Everything under a fiver

Recruitment and retention in lower paying labour markets

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1 Introduction

Overview

In mid 1996, researchers at the Centre for Economic Performance (CEP), LSE approached a select group of private sector companies with a view to examining the recruitment and retention of staff in a number of lower paying sectors of the labour market. The Centre was particularly interested in an examination of the service sector, not only because it has a high concentration of lower paying firms, but also because it represents a much ignored sector in academic research. The service sector is also the major growth area for employment over the past 20 years; a trend that is likely to continue well into the future.

Following approaches to a number of employers, one company from each of five sectors agreed to enter into a project focusing on these issues. The sectors were hotels, quick service restaurants, the leisure industry, the retail trade and food manufacturing. These companies' wage rates are clustered at various points in the bottom quarter of the earnings distribution in Great Britain. Consequently, it was thought that many of their staff would be affected by the introduction of Britain's first national minimum wage in April 1999. However, since the minimum wage was set lower than we had anticipated this proved to be misguided.

In return for their co-operation, the firms concerned were offered an independent assessment of their company in terms of their workers' characteristics, wage comparisons, staff retention rates and the recruitment process. Furthermore, the study provided for more academically oriented research; including a cross-company comparison, an examination of worker satisfaction and its impact on quits, the effect of intra-firm and area wage dispersion on labour turnover, and the filling of vacancies. This report presents a non-technical summary of this work.

Study design

The general aim of this project was to obtain high-quality information on staff dynamics in low-wage sectors. Five companies agreed to participate in the study by providing administrative data and also distributing and collecting questionnaires on various aspects of each company's activities. For the sake of confidentiality the companies will be referred to here by their activity: a restaurant, a hotel, a leisure company, a supermarket and a food manufacturing firm. The research team decided to aim for regional clusters of sites to facilitate analysis of the local labour markets in which many or all of the five companies operate. Hence the project sees these firms as competitors for entry level (non-specialised new recruit) labour. The areas chosen are North West London, Metropolitan West Midlands, West of England (Cheltenham and Gloucester), West Yorkshire (Leeds and Bradford), Welsh Borders (Shropshire and Cheshire), Merseyside and the North West (Blackpool and Preston). The aim was to cover cities and smaller urban or semi-urban areas. Two companies covered all the areas, with another two covering all but one. The remaining company had just three sites included. A number of the companies provided data on more than one site within the location, especially where unit size is small.

The data collection required the downloading of company payrolls, the compilation of financial performance data –

relative to targets to retain company anonymity, and the distribution of thousands of staff questionnaires. The series of questionnaires were designed to obtain personal information from appointees, current staff and leavers; site information from managers; and details on the vacancy process from personnel or line managers.

The survey covered the whole through flow of labour in the firms from vacancy openings, through the recruitment process to staff leaving. We attempted to view this process from both the firm and worker perspectives. This was an ambitious aim and proved difficult, especially in the case of tracking leavers. Payroll data generally covered a year but in some cases a shorter period was available. These windows covered late 1996 and early 1997, as did the surveys of staff. However, co-ordination problems with companies in making the payroll data available in a comprehensible form meant that this phase of the project took around five months longer than anticipated.

Obviously the companies (and areas) were not chosen randomly and, given this fact, there could be some concern about representativeness or motives. The companies' interest in the project was due to the fact that we could offer research that they generally did not have the resources to conduct themselves (for example, we could compare the company workforce with workers in the corresponding industry using the Quarterly Labour Force Survey). Each company was provided with a report on the state of their workforce but it was made clear that the academic output of the project would be as we saw fit. We have undertaken much of the analysis by comparing firms with not just each other but with established national databases. This has been done either using the wider industry or local area as benchmarks. The main national data sets utilised are the Quarterly Labour Force Survey (QLFS) and the New Earnings Survey (NES).

2 Workforce profile

Demographics

In this section the characteristics of the workforce in each of the participating companies are examined using data obtained from the staff questionnaires and the payroll data. A comparison with the characteristics in the industry as a whole is also provided using data from the Quarterly Labour Force Survey for 1996/97 (QLFS).[1]

Gender mix

Table 1 presents the proportion of women in each our sample of firms and also within the industry as a whole. Overall, women constitute about 42 per cent of employment in the private sector. In the low paying industries looked at here, women are slightly over represented in the workforce, particularly in Retailing and Leisure where two thirds are female. In our sample of firms we have more women in the service sector than in the whole industry but less in Food Manufacturing, where women constitute only 17 per cent of employment.

Age composition

Table 2 presents the age composition of the workforce in these sectors. This varies widely across the industries with Quick Service Restaurants containing a very high proportion of young workers. In our survey, 80 per cent of Quick Service Restaurant staff were aged under 25, with 20 per cent under the age of 18, and 40 per cent aged between 18 and 21. Given that the national minimum wage (NMW) does not cover anyone under 18 years old and that there is a lower rate for 18 to 21 year olds, this Quick Service Restaurant is not going to be heavily

Table 1 Proportion of females in workforce (%)

Sector	Survey sample	Labour Force Survey
Hotels	66	58
Quick Service Restaurant	58	54
Food Manufacturing	17	36
Retail	79	64
Leisure	72	66

Table 2 Age composition of workforce (%)

	Under 18	18–21	22–24	25–34	35–49	Over 50
Survey Sample						
Hotels	14.1	18.7	12.7	19.9	19.9	14.7
Quick Service Restaurant	19.8	39.7	20.2	16.6	3.2	0.4
Food Manufacturing	0.0	1.3	8.4	25.3	42.6	22.4
Retail	5.4	10.7	6.7	29.8	35.4	12.0
Leisure	1.0	18.7	11.8	32.0	24.1	12.3
Labour Force Survey						
Hotels	10.5	17.7	10.7	25.4	21.6	14.2
Quick Service Restaurant	20.1	22.3	9.6	24.7	17.1	6.1
Food Manufacturing	2.3	6.7	6.7	29.0	36.2	19.2
Retail	9.8	15.0	8.2	25.2	27.8	14.0
Leisure	1.7	13.5	10.1	30.4	35.0	9.3
Whole economy	**3.4**	**8.4**	**7.7**	**29.3**	**33.9**	**17.3**

affected by the adult rate that has been set.[2] Even on a national basis this is a very young industry with over 40 per cent of staff aged 21 or under.

Compared to the industry as a whole our Retail company has an older workforce. The Leisure company surveyed looks much the same as the rest of the industry, one where workers tend to be older. Similarly, the Food Manufacturing and Hotel companies appear to have age distributions that mirror those in their respective industries. Hotels is the next youngest of our industries and here again the impact of the NMW will depend on how the lower youth rate is utilised. All these sectors, except food manufacturing, are heavy users of youth labour.

Education

The educational qualifications of the workers in these industries are not as low as might be expected. Compared with the economy as a whole, they contain only slightly more workers whose highest qualification is GCSE/O level or below (see Table 3). However, the employment of graduates in these industries is uncommon. The qualifications of staff in our sample of firms are dominated by low levels of education compared to the population as a whole. For example, around 15 per cent of employees in the whole economy have no formal educational qualifications; this compares to 53 per cent in our Food Manufacturing firm and 35 per cent in our Retail firm. The striking exception to this pattern is our Quick Service Restaurant which has a very large number of GCSE and A level qualified labour.

As this is also a very young workforce it is no surprise that many of these employees are still in full-time education (see Table 4).

Other characteristics

Table 4 presents some selected characteristics: the proportion with children, the proportion who are white, the proportion who are students, and the proportion with a second job.

Table 3 Educational composition of workforce (%)

	No quals	CSE/Voc.	GCSE	A level	Degree
Survey sample					
Hotels	20.8	26.8	37.8	8.9	5.8
Quick Service Restaurant	8.9	10.1	47.4	27.5	6.1
Food Manufacturing	52.7	26.6	13.1	1.7	5.9
Retail	34.6	24.0	29.0	9.0	3.4
Leisure	32.0	29.6	26.1	8.4	3.9
Labour Force Survey					
Hotels	16.1	16.7	25.6	36.9	4.6
Quick Service Restaurant	21.9	17.9	32.0	24.5	3.8
Food Manufacturing	23.5	24.7	17.8	28.1	5.9
Retail	19.0	15.2	30.9	29.2	5.7
Leisure	18.9	17.6	31.7	28.9	3.0
Whole economy	**15.0**	**15.6**	**21.8**	**36.1**	**11.6**

Table 4 Selected characteristics of workforce (%)

	% with children	% white	% students	% with 2nd job
Survey sample				
Hotels	46.3	98.2	33.4	9.4
Quick Service Restaurant	33.5	74.9	61.1	9.0
Food Manufacturing	30.4	63.4	9.3	3.2
Retail	66.6	96.2	20.8	6.9
Leisure	65.6	94.8	10.5	8.0
Labour Force Survey				
Hotels	43.5	95.5	16.2	5.2
Quick Service Restaurant	62.4	81.7	28.6	4.6
Food Manufacturing	43.7	94.8	1.3	3.0
Retail	51.4	94.9	16.2	4.7
Leisure	51.0	97.6	5.2	3.4
Whole economy	**44.4**	**95.4**	**4.6**	**3.9**

Nationwide some 44 per cent of employees have dependent children; this proportion is slightly higher in the Retail and Leisure industries, and significantly higher (62 per cent) in Quick Service Restaurants. In our sample of firms, however, there are some differences from this overall picture. Firstly, the proportion with children in our Quick Service Restaurant is much lower at 34 per cent, reflecting the relative youth of this workforce. The proportion with children is also lower in the Food Manufacturing company, but is slightly higher in the Retail and Leisure firms than in the corresponding sectors as a whole. Given that these are lower paying jobs these people may well have been eligible for Family Credit, or even more likely the new more generous Working Family Credit, unless they have another full-time earner in the household.

Turning to ethnicity, we see that around 95 per cent of the employed workforce are white. This does not vary that much across the different sectors, with the striking exception of Quick Service Restaurants which has a higher proportion of non-whites, 20 per cent nationally. However, there are some significant differences in our firms. The proportion of non-whites is higher in both the Quick Service Restaurant (25 per cent) and also the Food Manufacturer (37 per cent).

Some 4.6 per cent of private sector employees are students. However, the proportion is significantly higher than this in some of these sectors of the labour market. The student population is higher in Retail, Hotels and Quick Service Restaurants, but lower in Food Manufacturing. This reflects the pattern of young workers in these industries. In our firms, the proportion of students is higher in all firms than in each respective sector. This is particularly striking in the Quick Service Restaurant where 61 per cent of employees are students, compared to 29 per cent in this sector as a whole. This reflects the youthful nature of this workforce, but even so this is a striking result. This firm is clearly attracting the

increasing number of full-time sixth form and university students that work evenings or weekends. Hence, despite paying wages which are low by national standards this firm in particular has a well educated workforce.

About 4 per cent of employees have second jobs and this does not vary much across these sectors. The possible exception to this is in Hotels where over 5 per cent have second jobs. However, the proportion in our sample with second jobs is somewhat higher in all firms with the exception of the Food Manufacturer. Close to 9 per cent of employees have another job in the Hotel, Leisure and Quick Service Restaurant chains. This is particularly striking given the high number of students in these firms. Indeed full-time students are only slightly less likely to be second job holders than other employees.

Employment histories

Job tenure

Let us now turn to the important question of the tenure distribution of the workforce in these companies. Table 5 presents information on the proportion of employees with differing lengths of job tenure. Tenure is split into seven bands: under 3 months, 3–6 months, 6–12 months, 1–2 years, 2–5 years, 5–10 years, over 10 years. Job tenure is often starkly lower in these sectors than in the workforce as a whole, particularly in Hotels and Quick Service Restaurants where 27 per cent and 31 per cent respectively have been in their job for less than six months. The pattern in Food Manufacturing is much more like the whole economy, with over 50 per cent having tenure of more than five years.

Tenure is generally somewhat lower in our sample of firms than in these sectors as a whole. Some 35 per cent of employees in the Hotel chain and 34 per cent in the Quick Service

Table 5 Tenure distribution of the workforce (%)

	Under 3 months	3–6 months	6–12 months	1–2 years	2–5 years	5–10 years	10+ years
Payroll sample							
Hotels	27.6	6.9	10.1	21.7	20.4	8.5	5.0
Quick Service Restaurant	16.9	16.9	16.5	23.2	16.2	9.6	0.8
Food Manufacturing	7.1	8.7	10.6	18.1	20.1	15.5	19.9
Retail	8.0	6.8	8.8	19.7	27.1	19.7	9.8
Leisure	15.6	13.4	13.5	25.9	16.3	7.8	7.5
Labour Force Survey							
Hotels	15.7	10.8	15.8	17.1	17.9	15.3	7.5
Quick Service Restaurant	19.6	12.2	17.0	17.2	17.9	11.7	4.6
Food Manufacturing	8.4	4.8	7.6	10.4	17.9	24.0	26.9
Retail	10.4	7.7	12.2	15.6	20.6	19.0	14.5
Leisure	10.7	7.3	11.1	13.5	21.9	18.3	17.2
Whole economy	**8.8**	**6.1**	**9.5**	**12.6**	**19.2**	**21.7**	**22.1**

Restaurants have tenure under six months, compared to 27 per cent and 31 per cent in the respective sectors. However, most striking is the leisure firm where tenure is considerably lower than in this sector overall: 29 per cent compared to 18 per cent below six months. Note that the tenure data for the Retail firm do not include managerial workers, so comparisons with the Retail sector as a whole are a little difficult.

Previous employment history

Our questionnaires enable us to examine how many previous employers current staff worked for in the three years prior to starting the current job (see Table 6). Since all staff are included there may be potential recall problems for long tenured workers. Just over 10 per cent of staff in all firms, except the Retail firm, had no other employer in the last three years. The figure for Retail was 20 per cent, perhaps reflecting a large number of women with dependent children in the workforce. While most employees had one or two employers in the three years prior to their current post, this is not generally the case for Quick Service Restaurant employees. In line with the finding that most Quick Service Restaurant workers are very young and are combining employment with study, just under a third have had three or more employers in the previous three years. Job churning is generally more pronounced amongst the young.

The same questionnaire recorded workers' economic state immediately prior to joining their current employer. In most firms around 35–40 per cent were employed elsewhere (Table 7). However, in the Quick Service Restaurant, the proportion of recruits who were employed elsewhere is much lower at 21 per cent; this again obviously reflects the youth of their staff and the fact that over 60 per cent of starters come straight from full-time education. It is probably the case that, although their main activity was education, many were also working part-time or had recently done so. The proportion entering direct from full-time education is much lower in the other companies, between 5 and 30 per cent.

The Food Manufacturer is a large recruiter of previously unemployed labour, with 43 per cent of staff coming directly from unemployment. This will reflect their greater use of older male workers by this firm. Studies have shown that men are much more likely to be registered unemployed between jobs than women, and therefore many women who report previously

Table 6 Number of previous employers over the past three years (%)

No. of employers	Leisure	Hotels	Retail	Food Manufacturer	Quick Service Restaurant
0	10.9	14.3	20.4	12.9	13.3
1	41.0	39.2	47.8	48.0	27.1
2	32.8	29.2	25.4	24.8	29.4
3–5	14.8	16.4	6.0	13.9	28.6
5+	1.0	1.0	0.4	0.5	1.6
Total	**100**	**100**	**100**	**100**	**100**

Table 7 Where workers come from (%)

Economic state	Leisure	Hotels	Retail	Food Manufacturer	Quick Service Restaurant
Employed elsewhere	39.2	35.8	36.8	40.8	21.2
Unemployed	21.6	16.9	14.6	43.0	13.4
Full-time education	11.3	28.5	17.1	4.9	62.5
Home makers	27.5	13.4	30.1	6.3	2.6
Other	0.5	5.4	1.4	2.2	0.4
Total	**100**	**100**	**100**	**100**	**100**

being a full-time home maker may have actually been seeking work. Both the Leisure group and Retail firm make good use of people who classed themselves as home makers prior to taking this job. Presumably, these are women, returning to work after caring for the home. As many of these have children, it may be that the firms surveyed offer the flexibility that individuals with caring responsibilities need in order to combine caring with work.

All the above analysis is on the current stock of employees, which includes new recruits and members of staff who have been with the firm for much longer. It is highly likely that these long tenured employees will be rather different from those recently appointed. Consequently, we also administered a separate questionnaire to newly appointed staff. However, responses to this questionnaire were patchy and only useable from three of the participating companies. The Hotel, Retail and the Food Manufacturer each gave us at least 40 completed questionnaires of new appointees. However, as the samples are small we shall only report some of the results. In all cases newly appointed staff were much younger than the current stock of employees. The age gap was most extreme in the Retail firm, where new recruits had a typical (median) age of 21 years compared to 35 years among existing staff. This generally reflects the use of temporary and seasonal staff who are often young. In addition, younger staff do not tend to stay with the employer as long, which results in an older stock of current staff as younger workers leave more quickly.

The gender mix and ethnicity of new starters is not radically different from that of the current workforce. However, past employment histories are different. Many more of the new recruits come from full-time education and unemployment than existing staff, and less come from other employment or from looking after the family or home. The number of previous employers is higher among new recruits, with significantly more having three to five previous employers in the three years prior to this job. This reflects the relative youthfulness of new recruits and the high employment instability faced by the unemployed.

We had hoped to observe the wage gain among those moving from one employer to the current employer but the combination of a small sample, a low proportion coming from other jobs and some reticence in reporting the previous wage made this impossible. We can note that ongoing government reforms to the

tax and benefits systems and the NMW will have different effects on recruitment. The NMW will raise the level of wages in other firms closer to the levels these firms pay. This is likely to reduce recruitment potential unless wages here respond. However, as most new recruits do not come from other employment this pressure will be muted. Indeed the tax and benefit reforms of the Working Family Tax Credit, 10p tax band and NI reforms will substantially increase the take-home pay from these jobs which will raise their attractiveness to the workless whether unemployed, students or carers. Without a wage response we might expect less direct recruitment from other employers, with a move towards those currently workless. Indeed the WFTC and Child Care Tax Credit may especially attract more recruits with children to these employers.

Wages

Our firms have varying approaches to wage setting: some are centrally determined whilst others give complete site level discretion. This affects the degree of dispersion in site wage distributions and leads to varying wage rankings by firms across our local labour markets. However, dispersion will also be affected by the number of job categories and skills used, as well as rewards to career development and seniority. Hence we observe a reasonably wide range of wage rates within firms. Table 8 lists each firm's policy towards local wage setting and looks at the ratio of the lowest and highest deciles of hourly wage rates across each company. The bottom decile is the wage paid to the worker 10 per cent of the way up the wage hierarchy and the top decile is the wage paid to the worker 90 per cent of the way up. This is computed across all sites within each firm. Managers have been excluded, but not senior or supervisory staff, or those with specific skills. We see that the Leisure firm has the lowest level of dispersion in wages, while the Hotel chain has the highest.

At the time of the survey the Hotel had the lowest basic pay rate, but the difference from the Quick Service Restaurant and the Leisure group was modest. The typical wage was just

Table 8 Wage policies of firms and the level of (site and) company wage dispersion (1996/97)

	Leisure group	Hotel chain*	Retail chain	Food Manufacturer	Quick Service Restaurant
Wage policy	Centrally set, London Weighting	Centrally set, London Weighting	Centrally set, regional variations	Varies by site	Varies by site, subject to budget limits
Hourly rate					
Lowest decile	3.45	2.97	3.39	3.19	3.09
Highest decile	4.00	5.27	4.64	5.39	4.33
Differential: highest/ lowest deciles	1.16	1.77	1.37	1.69	1.40

*Payroll data cover departmental managers and head chefs.

under £3.40 in the Hotel chain and the Quick Service Restaurant, £3.50 in the Leisure group, £4 for the Food Manufacturer and just over £4 for the Retail chain. Site variation in the pay rates ranged from no variation outside London in the Hotel chain to nearly plus or minus 20 per cent of the typical rate in the Food Manufacturer and the Quick Service Restaurant. This means that in all areas where they were both present, the Hotel chain paid less than the Leisure group (except for within London). The Quick Service Restaurant paid below the Hotel in some areas and above in others, and above the Leisure group in one area.

When considering issues of relative wages it is important to consider 'in-kind' payments, which again were detailed in the managers' questionnaires. Whilst no employers in the study offer child care, their generosity with respect to provision of meals does vary. Both the Quick Service Restaurant chain and the Hotel company offer free food, whereas the Retail chain, Food Manufacturer and Leisure firm offer subsidised meals.

As well as payments in kind, wages are affected positively by eligibility for bonuses. The managers' questionnaires enable us to identify what proportion of each companies' sites use a bonus system, whether team or individual, for their established staff. Table 9 reveals that almost all of the Quick Service Restaurant sites and Hotels in the study use some form of incentive payment. The Food Manufacturer does not rely on bonuses, which may reflect the greater ease with which they can monitor staff performance in manufacturing.

Wage rates relative to the outside local labour market

The managers' questionnaires asked for opinions about how wages compared with other firms recruiting the same entry level labour in the same local labour market. Managers' views with regard to their site's wage performance vary widely. Table 10 looks at the probability that managers consider their firms' wages to be good compared to other firms in the area.

Between 36 and 48 per cent of managers say that their wages are about the same as those of their competitors. In terms of relative wages, the Retail chain regards itself more favourably than the other firms; managers view their wages as a little or a lot better than those of rival employers in 55 per cent of cases. Conversely, 36 per cent of managers in the Leisure group reported themselves as paying a little or a lot less than other local employers. In the Hotel chain, Leisure group and the Quick Service Restaurants more managers say that their wages are worse than their rivals than say that their wages are better.

Previous work on financial performance has found that there is always a positive bias in managerial opinions of aspects of their firms'

Table 9 The proportion of sites making their staff eligible for bonuses

	Leisure group	Hotel chain	Retail chain	Food Manufacturer	Quick Service Restaurant
Bonuses	75.0	85.7	14.3	0.0	82.1

Table 10 Proportions reporting different wage levels relative to local available rates

Relative to others	Leisure group	Hotel chain	Retail chain	Food Manufacturer	Quick Service Restaurant
A lot worse	6.8	5.8	0.3	2.6	4.8
A little worse	29.4	27.4	8.4	18.4	25.0
About the same	46.5	47.4	36.2	47.8	48.1
A little better	12.9	14.3	48.0	20.9	15.9
A lot better	4.3	5.1	7.4	10.4	6.2

Note: The same questionnaire asked managers to classify their site as either city/town centre, on the edge of town, semi-rural or other. The probability of reporting wage performance greater than average is 9 per cent higher for sites on the edges of town rather than in the centre, though this may reflect the tendency of large retail stores to cluster on the outskirts of towns.

financial performance (for example, Millward *et al.*, 2000 on the Workplace Industrial Relations Surveys). Therefore it is useful to check how self-reported relative pay compares with official data. Consequently, we compared these self-reported pay relativities with actual relativities between the firms' reported pay rates and those in the local labour market. For the rate in the local labour market we use the 25th percentile of local wage distribution drawn from the New Earnings Survey for each travel to work area in which the firms' sites were located. In addition, managers also reported their impression of typical local wage rates available for entry level jobs. For the firms' actual reported pay rates we use wages reported for vacancies opened by the firm in the course of the survey and a rate drawn from payroll databases for recent starters with the firm. This strategy was employed because the question asked of managers was specifically about entry level labour. For comparability reasons Table 11 reports information only for sites that supplied vacancy data.

It is clear that there is a reasonably good correlation between managerial reported impressions of relative pay and the actual observed relativities from the NES data, although the distinction between the categories 'a lot below average' and 'below average' is unclear. Managers' assessments of their pay rates compared to local pay rates also tied in well with the actual relativities. The average pay benchmark is about 80–85 per cent of the 25th percentile of local wages.

The impact of the National Minimum Wage

Let us now turn to examine the impact of the National Minimum Wage (NMW) on these firms. The principle of a NMW was established by the Labour Party in their election manifesto. Shortly after their election victory in May 1997 they set up the Low Pay Commission, which was charged with the responsibility of recommending a rate and examining the case of workers under the age of 25. They reported to the government in June 1998, when after some arguments over youth workers the rate was announced. The NMW came into operation in April 1999 with a minimum hourly rate of £3.60

Table 11 Correlations of self-reported and 'objective' relative pay

	Number of sites	Actual/ ttwa25th	Entry/ ttwa25th	Actual/ maw	Entry/ maw
A lot above average	1	131	111	129	109
Above average	34	85	82	116	107
Average	56	85	82	102	101
Below average	29	73	72	98	96
A lot below average	12	77	80	–	–

Notes:
actual = actual pay of vacancy
ttwa25th = travel to work area, 25th percentile
entry = typical entry wage from payroll
maw = outside competitor wage – reported by managers.

for workers aged 22 and over and a youth rate of £3.00 for those aged 18 to 21 inclusive. There is also a training rate of £3.20 for those in the first six months of their employment who are working towards a recognised qualification.[3] Given the time scale of these events, these firms have had a long period when they knew that an NMW would be introduced and just under a year between the announcement of the rates until introduction. In view of this the Quick Service Restaurant established a youth rate in early 1998.

Table 12 presents information on the proportion of workers who would be affected by the NMW in April 1999. The table contains data from the 1996 Labour Force Survey (LFS) and the payroll records from our sample of firms, updated to April 1999 prices using the average earnings index. Looking at the data from the LFS we see that quite a high proportion of employees in these industries will be affected by the NMW. Overall it is estimated that about 9 per cent of employees will be affected by the NMW. However there is significant variation across sectors. The Quick Service Restaurant sector has the highest incidence of affected workers at 27 per cent. Hotels and Leisure also have a high incidence, whereas Retailing and Food Manufacturing are less affected.

Turning to the companies in our sample we see that the proportion of workers who are likely to be affected is very low. In the Food Manufacturing, Retail and Leisure companies virtually nobody is affected by the NMW. Even in the Hotel chain and the Quick Service Restaurant there is limited coverage, with 8 per cent and 13 per cent affected respectively. The second column of Table 12 presents the proportion who would have been affected had the minimum wage been set at a higher rate for adults as recommended by economists at the CEP. (This was based on up-rating the old Wages Council rates which were found not to be harmful to employment; Dickens *et al*., 1999.) This would have given those 22 years and older a rate of £3.90 per hour in April 1999. We see that had this rate or anything like it been

Table 12 Impact of the National Minimum Wage

	% affected by NMW	% affected by higher NMW
Payroll sample		
Hotels	7.7	26.5
Quick Service Restaurant	12.7	21.1
Food Manufacturing	0.2	11.7
Retail	0.2	1.0
Leisure	0.0	41.7
Labour Force Survey		
Hotels	20.9	–
Quick Service Restaurant	27.1	–
Food Manufacturing	8.2	–
Retail	13.4	–
Leisure	19.4	–
Total	**9.0**	

adopted by the Low Pay Commission, far more employees in these firms would have been affected. Some 42 per cent of workers in the Leisure chain would have been covered, with 21 per cent in the Quick Service Restaurant and 27 per cent in the Hotel chain. Notice, however, that still very few employees would be affected in the Retail chain.

The reason that we see such a large change in proportions affected when we adopt the higher rate is because many of the companies have most of their employees concentrated on rates that, when up-rated by wage inflation, are just above the NMW. Many employees were paid at around £3.50 per hour when the survey was conducted. When up-rated to April 1999 prices this comes to around £3.70–3.80 per hour, which is about 10–20 pence above the minimum rate.

Table 13 presents the proportion affected by the NMW by age group. Nobody under 18 can be affected by the NMW since it does not apply. Notice however that very few will be affected by the youth rate in these firms. The largest effects of the adult rate occur for the younger workers. Some 37 per cent of workers aged 22–24 in the Quick Service Restaurant will be affected. This shows that the biggest impact will be felt by those just eligible for the full adult rate. Although 50 per cent of the over 50s will be affected in the Quick Service Restaurant, this should be treated with some caution since they are a very small group.

Let us now examine the distribution of earnings within each firm. Figures 1–5 present the distribution of hourly earnings (in April 1999 prices) for each firm.[4] Also shown on the figures are the youth and adult minimum rates. Notice that in most firms there is a spike or a number of spikes in the wage distribution. This pattern is particularly evident in the food manufacturer where most employees are paid at a small number of different rates. Also notice that most individuals' hourly wages are just

Table 13 Percentage affected by the NMW by age composition of the workforce

	All ages	Under 18	18–21	22–24	25–34	35–49	Over 50
Survey sample							
Hotels	7.7	–	0.9	18.4	16.2	8.1	7.3
Quick Service Restaurant	12.7	–	0.8	37.4	20.5	11.1	50.0
Food Manufacturing	0.2	–	0.0	0.0	0.0	0.4	0.0
Retail	0.2	–	0.0	0.0	0.5	0.3	0.2
Leisure	0.0	–	0.0	0.0	0.0	0.0	0.0

above the minimum rates that came into force in April 1999. The youth rate was set at £3.00/hour and the adult rate at £3.60/hour. Although a large number of workers in the Quick Service Restaurant are between these rates, most of these are young workers who are not affected by the adult rate. Overall, it is evident that the minimum wage has been set just too low to make an impact in these firms.

Figure 1 Wage distribution: Quick Service Restaurant

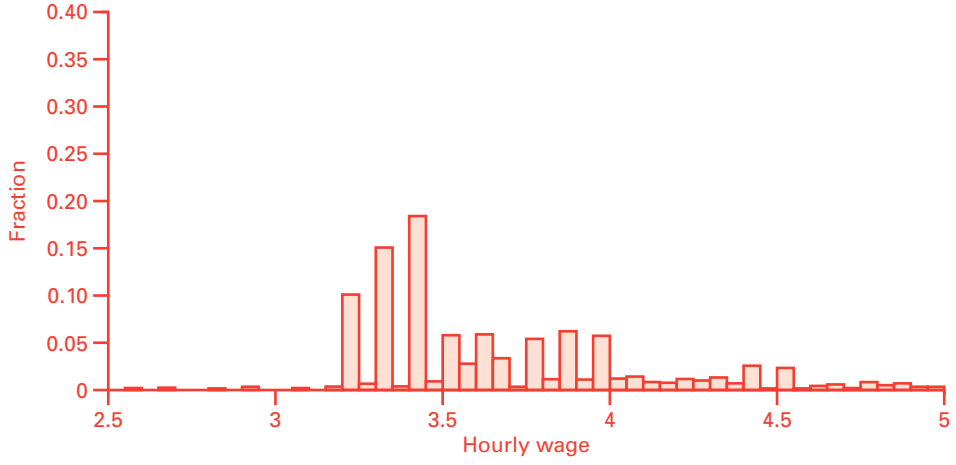


Figure 2 Wage distribution: Leisure

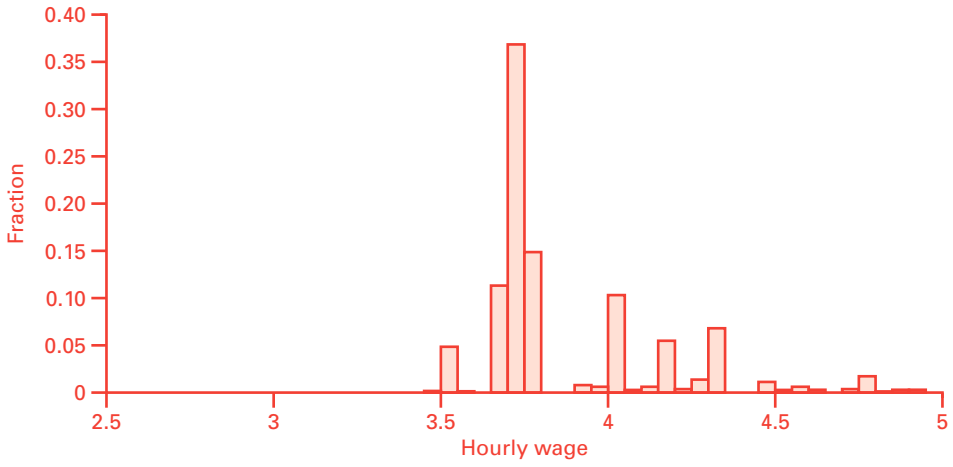


Figure 3 Wage distribution: Retailer

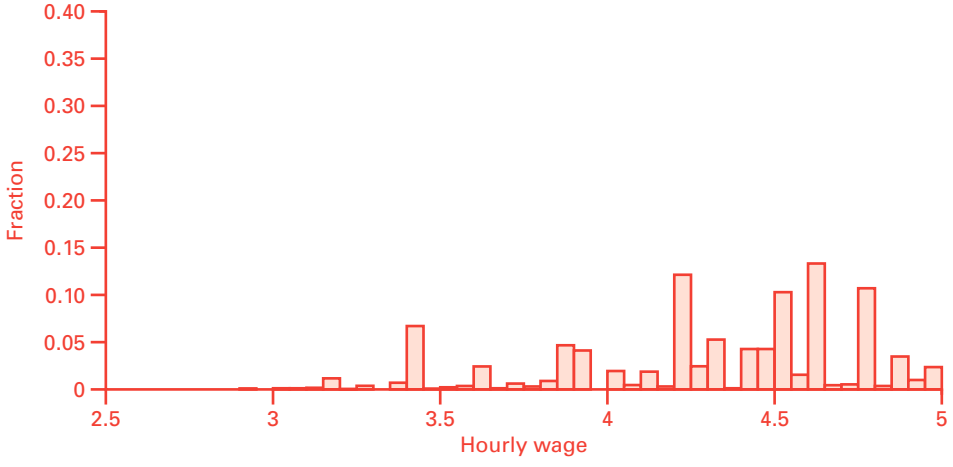


Figure 4 Wage distribution: Food Manufacturer

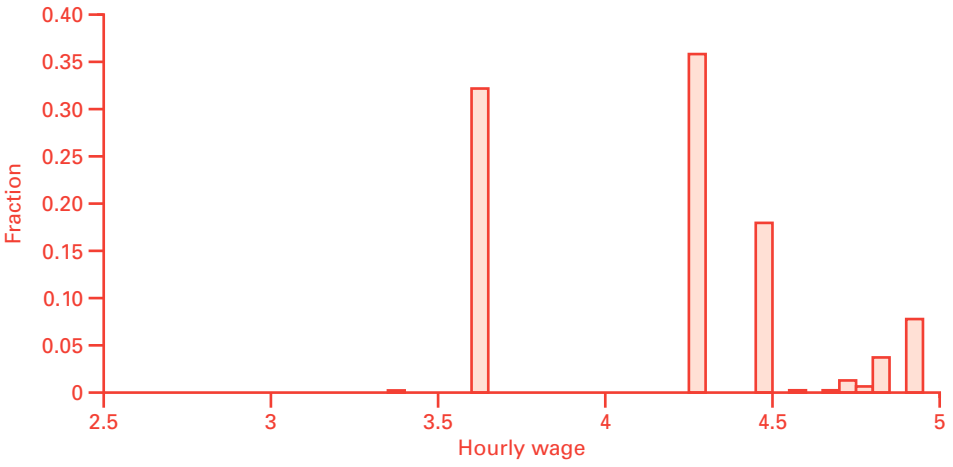


Figure 5 Wage distribution: Hotel

3 Filling a vacancy

There is an enormous literature on job search by the unemployed and the duration of spells of unemployment. Rather little is known about the other side of the matching process, the filling of vacancies. For example, Devine and Kiefer (1991), in their encyclopaedic review of search models of the labour market, can only find nine studies of vacancies to discuss, compared to literally hundreds of studies on unemployment durations and job search by the unemployed. The reason for this neglect of vacancies is that detailed information about them is not normally collected on a systematic basis. The few studies there are tend to rely on one-off data sets. This work is no exception.

Most existing studies of vacancies focus either on the outcome of the recruitment process measured as vacancy durations, vacancy rates or the inputs into the recruitment process by employers. In contrast, the emphasis in this paper is on the process by which vacancies are filled. It examines the determinants of the number of job applicants, the number of interviews and offers made. The paper also analyses the way in which employers select workers from among the pool of job applicants. There is little existing UK evidence on the issues we model here. There are two main areas in which we might hope to improve our understanding of labour markets by such a study of the recruitment process.[1]

First, we should be able to shed some light on the nature of the employment 'problem' in low-wage labour markets and, hence, to get some idea of the likely effectiveness of some recent government policy initiatives.[2] For example, if unemployment is largely involuntary (perhaps because employers think that cutting pay rates de-motivates and demoralises existing workers), we might expect to see large queues of workers for our jobs even though these are jobs at or near the bottom end of the pay distribution. Indeed, given that these are generally low skill entry points, they would seem ideal for the stock of the unemployed who are predominantly less skilled. If there are large job queues, policies to price workers back into employment might be most effective by lowering wages. On the other hand, if vacancies have rather few applicants this suggests that it is the supply of workers that is the constraint on employment, and policies to 'make work pay' or raise search intensity by the unemployed might be more effective in reducing unemployment.

Secondly, as our data set has information on all the applicants to the vacancy and not just those who were successful, we can say something about the process by which employers make hiring decisions. In particular, we are interested in the extent to which employers reject unemployed job-seekers in favour of employed ones, as has been suggested by a number of labour market experts. There is strong circumstantial evidence of this practice but little in the way of more formal evidence.

Because of the nature of the sample, our conclusions can have no pretence to generality. In spite of this we think some of the findings are interesting and do contribute to our understanding of the workings of low-wage labour markets. Our main findings are as follows.

- The average number of applicants per vacancy is slightly under three.
- The number of applicants is influenced by the wage offered and non-wage aspects of jobs, such as the location and accessibility

of the workplace. Firms can also influence applicant arrival by methods of communicating vacancy availability to job seekers, but this has a cost.

- Employers are able to fill the vast majority of their vacancies, suggesting that the number of applicants plays a role only in widening the choice (and, hence, quality) of applicants or speed of filling, and hence cost of recruitment.
- Job applicants who are not currently employed do appear to be at a disadvantage in getting a job interview but, conditional on having made it to interview, appear not to suffer any further disadvantage in getting a job offer.

Vacancy and applicant profiles

This section of the report analyses the information on the recruitment process collected from the vacancy return completed by the manager or relevant administrator for each recruitment event. This occurred in the sample period (the autumn of 1996 to early 1997). These 'top-sheets' varied slightly from company to company (as they were tailored to the specific structure of the company concerned), but generally provided information on the package offered in terms of wage and non-wage benefits, the recruitment methods used and their cost, the date at which the vacancy occurred, the number of vacancies, the number of applicants, interviews and offers, and the date on which it was filled. This obviously requires some effort on the part of the manager so we did not expect 100 per cent compliance rates. In truth responses were very patchy. The reliability of the reporting of vacancies varied from site to site. There was also little close correspondence between the number of questionnaires covering leavers, vacancy events and appointees. We received nearly 200 vacancy returns from sites but a number did not report the number of vacancies represented or the number of applicants. Just over 140 returns were usable in this regard, with slightly smaller numbers also indicating the number of interviews held and offers made. More complete records, including how long vacancies were held open or characteristics of applicants, those selected for interview and those made offers, were available from a smaller number of events.

Table 14 presents information on the vacancy events in our sample of firms; defined as one or more openings for the same job function at a point in time (normally per week). The Quick Service Restaurant and the Hotel reported most vacancy events and the Food Manufacturer the least. A number of vacancy events involved multiple job openings. Some 51 per cent of the vacancy events are for a single worker, with a further 24 per cent being for two workers; we do however have one situation where the employer sought to fill 12 vacancies in one recruitment event. Each vacancy event represented an average of 2.4 vacancy openings. Much of this variation across firms does not just reflect turnover differences but variation in reporting by sites. The average number of applicants per vacancy is quite small, less than three. This number could be compared to the 6.6 applicants per opening that Holzer *et al*. (1991) report for low-wage jobs in the USA. There is little variation across companies in the number of applicants per vacancy, apart from the hotel chain which had substantially more. This

Table 14 Vacancy events by firm

Company	Vacancy events	Vacancies opened	Applicants	Applicants per vacancy opened
Retail	31	94	219	2.30
Quick Service Restaurant	43	86	203	2.36
Food Manufacturer	7	26	62	2.38
Hotel chain	44	108	436	4.04
Leisure	16	26	56	2.15
Total figures	**141**	**340**	**976**	**2.87**

Notes: Nearly all the vacancies had applicants, with the norm being about seven per vacancy event or three per vacancy opening. There was little variation in this across firms, with the exception of the hotel company which had many more applicants. This was partly due, as we show later, to their use of newspaper advertising routinely in vacancy filling, which was rare amongst the other firms.

appears to be in part driven by the use of adverts among the recruitment methods used.

Recruitment methods

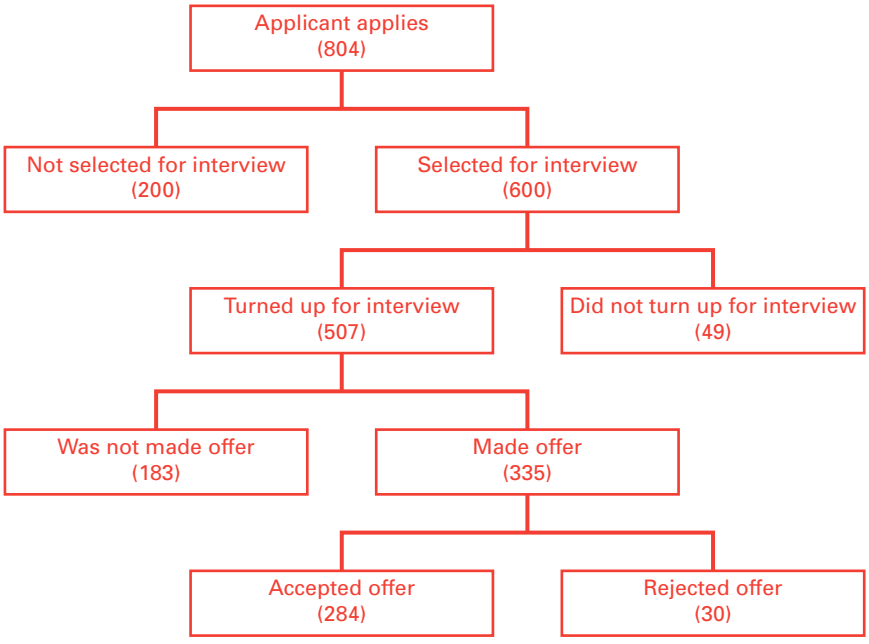
We also collected information on the recruitment methods used to fill vacancies. We asked about five different methods: notifying the job centre, placing an advert in a local paper, using a private employment agency, using existing workers, and approaching workers already known to the employer. Approaches to existing staff and job centres (both 60 per cent) are the most frequently used methods, 40 per cent used walk-ins from a window notice or word of mouth, and a third of events used newspaper adverts or direct approaches to known workers. Only a small minority used a private employment agency: this is an expensive option and not one used for most of the relatively unskilled jobs that comprise the bulk of our sample. A newspaper advert typically cost £200. Given that these are low skilled entry level jobs, the finding that only 60 per cent were placed with job centres is perhaps a surprise. It is generally thought that across all skill groups job centres are used by around one third of vacancies.

Filling a vacancy

In addition to the information above, we asked the responsible manager to keep a record of each applicant for the job, detailing the date he or she applied, some personal characteristics, and if applicable the date of interview, the date an offer was made, with reasons for rejection given at each stage. Figure 6 provides a stylised representation of the application process and the numbers of individuals at each stage. This flow diagram approach is informative on how the recruitment process works. This data were received from 105 vacancy events covering 303 vacancies. Thus nearly 95 per cent of vacancies opened were filled. Approximately 40 per cent of the traceable applicants were offered a position.

The attrition process looked like this: three-quarters were selected for interview; 90 per cent turned up for the interview, the other 10 per

Figure 6 Overview of the recruitment process



Note: The numbers in parentheses represent the number of applicants observed at each stage. Where they do not add up to the number listed at the previous stage this is because of missing information for some applicants.

cent had conceivably already secured a post elsewhere. Some 65 per cent were made an offer; 10 per cent rejected the offer, perhaps again because of alternatives available. Table 15 provides summary statistics on the applicants at each stage of the recruitment process, and documents the time that elapsed at each staging post in the process.

It is clear that applicants rarely reject an offer or fail to attend a job interview. Over 80 per cent of the failures to match applicants with vacancies were down to rejection by the employer. We will look at why later. The whole recruitment process takes about a month to complete: two weeks gathering applications, one week of interviews, and a final week before starting. This period of under-staffing has a cost to firms in terms of lost production or more likely overtime or bonuses to other staff cover.

Modelling outcomes

We are interested in the extent to which the characteristics of vacancies described above affect the employer's ability to fill those vacancies and the time it takes to do so. We are also interested in the selection process. We start by looking at the extent to which these factors affect the number of applicants.

Sensitivity of applicant numbers to vacancy wages

The average vacancy wage paid just £3.46 per hour which is around the 15th percentile in the overall wage distribution (using the NES). More informatively, we need a measure of how wages offered compared with those in the same area for a similar type of work. As the section on wages in Chapter 2 reported, managers were

Table 15 Descriptive statistics of vacancies and applicants

Variable	Mean
Characteristics of applicants	
Average age	25.4
Percentage female	59
Percentage with experience	42
Percentage previously worked for company	7
Percentage currently in employment	37
Characteristics of applicants offered the job	
Average age	25.0
Percentage female	60
Percentage with experience	47
Percentage previously worked for the company	8
Percentage currently in employment	33
Vacancy durations (days)	
Total duration	32.3
Time between opening vacancy and application	15.1
Time between application and interview	8.2
Time between interview and offer	2.3
Time between offer and starting date	6.7

Note: The last block of information is per vacancy event. The first two blocks on characteristics are per applicant.

asked to give assessments of their company's wage performance relative to others in the same labour market for entry level positions. In addition we have specific wage data for each vacancy event which can be compared to either managers' reports of competitors' wages (although reporting here was patchy) or from a national data source, the New Earnings Survey, which gives local area information on wages. Finally, we can use payroll records of new starters' wages; however these have the disadvantage of not being specific to each vacancy. Comparisons of these wage sources in Chapter 2 showed that they correlate reasonably well. So here, we experiment with data which give the maximum number of observations. This gives the choice of either taking managers' reported wage performance ranking, or the wage posted from each vacancy return compared to the 25th percentile of the earnings distribution in the travel to work area.

We might also be concerned about the extent of exogenous variation in wages in our data. Differences in the wage policies pursued by our companies, again reported in Chapter 2, can provide some reassurance on this. Some of our companies operate a national pay policy with little or no regional variation in wages, while others leave pay determination entirely in the hands of local managers. We can see the consequences of this in our data. The Quick Service Restaurant leaves pay policy in the

hands of its local managers. On the other hand, the Retail and the Hotel chain both have a national pay policy with limited regional variation so that their pay is relatively good in low-wage regions and relatively bad in high-wage regions.

In the common economic approach to vacancy filling, firms and workers wander around, bumping into each other and forming a match if it is mutually beneficial to do so. If a match is not formed the pair are assumed to be unable to return to each other (the assumption of no recall). While this approach has generated very useful insights into the dynamics of unemployment in the economy as a whole it may not be a very realistic description of the way in which vacancies actually get filled. Using Dutch data, Ridder and van Ours (1992, 1993) conclude that the duration of vacancies is better modelled as an application period in which a number of applications flow into the firm and a selection period when the employer picks the best from among the applicants. They conclude that vacancy durations are determined more by the length of the selection process than by the time it takes for applicants to contact the firm. Van Ours and Ridder do not suggest an explanation of why, immediately following the advertising of a vacancy, there is a very rapid flow of applicants to the firm which then tails off. One plausible explanation for this has been proposed by Coles and Smith (1994), who suggest that a more realistic view of the matching process is that job-seekers are normally aware of where vacancies will be advertised (for example, the job centre or local newspapers) and that the posting of a vacancy will result in a very rapid inflow of applicants. The employer will then choose the most suitable from among this list: if the employer fails to find anyone suitable, they have to wait for an interested (and suitable) new job-seeker to see the vacancy.[3] In this framework the time to fill a vacancy is primarily determined by the time it takes to select a suitable candidate.

Details of the results are contained in the Appendix, Table A.1; here we just report the main findings. The three columns in Table 16 differ in the representation of the wage. But the main findings do not vary a lot across these specifications. Firstly, the location of the firm is important in determining the number of applicants. Workplaces with a central location or access to public transport have larger numbers of applicants than those in less accessible locations (central location always had access to public transport and so we report this as a separate category). However, this effect is much smaller when we use actual relative wages instead of managerial assessments of wages. Providing assistance with transport to work does not seem to increase the number of applicants, but it is likely that there is a serious endogeneity problem here as only those establishments with particular problems in this area are likely to provide this assistance.

Secondly, local area unemployment makes a strong contribution to the available applicants as any matching theory would predict. Being in a travel to work area with unemployment 2 percentage points higher raises the number of applicants by between 25 per cent and 50 per cent. Recruitment methods also seem to make a substantial difference; most notably advertising in a newspaper increases the number of job applicants by around 40–60 per cent. Approaches to individuals known to the employer seem to be associated with having

Table 16 Determinants of the number of applicants

Dependent variable	Number of applicants	Number of applicants	Number of applicants
Central location	++	++	
Non-central, good public transport	++	++	
Ln (unemployment in ttwa)	++	++	++
Wage performance	– –		
Wage below average		– –	
Wage ratio (actual pay of vacancy / 25th percentile in ttwa)			+++
Job centre	+	+	
Advert in newspaper	+++	+++	++
Existing staff notified	+	+	
Approach to individuals	–	–	–
Walk-ins			–
Ln (no. of vacancies)	+++	+++	+++
Number of observations	**141**	**141**	**136**

Note: Full details of regression results behind this table are reported in the Appendix, Table A.1. +++ or – – – indicate most significant relationships; ++ or – – moderate ones; and + or – those of marginal importance.

fewer applicants, but this may be because these employers are targeting specific individuals and do not make any attempt to attract applicants from a wider pool. Job centres and using existing staff members result in slightly more contacts than walk-ins but not by much. The number of vacancies on offer raises the number of applicants, although rather than a supply response, this could be because the vacancy is held open longer. However, the rise falls far short of a one for one increase, so grouped vacancies result in fewer applicants per vacancy, but there are likely to be economies of scale in cost terms.

We can now quantify the impact of the wage on the supply of applicants. It is quite powerful whether we used managerial perceptions or a measure of wage offered relative to that observed in the travel to work area. The one third of sites where managers say that they pay below the local average wage have 40 per cent fewer applicants. Alternatively, reducing the wage from 20 per cent below the 25th percentile (the average wage in this data) to 40 per cent below (a cut of about 70p per hour) reduces the number of applicants by around 30 per cent; this is roughly equivalent to moving the unemployment rate by 2 percentage points. Introducing individual company dummies leaves the general pattern of results unchanged although the size of wage effect is reduced.

Overall, how should these results inform one's view of the way the labour market works? They suggest that the terms and conditions offered have an important impact on the number of applicants. The fact that these jobs

attract relatively small numbers of applicants and that the number of applications are sensitive to wages offered suggests that these jobs are not always much better than alternatives (for example, looking after the family or home). This suggests that extreme notions of involuntary unemployment in which wages are above market-clearing levels, with ensuing large queues, are not supported by the data. It might be tempting to conclude that policies to improve terms and conditions, for instance a minimum wage, will increase the number of applicants for these jobs. That might be the case (Holzer *et al*. (1991) do present some US evidence on this), but the overall effect on employment depends on whether the total supply of vacancies increases or decreases as a result, something on which our study can shed no light. The decline in unemployment since this study would suggest that rather than three applicants per vacancy, firms are now likely to face closer to two applicants. It would cost the firm a wage increase of 70 pence per hour, to keep the size of the applicant pool seen here. What is more likely is that firms, especially in higher unemployment areas, will accept a more restricted choice of applicants or make more use of advertisements in recruitment.

The finding that convenient travel to work is an important consideration is consistent with some other evidence. For example, Manning and Thomas (1997) and Monk *et al.* (1999) find that the unemployed with access to motor transport are more likely to get a job than others. Burchell *et al*. (1999) found that having a driving licence reduced unemployment duration dramatically. However, little attention is paid in the literature to these spatial issues; perhaps they deserve further research.

The selection procedure

Here we examine information on the way in which applicants are selected by employers to fill vacancies. The managers were asked to record, for each vacancy, basic information about each applicant. We are interested in how the characteristics of an applicant affect the chance of being interviewed, and subsequently of being offered the job. Again the detailed results are presented in a box below and the main findings are reported here.

The estimates suggest that age and sex are unimportant in determining the chances of an interview (we did experiment with a non-linear functional form for age but found no effect). Previous relevant experience and being in employment are important in determining the chances of an interview as (more marginally) is having previous experience in the company. The number of applicants and the number of vacancies also have a powerful impact on the chances of being interviewed (column 1).

This last result suggests that competition for jobs is important in determining the chances of getting an interview. We might therefore expect that it is not just one's personal characteristics that are important in securing an interview but also characteristics relative to those of other applicants. Exploring this hypothesis (column 2) confirmed that being in employment, having relevant experience and having previously worked for the company are important in determining the chance of an interview. In fact one can accept the hypothesis that the coefficients on the individual's characteristics are equal and opposite to those on the average of the other applicants. Relevant experience is generally more helpful in securing an interview than just being employed.

Table 17 The selection process

	(1)	(2)	(3)	(4)
Dependent variable	**Selected for interview**	**Selected for interview**	**Did not turn up for interview**	**Offered job**
Sample	**All applicants**	**All applicants**	**Selected for interview**	**All interviewed**
Employed	++	++	+	
Proportion employed		–		
Experienced	+++	+++		+
Proportion experienced		–		
Company experience	+	++		
Proportion with company experience		– –		
ln (number of applicants)	– – –	– – –	–	– – –
ln (number of vacancies)	+++	+++	+	+++
Number of observations	**658**	**658**	**411**	**407**

Note: Full details of regression results behind this table are reported in the Appendix, Table A.2. +++ or – – – indicate most significant relationships, ++ or – – moderate ones and +, – those of

The managers were also asked for the main reason for not interviewing individuals (Table 17). The answers were not constrained so this table is the result of collating similar answers – while there is an element of judgement in doing this, it has little impact on the general conclusions. Lack of experience is the most commonly mentioned factor, followed by age, general impression and attitude. With the exception of age, this is in line with our earlier findings if it is recognised that general impression and attitude are correlated with current employment status.

Not all applicants whom the employer wanted to interview actually turned up: 8 per cent were no-shows. In looking at no-shows we included data only on individual characteristics as it is not plausible that an individual applicant knows the composition of the applicant pool (none of these variables is significant when included). None of the estimated coefficients is significantly different from zero, though those currently in employment are marginally less likely to turn up.

Once the applicant has been interviewed, the employer needs to decide whether to make an offer, therefore we also explored whether the employer makes an offer conditional on the worker turning up for interview. None of the characteristic variables are significant, but the ratio of the number of applicants to vacancies remains very important. This suggests that once an individual has got to an interview, other factors, not well-captured by our crude measures of personal characteristics, play the most important role in getting an offer. This is confirmed by the second column of Table 18, which shows that personal habits are now more important, as are issues about the exact hours that the individual can work.

These results suggest (perhaps unsurprisingly) that employers use 'objective' criteria such as experience, age and work history when selecting for interview, but then rely more on their impression of candidates.

Table 18 also shows that it is sometimes the case that the worker is rejecting the employer, or that the worker and employer fail to find a mutually acceptable match, notably over hours worked.

Table 18 Reasons given by employers for applicants leaving selection process

	Reason for not interviewing		Reason for rejection after interview	
	No. of observations	Percentage	No. of observations	Percentage
Lack of experience	41	23	22	13
Age	26	14	3	2
Bad work history	11	6	3	2
Bad reference or impression	22	12	61	35
Poor health record	5	3	1	1
Bad English	2	1	2	1
Failed test set	23	12	0	0
Lived too far away	4	2	0	0
Hours wanted not possible	17	9	32	18
Pay too low	5	3	8	5
Got another job	2	1	6	3
Worker not available	2	1	0	0
Insufficient info on application	10	6	5	3
Other	7	4	8	5
Total	**184**	**100**	**175**	**100**

Note: A small number of managers gave no reason for not interviewing or rejection at interview. These are included in the totals and percentages.

4 The costs of turnover

Much of modern labour economics starts from the assumption that there are important frictions in the labour market. One important friction is that it is costly for an employer to lose a worker and replace them with someone else. These costs may take the form of direct recruitment and training costs, or indirect costs in the form of lower productivity while a new worker is learning the job, or idle resources during the time it takes to replace a worker. We will refer to these costs collectively as turnover costs. One of the first papers to point out the potential importance of turnover costs was Oi (1962) who analysed the implications of the existence of turnover costs for the responsiveness of the demand for labour to shocks in product demand. There are many other models in labour economics where turnover costs play an important role. If turnover costs are small, however, one might think that a conventional labour demand curve in which the firm simply chooses the level of employment given a market wage is a reasonably good description of the labour market and all the paraphernalia of these models is largely unnecessary.

In spite of the importance of turnover costs to many theories of the labour market, we have surprisingly little evidence on their size. Thirty-five years ago, Oi (1962) estimated turnover costs in one company (International Harvester) in one year (1951) at 7.3 per cent of labour costs for all employees but 4.1 per cent for common labourers. We have few more recent estimates: Campbell (1993) has an implicit average estimate of about 8 per cent (though he does not explicitly report this statistic). This section provides some information on the size and determinants of turnover costs in the UK in the 1990s. Our estimates are surprisingly similar to those found by Oi and Campbell (4–12 per cent of total labour costs), with some evidence that turnover costs may be more important in the lower wage firms and lower wage sections of their workforce.

Data

Among the information collected from the managers in each of our participating branches was data on the amount of employee time and money that was spent on the recruitment and training of new workers. This was then supplemented with information on labour turnover and pay obtained directly from the payroll records. General information from managers on the characteristics of the workplace was also collected.

The information on turnover costs in our firms is not comprehensive, so we supplement this with surveys conducted by the Institute for Personnel Development in 1996 and 1997. These surveys were the latest in a series of postal surveys of personnel professionals in the private and public sectors: there were 731 respondents in our sample in 1996 and 678 in 1997. The survey asks questions about the number of staff that have left and been recruited over the previous year for several broad occupational groups (nine groups in 1996, ten groups in 1997) and about recruitment difficulties, redundancy, and, importantly from our point of view, the costs of labour turnover.

These two data sets have different strengths and weaknesses. The IPD data has a much larger sample size and provides data on a wide range of occupational groups. But information on the level of pay is weak and there is only very rudimentary information on establishment

characteristics. In contrast, the data from our firm has excellent information on pay, and more details on workplace (and worker) characteristics, but has a much smaller sample size and focuses by design on the lower paying end of the market.

The total costs of recruitment, training and forgone output

The labour costs of a firm include direct wage costs, recruitment costs and training costs. The recruitment and training costs are one-off expenses which should be spread over the period that a worker is expected to remain with the firm.

Estimating turnover costs

If the average wage is W, recruitment cost is R, training cost T and expected job tenure t, then the total per-period labour cost can be written as:

$$\text{labour cost} = W + \frac{R + T}{t}$$

As the average labour turnover rate, q, can be written as $q = (1/t)$ we can also write this as:

$$\text{labour cost} = W + q[R + T]$$

We are interested in the fraction of labour costs that are turnover costs. It should be noted that the formulae given above are only exactly like this if the employer does not discount the future. But, for plausible values of the discount rate and labour turnover rate, these formulae give the right impression.

First, let us consider the IPD data. The data on turnover costs in this data set come from a question which asked:

> *If possible, please indicate by ticking the relevant box the estimated cost of turnover (e.g. recruitment and training costs) per individual employee for each of the following occupational groups within your organisation.*

The replies were banded and the answers by occupation are given in Table 19 for 1996 and Table 20 for 1997. The average turnover cost is calculated using the mid-point of each band as the average within bands and £15,000 for the top band (different methods of computing the average turnover cost do not make much difference). As can be seen, turnover costs are highest at about £4,750 for managerial and professional staff and lowest for unskilled workers and operatives where £1,000 is a more reasonable estimate. We need to multiply this by the labour turnover rate to get the per-period cost. The average labour turnover rates per year are reported in the next row, and, converted to a weekly rate, are multiplied by the average turnover cost in the following row. One can see that the gap in the turnover costs between higher-skilled and lower-skilled workers is now much smaller as turnover rates are higher for less-skilled workers. The IPD data do not have information on wages so we have simply taken average earnings for each of the occupations from the Labour Force Survey (LFS). The next row shows these average weekly earnings and the final row then computes the turnover cost as a percentage of earnings. Turnover costs are highest in percentage terms for sales workers at over 10 per cent of wage costs, but in 1997 the next highest group was unskilled workers at 8.9

per cent. There no longer seems to be any particular relationship between turnover costs and skill levels, so turnover costs would seem to be as important at the bottom end of the skills distribution as at the top. The overall level of turnover costs are close to the range of 5-10 per cent obtained by Oi (1962).

In our survey data we have more detailed information on the composition of turnover costs. These were broken down into four parts:

- the direct cost of advertising the position
- the labour input into the recruitment process
- the labour input into the training and induction process
- the forgone output from a new recruit having lower productivity.

The respondents were asked to split the labour input into the hours spent by managers, administrative staff, supervisors and co-workers and to provide the hourly wage of these workers as well. The answers to these questions, detailed by company, are summarised in Table 21.

Direct advertising costs are very small for the simple reason that, for the types of jobs in our data set, employers rarely use recruitment methods that involve any substantial cost such as advertising in the press or the use of a private employment agency. Mostly, they use 'free' resources like the public job centres and circulating details among existing staff.

The overall level of direct turnover costs in our data (about £200) is much lower than the estimate for unskilled workers (about £800) from the IPD data. There are a number of possible reasons for this. Firstly, the samples are very different and if there is substantial heterogeneity in turnover costs by sector (or within sectors) there is no particular reason to believe that the average level of turnover costs would be the same in the two samples. Secondly, our data only looked at the direct labour costs of turnover. The materials with which these workers carry out the recruitment and training are not costed but might obviously be important. It could also be that the IPD firms are including the costs incurred as a result of the less than full effectiveness of new recruits. Our data on this suggest that these are of the order of two weeks lost output if we assume that workers gain experience in a linear way over these early weeks.

To calculate a unit cost we assume these efficiency costs are proportional to hours worked so that a half-time worker has half the efficiency loss when measured as a full-time cost, whereas recruitment and advertising costs are considered a constant amount per recruit. This gives about £400 per recruit, with wide variation due to the extent of part-timers among recruits. These figures are the equivalent of three to seven weeks wages of new recruits. On a full-time equivalent basis, perhaps a fairer comparison across companies, this gives total turnover costs of around four weeks wages per recruit or about £600.

The Hotel has the highest costs, largely because of the use of newspaper adverts to attract recruits. The Quick Service Restaurant has the next because it has the highest training costs and the longest delay before a person becomes fully efficient. These two parts of the equation are likely to be related, as training will mean time away from production and training may reflect a more complicated job function. Training and induction are therefore costly for

Table 19 Turnover costs: The IPD data, 1996

	Managerial	Professional	Technical	Clerical	Craft/skilled	Sales	Operatives	Unskilled
Turnover costs (percent)								
<£750	7.8	5.9	10.3	28.2	37.7	18.6	49.7	71.2
£750–£1,500	9.3	10.8	19.0	34.5	31.1	14.2	29.1	20.4
£1,500–£3,000	26.6	29.0	32.1	23.7	18.0	23.0	12.6	5.6
£3,000–£5,000	23.4	19.6	17.7	9.0	9.2	17.7	4.5	2.0
£5,000–£7,500	12.3	15.8	10.0	2.5	1.3	15.5	0.5	0.0
£7,500–£10,000	7.0	7.9	4.5	0.7	0.9	4.4	1.0	0.8
£10,000–£12,500	6.5	4.7	2.2	1.0	0.9	3.1	1.0	0.0
>£12,500	7.0	6.2	4.2	0.2	0.9	3.5	1.5	0.0
Average turnover cost (£)	**4842**	**4717**	**3580**	**1760**	**1654**	**3689**	**1436**	**772**
Turnover rate (% per year)	14.2	20.1	20.2	20.1	20.2	28.6	23.7	32.4
Turnover rate × turnover cost (£ per week)	13.3	18.6	13.6	7.5	5.5	16.7	6.7	3.9
Average weekly earnings	442	412	336	201	276	143	121*	
Turnover cost as fraction of total cost	2.9	4.3	3.9	3.6	1.9	10.4	5.2	3.1

Note: *There is only a single wage reported for operatives and the unskilled as the Labour Force Survey does not distinguish between these occupational groups.

Table 20 Turnover costs: The IPD data, 1997

	Managerial	Professional	Technical	Clerical	Craft/skilled	Personal	Sales	Operatives	Unskilled
Turnover costs (percent)									
<£750	5.5	2.9	4.8	24.3	39.4	33.0	15.0	57.6	64.5
£750–£1,500	13.3	11.0	20.2	37.1	34.3	34.9	20.3	27.3	25.0
£1,500–£3,000	21.4	22.4	33.3	28.1	19.2	17.5	29.4	13.3	8.5
£3,000–£5,000	29.8	31.2	20.2	6.1	3.0	6.8	15.0	0.6	1.5
£5,000–£7,500	14.4	17.6	13.2	3.8	3.0	2.9	10.7	0.6	0.5
£7,500–£10,000	8.4	8.5	4.4	0.3	0.5	2.9	5.3	0.0	0.0
>10,000	7.2	6.2	3.9	0.3	0.5	1.9	4.3	0.6	0.0
Average turnover cost (£)	**4562**	**4670**	**3600**	**1693**	**1396**	**1910**	**3323**	**975**	**805**
Turnover rate (% per year)	15.5	23.4	17.5	26.6	22.8	20.2	26.8	26.0	36.0
Turnover rate × turnover cost (£ per week)	14.8	20.3	13.6	9.1	22.5	4.7	24.3	5.1	11.3
Average weekly earnings	459	427	332	201	285	134	168	127*	
Turnover cost as fraction of total cost	3.2	4.7	4.1	4.5	7.9	3.5	14.5	4.0	8.9

Note: *There is only a single wage reported for operatives and the unskilled as the Labour Force Survey does not distinguish between these occupational groups.

Table 21 Turnover costs in participating firms

	Hotel	Food Manufacturing	Quick Service Restaurant	Retail	Leisure
Advertising cost per offer (£)	149	0	21	0	32
Wage cost of recruitment per recruit (£)	74	50	38	42	29
Wage costs of training per recruit (£)	146	117	150	138	100
Total direct costs of recruitment (£)	369	167	209	180	161
Efficiency of new staff* (%)	40	30	30	40	60
Weeks needed to reach full efficiency	7.5	6	10	8	6
Implied efficiency loss (weeks)	2.3	2.1	3.5	2.4	1.2
Total efficiency costs of recruitment (£)	**525**	**495**	**398**	**314**	**281**
Total efficiency cost of recruitment for worker (weeks pay)	7.7	3.2	7.4	5.6	2.8
Average weekly wage of a full-time starter (£)	148	162	130	161	133
Total efficiency cost of recruitment for full-time worker (weeks pay)	4.8	3.1	5.1	3.5	2.4
Total efficiency cost of recruitment for full-time worker (£)	710	502	663	564	319

*Compared with an experienced member of staff.

firms facing high turnover. In addition to the loss of productivity when experienced staff have to be replaced by recruits, using established staff to induct and train the new intake can also reduce productivity.

Table 22 examines the most commonly used induction methods. Quite a range of induction methods are used with most firms using books, seminars and videos to develop staff. At least one firm was using interactive computer technology for staff training. All firms had modest pay rises associated with completing an induction or training period. They varied from 3 per cent for the Food Manufacturer to 7 per cent for Retail and Quick Service Restaurant. The time before being eligible for these advances varied widely from 12 weeks in the Quick Service Restaurant to 30 weeks in the Retail chain. These payments for surviving until fully productive and trained within the firm are, however, very modest.

The extent of staff turnover

So far we have estimated the costs of turnover on a per recruitment event basis. Obviously those firms with high turnover face higher total turnover costs. In common with the economy as a whole, staff who leave tend to leave quickly. The stock of staff have therefore been in post much longer than the completed tenure of leaving staff. In the Hotel, for example, current staff have an average tenure of more than three years, whereas leavers have completed just under one year (see Table 23). Thus, at any point in time the staff tend to be long servers but job spells with the firm are dominated by new staff leaving quickly.

The annual staff leaving rate varies from 40 per cent in the Food Manufacturer to nearly 100 per cent in the Quick Service Restaurant. This figures refers to the number of leavers as a percentage of stock staff levels in the autumn of 1996. The Quick Service Restaurant therefore recruits as many new staff in a year as it has at any point in time. A national average figure would be around 20 per cent. Note that as it takes a month to fill a vacancy (see previous section), the highest turnover firms have openings with no one in post that amount to a significant fraction of current staffing. We also document how long starters last with the organisation. Some 40 per cent of starters at the Hotel have left by 13 weeks, compared to just 20 per cent in the Retail firm. Only 40 per cent of starters make it to 26 weeks in the Hotel and the Quick Service Restaurant. Another way of presenting this information is to look at how long has elapsed before a quarter, or a half of the starters have left. In the Hotel and Quick

Table 22 Induction methods (percentage using method)

	Watching 'Nelly'	Videos	Books	Seminars	Other media
Hotel	100	71.4	100	85.7	28.6
Quick Service Restaurant	46.4	67.9	64.3	64.3	14.3
Retail	28.6	85.7	71.4	57.1	28.6
Food Manufacturer	66.7	33.3	100	66.7	66.7
Leisure	66.7	75	83.3	8.3	8.3

Table 23 Labour turnover in participating firms

	Hotel	Food Manufacturer	Quick Service Restaurant	Retail	Leisure
Average uncompleted tenure (weeks)	162	329	90	204	162
Median uncompleted tenure (weeks)	77	134	52	109	67
Average completed tenure of leavers (weeks)	46	74	42	65	55
Annual staff leaving rate	75.8	38.6	96.5	56.8	72.1
% of starters lasting 13 weeks	60.1	72.9	68.1	81	72.3
% of starters lasting 26 weeks	43.7	73.7	46.4	–	62.2
Number of weeks by which 25% of starters have exited	8	25	10	17	12
Median survivor tenure of starters (weeks)	20	50	22	461	34
Turnover cost as a percentage of labour costs	9.6	2.3	11	4.5	3.8
Recruitment costs as a proportion of the individual's wage bill[1]	18.7	4.1	17.6	8.6	5.1
Recruitment costs as a proportion of the individual's wage bill[2]	38.6	6.3	33.5	12.2	8.2

Notes: Survivors calculated on population who already had 26 weeks tenure.
1 Calculated on the mean.
2 Calculated on the median.

Service Restaurant firms, 25 per cent of starters have left by the time they have completed the period required to become fully proficient. These recruits are a substantial cost to the firm as they incur all the recruitment and much of the training costs without any fully productive period with the firm. The typical starter in these two firms has an employment spell of around 20 weeks. In the other three firms this is between 40 and 50 weeks.

The IPD data allowed a comparison of turnover costs across occupations but did not allow an analysis of the types of firms where turnover costs are high or low. In our survey data we see some interesting differences in the importance of turnover costs between the companies in the sample. The first is that firms with high per recruit turnover costs are the firms with high turnover. The most striking difference between our firms in total turnover costs is between the Food Manufacturer where turnover costs are just 2 per cent of total labour costs and the Quick Service Restaurant where they are 11 per cent. This calculation is on the same basis as the calculations in the IPD data for all staff occupations (See Table 23). Leavers are heavily crammed in the junior lower paying occupations, so the next row expresses these costs as a share of wage costs for the average leaver. This is then the share of turnover costs in the expected wage bill for an individual's lifetime with the firm.

As these leavers are also more often part-time workers, this raises turnover costs to 19 per cent for the Hotel or 18 per cent for the Quick Service Restaurant. They are around 9 per cent for the Retail firm and 5 per cent for the Leisure firm and Food Manufacturer. The final row expresses costs as a proportion of labour costs using the median survival time of leavers rather than the mean. As this is much lower, turnover costs are nearly doubled. These last two rows are the lower and upper bound observed turnover costs. In the rest of our analysis we use the lower bound estimates as our main case.

The variation in turnover costs as a share of the individual's wage bill is driven mainly by the extent of staff turnover rather than variation in costs of turnover, although the Leisure firm with low unit costs does enable it to keep overall turnover costs down. The variation in turnover follows a rough pattern across firms in line with wages offered. The Food Manufacturer has only three sites; one is located in a high unemployment area and pays, for that area, very good wages. The level of labour turnover is very low as a result. In contrast, the Quick Service Restaurant has low levels of pay and higher levels of turnover. This comparison of the Food Manufacturer and the Quick Service Restaurant suggests that turnover costs may be more important the lower the wage that is paid. We turn to this in the next section.

In Section 5 we go on show that it is not just the size of turnover costs that economic theory suggests is important. Rather it is the sensitivity of turnover costs with respect to wages and recruitment intensity that is important. We present some evidence on these elasticities: our estimates suggest that profit-maximising employers choose a wage a fraction lower than the level that would maximise employment. That is to say that a slightly higher wage would reduce staff turnover and hence the number of periods where vacancies are open. More important though is that firms that raise wages can make partially offsetting savings from lower turnover costs.

5 The sensitivity of turnover to wages

The previous section suggested that low-wage firms may have higher turnover costs (measured as a fraction of total labour costs). One implication of this is that the impact of a minimum wage on total labour costs may not be as large as the impact on wage costs, as turnover costs will be reduced. In addition, lower turnover reduces the number of vacant posts at any one time and hence raises observed employment. These effects are more important when turnover is very sensitive to the wage. If staff turnover is not very sensitive to the wage, firms can lower wages without a major staff exodus. A firm here will find it profitable to offer lower wages and be continuously under staffed. To consider the size of these effects one needs to know how sensitive labour turnover is to wages.

Our estimates of the elasticity of the labour turnover rate with respect to the wage come from our survey data. Each of the participating companies provided information from their payroll records on all those workers who had left over a specific period. This period varied from company to company, covering the period January to December 1996 for the Hotel and Leisure firm, the period March 1996 to February 1997 for the Quick Service Restaurant, and the period 1993 to 1996 inclusive for the Retail firm and the Food Manufacturer.

The payroll records typically contain the wage at the time the individual left employment. There is a very strong correlation between this and job tenure but the causality is questionable as it is quite likely that, within firms, wages rise with job tenure. Information on the starting wage would be better but, unfortunately, the data do not record it for everybody. We do have data on the wages paid and on wages in the area mapped in from the New Earnings Survey as well as local unemployment rates. So, for our wage information we will use these variables. Table 24 shows the raw correlation by site between hourly wages paid benchmarked on the local labour market and two measures of turnover. The first is the annual staff leaving rate, total leavers as a proportion of staff in the autumn of 1996. The second is the average completed tenure of staff leaving in a six month window in late 1996 or early 1997. Sites in the top quartile of relative wages have an annual staff leaving rate of 43 per cent, whereas in the bottom quartile this rises to 95 per cent. Note that this measure can be greater than a hundred as it covers all leavers over a period but only compared with staff numbers at a point in time. The average relative wage within the quartiles is also given so we can see how much it changes across the quartiles. Increasing the wage by 25 per cent halves the turnover rate. From these leaving rates one can estimate average completed duration and compare with that observed in column 2. A leaving rate of 43 per cent predicts completed tenure of 119 weeks against an actual of 124, and a 95 per cent leaving rate implies completed tenure of around 54 weeks compared to 48 observed.

Of course we want to include other characteristics to get a clearer picture of the relationship between pay and turnover. The detailed results are reported in the Appendix, Table A.3. These results investigate how this sensitivity is affected by controlling for local unemployment, age and gender of the site workforce and company identifiers. The results are very robust. The raw correlations are reduced when local unemployment and site

Table 24 Turnover rates by relative wage by site

Relative wage performance		Annual staff leaving rate (%)	Average completed tenure of leavers (weeks)
Quartiles of wage ratio			
Range	Average in quartile		
>92%	99%	43	124
85–92%	88%	64	72
77–85%	80%	85	55
<77%	74%	95	48

Note: Sample size 67 sites.
Wage ratio is average hourly wage of non-managerial/supervisory staff divided by 25 percentile of travel to work area hourly wage distribution.

workforce composition controls are introduced. Increasing relative pay by say 10 per cent (35p an hour at the mean) would reduce turnover by about a quarter. Higher local area unemployment reduces labour turnover as fewer people quit (see Gregg and Wadsworth, 2000). An area with an unemployment rate 2 percentage points above the mean level of unemployment has 10 per cent lower turnover or higher completed durations.

As these site-level regressions have a relatively small number of observations, we also estimate an individual level model for the completed durations of these leavers and the six monthly leaving probability. The other personal characteristics that can be included in the model are limited to what is common to all of the company payroll records: these variables are age, sex and job category which we coded into four groups to give us comparability across companies. The detailed results are reported in the Appendix, Table A.4. The probability of a member of the stock of staff leaving in the next six months is around 20 per cent, or 40 per cent on an annual basis. This suggests that the average stock member has about 2.5 years to go with a firm. This is just under half that for the economy as a whole.

Turning to the impact of the wage variable, there is evidence that a higher wage relative to the local wage reduces labour turnover. The implication is that raising the wage by 10 per cent relative to the outside wage (i.e. about 36p an hour) increases the survivor likelihood by 12 per cent (0.23 points on an average of 20 per cent). With company dummies included, changing the wage ratio by 10 per cent again reduces exit rates by around 15 per cent (0.3 points on an average of 20 per cent). This gives an implied elasticity of 1.2 to 1.5. Finally we look at the completed job duration of leavers. Here the elasticity with respect to the own wage is much larger at around 1.8.

What do these estimates imply about the impact of higher wages on total labour costs? The elasticity of the labour turnover rate with respect to the wage is estimated at around 1.5 for individual-level data and around 2.3 for site-level data. They suggest that firms which raise their wages by 10 per cent (relative to others)

will see turnover rates fall by 15–23 per cent. Turnover costs are now spread over a longer period of employment with the firm. As these costs average about 10 per cent of the wage bill, turnover costs will be lowered by 1.5–2.3 per cent, providing some alleviation to the increase in wage costs. These results suggest that total labour costs will still rise with a wage increase, such as the introduction of a minimum wage, though there is some muting of the effect from reduced labour turnover. One should also note though that these estimates have not taken account of the fact that a minimum wage will also raise wages in other firms so that the gain in relative wages measured above will be reduced further. Indeed those offering just above the minimum wage, such as the firms here, might face higher turnover as other firms now offer more similar wages. This is likely to depend on whether recruits leave to become workless (students, looking after home or children), or move into similar paid jobs, perhaps nearer to their home, or higher paid jobs. We did not obtain much useable information from our leavers survey, but at least 50 per cent of the small number of respondents had not taken another job.

In summary, these firms face a labour market where changing the wage does not lead to all workers instantly quitting. They thus have some discretion over pay setting as described in many of the search based labour market theories. However, as the sensitivity of turnover to wages is moderately high, lowering the wage below the going rate is costly in terms of turnover costs and staff shortages. For these rather large firms operating mainly in urban areas, it appears that they are paying wages just a fraction below the level at which they would maximise employment.

It is not really possible to make inferences from this work about the impact of a minimum wage on employment. These firms are generally paying above the minimum wage, and a minimum wage affects outside wages, not just those of the firm. The scale of the offsets described here would be enough to reduce the employment effect of a minimum wage that would be predicted by a standard neo-classical labour demand model, but are not large enough to produce the employment gains that have been observed in some US studies.

6 Job satisfaction and its relationship with labour turnover in the low-wage service sector

Whilst the data set was rich enough to allow analysis of many issues related to service sector employment, here our focus is on identifying the demographic and job characteristics associated with worker satisfaction. Low job satisfaction is of concern because it suggests workers' utility is not maximised, a situation which should also be of concern to employers as this is likely to lead to lower worker output. Additionally, employee turnover affects employers as it represents both a waste of resources on hiring and training and because the endless cycle of new recruits reduces productivity. The cost of recruiting and training is highest at the Quick Service Restaurant at around £700 per starter, whilst across the four other companies it varies between £200 and £300. The effectiveness of new recruits varied across the five companies, but never exceeded 50 per cent of an established worker. Food Manufacturing workers took on average half as long to train as staff joining the Quick Service Restaurants.

Although there have been earlier analyses of job satisfaction, most have used national data sets across individuals. Our data are more suitable for this purpose as we have sizeable groupings within identifiable workplaces. This enables us to control for site specific factors, such as employment practices and quality of physical environment which have hitherto biased such studies.

Worker satisfaction

The questionnaires distributed to current staff asked workers to rate their satisfaction with the job overall, and 11 specific factors of their employment (see Table 25). The answers were ranked on a scale of 1 (disagree completely) to 5 (agree completely). Higher numbers therefore represent higher levels of satisfaction (with the exception of the tiredness question, which is clearly a negative job attribute). Hence a score of over 3 suggests a positive view. Since the questions are all answered using the same scale, responses can be compared across the five companies.

Workers in the Leisure industry report the highest levels of overall satisfaction, and they are also the most satisfied with seven out of ten of the specific job aspects, as well as reporting the lowest level of tiredness at the end of the day. The only job aspects with which Leisure industry employees are not the most satisfied are with their pay (Retail), their relations with other staff (Quick Service Restaurants) and being interested in the business (Hotels). The lowest level of overall satisfaction is reported by workers in Food Manufacturing. In terms of satisfaction with the individual job aspects, Food Manufacturing is ranked lowest in relation to five aspects (hours, supervisors, co-workers, the employer and transport). The lowest level of satisfaction with the remaining job aspects is spread across three other companies: promotion prospects, tiredness and a challenging job at Retail; the job being interesting and one that could be done forever at Quick Service

Table 25 Worker satisfaction by company (minimum value 1 to maximum value 5)

Question	Quick Service Restaurant	Retail	Leisure	Food Manufacturer	Hotel
The pay is good	2.7	3.27	2.48	2.49	2.33
The hours suit me	3.76	3.98	4	3.01	3.79
I could stay in the job forever	2.28	2.68	2.99	2.64	2.43
Promotion prospects are good	2.69	2.41	2.8	2.46	2.48
Get along well with supervisor	4.25	4.07	4.35	4	4.18
Tired when get home from work	3.84	3.87	3.57	3.74	3.74
I find the job challenging	3.2	2.97	3.23	3.13	3.19
Interested in this type of business	3.12	3.33	3.49	3.35	3.67
Get on well with other workers	4.51	4.45	4.46	4.3	4.45
The company is a good employer	3.61	3.63	3.65	2.96	3.45
Getting to work is not a problem	4.21	4.33	4.41	3.93	4.26
All in all I am satisfied with the job	3.67	3.58	3.83	3.13	3.53

Restaurants; and pay levels within the Hotel firm.

Next we establish which aspects of their jobs employees in these companies are typically most satisfied or dissatisfied with. The rankings are broadly similar across all five companies. In every company, the job aspect giving the highest average level of satisfaction is relationships with co-workers, followed by ease of getting to work, and relationships with supervisors. The three job aspects with which employees are least satisfied are pay, promotion prospects, and seeing the job as a job for life. This is the case in every company, with the exception of Retail, where satisfaction with pay levels is considerably higher than in the other four, reflecting their higher hourly wage rates.

Previous studies of job satisfaction have identified significant gender differences in terms of responses. Table 26 displays average satisfaction levels for each specific aspect of the job across the five companies, separately for males and females. The results confirm the common finding, that on average women report higher levels of overall job satisfaction than men, and women report higher levels of satisfaction with the individual aspects of the job than men in every case except for promotion prospects. The largest difference in reported satisfaction levels between the sexes is when hours of work are considered.

Note that when differences in satisfaction across companies were considered, the lowest levels were found in the Food Manufacturing company. In this company, the majority of the employees surveyed were male, while in the other four, most respondents were female. Given the higher reported satisfaction levels of women, this is a possible explanation for the cross-company differences.

Table 27 presents satisfaction scores for each job aspect, separately for different age groups. As can be seen, older workers report higher levels of overall job satisfaction than younger

Table 26 Worker satisfaction by gender (minimum value 1 to maximum value 5)

Question	Male workers	Female workers
The pay is good	2.61	2.85
The hours suit me	3.43	4.01
I could stay in the job forever	2.42	2.7
Promotion prospects are good	2.64	2.48
Get along well with supervisor	4.06	4.21
Tired when get home from work	3.62	3.84
I find the job challenging	3.08	3.12
Interested in this type of business	3.31	3.46
Get on well with other workers	4.32	4.5
The company is a good employer	3.41	3.59
Getting to work is not a problem	4.14	4.34
All in all I am satisfied with the job	3.43	3.65

Table 27 Worker satisfaction by age group (minimum value 1 to maximum value 5)

Question	15–25	26–45	46–55	56+
The pay is good	2.82	2.75	2.8	2.81
The hours suit me	3.57	3.95	4.03	3.98
I could stay in the job forever	2.23	2.73	3.07	2.92
Promotion prospects are good	2.7	2.49	2.21	2.4
Get along well with supervisor	4.16	4.1	4.32	4.22
Tired when get home from work	3.71	3.84	3.76	3.82
I find the job challenging	3	3.11	3.33	3.29
Interested in this type of business	3.23	3.46	3.7	3.53
Get on well with other workers	4.48	4.41	4.55	4.38
The company is a good employer	3.61	3.47	3.58	3.59
Getting to work is not a problem	4.14	4.3	4.44	4.37
All in all I am satisfied with the job	3.56	3.53	3.79	3.7

and prime-age workers, with the latter two groups reporting similar overall levels of satisfaction to each other. There are some differences across age groups when we consider satisfaction with specific job aspects. In particular, compared to both prime-aged and older workers, the young appear to view their jobs as short-term. They are less satisfied with their hours of work, are less likely to say that they could stay in the job forever, find the job less challenging, are less interested in the business, and have more problems getting to work. These results could be due to the young having higher expectations of working life, or it could be that older workers have sorted into jobs that they are more satisfied with, while the young are still looking for a suitable job. The other main difference in responses across age

groups sees satisfaction with promotion prospects declining with age, as would be expected. There is little difference between the age groups in terms of their satisfaction with the remaining job aspects.

Another personal characteristic with which job satisfaction typically varies is education level (see Table 28). The final row of this table reveals that the most highly qualified, and in particular those with degrees, are the least satisfied with their employment in these low-wage firms. The other rows in the table provide some indication of why this is the case. In particular, the results show that individuals with A levels or degrees are less likely to agree with the statements that they could stay in the job forever, that they feel challenged, or that they find the work interesting. It is clear that these individuals feel that they are not able to use their greater skills in the companies considered here. In addition, those with degrees have more complaints than other educational groups, being the most likely to report dissatisfaction with the employer, the hours of work and the level of pay. It is likely that such employees have higher expectations of the rewards that they deserve, and report dissatisfaction when they do not receive them. The only factors about which the highly educated do not seem to be less satisfied are personal relations with supervisors and colleagues. They are also no more satisfied than other groups with their promotion prospects, which is surprising, given that it might be expected that the most highly educated would have the best promotion prospects. Again they presumably also have higher expectations.

The preceding analysis has considered one factor or characteristic at a time and its effect on job satisfaction. We also performed a multivariate analysis of the determinants of overall job satisfaction, so that the influence of a particular factor could be considered, holding all other factors constant. We used statistical techniques appropriate for the analysis of grouped, ordered data, and created a 'benchmark employee', who had characteristics typical of employees in the surveyed firms.

Table 28 Worker satisfaction by education level (minimum value 1 to maximum value 5)

Question	No quals	CSEs	Vocational	GCSE	A levels	Degree
The pay is good	2.84	2.68	2.67	2.81	2.86	2.29
The hours suit me	3.94	4.02	3.86	3.73	3.86	3.25
I could stay in the job forever	2.96	2.83	2.87	2.42	1.98	1.67
Promotion prospects are good	2.43	2.53	2.58	2.66	2.4	2.52
Get along well with supervisor	4.21	4.03	4.24	4.11	4.14	4.1
Tired when get home from work	3.78	4	3.77	3.68	3.74	4.12
I find the job challenging	3.23	3.04	3.33	3.02	2.8	2.9
Interested in this type of business	3.43	3.54	3.69	3.33	3.18	3.1
Get on well with other workers	4.47	4.47	4.41	4.45	4.48	4.24
The company is a good employer	3.63	3.55	3.5	3.5	3.55	3.02
Getting to work is not a problem	4.32	4.44	4.3	4.24	4.19	4.08
All in all I am satisfied with the job	3.67	3.8	3.68	3.55	3.48	2.78

Note that the payroll data, necessary for this analysis, was only obtained for the Retail chain, Quick Service Restaurants and Hotels, so the results obtained are relevant to those service sector firms in particular. Our 'benchmark employee' is a white female, aged 21, who is single and has no children. She has no qualifications, and is not currently at college. Her job is at the unskilled or trainee level, pays a hourly wage worth 73.3 per cent of the local average wage for women and is full time (39 hours). The probability of someone with these characteristics being highly satisfied (that is, giving an answer of 5 to the question relating to overall job satisfaction) is estimated to be 0.259. We then changed one of these characteristics in turn, holding all other characteristics fixed in each case, and re-estimated this probability. The results are supplied in Table 29.

Table 29 shows that a person with the baseline characteristics has a 1 in 4 chance of being highly satisfied, as mentioned above. If the 'benchmark employee' is instead male, holding all the other characteristics fixed, this probability falls to a 1 in 5 chance of being highly satisfied. There is a similar effect of an increase in age, an individual who has all the characteristics of the 'benchmark employee' but who is 36 years old having a 1 in 5 chance of being highly satisfied. Ethnicity is shown to have little impact on job satisfaction, the probability of being highly satisfied barely changing if the 'benchmark employee' is non-white rather than white. Education, on the other hand, has a very strong impact. If an employee holds O levels or GCSEs, and has all the other benchmark characteristics, her probability of being highly satisfied falls to 1 in 6, and if instead she holds a degree, this probability falls to just a 1 in 20 chance of being highly satisfied. Whether the employee is currently at college or not has little impact on overall job satisfaction, however, perhaps because students have few expectations of the part-time jobs they

Table 29 Percentage probability of individuals with particular characteristics being highly satisfied

Characteristic changed from the baseline person	Estimated percentage probability of a person with the given characteristics being highly satisfied
Baseline	25.9
Male	19.5
Age 36	20.5
Belongs to an ethnic minority	22.3
Highest qualification = GCSEs	16.4
Highest qualification = degree	4.8
Currently at college	27.5
Married or living as married	26.5
Has one child	34.7
Semi-skilled employee	37.4
Skilled worker or supervisor	45.2
Works 20 hours per week	35.5
Relative wage =1	31.4

undertake while studying. Similarly, marital status has no significant effect. Children are important, however, with the 'benchmark employee's' probability of being highly satisfied rising to 0.347 if she has a child. The final rows in the table consider aspects of the job, rather than individual or demographic characteristics. More senior employees have a greater chance of being highly satisfied, the probability rising to 1 in 3 if the 'benchmark employee' is semi-skilled, and to nearly 1 in 2 if she is skilled or a supervisor. Employees who work fewer hours are more likely to report the highest level of overall job satisfaction, this probability rising to 1 in 3 if the 'benchmark employee' works 20 hours per week rather than 39; if she earns the local average wage (relative wage = 1), her probability of being highly satisfied rises from 26 per cent to 31 per cent.

Finally, we undertook similar analyses, using satisfaction with particular aspects of the job, rather than overall job satisfaction, as the dependent variable. Rather than use all of the aspects described above, we grouped them into four groups using principal components analysis, to reduce the number of equations that needed estimating (see Brown and McIntosh (1998) for details). Satisfaction with pay and with the employer we termed satisfaction with short-term rewards. We described an individual as satisfied with the long-term rewards on offer if they agreed that their promotion prospects were good, that they could stay in the job forever, that they found the job challenging, and that they were interested in the work. Satisfaction with colleagues and supervisors were clearly related to social relations at work, while satisfaction with hours of work, and tiredness levels at the end of the working days, we termed satisfaction with work effort levels. Table 30 indicates which of our explanatory variables had a statistically significant effect on each of these composite satisfaction variables.

The results reveal that different individual characteristics are associated with these four composite satisfaction measures. The reason for the higher overall satisfaction level of women relative to men, as reported above, is found to be related to higher levels of satisfaction with social relations and with long-term rewards amongst women. We noted above that the more educated an individual, the less satisfied they were with their job. This subsequent analysis shows that the source of this dissatisfaction is that the well-educated are very dissatisfied with both the short-term and the long-term rewards on offer at these three companies, relative to uneducated workers. Employees in more senior positions are revealed to be no more satisfied with their immediate rewards than their more junior colleagues, but they are much more satisfied with their long-term prospects at the firm; this is clearly the reason for their higher overall job satisfaction levels, as reported above. Other significant results that we find include the unsurprising one that the higher an individual's relative wage rate, the more satisfied they are with their immediate rewards, although an increase in hours worked, at a given wage rate, naturally reduces the satisfaction with that wage. Finally, individuals currently studying at college, and employees with two or more children both report significantly lower levels of satisfaction with their work levels (hours and levels of tiredness) which is presumably induced by these outside commitments.

Table 30 Statistically significant influences on the components of job satisfaction

Variable	Satisfied with short-term rewards	Satisfied with long-term prospects	Satisfied with social relations	Satisfied with work levels
Female		(+)**	(+)**	
Age	(–)***	(–)*		
(Age squared)/100	(+)***	(+)*		
Ethnic minority				
CSEs				
Vocational qualifications				
O levels/GCSEs	(–)***	(–)**		
A levels	(–)***	(–)***		
Degree	(–)***	(–)***		(–)***
Currently at college				(–)**
Married/living as married	(–)*			
One child				
Two or more children				(–)*
Relative wage rate	(+)***			
Weekly hours of work	(–)***	(+)***		(–)***
Semi-skilled	(+)*	(+)***		
Semi-skilled/junior responsibility		(+)**		(+)**
Skilled workers and supervisors		(+)***	(+)**	
Low level management/professional		(+)**		

Note: +/– indicates the sign of the estimated coefficient. Statistically significant results are reported, at the 1%***, 5%** and 10%* significance levels.

Effects of job satisfaction: job turnover

We turn now to a consideration of the impact of job satisfaction or dissatisfaction on workers' separation behaviour in two of the low-wage service sector firms. We received a second round of payroll data from Retail and Hotels about 18 months after the surveys were distributed. This revealed which of the original respondents to the survey had departed from the firm. We defined a worker–job separation to be any case where a respondent left their firm during this time span, rather than attempting to differentiate between voluntary and involuntary quits.

Just over 1 in 5 (22.6 per cent) of our respondents had left their jobs when the second round of payroll data was delivered. Table 31 reveals that there is no significant difference between the separation rates of the dissatisfied and the satisfied; it seems as though job satisfaction, or the lack of it, is not the reason why workers leave their jobs in these two service sector firms. So is there any other explanation for why some workers leave their jobs and others do not?

Table 31 The major determinants of job separations

Variable	Marginal difference to percentage probability of leaving job from changing each characteristic effect
Individual characteristics	
Female	4.1
Age 16–19	–2.4
Age 25–34	–4
Age 35+	–5.7
Ethnic minority	5.2
Single	9.1
Single parent	–6.2
O level/GCSE	8.6
A levels	18.6
Degree	19.3
Previous economic state	
Looking after home	2.9
Studying	–6.2
Unemployed	–7.8
Other	28.3
Job characteristics	
Tenure (per month)	–0.3
Semi-skilled	–5.7
Semi-skilled/junior responsibility	–8.8
Skilled workers/supervisors	–0.1
Low management/professional	–3.5
Number of observations	**668**
	0.249

Base – male aged 20–24 with no qualifications, previously employed in unskilled job.

A number of other variables do have statistically significant effects, and continue to highlight that outside alternatives and ease of mobility are important determinants of turnover in this sector. Employees with higher education levels are more likely to leave, presumably because they have better outside alternatives: 1 in 2 of the respondents in our sample who hold a degree have left the firm 18 months later. Workers with either A levels or degrees show almost a 20 percentage point higher probability of separation relative to an unqualified individual. An additional effect that comes through is that employees who were previously unemployed before finding work in one of our service sector companies, are almost 8 percentage points less likely to leave subsequently, compared to employees who came straight from another job. If previous experiences of unemployment 'scar' individuals in employers' eyes, it may be more difficult for such individuals to find work. Again, therefore,

this result can be interpreted as a lack of alternative opportunities preventing people from leaving these service sector firms. The result that females are less likely to leave their jobs than males can be interpreted in a similar way, if labour market discrimination reduces the alternative opportunities for women.

The availability of another source of employment is not the only determinant of turnover, however, as individuals must be mobile enough to make the change. Table 31 shows that single employees are around 9 percentage points more likely to separate than their married counterparts and single parents are 6 percentage points less likely to leave employment than other groups. The presence of a partner and/or children means other people have to be considered, and it becomes less easy to switch jobs and move location. Further analysis revealed that married women have a significantly lower separation rate than married men (13.1 per cent versus 21.4 per cent), suggesting that the presence of a partner may reduce the mobility of women in particular. These family characteristics therefore suggest that married women, especially with children, and single parents are more constrained in their outside options.

The final result worthy of comment is the negative effect of tenure on job separations, which suggests that the longer an individual has been with a firm, the more likely he or she is to remain there in the future. Many quits occur at very short durations because the worker decides that the job match was a poor one or a better one has become available.

Summary

Using original survey data on employment conditions in the low-wage service sector, we have examined reported levels of satisfaction with a range of job aspects, as well as with the job overall. We found that a number of characteristics were associated with satisfaction levels. One of the most striking results was that the well-educated are much less satisfied working in these mostly service sector firms than the less well-qualified, particularly with respect to the short term and longer term rewards on offer. It would seem as though service sector firms such as those in our sample must offer better prospects or incentives, if they are to keep more highly skilled employees satisfied and motivated. Other results of interest revealed that individuals in more senior positions were more satisfied, particularly with the longer-term rewards on offer to them. A higher wage not surprisingly increased satisfaction levels with the immediate rewards on offer. With respect to demographic characteristics, women and older workers seem to be more satisfied with their work.

Having derived composite satisfaction variables, covering broad job characteristics, we could find no relationship between satisfaction levels and labour turnover in these service sector firms: the dissatisfied are no more likely to leave their firm than the satisfied. Rather, separations seemed to depend more on the availability of outside alternatives, for example for the well-educated, for those with no previous unemployment history and for men relative to women; and on easy mobility, for example for single, childless, non-prime-aged individuals, and again possibly for men relative

to women. It would seem that frictions in this type of labour market prevent the perfect mobility of workers, which in turn presents employers with a degree of monopsony power. It may be that employers can maintain necessary employment levels whilst offering jobs which provide workers with utility levels below the 'going rate'.

7 Summary and conclusions

Summary

Firms are most often studied as competitors in product markets but of course they are also competitors in labour markets. Here the competition, especially for less skilled workers, is not constrained to those operating in the same industry but rather more by geographical location. We look at five firms who are operating across seven local labour markets and who recruit similar low skilled labour. We describe this as entry level labour. Our plan was to study the whole recruitment and staff retention process faced by firms and to document this in a factual way. In the course of this we hope to throw light not just on how these firms and their workers behave but also to explore how their behaviour relates to economic theory.

It is rare in economics to observe information about firms and workers simultaneously. To get detailed information on both requires a case study approach and this study is no exception. What is relatively unusual is the attempt to produce copious amounts of factual data within a small number of companies operating in the same labour market. As such it was an ambitious project and it did not entirely succeed on all counts. Perhaps the worst failure was not to choose firms who paid wages substantially below the national minimum wage that was introduced last year. We had hoped to return to these firms and see how things had changed after introduction. As it turns out three of our firms were clearly unaffected by the minimum wage and one experienced only minor effects. Despite this, the information contained here is a fascinating account of how firms operating in the lowest paying quarter of the labour market recruit staff and attempt to retain them.

The aim of the study was to obtain high-quality and detailed information on staff dynamics in low wage sectors for a number of localities. The five firms participating were a Quick Service Restaurant chain, a Hotel chain, a Leisure company, a Retailer and a Food Manufacturer. These industry tags are used as identifiers throughout the report and also for matching in data from national sources. Each firm gave us detailed information from sites in seven locations: North West London, Metropolitan West Midlands, West of England (Cheltenham and Gloucester), West Yorkshire (Leeds, Bradford and environs), Welsh Borders, Merseyside and the North West (Preston and Blackpool). All firms except one provide data for six of the seven regions or more. The other had just three sites. The choice of area was purely the best diversity of city, towns and semi-urban areas where the firms' operations overlapped.

The report is broken down into five main sections. These deal with the composition of the workforce at a point in time, the recruitment process, staff turnover patterns, how sensitive turnover is to the wage and staff satisfaction.

Workforce profile

The workforce in these low paying firms is in many ways what would be expected. It was largely female (except the Food Manufacturer), young (the Quick Service Restaurant extremely so), and less well educated (except the Quick Service Restaurant). Less obviously, many employees had children (all firms had more than 30 per cent of their workforce with dependent children); many were still students,

who are twice as likely to have a second job as all employees nationally. It is apparent that each firm operates in a specific segment of the low paid workforce. The Quick Service Restaurant had 80 per cent of staff under 25, with 60 per cent of all staff still in education. The Retail firm was 80 per cent female and two thirds of staff had children – it therefore concentrates on mothers, many part-time. The Leisure firm looked very similar. The Food Manufacturer is largely (80 per cent) male, older (two thirds over 35) and less well educated (80 per cent had no O levels or equivalent). The one exception is the Hotel which has a far less specialised workforce: two thirds female, one half aged less than 25, one half with no O levels, one half with children, and a third still in education.

Given these patterns it is perhaps not surprising that prior to starting with the firm, most employees of the Quick Service Restaurant said their main activity was full-time education, the Retail and Leisure firms took on people who had been looking after the family and employed elsewhere in equal measure, and the Food Manufacturer took on those from unemployment or employed elsewhere equally. Overall about a third of recruits to these posts came straight from other jobs. Indeed a third to a half of recruits had had two or more jobs in the three years prior to starting with the firm.

Pay determination by the firms was variable, ranging from two firms with national pay grades with London Weighting only, to one company where sites had almost complete autonomy in pay setting. In between, there was autonomy subject to budget limits and wider regional variation. This means that our firms do not always have the same ranking within each of our seven localities. As mentioned the low National Minimum Wage meant that only the Quick Service Restaurant was clearly paying under this level for adults (it employed a number of youths who were not below the youth NMW); the Hotel had a small minority of staff paid below the NMW. Broadly speaking then, these firms paid from the minimum wage to about £1 above for entry level staff. These are typical entry wages for those moving into work.

Recruitment

One of the key insights of this work is our ability to follow the whole recruitment process, and to document the number of applicants per vacancy and who is selected at various stages to appointment. The average number of applicants per vacancy was just under three and one of these was typically already in work. This suggests that there are not large queues of unemployed people wanting these jobs. At a time of substantial unemployment (ILO unemployment in Spring 1997 stood at around 7.5 per cent) this does not suggest wages were well above market clearing levels. Equally though, few vacancies failed to attract any applicants. Offering a 70p per hour lower wage reduces the number of applicants by 30 per cent (so cutting the average number of applicants from three to two). Hence raising the wage increases the choice of worker open to firms. Local labour market conditions are also important: a 2 percentage point lower unemployment rate also reduces the number of applicants from around three to two. The use of newspaper adverts raised the number of applicants by 1.5 per vacancy. The use of job adverts is a far more cost effective route to increase applicants than the wage, but if all firms used it there would probably be a

crowding out effect. Geographical location in terms of town centre or having good public transport all raised the applicant pool.

Around three quarters of the applicants were selected for interview. Previous experience and current employment strongly raised a person's chances of securing an interview. One in ten failed to show for the interview, perhaps because they had secured another post in the intervening week. Around two thirds of those interviewed were offered a job. Here characteristics such as experience and employment status were less important. Asked about their choices at interview, managers said they were influenced by the individual impression formed during the interview. Of those offered a job, around one in ten failed to start. Of those who fell by the wayside, therefore, around 20 per cent did so because of the person's decisions and 80 per cent through the firms' choices.

Costs of turnover

Over the years there has been little attempt to document the costs of turnover. The costs we consider are direct costs of recruitment, such as those of placing an advert and the time spent on recruitment by staff, the costs of training and induction and the indirect costs of forgone production from new starters being less efficient. Newspaper adverts were not widely utilised and cost around £200 each. Staff costs per recruitment event were around £40 and training and induction costs about £130. New staff's under performance was equivalent to about two weeks work before they were fully efficient. Many of these costs were fixed and so represent far more for a part-time worker than a full-time one. In total these costs sum to around five weeks' wages for all staff and about four if only full-time staff were considered.

These costs are therefore supplements to the wage in calculating total costs. As they are one-off costs, how important they are depends crucially on how long the worker stays with the firm. These firms lost between 40 per cent and 100 per cent of their staff in a year. At the extreme the number of leavers during the year was equivalent to the numbers employed at a point in time. Leavers had been with the firm between 40 and 75 weeks. Recruitment costs can therefore be expressed as cost over the expected wage bill of a worker during the time of employment with the firm. On average these costs were about 7 per cent. However, entry level staff have greater turnover rates than the more skilled positions present in many firms. Recruitment costs for entry level positions range from 4 to 19 per cent, with the norm being just over 10 per cent. Some of this difference is due to more part-time workers in entry level positions and some from more rapid turnover. Turnover costs therefore are a non-trivial part of total costs for entry level staff. In a labour market that has been tightening ever more since this study started, these costs are likely to have increased as staff turnover rises in boom periods.

The sensitivity of turnover to wages

This raises the crucial issue of how sensitive staff turnover is to the wage. The perfect competition model that underpins most economics, suggests that turnover is hypersensitive to the wage, so that any deviation from the market wage produces mass quits or huge queues. But much modern economics tempers this model with important

frictions and costs of adjustment. If workers are highly sensitive to the wage offered, we would expect little variation in wage offers apart from those paying for differences in skills or experience. This is because extreme turnover will mean that increased recruitment costs would swamp any wage savings. In a middle zone, firms face a trade-off between wage costs and incurring recruitment costs, whereas if turnover is very insensitive firms can lower wages with little extra recruitment problems. Here turnover costs are low, but the firm can safely lower the wage and raise profits although at the expense of employment and output.

Our results suggest that turnover is reasonably sensitive to wages (raising the wage by 10 per cent reduces turnover by around 2 per cent); this suggests that around a fifth of any wage increase relative to other firms is offset by reduced turnover costs. However, one cannot really use this evidence to think about the impact of a minimum wage. A NMW will increase wages in all low wage firms and so the turnover savings depend on how much of the reduced turnover is from quits to other firms and how much is quits into non-employment. Unfortunately we have little useable information on destinations of staff leavers.

Staff satisfaction and turnover

Staff response to a satisfaction questionnaire showed sharp polarisation by issue considered. Staff were happy with their relationships with other staff and supervisors. They were also satisfied with many work related issues such as hours, fatigue and travel times. However, there was considerable unhappiness with pay and promotion prospects with a general sense the jobs were not desirable in the long term. Men, older workers and the better educated were the least satisfied, whereas part-timers, those with children and the better paid were more satisfied.

The very young (under 25) and the over 40s are more likely to leave these jobs as are the better educated and single people. Those with longer tenure, higher pay and those that came from unemployment are more likely to stay. Over and above these personal and job characteristics, individuals expressed satisfaction had little impact on staff turnover. This suggests that staff satisfaction questions are not good indicators of staff likelihood of leaving and that personal characteristics and pay levels are better predictors of turnover probabilities.

Conclusions

It is rare in economics to observe information about firms and workers simultaneously. To obtain detailed information on both requires a case study approach and this study is no exception. What is relatively unusual is the attempt to produce copious amounts of factual data within a small number of companies operating in the same section of the labour market. As such it was an ambitious project and did not entirely succeed on all counts. We looked at five firms who are operating across seven local labour markets and who recruit similar low skilled labour. We describe this as entry level labour. Our plan was to study the whole recruitment and staff retention process faced by firms and to document this in a factual way. In the course of this we hope not just to throw light on how these firms and their workers behave but also to explore how their behaviour relates to economic theory.

The substantive contributions of this work are fourfold.

- In a period of relatively high unemployment these firms were not spoilt for choice when recruiting. There were around three applicants per vacancy. The extent of choice was conditioned by recruitment methods, location, unemployment levels and wage offered.
- Firms exhibited a strong predilection to select experienced applicants for interview, and a weaker one for those currently employed over those not working. Once selected for interview, job offers were based on how people came across during the interview. Workers rarely reject job offers.
- Recruitment costs are non-trivial to these positions. For entry level positions, total recruitment costs account for around 10 per cent of the total labour costs over the expected duration of the employment spell. This is primarily determined by the speed at which workers leave the firm. Our Quick Service Restaurant has nearly as many leavers within a year as it does staff at any point in time (an exit rate of 100 per cent). In the high turnover firms, recruitment costs rose to nearly 20 per cent of total labour costs.
- Staff turnover is strongly related to the wage relative to that available in the local area. Raising the wage by 10 per cent reduces staff turnover by around 20 per cent. As recruitment costs are around 10 per cent of total labour costs, reduced turnover costs offset about 20 per cent of the wage rise. The offset against employment effects is somewhat greater as there is less time spent with vacant posts.

What strikes us most about this work is how lower paying firms are facing staggeringly high staff turnover in a period of reasonably high unemployment. So much so that around 10 per cent of total costs for entry level jobs are absorbed in recruitment costs. In the most acutely affected firms this is around 18 per cent, and in the most affected sites this rises to over 25 per cent. These problem sites were those offering lower wages in areas with relatively tight labour markets. Despite these high leaving rates, firms can recruit successfully, although they are not spoilt for choice with around three applicants per vacancy on average. Firms are also not particularly choosy, so we do not see a huge amount of selection going on and rarely see unfilled vacancies. Firms tend to select applicants with relevant experience and those already in work for interview ahead of others. Those that make a good impression at interview, whatever their background, tend to get an offer. Only small numbers of applicants turn down an offer or fail to turn up for interview. Those that do may well have secured another job. Firms could increase the number of applicants by paying the cost of a newspaper advert (a cost of about two weeks' wages for entry level posts).

The impression then, is that the wage was primarily used to regulate staff retention and motivation rather than recruitment in early 1997. For entry level labour this work suggests that lower recruitment costs offset about one fifth of the increased wages. This is not directly applicable to a minimum wage where wages

generally rise within an area, but it suggests that lower recruitment costs may reduce the impact of the NMW on total labour costs.

The tightening labour market presents a serious challenge to these firms. As unemployment has fallen, the number of recruits per vacancy will have fallen by around 20 per cent and staff leaving rate risen by the same extent. The government's move to reduce the gap between pre- and post-tax wages for lower wage workers (NI reforms, 10p rate and the promised Child Tax Credit) and the payments through the Working Family Tax Credit may help to ease this pressure.

Notes

Chapter 2

1 The Quarterly Labour Force Survey is a nationally representative survey of around 60,000 households, carried out by the Office for National Statistics. We have taken private sector employees for this analysis.

2 The National Minimum Wage came into force in April 1999 at £3.00/hour for workers aged 18–21 and £3.60/hour for those aged 22 years and older.

3 There are a number of other exclusions and complexities. See the Low Pay Commission Report (1998) for further details.

4 The range is restricted to lie between £2.50/hour and £5.00/hour to focus on the distribution around the minimum wage. In most firms very few workers earn above £5.00/hour or below £2.50/hour. The exception is the Food Manufacturer where some 20 per cent of employees are paid above £5.00/hour.

Chapter 3

1 A more formal representation of this data has been published by Manning (2000).

2 From the work of Gregg and Wadsworth (2000) and Gregory and Jukes (1997) we know that the unemployed typically go into the sort of jobs we are studying.

3 Gregg and Petrongolo (1997) use this framework to analyse the aggregate matching function for the UK, concluding that it does a better job in explaining the data than the traditional Diamond–Pissarides specification (Diamond, 1982; Pissarides, 1990).

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Appendix: Additional tables

Table A.1 Determinants of the number of applicants (detailed regression results behind Table 16)

Dependent variable	Number of applicants	Number of applicants	Number of applicants	Number of applicants
Central location	0.67 (4.67)*	0.37 (3.10)*	0.13 (1.38)	0.13 (1.41)
Non-central, good public transport	0.37 (2.06)*	0.30 (1.77)	–0.08 (0.64)*	–0.09 (0.75)
Ln (unemployment in ttwa)	0.40 (2.56)*	0.34 (2.17)*	0.59 (3.55)*	0.75 (4.57)*
Wage performance	–0.23 (4.95)*			
Wage below average		–0.41 (4.76)*		
Ln (actual pay of vacancy)			0.95 (2.34)	
Ln (ttwa 25th percentile)			–0.93 (–3.36)*	
Wage ratio (actual pay of vacancy / 25th percentile in ttwa)				1.37 (3.30)*
Job centre	0.15 (1.46)	0.16 (1.57)	0.07 (0.75)	0.04 (0.44)
Advert in newspaper	0.64 (5.58)*	0.58 (5.16)*	0.37 (3.67)*	0.36 (3.60)*
Existing staff notified	0.22 (2.25)*	0.19 (1.93)	0.10 (1.05)	0.09 (1.00)
Approach to individuals	–0.27 (3.69)*	–0.25 (3.45)*	–0.27 (–3.64)*	–0.24 (–3.34)*
Walk-ins	–0.09 (1.01)	–0.04 (0.41)	–0.17 (1.87)	–0.22 (2.62)
Ln (no. of vacancies)	0.55 (10.10)*	0.59 (10.90)*	0.73 (12.51)*	0.73 (12.56)*
Number of obs	141	141	136	136
Pseudo R^2	0.26	0.26	0.24	0.24

Notes: All the estimates refer to an estimate of the negative binomial model. Each equation also includes a constant. Standard errors are in parentheses. Starred variables are significant in statistical terms at the 5% level.

The results presented here are Poisson Model estimates for the number of applicants. The first column presents a basic specification in which the wage offered is measured by the self-assessed wage performance (assumed to be a cardinal measure). The second column uses a measure of reporting below average wages as the above average groups were not significantly different from the average. The third column uses actual entry wage against the 25th percentile in the travel to work area. The restriction that the wage and the area wage have equal and opposite effects is easily accepted and is reported in the final column.

Table A.2 The selection process (detailed regression results behind Table 17)

	1	2	3	4
Dependent variable	**Selected for interview**	**Selected for interview**	**Did not turn up for interview**	**Offered job**
Sample	**All applicants**	**All applicants**	**Selected for interview**	**All interviewed**
Age	0.002 (0.05)	0.011 (0.78)	–0.016 (0.80)	–0.002 (0.11)
Average age		–0.009 (0.39)		0.014 (0.56)
Female	0.045 (0.27)	0.068 (0.24)	–0.384 (0.48)	–0.423 (1.15)
Proportion female		0.097 (0.22)		0.394 (0.77)
Employed	0.426 (1.95)	0.581 (2.30)*	0.859 (1.71)	–0.304 (0.94)
Proportion employed		–0.268 (0.490)		–0.237 (0.41)
Experienced	0.872 (3.86)*	1.066 (4.21)*	0.043 (0.09)	0.407 (1.21)
Proportion experienced		–0.806 (1.41)		–0.331 (0.57)
Company experience	0.666 (1.25)	1.369 (2.13)*	See notes	0.132 (0.21)
Proportion with company experience		–2.011 (2.08)*		0.757 (0.79)
Ln (no. of applicants)	–1.042 (7.38)*	–1.154 (7.49)*	–0.277 (1.05)	–1.509 (6.79)*
Ln (no. of vacancies)	1.057 (6.51)*	1.068 (6.24)*	0.324 (1.06)	1.888 (7.61)*
Number of observations	658	658	411	407
Log-likelihood	–309.8	–305.1	–89.7	–204.9

Notes: *t*-statistics in parentheses. An asterisk indicates significance at the 5% level. In column 3 there are no estimates for those who had previously worked for the company as all of these workers were interviewed. The number of applicants in the final column is the number interviewed.

The first column estimates a logit model to determine the effects of an individual's characteristics on the chance of getting an interview. The model includes controls for the company and the logs of the number of applicants and of the number of vacancies as it is plausible that the chance of an interview depends on the number of vacancies relative to the number of applicants. The fact that the coefficients on these variables are opposite in sign and of very similar magnitude suggests that it is the ratio of the number of vacancies to the number of applicants that is important. The second column estimates a specification in which the average characteristics of the applicant pool are included as additional regressors. Columns 3 and 4 look at who failed to show for interview and who was offered a job after interview respectively.

Table A.3 Site level regressions of staff turnover on relative wage (detailed regression results behind Table 24)

Ln (Annual Staff Leaving Rate)	Annual staff leaving rate (%)	Annual staff leaving rate (%)	Annual staff leaving rate (%)	Annual staff leaving rate (%)
Wage ratio	–3.3 (7.03)	–2.7 (3.58)	–2.3 (3.31)	–2.6 (3.37)
Ln (unemployment)	–0.38 (2.61)	–0.39 (2.77)	–0.32 (2.16)	–0.39 (2.67)
Company dummies	No	Yes	No	Yes
Age and gender dummies	No	No	Yes	Yes
Number of sites	67	67	67	67
R^2	0.47	0.57	0.51	0.57
Ln (Average Completed Tenure)	**Average completed tenure of leavers (weeks)**	**Average completed tenure of leavers (weeks)**	**Average completed tenure of leavers (weeks)**	**Average completed tenure of leavers (weeks)**
Wage ratio	–3.8 (6.14)	–2.5 (3.61)	2.3 (3.26)	2.2 (3.09)
Ln (unemployment)	–0.43 (3.23)	–0.37 (2.77)	0.32 (2.28)	0.35 (2.56)
Company dummies	No	Yes	No	Yes
Age and gender dummies	No	No	Yes	Yes
Number of sites	67	67	67	67
R^2	0.53	0.6	0.64	0.69

Note: Wage ratio is average hourly wage of non-managerial staff divided by 25th percentile of travel to work area hourly wage distribution. The dependent variables are in logs to make comparisons clearer.

Table A.4 Individual level regressions of staff turnover on relative wage (detailed regression results of the sensitivity of turnover to wages described in Section 5)

	Probit on annual staff leaving rate		Ln (average completed tenure of leavers in weeks)	
	1	2	3	4
Wage ratio	–0.23 (5.96)*	–0.30 (7.03)*	1.78 (8.18)*	3.90 (12.91)*
Local unemployment	–0.01 (3.19)*	–0.01 (2.80)	0.21 (2.39)*	0.27 (3.09)*
Age 16–18	–0.07 (4.06)*	–0.08 (4.54)*	0.49 (3.27)*	0.27 (2.04)*
Age 19–24	0.23 (13.12)*	0.24 (13.47)*	–0.38 (3.03)*	–0.41 (–3.32)*
Age 25–44	0.08 (5.42)*	0.09 (6.04)*	0.05 (0.40)	–0.01 (0.11)
Gender	–0.03 (3.03)*	–0.03 (3.37)*	0.99 (1.84)	0.16 (2.85)*
Tenure less than 6 months	–0.10 (9.43)*	–0.09 (9.25)*		
Tenure 6–12 months	–0.11 (11.31)	–0.10 (11.04)		
Tenure 12–24 months	–0.11 (9.29)	–0.11 (9.18)		
Tenure 24–60 months	–0.19 (16.91)	–0.18 (16.06)		
Manufacturer		–0.06 (3.47)		0.75 (4.99)*
Retail		–0.09 (6.66)		0.98 (9.28)*
Restaurant		–0.06 (4.86)		0.21 (2.55)*
Leisure		–0.10 (5.79)		0.73 (4.23)*
Occupation dummies included	Yes	Yes	Yes	Yes
'Travel to work area' dummies included	No	No	No	No
No. of observations	8635	8635	2621	2621
Pseudo R^2	0.16	0.17	0.07	0.11

Notes: The implied elasticities in Columns 1–3 are 1.2, 1.5 and 1.8 respectively. Putting in company effects raises this estimate further in column 4. This is expected as it is being derived solely from wage tenure profiles within firms. This suggests that these estimates are biased upwards because such intra-firm wage profiles are not what we want to pick up.

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