Within these regressions, the observed gender influences are to be expected and merely reflect the over-representation of females within the PT employment distribution and their under-representation with respect to FT employment. The models relating to PT employment explain approximately 16 per cent of the variation in the data, compared to approximately 10 per cent where FT employees represent the comparator. A number of common factors are apparent within most, if not all, of the models. For example, Indigenous Australians are on average over 25 to 30 per cent more likely to be unemployed than in low paid work; the attainment of certificate/diploma level schooling reduces the chances of unemployment relative to those educated to year 9 or below; individuals in the 21 to 30 age bracket are much more likely to be unemployed relative to any other of the age groupings; and single status raises the relative likelihood of unemployment by over 15 per cent.

9.   Labour market histories

The labour market histories of the low waged provide an indication of the extent to which they tend to be active in the labour market on a consistent basis, as opposed to engaging in such employment on a sporadic basis interwoven with spells of unemployment or inactivity (or not in the labour market). On average, we have full longitudinal information on approximately 80 per cent of our low wage sub-group, enabling us to draw relatively strong inferences with respect to any differential patterns of labour market transitions that become apparent.

Dealing firstly with FT employees, Table 17 shows that the majority of these employees tend to be consistently active in the labour market on a FT basis, with typically less than 15 per cent inactive or unemployed at any one time. For instance, 70 per cent of FT low waged employees in wave 4, or in 2004, were employed in each of the previous three waves. In relation to movements into FT low wage employment, the data suggests that new entrants are more likely to come from the stock of PT employees rather than from the unemployed or economically inactive.

The picture with respect to the PT worker is somewhat different (lower section of Table 17). In wave 1, or year 2001, approximately 26.3 per cent of low waged earners in wave 4, or in 2004, were economically inactive, with a further 8.1 unemployed. In contrast to the situation for FT employees, just over 50 per cent of 2004 PT low waged earners were employed in all 4 waves. It would appear that the majority of movements into PT low wage status come principally from the economically inactive followed by the unemployed.

Obviously another key question is the extent to which low waged employment acts as a bridge to medium and high wage employment, and this question is explored in Table 18. This table identifies low wage employees in 2001 and tracks their labour market status in 2004. Almost 60 per cent of FT low wage earners in 2001 successfully made the transition to non low wage employment, with the majority of this group employed FT in 2004. Almost 90 per cent of the FT cohorts were employed in both periods. Of those PT employees earning low wages in 2001, just over 40 per cent were earning higher wages in 2004, the majority of whom were working FT. Approximately one quarter remained in low waged employment. Worryingly, over 24 per cent were economically inactive in 2004, with a further 6 per cent unemployed. Thus, while there is evidence to support the view that low wage employment acts as a stepping stone within the labour market, this is more so the case with respect to FT employees than for PT employees. Over 40 per cent of PT low wage earners successfully make the transition to better quality employment. However, a substantial proportion became inactive.

An important area for further research is to disaggregate the labour market into different groups to assess for different dynamics and transition probabilities. For example, we can hypothesise with some confidence that the young and better educated experience higher probabilities of moving into better jobs (more FT and higher pay) than the older and less well educated. More uncertain would be the transition probabilities, for example, sole parents versus members of couples, singles versus couples, rural versus urban, and different industries and occupations, and the role of the state of the business cycle for these different categories of employees. The availability of data with sufficient observations for the disaggregated sub-samples of the population will be an important consideration in determining the future researchable topics.

Table 17: Labour market histories of low waged employees (2004) (% of employees)

	2001	2002	2003	2004
Full-time low waged in 2004				
Employed FT	52.6	59.2	67.1	100.0
Employed PT	29.0	27.6	23.7	0.0
Unemp – looking for work PT	2.6	0.0	1.3	0.0
Unemp – looking for work FT	6.6	6.6	1.3	0.0
Not in LF, Marg attached	5.3	4.0	1.3	0.0
Not in LF, Not marg attached	3.9	2.6	5.3	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**
Part-time low waged in 2004				
Employed FT	11.2	9.4	10.0	0.0
Employed PT	54.4	62.5	70.6	100
Unemp – looking for work PT	5.0	2.5	2.5	0.0
Unemp – looking for work FT	3.1	1.9	0.6	0.0
Not in LF, Marg attached	12.5	13.1	5.7	0.0
Not in LF, Not marg attached	13.8	10.6	10.6	0.0
Total	**100.0**	**100.0**	**100.0**	**100.0**

Source: HILDA (2004)

Table 18: Labour market progress of low waged part-time employees (2001) (% of employees)

	2001	2004
FT low waged in 2001	100.0	
Employed FT – low waged		25.6
Employed FT – non low waged		43.2
Employed PT – low waged		5.6
Employed PT – non low waged		14.4
Unemployed / inactive		11.2
Unknown		0.0
Total		**100.0**
PT low waged in 2001	100.0	
Employed FT – low waged		9.4
Employed FT – non low waged		12.9
Employed PT – low waged		15.4
Employed PT – non low waged		30.8
Unemployed / inactive (24.3 inactive)		30.3
Unknown		1.2
Total		**100.0**

Source: HILDA (2004)

10. Summary and conclusions

This report assesses the coverage of the FMW and examines the individual, household, and firm characteristics of low paid employees relative to those earning well above the FMW and the unemployed.

It is estimated that during 2004, there were 373,000 FT and 495,000 PT low waged employees active in the Australian economy, which is equivalent to almost 12.5 per cent of all employees aged 21 and over. Of these, we estimate that 346,000, which equates to 5 per cent of all employees, earned a wage that lay below the federal minimum. A number of potential explanations are put forward for the existence of below minimum pay. While it is impossible to be precise, it is assessed that the vast majority of below minimum payments relate to individuals not covered by awards, non-wage compensation, and non-compliance amongst employers.

With respect to job characteristics, it was found that the incidence of low pay was higher within smaller firms and amongst employees on casual contracts and for private sector employees. The incidence of low minimum pay was also found to be particularly high within the Accommodation, cafés and restaurants and Cultural and recreational services industries.

Turning to individual level characteristics, we found that the likelihood of being a low earner was higher among both the oldest and youngest members of the workforce. Single people were more likely to earn the lowest rates of pay. The majority of both FT and PT employees belong to couples in dual earner relationships and, in circumstances where such individuals were found to be low waged, they were most likely to be secondary earners. Low paid employees also tended to be educated to year 9 or below, and migrants from non-English-speaking countries were found to be at a disadvantage within the FT distribution.

Multivariate regression analyses confirmed that both the firm and individual level characteristics discussed above were statistically significant associations of the wages received by employees in the context of either the full- or part-time distributions, or both. In addition, impacts were detected with respect to unionisation, occupational tenure and an urban location.

With respect to household characteristics, an employee belonging to a lone parent household was found to be more likely to earn low wages within both the FT and PT distributions. Consistent with the results of previous research for Australia and the UK, it was found that the low waged employees tended not to be very heavily concentrated within the poorest households. In fact, FT low wage earners were found to be more likely to belong to households in the top two deciles of the household income distribution than in the bottom two. PT low wage earners were found to be marginally over-represented in the poorest 30 per cent of households.

The longitudinal properties of HILDA were exploited to give some indication of the labour market histories of low wage employees. FT low waged employees typically tended to be consistently active in the labour market for at least four years. Typical transitions into FT low wage employment came from those previously employed PT who were also, presumably, low waged. PT low waged employees, on the other hand, were much more likely to be economically inactive or unemployed in earlier years, with a large proportion of transitions into PT low wage employment coming from individuals who were economically inactive in the previous year. The evidence also suggests that the majority of FT low wage employees will make the successful transition to higher waged employment. However, the success rate for PT employees was lower with almost a third of such employees becoming economically inactive.

Finally, the personal characteristics of low wage employees were compared with those of the unemployed. Relative to the low waged, unemployed employees were more likely to be Aboriginal, have lower education, aged 21 to 30, single, and living in a rural area.

Appendix A:

Table A1: Incidence of low pay by state and major statistical region

Full-time	Low waged (% of employees)	Non low waged (% of employees)	% FT (% of employees)
Sydney	6.54	93.46	23.92
Balance of NSW	6.31	93.69	9.89
Melbourne	7.32	92.68	19.08
Balance of Vic.	9.30	90.70	5.29
Brisbane	4.80	95.20	10.34
Balance of Qld	10.24	89.76	10.20
Adelaide	9.31	90.69	5.38
Balance of SA	10.91	89.09	1.35
Perth	7.30	92.70	7.30
Balance of WA	4.50	95.50	2.17
Tas.	7.13	92.87	2.16
NT	6.55	93.45	0.89
ACT	3.96	96.04	2.01
Total	**7.19**	**92.81**	**100.00**

Part-time	Low waged (% of employees)	Non low waged (% of employees)	PT (% of employees)
Sydney	12.80	87.20	19.48
Balance of NSW	18.40	81.60	11.04
Melbourne	15.63	84.37	20.59
Balance of Vic.	24.46	75.54	6.96
Brisbane	15.01	84.99	8.20
Balance of Qld	20.12	79.88	10.14
Adelaide	18.04	81.96	5.33
Balance of SA	34.32	65.68	2.44
Perth	17.94	82.06	7.90
Balance of WA	22.66	77.34	2.22
Tas.	27.61	72.39	3.19
NT	10.14	89.86	1.01
ACT	15.78	84.22	1.49
Total	**17.66**	**82.34**	**100.00**

Source: HILDA (2004)

Appendix B:

Figure B1: Household income deciles for part time employees (2001)

Per cent
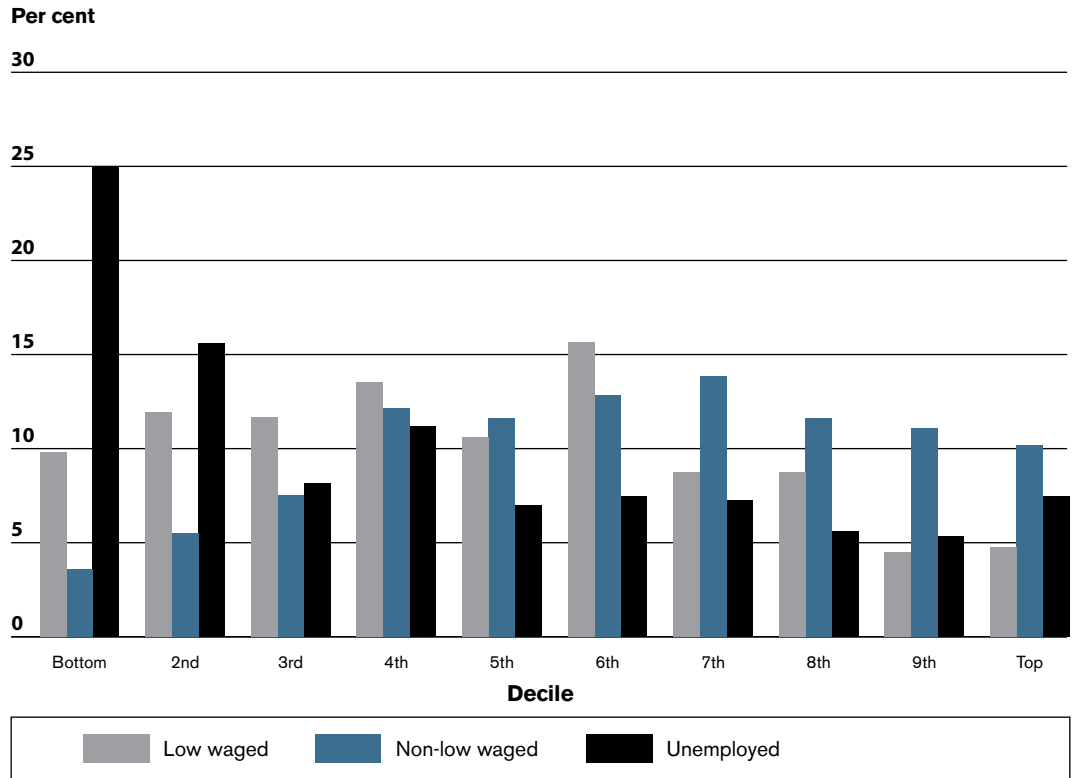
Figure B2: Household income deciles for part time employees (2002)

Per cent

Figure B3: Household income deciles for part time employees (2003)

Per cent

Decile

Low waged   Non-low waged   Unemployed

Figure B4: Household income deciles for full time employees (2001)

Per cent

Decile

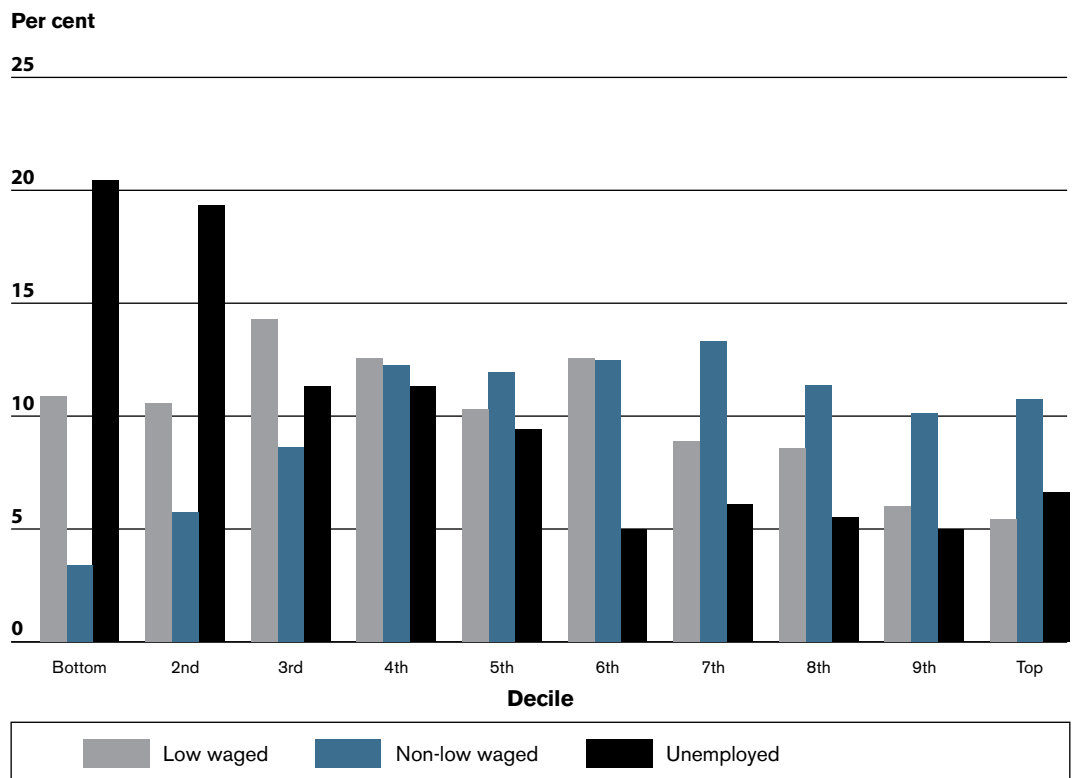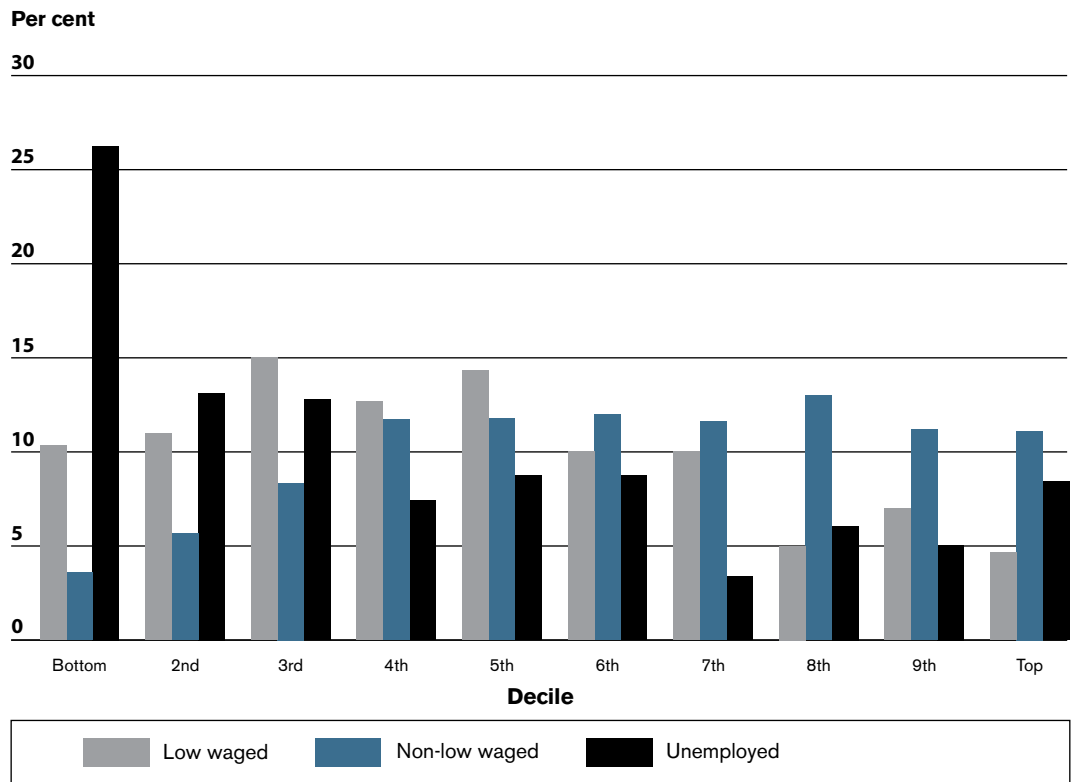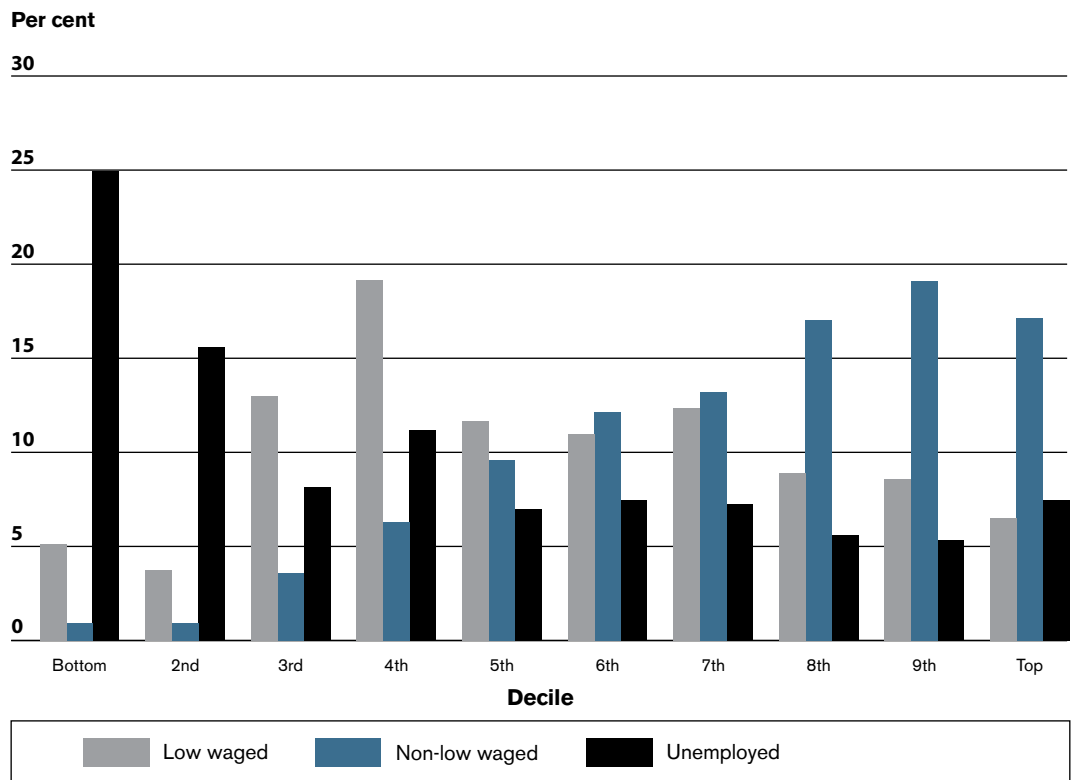Low waged   Non-low waged   Unemployed

Figure B5: Household income deciles for full time employees (2002)
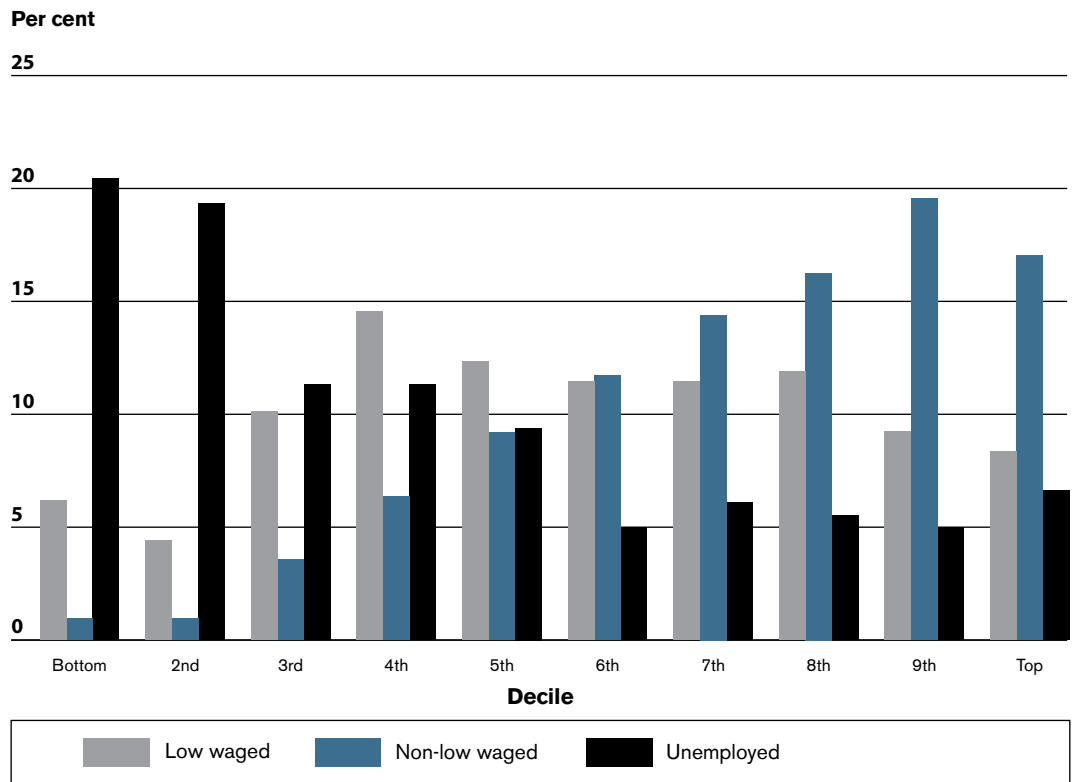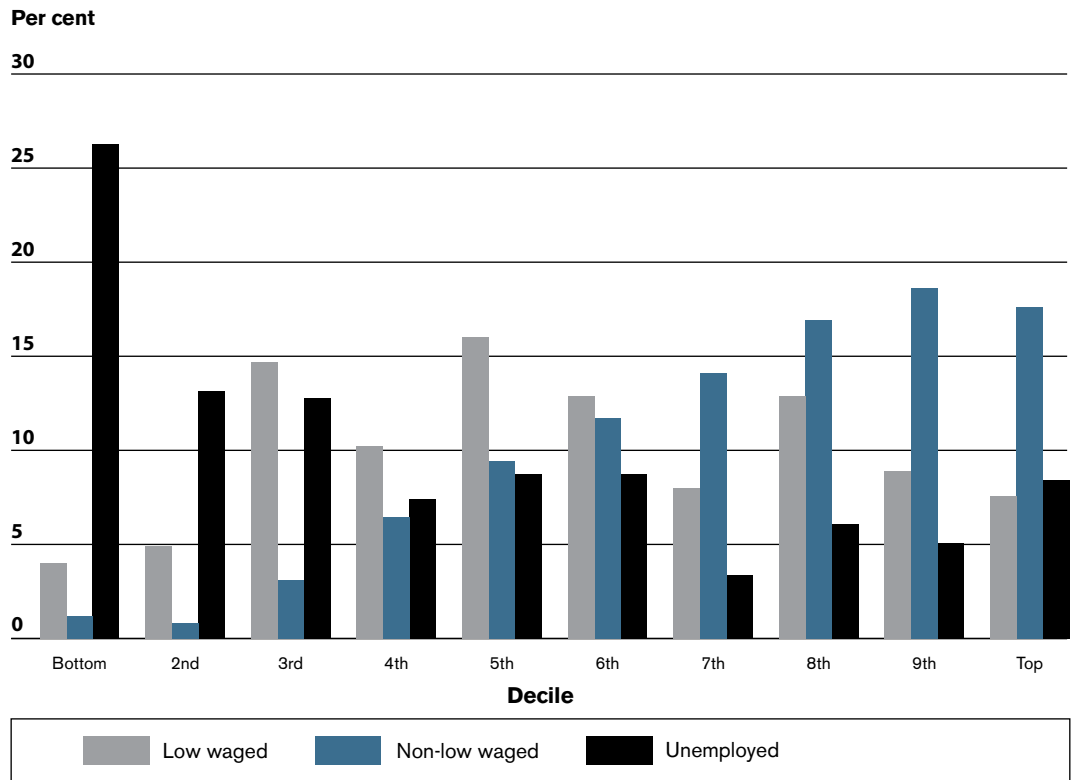
Per cent

Figure B6: Household income deciles for full time employees (2003)

Per cent

Appendix C:

Table C1: Low waged, estimated probit model (marginal effects)

	(1)	(2)	(3)
casual	0.059+++	0.050+++	0.033+++
	(0.010)	(0.009)	(0.008)
LTsick	0.038+++	0.035+++	0.028+++
	(0.009)	(0.009)	(0.008)
female	0.024+++	0.024+++	0.010
	(0.007)	(0.007)	(0.006)
marital_sgl	0.026+++	0.025+++	0.018+++
	(0.007)	(0.007)	(0.006)
edu_yr1012	−0.048***	−0.045***	−0.045***
	(0.014)	(0.013)	(0.011)
cert_dip	−0.062***	−0.058***	−0.055***
	(0.014)	(0.014)	(0.012)
Thirdlevel	−0.116***	−0.105***	−0.095***
	(0.016)	(0.015)	(0.014)
Reference below year 10			
dad_prof	−0.027**	−0.026**	−0.023**
	(0.013)	(0.012)	(0.010)
aage_3040	−0.041***	−0.036***	−0.023***
	(0.009)	(0.009)	(0.008)
aage_4050	−0.038***	−0.033***	−0.017**
	(0.010)	(0.009)	(0.009)
aage_5060	−0.052***	−0.046***	−0.018*
	(0.011)	(0.011)	(0.011)
aage_60p	−0.029	−0.021	−0.001
	(0.024)	(0.023)	(0.021)
Reference age_2130			
firmsz_05		0.074+++	0.059+++
		(0.010)	(0.010)
firmsz_09		0.025++	0.020++
		(0.011)	(0.010)
firmsz_19		0.008	0.006
		(0.011)	(0.010)
firmsz_49		0.022++	0.018++
		(0.009)	(0.008)
Reference firmsz_50+			
ab_aborg			−0.012
			(0.029)
migranteng			−0.000
			(0.010)
migrnoteng			0.041+++
			(0.008)
urban			−0.006
Reference non−migrant			
occtenure			−0.003***
			(0.001)
emptenure			0.001
			(0.001)
union_yes			−0.022***
			(0.008)
Constant	−0.099***	−0.114***	−0.070***
	(0.016)	(0.016)	(0.018)
Observations	3877	3877	3877
Pseudo R2	0.1046	0.1347	0.1952
Chi2(38)	213.32***	247.59***	268.89***

Standard errors in parentheses:
+ significant at 10%; ++ significant at 5%; +++ significant at 1% (positive)
* significant at 10%; ** significant at 5%; *** significant at 1% (negative)
Model includes controls for industry.

Table C2: PT low waged, estimated probit model (marginal effects)

casual	0.099+++	0.088+++	0.071+++
	(0.019)	(0.019)	(0.020)
LTsick	0.048++	0.049++	0.045+
	(0.024)	(0.024)	(0.024)
female	−0.000	0.003	0.008
	(0.022)	(0.022)	(0.023)
marital_sgl	0.062+++	0.063+++	0.059+++
	(0.021)	(0.021)	(0.020)
edu_yr1012	−0.027	−0.026	−0.007
	(0.039)	(0.039)	(0.038)
cert_dip	−0.078+	−0.082++	−0.070+
	(0.041)	(0.041)	(0.041)
Thirdlevel	−0.153***	−0.150***	−0.124***
	(0.043)	(0.043)	(0.043)
Reference below year 10			
dad_prof	−0.022	−0.020	−0.023
	(0.029)	(0.029)	(0.028)
aage_3040	0.014	0.011	0.016
	(0.028)	(0.028)	(0.028)
aage_4050	−0.005	−0.008	0.014
	(0.028)	(0.028)	(0.029)
aage_5060	0.021	0.020	0.051
	(0.030)	(0.030)	(0.031)
aage_60p	0.044	0.047	0.087+
	(0.042)	(0.043)	(0.045)
Reference age_2130			
firmsz_05		0.063++	0.045
		(0.028)	(0.029)
firmsz_09		0.024	0.007
		(0.029)	(0.030)
firmsz_19		0.076+++	0.072+++
		(0.027)	(0.027)
firmsz_49		0.064++	0.067++
		(0.028)	(0.028)
Reference firmsz_50+			
ab_aborg			0.025
			(0.083)
migranteng			−0.030
			(0.031)
migrnoteng			0.001
			(0.028)
urban			−0.050**
			(0.019)
Reference non−migrant			
occtenure			−0.004+++
			(0.001)
emptenure			0.000
			(0.002)
union_yes			−0.049+
			(0.026)
Constant	−0.257***	−0.289***	−0.234***
	(0.050)	(0.050)	(0.067)
Observations	1610	1610	1610
Pseudo R2	0.056	0.0637	0.0996
Chi2(38)	83.81***	94.98***	148.21***

Standard errors in parentheses:
+ significant at 10%; ++ significant at 5%; +++ significant at 1% (positive)
* significant at 10%; ** significant at 5%; *** significant at 1% (negative)
Model includes controls for industry.

Table C3: Characteristic differences across FT relative to PT low waged employees

	(1)
casual	0.010
	(0.015)
LTsick	0.015
	(0.016)
female	0.011
	(0.015)
marital_sgl	−0.005
	(0.013)
edu_yr1012	−0.058**
	(0.025)
cert_dip	−0.041
	(0.026)
Thirdlevel	−0.068**
	(0.029)
dad_prof	−0.021
	(0.020)
aage_3040	−0.040**
	(0.018)
aage_4050	−0.030
	(0.019)
aage_5060	−0.051**
	(0.022)
aage_60p	−0.043
	(0.037)
firmsz_05	0.060+++
	(0.019)
firmsz_09	0.025
	(0.020)
firmsz_19	−0.027
	(0.019)
firmsz_49	−0.008
	(0.018)
ab_aborg	−0.030
	(0.058)
migranteng	0.015
	(0.021)
migrnoteng	0.057+++
	(0.018)
urban	0.017
	(0.013)
occtenure	−0.002*
	(0.001)
emptenure	(0.001)
union_yes	−0.007
	(0.017)
Constant	0.010
	(0.041)

Standard errors in parentheses:
+ significant at 10%; ++ significant at 5%; +++ significant at 1% (positive)
* significant at 10%; ** significant at 5%; *** significant at 1% (negative)
Model includes controls for industry.

Table C4: General low waged model, estimated probit models (marginal effects)

	(1)	(2)	(3)
pt_casual	0.092+++ (0.009)	0.079+++ (0.009)	0.051+++ (0.008)
ft_casual	0.074+++ (0.012)	0.065+++ (0.012)	0.046+++ (0.012)
LTsick	0.043+++ (0.009)	0.042+++ (0.009)	0.036+++ (0.008)
female	0.031+++ (0.008)	0.031+++ (0.007)	0.017++ (0.007)
marital_sgl	0.035+++ (0.008)	0.035+++ (0.008)	0.028+++ (0.007)
edu_yr1012	−0.045*** (0.015)	−0.041*** (0.014)	−0.041*** (0.013)
cert_dip	−0.070*** (0.015)	−0.067*** (0.015)	−0.065*** (0.013)
thirdlevel	−0.130+++ (0.016)	−0.120+++ (0.016)	−0.111+++ (0.015)
Reference below year 10			
dad_prof	−0.026** (0.012)	−0.025** (0.012)	−0.023** (0.011)
aage_3040	−0.033*** (0.010)	−0.032*** (0.010)	−0.019** (0.009)
aage_4050	−0.033*** (0.010)	−0.032*** (0.010)	−0.012 (0.010)
aage_5060	−0.036*** (0.012)	−0.033*** (0.011)	−0.003 (0.011)
aage_60p	−0.002 (0.020)	−0.004 (0.020)	0.022 (0.019)
Reference age_2130			
firmsz_05		0.076+++ (0.011)	0.063+++ (0.010)
firmsz_09		0.028++ (0.012)	0.022++ (0.011)
firmsz_19		0.031+++ (0.011)	0.022++ (0.010)
firmsz_49		0.034+++ (0.010)	0.030+++ (0.009)
Reference firmsz_50+			
ab_aborg			−0.010 (0.030)
migranteng			−0.005 (0.011)
migrnoteng			0.041+++ (0.009)
Reference non−migrant			
urban			−0.017** (0.007)
occtenure			−0.003*** (0.001)
emptenure			0.001 (0.001)
union_yes			−0.032*** (0.009)
Constant	−0.159*** (0.017)	−0.180*** (0.017)	−0.109*** (0.022)
Observations	5487	5487	5487
Pseudo R2	0.1033	0.1175	0.1641
Chi2(39)	379.77	425.53	545.39

Standard errors in parentheses:
+ significant at 10%; ++ significant at 5%; +++ significant at 1% (positive)
* significant at 10%; ** significant at 5%; *** significant at 1% (negative)
Model includes controls for industry.

Table C5: Low wage relative to unemployed, estimated probit models (marginal effects)

	(1) ptlow	(2) ftlow	(3) lowwage
female	0.239+++	−0.153***	0.021
	(0.042)	(0.042)	(0.035)
ab_aborg	−0.253*	−0.247*	−0.312***
	(0.141)	(0.137)	(0.118)
LTsick	−0.088+	−0.033	−0.049
	(0.049)	(0.048)	(0.041)
migranteng	−0.071	−0.082	−0.080
	(0.069)	(0.072)	(0.059)
migrnoteng	−0.112+	0.081	−0.007
	(0.061)	(0.056)	(0.049)
Reference non−migrant			
edu_yr1012	0.188***	−0.006	0.079
	(0.072)	(0.064)	(0.057)
cert_dip	0.194++	0.147++	0.196+++
	(0.079)	(0.069)	(0.062)
Thirdlevel	0.211**	−0.023	0.115
	(0.089)	(0.088)	(0.074)
Reference below year 10			
dad_prof	0.054	0.061	−0.014
	(0.067)	(0.073)	(0.059)
aage_3040	0.210+++	0.115++	0.152+++
	(0.057)	(0.057)	(0.048)
aage_4050	0.289+++	0.159+++	0.217+++
	(0.058)	(0.058)	(0.049)
aage_5060	0.398+++	0.186+++	0.282+++
	(0.068)	(0.071)	(0.059)
aage_60 p	0.436***	−0.018	0.226**
	(0.100)	(0.132)	(0.093)
Reference age_2130			
urban	−0.002	0.104**	0.058
	(0.042)	(0.044)	(0.037)
marital_sgl	−0.120***	−0.186***	−0.157***
	(0.045)	(0.045)	(0.038)
Constant	−0.478***	−0.070	−0.071
	(0.089)	(0.078)	(0.070)
Observations	678	653	921
Pseudo R2	0.1611	0.0957	0.0889
Chi2(15)	128.95***	79.19***	104.14

Standard errors in parentheses:
* significant at 10% (negative); ** significant at 5%; *** significant at 1%
+ significant at 10%; ++ significant at 5% (positive); +++ significant at 1% (positive)

Table C6: Variable descriptions

Variable name	Description
Casual	No entitlement to paid holiday or sick pay
LT Sick	Respondent suffers from a long-term illness or disability
Female	Gender control
Marital_sgl	Single marital status
Edu_yr1012	Educational attainment between years 10 and 12
Cert_dip	Educated to certificate or diploma level
Thirdlevel	Has a third level qualification
Dad_prof	Father professional
Age_3040	Aged between 30 and 39
Age_4050	Aged between 40 and 49
Age_5060	Aged between 50 and 59
Age_60p	Aged 60 or over
Firmsz_05	Employed in a firm with between 1 and 4 employees
Firmsz_09	Employed in a firm with between 5 and 9 employees
Firmsz_19	Employed in a firm with between 10 and 19 employees
Firmsz_49	Employed in a firm with between 20 and 49 employees
Migranteng	Migrant from a country where English is the first language
Migrnoteng	Migrant from a country where English is not the first language
Ab_aborg	Aboriginal background
Urban	Lives in an urban location
Occtenure	Occupational tenure
Emptenure	Employment tenure
Union_yes	Member of a trade union

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Notes