Department for Work and Pensions

Research Report No 217

Lone parents cycling between work and benefits

Martin Evans, Susan Harkness and Ramon Arigoni Ortiz

A report of research carried out by the Centre for Analysis of Social Policy at the University of Bath on behalf of the Department for Work and Pensions

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Contents

List of tables

List of figures

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Summary

Introduction

The report sets out to study the phenomenon of lone parents who have repeated claims for out of work benefits accompanied by intervening periods in work, so called 'cycling'. Such a profile has been observed in unemployed/jobseeker benefit populations, but to date little attention has so far been paid to how it affects lone parents.

Lone parents' employment is a key area of policy concern for the current government, which has set a 70 per cent target for employment of lone parents in 2010. In this report we analyse lone parents' flows into and out of work, and assess the relationship between these job flows and aggregate employment levels.

Observing repeated work entry and exits is difficult given current data. The Family and Children Survey (FACS) at present reports only four waves of data. This allows us to analyse annual transitions over four years. Looking at periods of less than a year does not provide any real additional volume of transitions. Moreover, sample sizes become a constraint when looking at transitions over more than one year.

The two sets of data primarily used in this study are the longitudinal panels of each year's Labour Force Survey (LFS) from 1992 to 2002 and the FACS, which follows a varying sample of families with children over four waves between 1999 and 2002.

Lone parent employment dynamics

Lone parents' employment rates have grown over the period 1992 to 2003 and are currently around 54 per cent. Lone parents' employment profile has four dynamic elements – work entry, persistent work, job exit and persistent non-employment. Trends in these different elements of lone parent employment have all changed since 1992. The persistent employment rate has risen from 41 to 49 per cent. This appears to be unqualified good news for a growing overall employment rate. Job exit rates have, over time, fallen from around 14 per cent to 10 per cent. Over the same period job entry rates have risen from 12 to 15 per cent.

Lone parents' job entry rates have not only grown rapidly since the mid-1990s, but have also converged with those of non-lone parents in recent years. While the rate of job exit has fallen they remain considerably higher for lone parents than for other groups. Some existing policies will have helped in improving job retention, such as Working Families' Tax Credit (WFTC) and expansion of childcare. This means that, even with large falls in the probability of job-exiting, lone parents are still in 2002-2003 almost twice as likely to leave their job as non-lone parents and are a third more likely to leave their job compared to single childless women.

These differences between lone parent and other groups' employment dynamics are not merely the outcome of differences in observed characteristics; lone parents have higher job exit rates even after personal and job characteristics are controlled for.

The difference between job entry and job exit rates has implications for the overall employment rate, and we predict that these changes in entry and exit rates will lead to a rise in the equilibrium or *steady state employment rate* from around 48 to over 57 per cent. Moreover our simple simulations suggest that if lone parents had the same job exit rates as the rest of the population (they are currently approximately double those of non-lone parents), and there was no related fall in job entry rates then the target rate of 70 per cent employment of lone parents could be met without greatly raising job entry rates further.

Lone parents entering and leaving work

Lone parent job enterers are younger and fewer have young children under two and fewer aged two to five compared to persistently non-working lone parents. They also tend to have fewer children, are more likely to be owner occupiers, have higher educational qualifications and to have less self-reported ill-health.

In multivariate estimation the probability of entering work at 16 hours per week or more is seen to be significantly positively associated with the following characteristics when not working: having fewer children; working less than 16 hours in so-called 'mini-jobs', looking for work rather than being inactive, having a driving licence and access to a car, being a home owner, receiving maintenance and the level of their educational qualifications. Having three or more children, self-reported ill-health and living in London, the South East, East and North West regions worsen probability of entering work.

Job entrants are seen to have higher incidence of low pay and part-time work and to be more concentrated in the retail, hotels and catering sectors and in low or unskilled occupations such as personal services and 'elementary occupations' when compared to the persistently employed.

Lone parent job exiters are comparably younger on average and more likely to have young children and more than one child than persistently employed lone parents. Job exiters are also less qualified overall, fewer have degrees and A level education

and more are unqualified. One-third of job exiters report ill-health compared to only 19 per cent of the persistently employed.

In multivariate estimation the probability of lone parents exiting work are associated with the following personal characteristics: being aged less than 30, not being a homeowner and having no savings. Entering work in both the past year and in the past two years both significantly raised the probability of job exit as did working part-time for low pay.

Longer-term trajectories

Research focused on two main forms of cycling, both of which only comprised two transitions:

- **job returners**: those observed in work, then out of work who were then observed to return to work;
- **benefit returners**: those observed out of work, then moved in to work and who subsequently returned to not working. This group are called 'recidivists' in US literature, a term seen as inappropriate in the UK policy context.

Multivariate estimation of the characteristics associated with job returning is hampered by underlying small sample sizes and the absence of appropriate longitudinal weights to account for attrition but suggest that regaining employment after a job exit is associated with: being older (over 30), having one child only, having previous employment of five years or more and A-level qualifications. Subject to these concerns about robustness we find that returning to non-working after entering work from non-work is linked to the risks of: being aged in the twenties, having three or more children, having no savings and reporting ill-health.

What evidence is there of a low pay - no pay cycle for lone parents? Sixty per cent of lone parents over the period 1999 to 2003 worked, but one-third of these were persistently low paid over the period and a further 40 per cent were low paid over part of the period. Only a quarter were never low paid. Low paid lone parents are twice as likely to exit work than their counterparts who are not low paid. However, comparing the probabilities of being out of work and being low paid (conditional on past status) it appears that lone parents do not face equal probabilities of no pay or low pay. Low paid jobs appear to have a small probability of being 'stepping stones' at the same time as having relatively higher probabilities of cycling between low pay and no pay. However, this is an aggregate finding and sample sizes are too small to decompose the sample. It is, therefore, highly likely that there are groups of low-skilled low qualified lone parents for whom the low pay - no pay cycle is a reality.

Conclusions

There are employment penalties for lone parents who have had spells out of the labour market. Previous non-employment more than doubles the probability of job

exiting compared to those persistently employed over the previous year. However, further evidence of scarring from non-employment is not easily identified in the data available. Duration out of work showed no significant association with the probability of entering work when personal characteristics are also taken into account. Furthermore, but more tentatively, duration out of work showed no association with the probability of returning to benefit. Demographic composition of the lone parent family (age, age and number of children) and ill-health were more important as scarring effects than non-employment durations in both instances.

There is greater evidence of both a wider set of penalties and protective factors for lone parents. A lone parent penalty, independent of characteristics, was found for job retention. Lone parents were more likely to exit work than a matched control group of single people with no children, although this penalty appeared to be narrowing in recent years. Low paid employment for lone parents was seen to scar, was associated with job exits and, less clearly, returning to benefit. On the other hand, low paid part-time employment was also associated with returning to work for job exiters.

Evidence of protective factors tended to match that found before in analysis of cross-sectional or single point in time transitions. Receiving maintenance, being an owner occupier, having a driving licence and access to a car and, on some occasions, having savings were all identified as protective factors for work or to promote entering work.

Alongside considerations of improving lone parents' entry into work there is a complimentary need to look at retention in work and reducing job exits as factors to meet the lone parent employment target. Higher rate of job exits suggests there is an underlying need to look at the reasons that make lone parents exit work that are specific to their status as sole carers for children.

There are two additional factors that appear to add to the lone parent penalty in probabilities of job exits: low pay, especially when linked to part-time work, and ill-health. This raises the problem of how far to encourage large numbers of lone parents who are more marginal in the employment market to enter work if the outcomes for job retention are probably poor. There is a point at which encouraging a higher volume of those with poor job retention probabilities will make only small marginal increases in the net employment rate. However, as the risk of job exits is highest in the first year of entering work, there is also the potential to target retention assistance to this group.

It is recommended that the Department develop improved models of predicting employment profiles for lone parents that are able to predict outcome employment rates on different assumptions of job entry and exit rates. Such a model could assist in developing policies to meet the 70 per cent employment rate that take in the important factors of underlying characteristics and size of lone parent populations and their employment dynamics.

1 Introduction

This chapter sets out the aims of the research, provides background details of the both the policy issues discussed and of the subject for research, the dynamic employment profiles of lone parents and their movement in and out of work.

1.1 Aims of research and background

The research reported sets out to study the phenomenon of lone parents who have repeated claims for out of work benefits accompanied by intervening periods in work, so called 'cycling'. Such a profile has been observed in unemployed/jobseeker benefit populations, but to date little attention has so far been paid to how it affects lone parents.

Lone parents' employment is a key area of policy concern for the current government, which has set a 70 per cent target for the employment of lone parents in 2010. Analysis of the cycling phenomenon will thus contribute to policy discussion by improving our understanding of dynamic employment profiles of lone parents. Our research sets out to be of applied use to policy makers by providing evidence of the relative importance of both improving lone parents' entry into employment and promoting prolonged and sustainable employment patterns.

The key programmes that promote moves into work for lone parents are the New Deal for Lone Parents (NDLP) and mandatory Work Focused Interviews for lone parents claiming Income Support (IS). These provide information and support to lone parents about work and assist them in preparing for and entering work. Since October 2003 the Employment Retention and Advancement (ERA) scheme has been piloting a programme which aims to provide job retention and job advancement assistance to both lone parents and New Deal 25+ customers in six districts. Thus the research reported here has the potential to inform this initiative and assist in policy formulation as part of the strategy to reach the overall 70 per cent target.

The overarching research question given to the researchers by the Department was, *'What, if any, are the penalties for lone parents who have had spells out of the labour market?'*.

1.2 Approach and structure of report

The approach taken to answering this question is to build up to an analysis of 'cycling' by first profiling underlying employment dynamics for lone parents. The existing body of knowledge on inflows in to and out from employment for lone parents does not match that of the unemployed job-seeker populations. What is the underlying problem of high rates of non-employment of lone parents; is it that job entry rates are low or that job exit rates are high, or a combination of the two?

In Chapter 2 the report first uncovers the underlying components of the employment rate for lone parents – their rate of entry and their rate of exits from work. The research then explores what in such profiles is particular to lone parents in order to more clearly understand the effect of having sole responsibility of a child isolated from the age, gender, qualifications and other characteristics that are known to affect inflows into and outflows from work.

Once the research has established the overall employment inflow and outflow patterns for lone parents, the report then moves in Chapter 3 to look at the characteristics of lone parents who move in and out of work and estimate the underlying relationship between personal characteristics and job characteristics that are associated with moving in and out of work.

Chapter 4 then concentrates on those lone parents that are seen to 'cycle' – meaning that they are seen to move either from out-of-work status into work and then back to out of work status or they are seen to move from work to out of work and then return to work. Such cases are termed 'benefit returners' and 'job returners' respectively.

Last, in Chapter 5, the evidence is brought together to draw conclusions and discuss the potential policy consequences of the findings from the research. How could policy makers balance the priorities of getting jobs for non-employed lone parents alongside the need to hold them in employment and reduce returning to benefit?

1.3 Data and methodology

In order to see transitions in and out of work this research uses longitudinal data that follow individuals over time. The two sets of data primarily used in this study are the longitudinal panels of each year's Labour Force Survey (LFS) from 1992 to 2002 and the Family and Children's Study (FACS), which follows a varying sample of families with children over four waves between 1999 and 2002.

The Labour Force Survey Five-Quarter Longitudinal Datasets, held at the UK Data Archive at Essex University, track changes in lone parents employment over one year. These datasets include only those interviewed and with data on economic activity at each of the five quarters. Longitudinal weights have been constructed to compensate for non-response. As the sample is rotational, each longitudinal data set has a sample size less than one fifth of that for each quarterly LFS. In any single

rotational sample there are only, therefore, around 500 lone parents. In order to boost sample sizes four of the LFS Five-Quarterly Datasets are merged together, boosting the sample of lone parents to approximately 2000. Each data file therefore contains individuals with initial interviews commencing over a 12-month window easing inter-temporal comparisons across datasets

The LFS carries a wide range of standard labour market indicators such as age, qualifications, ethnicity and region of residence as well as details of the presence and ages of dependent children within the family unit and household. As it is a nationally representative survey, it allows comparison of the employment experience of lone parents with other demographic groups and therefore allows us to control to some extent for variations in employment inflows and outflows resulting from changes in the economic cycle. This is a major advantage of this dataset relative FACS. Its main disadvantage is that it allows us to track the employment experience of lone parents over just one year. By supplementing our analysis of the QLFS with data from FACS we are able to observe employment transitions among lone parents over a longer time period.

Four waves of data are now available from the FACS, with data having been collected annually from 1999-2002. The initial focus of the study was on low-income families with children and lone parents. While lone parents were sampled regardless of income, two-parent families were included only if they were low income. From 2001 the sample has been expanded to include a nationally representative survey of all families with children. FACS includes detailed employment and demographic information, as well as retrospective information on previous relationships and recent employment histories.

FACS contains a sample of 2,000 to 2,500 lone parents each year. Its main limitation is that the sample focuses only on families with children. The sample is drawn from families in receipt of Child Benefit (CHB), and it is the recipient of CB whom the study focuses on. Partners are also interviewed, although in less depth, and as the study has progressed the focus on children has increased. Around 4-5 per cent of lone parents are male, as are a small minority of respondents in two-parent families. The main limitation of the study for our purposes is that it only allows us to compare the employment dynamics of lone parents with (mainly) mothers in two parent families. This is discussed in further detail below.

The following definitions are used throughout this paper:

- First we define lone parents as those that are the head of a family unit, who do not have a partner and have dependent children under the age of 16.
- Employment definitions differ according to the analysis undertaken. When analysing overall employment rates and profiles from LFS we define employment as working more than one hour a week – in line with the Government's employment target for lone parents and standard LFS practice. However, when

we analyse cycling between work and 'out of work benefits' we move to an employment definition of being in work 16 hours or more per week. This is the critical number of hours that a lone parent must work in order to qualify for in-work benefits (WFTC) and is the 'tipping point' between in work and out of work benefits.

- Full-time employment is defined as working 30 hours or more each week, which unemployment and inactivity are distinguished using the International Labour Organisation (ILO) definition of unemployment.
- Throughout we include in our sample all those who are lone parents in the first observation period. Hence when we look at one-year transitions, we include in our sample all those who are lone parents at time *t* regardless of their status at period *(t+1)*. Around 10 per cent of our sample cease to be lone parents over the course of a year, either because they have re-partnered or because they no longer have dependent children.

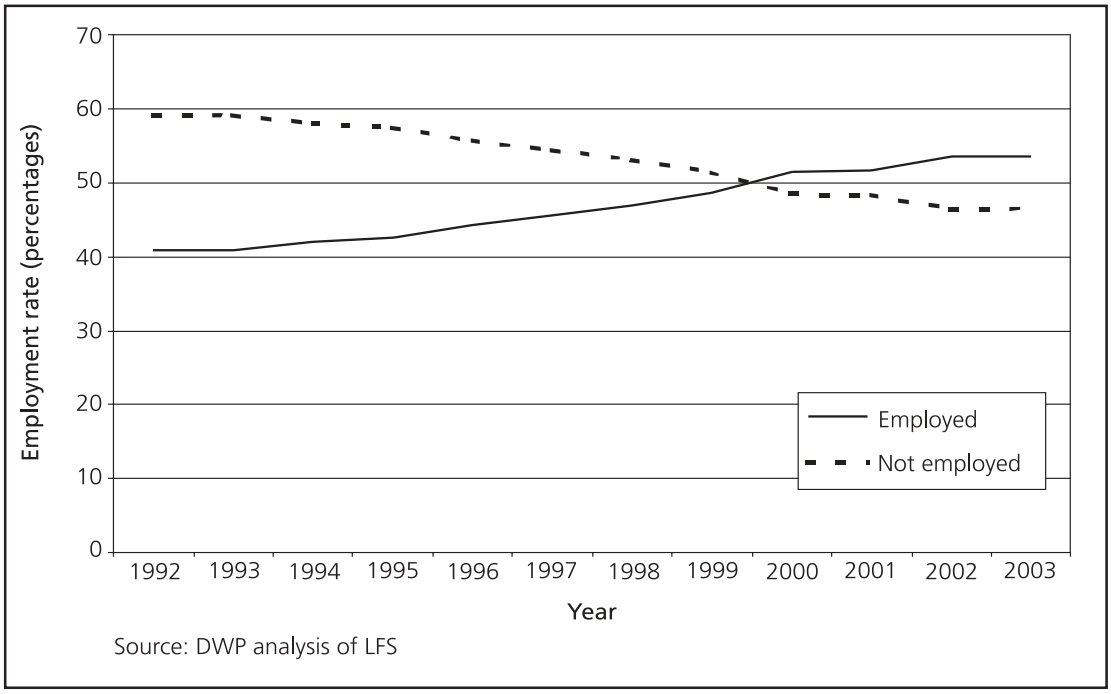
2 Lone parent employment dynamics

This chapter gives an overview of lone parent employment and sets up the main research questions concerning cycling that will be covered in Chapters 3 to 5. The chapter firstly looks at lone parent employment and its determinants and then establishes how lone parents' dynamic employment profiles differ after controlling for characteristics. Last, the chapter discusses how aggregate trends in job-entry and job-exits could impact on overall employment rates.

2.1 Lone parent employment 1992-2003

Chapter 1 described how increasing the employment rate of lone parents is a key Government target, which has been set as 70 per cent by 2010. Figure 2.1 shows how the overall employment rate for lone parents has grown between 1992 and 2003 based on annual cross-sectional Labour Force Survey (LFS) data. Employment rates have risen from 41 per cent to over 53 per cent.

Figure 2.1 Lone parent employment rates 1992-2003



Source: DWP analysis of LFS

However, when employment is considered as a dynamic process – of individuals entering and leaving employment and non-employment – the overall employment rate should be thought of as having four elements. Those that are in work consist of two groups:

- those that remain in employment for a period of time – the persistently employed;
- those that enter employment – job entrants.

While those lone parents who are not working can also be thought of as two groups:

- those that remain out of work for a period of time – persistent non-workers;
- those that have left employment – job exiters.[1]

The next part of this chapter explores dynamic profiles using different sets of Labour Force Survey (LFS) data annual five quarterly panel data sets that give rise to longitudinal profiles of individuals over these periods. Table 2.1 shows the same trend and overall employment rates as shown in Figure 2.1 but the status of lone parents is broken down according to their dynamic profile. Because the data used in this series are longitudinal samples, the employment status is measured using the first observed status (wave one of the panel) and comparing this to their status one year later (in wave 5). This approach means that panel data cross a calendar year and hence observations are reported as periods rather than fixed points of time.

[1] We use the term 'job exiters' to describe all those who leave work – irrespective of their reasons.

Table 2.1 Dynamic profile of lone parent employment 1993-2003

Percentages

	In employment		Out of employment	
Year	Persistently employed	Entrants	Exiters	Persistently non-employed
1993-95	32.7	7.9	4.8	54.5
1994-96	32.8	7.0	5.6	54.6
1995-97	35.1	7.4	4.7	52.8
1996-98	35.0	7.6	5.1	52.4
1997-99	36.9	8.5	4.8	49.8
1998-00	40.7	6.7	5.7	46.9
1999-01	39.6	7.1	5.1	48.2
2000-02	42.6	6.4	3.9	47.2
2001-03	44.5	7.5	4.7	43.3

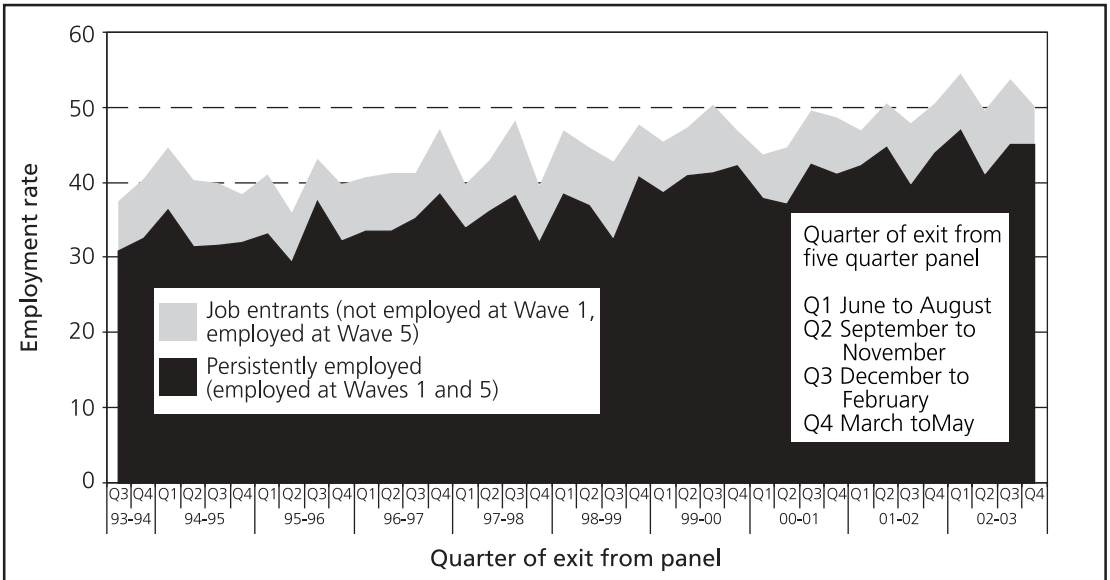
Source: Authors' calculation from LFS longitudinal data.

Table 2.1 shows that the growth of lone parents who were persistently employed over each year has grown from around 33 to 45 per cent overall from 1993 to 2003. Over the same period, the proportion of lone parents persistently non-employed has fallen from around 55 to 43 per cent.

Figure 2.2 shows a more disaggregated picture of these changes using quarterly observations[2]. Quarterly observations allow a fuller understanding of dynamic differences within years and an apparent regular seasonal rise in both entrant and persistent employment can be observed in the winter quarters in each observed year in Figure 2.2. These winter peaks in employment rate are a phenomenon that may directly impact on and contribute to the wider explanation of cycling in employment and will be explored further in Chapters 3 and 4.

[2] See Section 1.3 for description of data aggregation of LFS longitudinal samples.

Figure 2.2 Job persistence and job entry for lone parents 1992-2003



Source: Authors' calculations from LFS longitudinal datasets.

2.2 Comparing lone parents to other groups

How do flows in and out of employment for lone parents compare with other groups over this period? Table 2.2 shows the probability of being in work, of quitting work and of entering work for lone parents, all other groups and a comparison group – single women between 1994 and 2003. The employment rate observed at the last point in each panel shows the same overall trend for lone parents that was previously seen in Figure 2.1 – a steadily rising employment probability – rising from around 0.41 to 0.52. Caution is required in using these precise figures as we cannot be overly confident of the exact probabilities for lone parents from this data because the standard errors over the whole period are just outside the 90 per cent confidence level. However, we can see quite clearly that such probability of employment, while lower than for other groups has grown more over time. Non-lone parents had a 0.75 probability of employment and this has grown to 0.79.

A clearer comparison comes from looking at the probability of employment for single women, which has risen from 0.66 to 0.72. This means that the relative growth in employment probability (i.e. the difference in probability as a proportion of its starting point) has almost doubled for lone parents (48 per cent increase) while for single women it has risen by eight per cent and for all non-lone parents the probability of employment has grown by around five per cent.

Table 2.2 Probability of employment and non-employment for lone parents and other groups conditioned on previous status

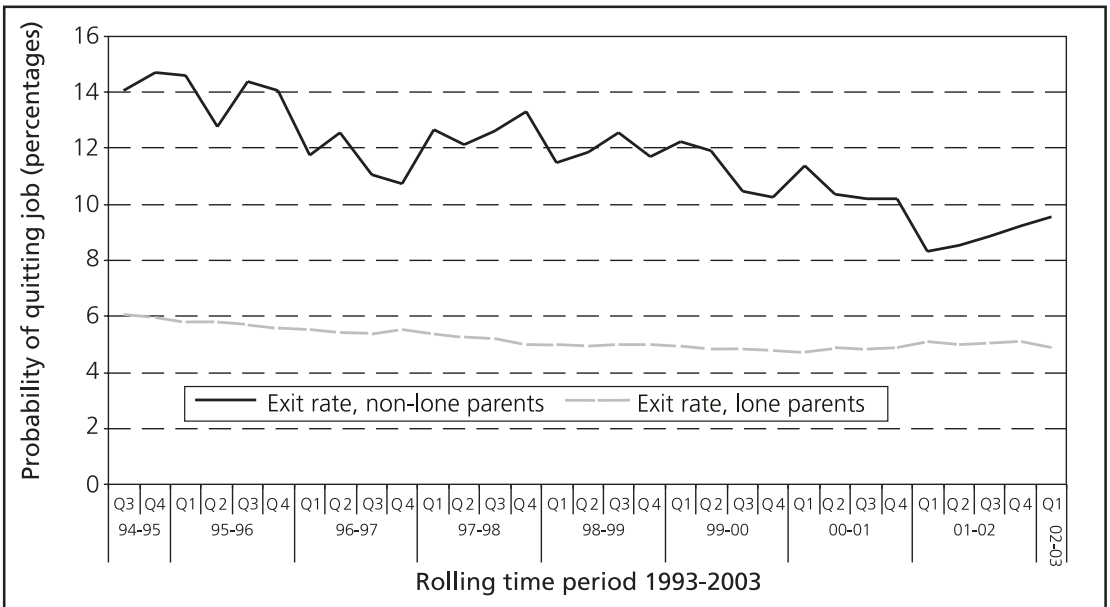
	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
Last observed employment rate (wave 5)*Et*									
Lone parents									
(standard error)	0.407(.011)	0.398(.011)	0.425(.011)	0.426(.011)	0.454(.011)	0.475(.011)	0.467(.012)	0.490(.012)	0.520(.012)
Non-lone parents									
(standard error)	0.747(.002)	0.754(.002)	0.760(.002)	0.766(.002)	0.775(.002)	0.782(.002)	0.785(.002)	0.786(.002)	0.788(.002)
Single childless women – Comparison group									
(standard error)	0.664(.003)	0.674(.003)	0.685(.003)	0.687(.003)	0.699(.003)	0.706(.003)	0.707(.004)	0.711(.004)	0.716(.004)
Outflows from work (between wave 1 and wave 5) *[P(Et=0| Et-1=1)]*									
Lone parents*(standard error)*	0.128(.012)	0.146(.012)	0.118(.011)	0.127(.011)	0.115(.010)	0.122(.010)	0.114(.010)	0.083(.009)	0.096(.009)
Non-lone parents									
(standard error)	0.064(.001)	0.058(.001)	0.055(.001)	0.054(.001)	0.050(.001)	0.050(.001)	0.047(.001)	0.051(.001)	0.049(.001)
Single childless women – Comparison group									
(standard error)	0.083(.002)	0.075(.002)	0.075(.002)	0.074(.002)	0.069(.002)	0.067(.002)	0.064(.002)	0.074(.002)	0.063(.002)
Inflows to work (between wave 1 and wave 5) *[P(Et=1| Et-1=0)]*									
Lone parents*(standard error)*	0.127(.010)	0.113(.010)	0.123(.010)	0.126(.010)	0.145(.011)	0.125(.010)	0.128(.011)	0.119(.011)	0.149(.012)
Non-lone parents									
(standard error)	0.179(.004)	0.171(.004)	0.170(.004)	0.166(.004)	0.162(.004)	0.166(.004)	0.157(.004)	0.153(.005)	0.148(.005)
Single childless women – Comparison group									
(standard error)	0.148(.005)	0.151(.005)	0.156(.004)	0.146(.005)	0.158(.005)	0.151(.005)	0.144(.005)	0.141(.005)	0.133(.063)

Note: Observations are constructed by merging together data from four panels of the 5-quarter longitudinal LFS. In the first year (1994-95) data is merged from June 1993 to August 1994, September 1993 to November 1994, December 1993 to February 1994 and March 1994 to May 1995. Employment rates at wave 5 (time *t*) are therefore observed between August 1994 and May 1995. Subsequent years are similarly constructed using four five-quarter panels.

The second set of data from Table 2.2 reports the probabilities of leaving employment and reveals that lone parents have an overall higher probability of exiting jobs than both the 'all other' groups and single women without children. Lone parents share in the overall trend, common across all three comparison groups, that the probability of exiting jobs has fallen over time. Lone parents' probability of job exiting was around 0.13 and has fallen to 0.1 – a relative fall of around a quarter. All non-lone parents' probability of job exiting started at half that of lone parents' at 0.06 and fell further to 0.05. On the other hand, single childless women's probability of job exiting was around 0.08, around two-thirds of lone parents' probability, and has fallen to 0.06. This means that, even with large falls in the probability of job-exiting, lone parents are still in 2002-2003 almost twice as likely to leave their job than non-lone parents and are a third more likely to leave their job than single childless women.

Figure 2.3 shows the change in job exit probabilities for lone parents and non-lone parents as moving averages over the whole period. Presenting these figures as moving averages when underlying changes are already measured as the difference between two time points at the beginning and end of a five quarterly panel means that any fixed time point over the whole 1992 to 2003 range is difficult to specify and should be seen as a rolling period of time. This confirms that lone parent job exit rates have fallen and the difference between their exit rates and other groups has grown smaller but that exit rates for lone parents still remain two to three percentage points higher than other groups.

Figure 2.3 Job-exit probabilities 1993-2003 lone parents and non-lone parents

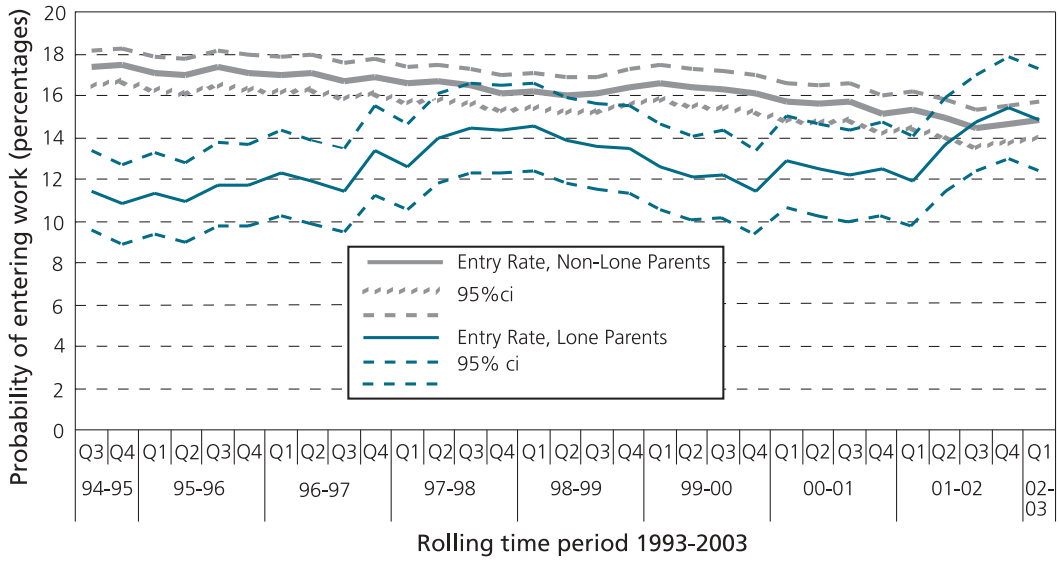


Source: Authors' calculations from LFS longitudinal data.
Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995. The dotted lines represent confidence intervals.

The third and final set of data taken from Table 2.2 shows the probabilities of entering work and overall these show that lone parents' probability of entering work have converged with other groups over the same period. Lone parents' probability of entering work was around 0.13 and has risen to around 0.15. All non-parents' probability of entering work was around 0.18 and has fallen to 0.15 – the same as lone parents. Single childless women's probability of entering work was around 0.15 and has fallen to 0.13 – lower than lone parents' in 2002-03.

Figure 2.4 shows the change in probability of job entry for lone parents and non-lone parents as moving averages over the whole period and shows that lone parent job entry rates have converged with all other groups. This convergence is clear not only from the solid line of estimated probabilities but also the ninety five per cent confidence intervals plotted as dashed lines either side. This means that overall probabilities of entering a job for out of work lone parents started at around 12 per cent in the early 1990s when other groups have higher probabilities of around 18 per cent. By 2003 these had converged, partly because there had been a decline in the other groups entry probability but also due to a rise in the probability of lone parents job-entry to around 14 to 15 per cent. This trend of convergence may however be in part due to changing composition of the non-lone parent and lone parent groups.

Figure 2.4 Job-entry probabilities 1993-2003



Source: Authors' calculations from LFS longitudinal data.
Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995. The dotted lines represent confidence intervals.

2.3 Controlling for characteristics

So far this chapter has given purely descriptive trends in observed lone parents' dynamic employment profile alongside non-lone parents to assess what changes have occurred. However, in order to accurately assess what change has occurred and why, it is necessary to control for lone parents' personal and employment characteristics in order to explain their different job entry and exit profiles. It is possible to explain change in employment rates purely by changes in underlying education and age profiles and it may be that the previous trends are merely the outcome of younger better qualified lone parents making changes to the stock of lone parents over time while the 'non-lone parent group' has aged relatively and become less qualified and less employable over the same period.

How can we control for the different characteristics of lone parents? They will share many characteristics with non-lone parents but any control requires a suitable comparison group. The technique we employ is to match lone parents to the comparison group of single adults using 'propensity score matching'. Single people, single women in the majority, are chosen as our main comparator group for two main reasons:

- First we are interested in labour supply, and comparing the employment decisions of lone parents with other single adult households is relatively straightforward as only the labour supply decision of one adult need be considered.
- Second, single adult households have been relatively unaffected by policy change and hence any variation in the employment behaviour of single parents relative to these households, once changes in characteristics have been controlled for, may be interpreted as the impact of policy change on employment behaviour.

The choice of single people as a control group is also in line with a large amount of literature on the impact of welfare reform on single parents' employment in the US (see, for example, Eissa and Liebmann 1996, Ellwood 1999, Meyer and Rosenbaum 1999). However, the use of single people as a comparison group is a break from the mainstream policy assumptions in the UK where lone parents are usually compared to couple parents in discussion of policy. While couple parents may seem the most natural comparison group when comparing the circumstances of families with children, the presence of a second adult in the household alters decisions on labour supply to such an extent that using such comparisons to model entry and exits from the labour market would not be robust.

In brief, the matching technique uses detailed information on personal and employment characteristics to construct a benchmark group with similar employment profiles to lone parents. In this way we construct a pseudo-control group who differ from lone parents in their propensity to change employment status only by the fact that they do not have children. This means that those employed at the beginning of each year are matched to see the differences in their propensity to be persistently employed or to exit from a job and that those who are not employed at the

beginning of the year are matched to see the differences in their propensity to enter jobs or to remain persistently out of work. A full description of this technique is given in Box 2.1.

Box 2.1 Propensity Score Matching

Matching is used to assess whether the observed differences in the dynamic employment behaviour of lone parents can be explained by differences in characteristics. This allows us to construct a pseudo-control group who differ from lone parents in their propensity to change employment status only by the fact that they do not have children. In order to assess how lone parents job-exit rates differ from the 'control' group we take a sample of lone parents who are working in the first quarter they are observed and match them to working non-lone parents, and then compare their job-exit probabilities. We do the same for job-entry probabilities for the non-employed.

The simplest form of matching is 'one-on-one' matching. This assumes that employment propensities depend on a set of characteristics. Matching the treated group to a control group with identical characteristics allows the impact of the treatment (lone parenthood) on the propensity to enter or exit work to be found. A drawback of this approach however is that, where matching takes place using a large number of covariates finding individuals with identical characteristics becomes hard. If, for a significant portion of the sample, no individuals with similar characteristics can be found, matching is problematic as using observations which are not close matches leads to biases in estimation while dropping those observations for which a match cannot be found also leads to bias or non-identification of the model. In order to reduce this problem Rosenbaum and Rubin (1983) suggest using a single variable, the propensity score, in order to overcome this dimensionality problem. They show that matching may be done on the predicted probability that an individual is in the treatment group, or the propensity score. Using a dummy variable *L* to denote lone parenthood, the propensity score is defined as the probability that *L=1* given X so that:

$$P(X)=Pr(L=1,X)$$

The propensity score is estimated from a combined sample of lone parents and singles without children using a logit model. Now, instead of matching on many variables we condition on just one variable, the propensity score. The explanatory variables in the logit model are those characteristics thought to influence job-entry or job-exit. These are described further in the text.

Continued

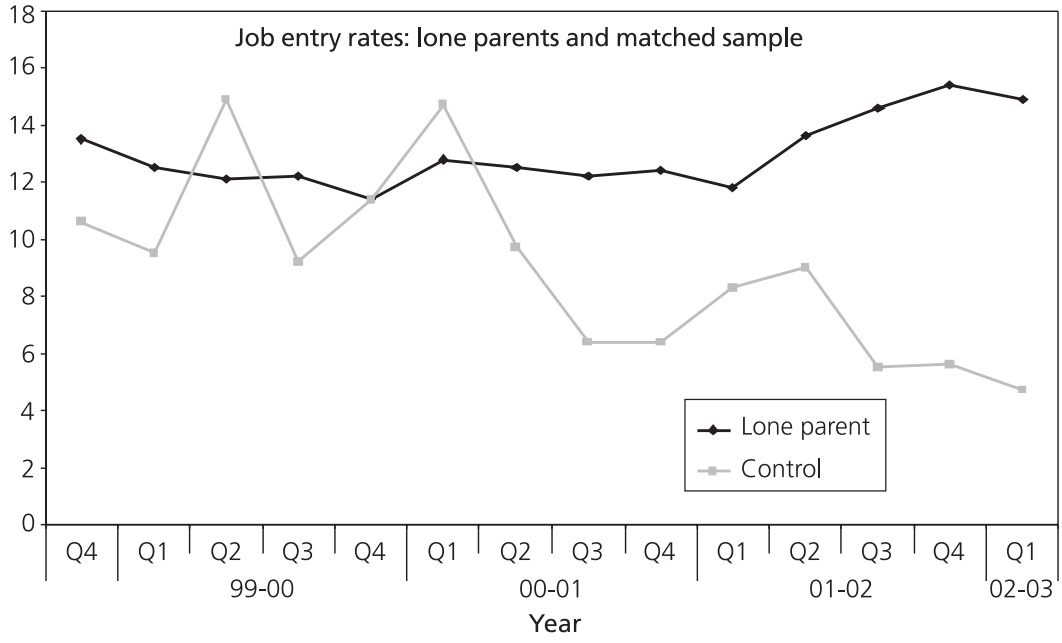
Propensity score matching can be undertaken using a number of different rules. Here a local linear matching estimator is used that averages employment propensities across all benchmark observations that fall within a window around an observation of interest. The weighting attached to each observation is derived from its closeness to the outcome of interest. We use a bandwidth (window) of .08. This method of matching allows us to find individuals who are not lone parents, but have otherwise comparable characteristics that influence the probability of finding and leaving work.

Matching is carried out using Edwin Leuven and Barbara Sianesi's matching programme 'psmatch2' for STATA, available from the State website.

2.4 Matched job entry analysis

Does the trend of converging entry rates for lone parents and non-lone parents remain once individual characteristics are taken into account? In order to see whether this is the case we match lone parents to a sample with similar characteristics that affect their employment probabilities. Here we match on health, benefit receipt (unemployment, Income Support, and Housing Benefit), marital status, sex, race, age bands, home ownership, education and region. As benefit definitions changed in 1998, we are unable to match for earlier periods.

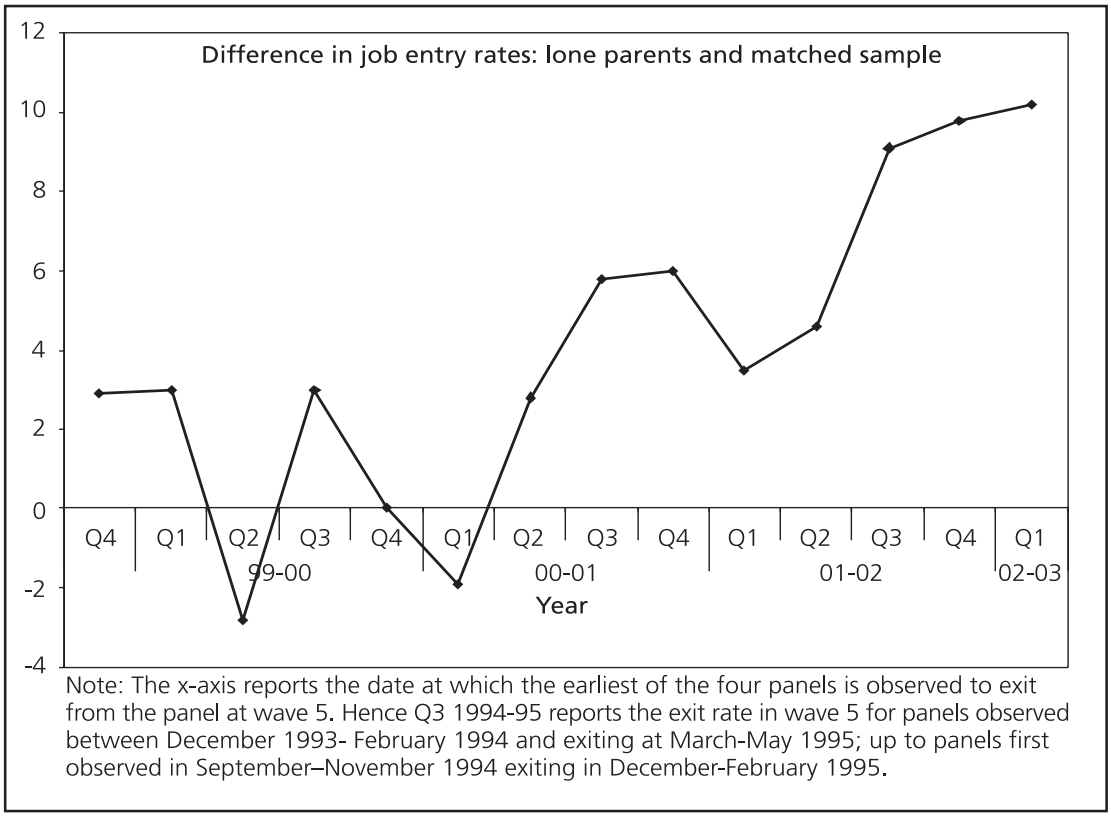
Figure 2.5 Probability for those not in employment of being employed one year on: moving averages for lone parents and matched control group on personal characteristics



Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995.

Figure 2.5 reports job entry rates for lone parents and the matched sample, and shows that from 2000 job entry rates have risen among lone parents in spite of falling job entry rates among the matched sample. Figure 2.6 shows the difference in job entry rate between lone parents and the matched sample. This suggests that lone parents are now doing substantially better at finding jobs than non-lone parents with similar characteristics and underlines the success of policies, such as the New Deal for Lone Parents, which have been proactive in encouraging lone parents to move into work. These findings support evidence from the New Deal for Lone Parents (NDLP) evaluations and from other analysis of labour market reforms (see Gregg and Harkness, 2003) and support the overall success of current policy approaches to increasing labour market participation for lone parents. However, the concerns about cycling and sustainable employment that underlie this research also means that we must pay particular attention to job retention and thus job exits.

Figure 2.6 Difference in probability being employed when not employed one year previously: moving averages for difference between lone parents and control group matched on personal characteristics



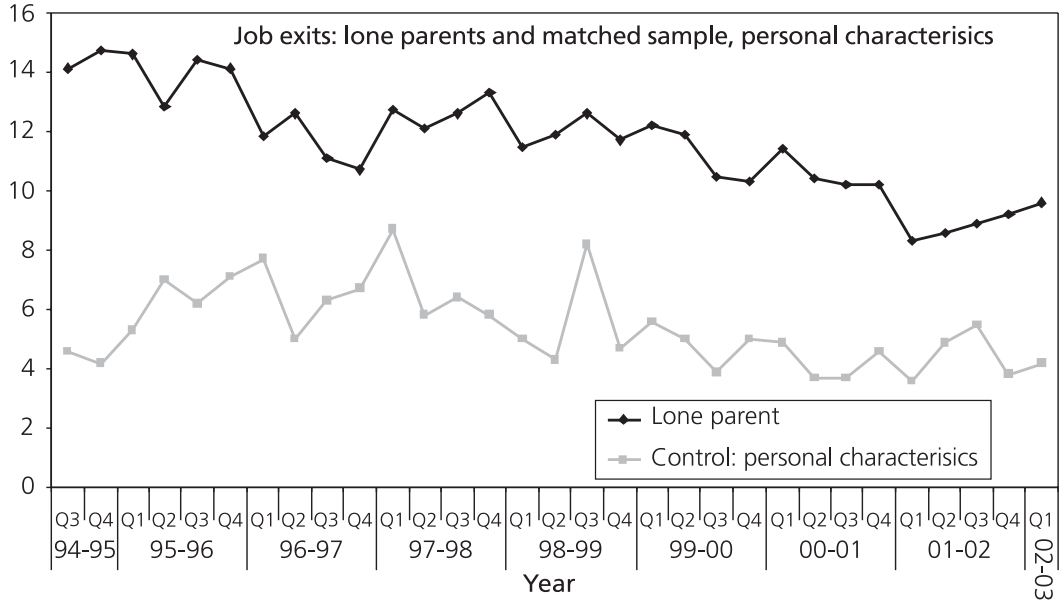
Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995.

2.5 Matched job exit analysis

What is the changing probability over time of lone parents' exiting a job when individual characteristics are controlled for? Figure 2.8 confirms that lone parent job exit probabilities are high even when characteristics are controlled for – an apparent lone parent 'penalty' on job retention attributable to their sole caring responsibilities

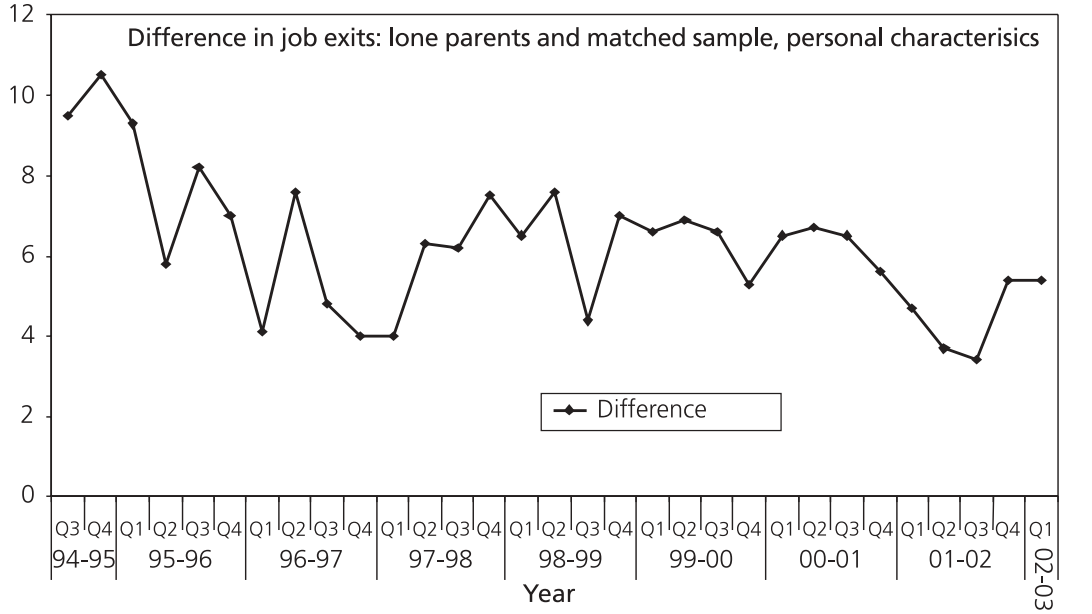
for children. However, data quality problems make interpretation with any certainty difficult. There is an observed decline in job exit probabilities over the 1996 and 1997 periods that cannot be explained or verified. Figure 2.8 shows that the difference between lone parents' and the matched control group's job exit probabilities has narrowed since the late 1990s from about six per cent to around four per cent. Again, the previous observed period of convergence observed during the 1996 to 1997 period is not really credible and is not put forward as credible but a product of underlying data problems and measurement error.

Figure 2.7 Probability for those in employment of being non-employed one year on: moving averages for lone parents and matched control group on personal characteristics



Source: Authors' calculations from LFS longitudinal data.
Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995.

Figure 2.8 Difference in probability being non-employed when employed one year previously: moving averages for difference between lone parents and control group matched on personal characteristics



Source: Authors' calculations from LFS longitudinal data.
Note: The x-axis reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993- February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995.

Figures 2.7 and 2.8 show the most consistent time series of results for graphical presentation and underlying data points have not all been reported. Table 2.3 provides a full-time series of data on the matched probabilities for reference.

However, there is the additional ability to match on job rather than on personal characteristics only. This will control for the fact that despite the lone parent and the matched control group looking similar in personal characteristics they may be recruited differently into employment and have different terms and conditions and occupational classification and perhaps be in different sectors of the labour market.

Table 2.3 The probability for those in employment of being non-employed one year on: moving averages for lone parents and matched control group controlled for personal characteristics

		Job exit		
Date of first exit		Lone parent	Control: personal characteristics	Difference
94-95	Q3	14.10%	4.60%	9.50%
	Q4	14.70%	4.20%	10.50%
95-96	Q1	14.60%	5.30%	9.30%
	Q2	12.80%	7.00%	5.80%
	Q3	14.40%	6.20%	8.20%
	Q4	14.10%	7.10%	7.00%
96-97	Q1	11.80%	7.70%	4.10%
	Q2	12.60%	5.00%	7.60%
	Q3	11.10%	6.30%	4.80%
	Q4	10.70%	6.70%	4.00%
97-98	Q1	12.70%	8.70%	4.00%
	Q2	12.10%	5.80%	6.30%
	Q3	12.60%	6.40%	6.20%
	Q4	13.30%	5.80%	7.50%
98-99	Q1	11.50%	5.00%	6.50%
	Q2	11.90%	4.30%	7.60%
	Q3	12.60%	8.20%	4.40%
	Q4	11.70%	4.70%	7.00%
99-00	Q1	12.20%	5.60%	6.60%
	Q2	11.90%	5.00%	6.90%
	Q3	10.50%	3.90%	6.60%
	Q4	10.30%	5.00%	5.30%
00-01	Q1	11.40%	4.90%	6.50%
	Q2	10.40%	3.70%	6.70%
	Q3	10.20%	3.70%	6.50%
	Q4	10.20%	4.60%	5.60%
01-02	Q1	8.30%	3.60%	4.70%
	Q2	8.60%	4.90%	3.70%
	Q3	8.90%	5.50%	3.40%
	Q4	9.20%	3.80%	5.40%
02-03	Q1	9.60%	4.20%	5.40%
	Q2			
	Q3			
	Q4			

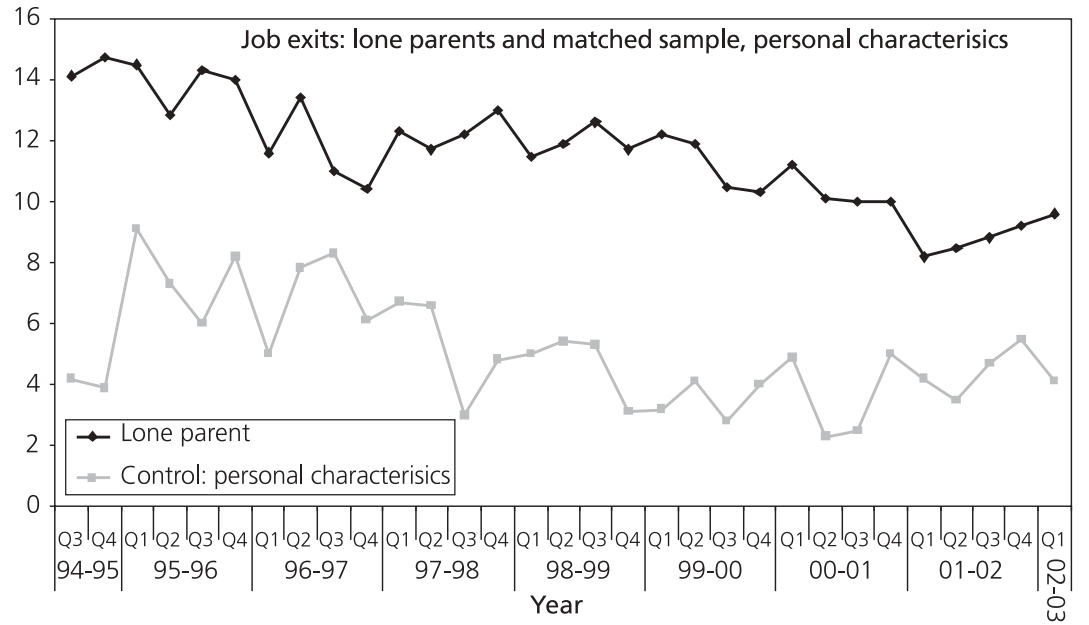
Source: Authors' calculations from LFS longitudinal data

Notes:

1. Controlled for health, marital status, sex, black, asian, other ethnic origin, age bands (5 year groups), home owner, education (1-5), region (1-11) and quarter first observed.
2. The left hand column reports the date at which the earliest of the four panels is observed to exit from the panel at wave 5. Hence Q3 1994-95 reports the exit rate in wave 5 for panels observed between December 1993-February 1994 and exiting at March-May 1995; up to panels first observed in September–November 1994 exiting in December-February 1995.

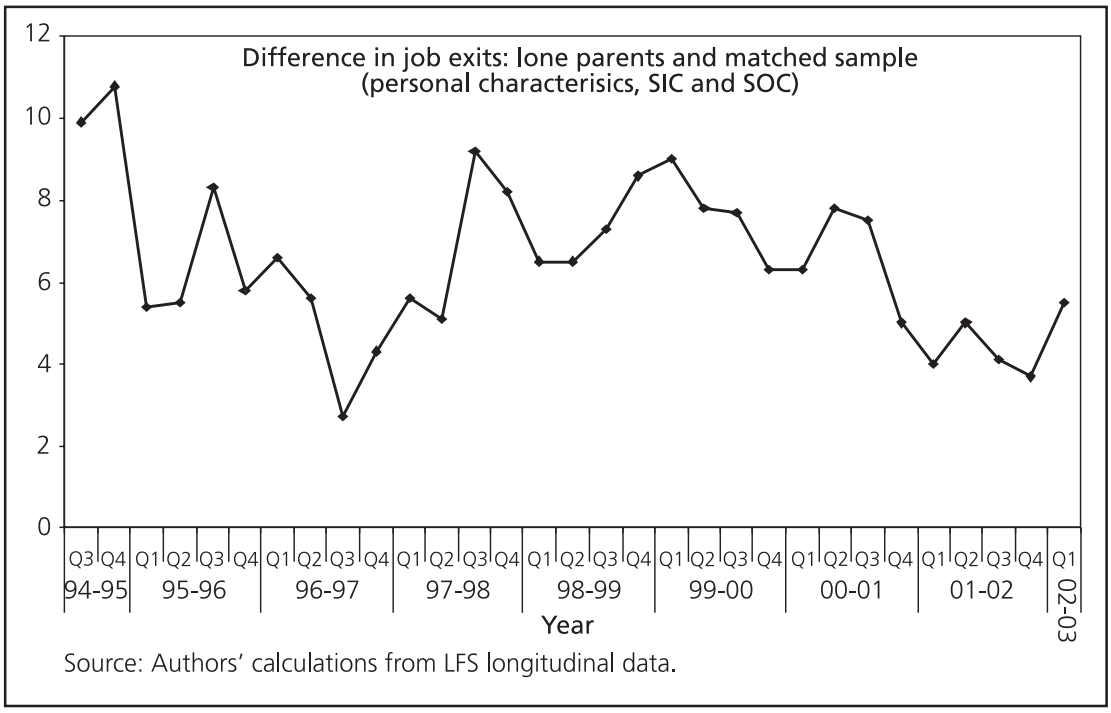
Figure 2.9 shows the job exit probabilities for the lone parent and matched control group when matched on such job characteristics. Again, there is an apparent problem with data quality in the early years of the time series and such large apparent falls in probability of job exit are not put forward as accurate. However, over more recent years there is again a clear downward trend for lone parent exit rates overall from nine to ten per cent to around seven to eight per cent. On the other hand, the control group's job exit probabilities are relatively flat over the same period. The resulting difference is shown in Figure 2.9 and clearly shows that the difference between the lone parents' and control group's job exit probabilities has fallen from between six to seven per cent to between three to four percentage points. Table 2.4 provides a complete set of data for the whole time period because, as before, data in Figures 2.8 and 2.9 have been selected for graphical presentation.

Figure 2.9 Probability for those in employment of being non-employed one year on: moving averages for lone parents and matched control group on personal characteristics, industry and occupation



Source: Authors' calculations from LFS longitudinal data.

Figure 2.10 Difference in probability being non-employed when employed one year previously: moving averages for difference between lone parents and control group matched on job characteristics



Source: Authors' calculations from LFS longitudinal data.

Table 2.4 The probability for those in employment of being non-employed one year on: moving averages for lone parents and matched control group controlled for job characteristics

Date of first exit		Lone parent	Control	Difference
94-95	Q3	14.10%	4.20%	9.90%
	Q4	14.70%	3.90%	10.80%
95-96	Q1	14.50%	9.10%	5.40%
	Q2	12.80%	7.30%	5.50%
	Q3	14.30%	6.00%	8.30%
	Q4	14.00%	8.20%	5.80%
96-97	Q1	11.60%	5.00%	6.60%
	Q2	13.40%	7.80%	5.60%
	Q3	11.00%	8.30%	2.70%
	Q4	10.40%	6.10%	4.30%
97-98	Q1	12.30%	6.70%	5.60%
	Q2	11.70%	6.60%	5.10%
	Q3	12.20%	3.00%	9.20%
	Q4	13.00%	4.80%	8.20%
98-99	Q1	11.50%	5.00%	6.50%
	Q2	11.90%	5.40%	6.50%
	Q3	12.60%	5.30%	7.30%
	Q4	11.70%	3.10%	8.60%

Continued

Table 2.4 Continued

Date of first exit		Lone parent	Control	Difference
99-00	Q1	12.20%	3.20%	9.00%
	Q2	11.90%	4.10%	7.80%
	Q3	10.50%	2.80%	7.70%
	Q4	10.30%	4.00%	6.30%
00-01	Q1	11.20%	4.90%	6.30%
	Q2	10.10%	2.30%	7.80%
	Q3	10.00%	2.50%	7.50%
	Q4	10.00%	5.00%	5.00%
01-02	Q1	8.20%	4.20%	4.00%
	Q2	8.50%	3.50%	5.00%
	Q3	8.80%	4.70%	4.10%
	Q4	9.20%	5.50%	3.70%
02-03	Q1	9.60%	4.10%	5.50%
	Q2			
	Q3			
	Q4			

This analysis confirms that the observed differences between lone parent and other groups' employment dynamics are not merely the outcome of differences in characteristics and that lone parents do have higher job exit rates when such characteristics are controlled for. The analysis also shows that lone parents' exit rates are falling in recent years – the very late 1990s and early 2000s. This is potentially very good news for policy makers who are concerned to raise overall employment rates. What potential do such changes in job exit (and entry) rates have for meeting the target of 70 per cent employment for lone parents?

2.6 Lone parents employment dynamics and the 70 per cent employment target

So far this chapter has shown different trends in the dynamic components of employment rates between lone parents and all other working age people. Put simply, lone parents were more likely to leave jobs but had grown, over time, equally likely to enter them. Uncertain of how far such differences were due to underlying characteristics, the analysis then established that lone parents' additional likelihood of job exits was almost certainly **not** due to differences that were not particular to lone parents. This final part of the chapter takes such finds forward and examines both the changing relative position of lone parents' employment and the underlying dynamic constraints on the current lone parents' employment rate. To do so, analysis moves back into the actual world and lone parents are no longer matched or controlled for their characteristics.

Overall, the relative changes in position of lone parents' employment since 1992 can be summarised in Figure 2.11, which reports the differences between lone parent entry and exit rates between 1992 and 2003 compared to all other groups (all non-

lone parents). As previously reported, this shows that lone parent entry rates have converged so that there is no difference between lone parent entry and other groups by 2003.

Figure 2.11 Differences in lone parent employment entry and exit rates 1993-2003

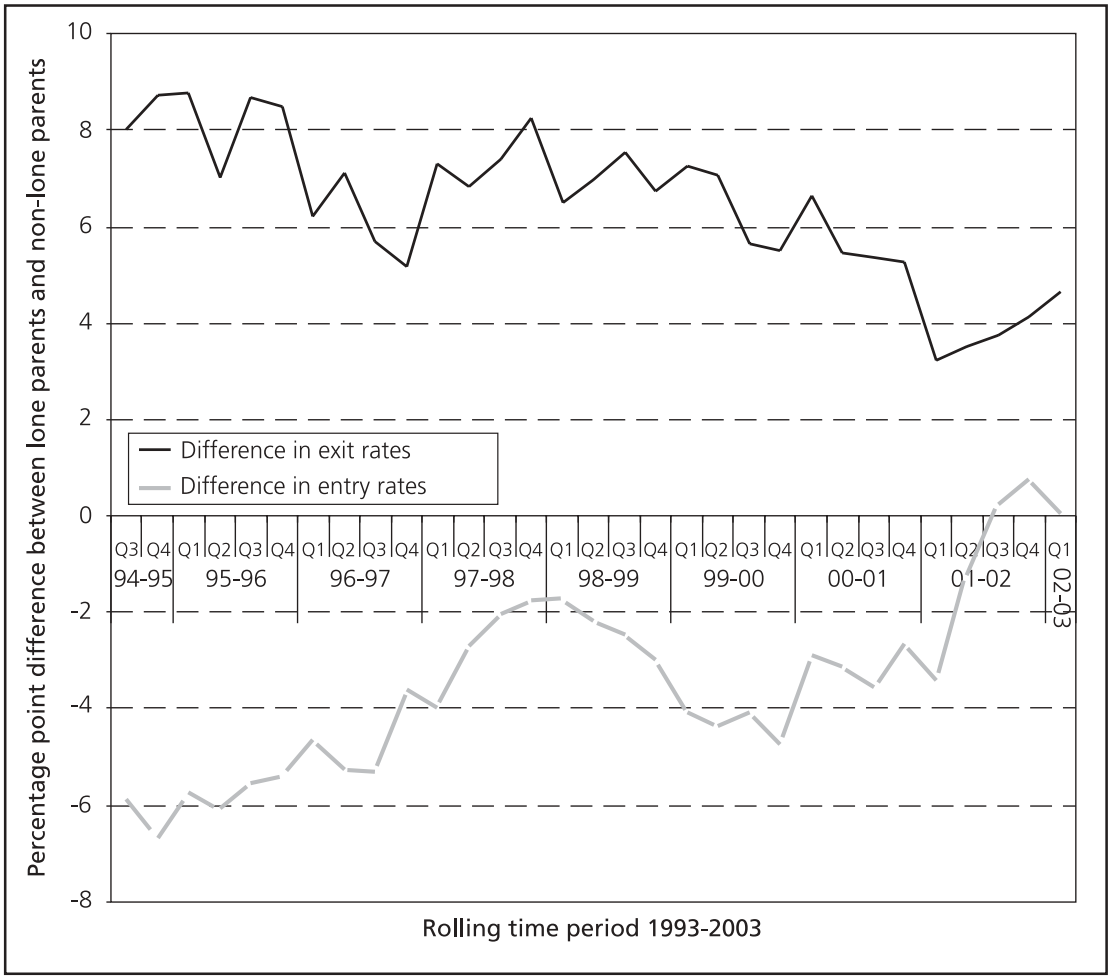


Figure 2.11 also shows that while the difference in lone parent job exit rates has declined it still remains substantial – between four and six per cent above those of other groups. These differences have potentially important implications for the Government target for lone parent employment. What difference to the overall rate of employment could be made by altering both entry and quit rates?

Both current entry and exit rates are based on the population characteristics of current stocks of non-employed and employed lone parents. As employment rates rise, those at the margins of employment are drawn into work and this changes the characteristics of the remaining stock of non-employed as well as the employed. We know the characteristics of those currently in work and we can thus estimate the potential effect of reducing exit rates on that known population. However, we are unable to estimate the effect of raising entry rates and hold composition constant in this analysis as it would require complex econometric modelling. Without such an

approach a simple raising of entry rates without controlling for changes in characteristics would lead to an overstatement of net employment effect because exit rates would also rise. To avoid such estimation errors we predict steady state changes to overall employment rates by only changing the exit rates of a constant population in employment.

Table 2.5 gives the results of an analysis that decomposes the overall employment rate and shows the persistent employment, job entry and job exit rates and shows the resulting overall employment rate, using a steady state assumption. The overall employment rate for lone parents is 52.4 per cent over the whole period (this will differ from cross-sectional measures of the rate normally by the Department and others as it is over time and using different forms and samples of LFS data and is a steady state calculation). This is made up of 54 per cent persistent employment and an 11.7 per cent job exit rate and 12.8 per cent job entry rate. Over time, taking the 1992 to 2003 period in three periods, it is seen that the persistent employment rate has risen from 41 to 49 per cent. This appears to be unqualified good news for a growing overall employment rate. Job exit rates have over time fallen from around 13 per cent to 12 per cent and to around 10 per cent (9.8). Over the same period job entry rates have risen from 12 to 13 per cent. The overall resulting *steady state employment rate* has thus risen from around 48 to over 57 per cent. The formula for and more details of the steady state calculation is given in Box 2.2.

Table 2.5 The impact of flows on employment rates

	Persistent employment % *Et*	Leaving employment % *Q*	Entering employment from non-employment % *X*	Steady state outcome employment rate
Lone parents				
Mean over whole period	45.0	11.7	12.8	52.4
Period 1	41.0	13.1	12.1	48.1
Period 2	45.2	12.1	13.2	52.1
Period 3	49.2	9.8	13.2	57.5
Non-lone parents				
Mean over whole period	77.1	5.3	16.4	75.5
Period 1	75.4	5.9	17.3	74.6
Period 2	77.4	5.1	16.5	76.2
Period 3	78.6	4.9	15.3	75.7

Source: Authors' calculations from LFS longitudinal data.

The non-lone parents' persistent employment rates are far higher in comparison, 77 per cent overall and rising from 75 to almost 79 per cent. One reason for higher persistence rates is that job exit rates are half of lone parents', around five per cent

overall and falling from around 6 to 5 per cent over the period. Job entry rates are higher than lone parents' but are falling.

Box 2.2 Steady state employment rate

The steady-state employment rate for lone parents depends both on the rate at which lone parents enter into work from non-employment, and the rate at which they exit work. Breaking down aggregate changes in employment into those resulting from job entry and exit, we can write:

$$\Delta E = -qE + x(L - E)$$

Where E denotes total employment, L the population of working age, q is the rate at which employees exit work, and x is the rate at which the non-employed enter work. In a steady state, where $\Delta E = 0$, then:

$$\Delta E = 0 = -qe^* + x(1 - e^*)$$

Where e^* represents the steady state level of employment. Where inflows and outflows to and from employment are constant an equilibrium employment rate may, therefore, be calculated.

$$e^* = \frac{x}{q + x}$$

The success of the New Deal for Lone Parent and Work Focused Interviews in recent years in assisting job entry by lone parents has been established across several evaluations (Lessof *et al.* 2003, Evans *et al.* 2003, Knight and White 2004). The above comparison with non-lone parents and the evidence so far from this chapter also raises the potential to look at the other side of the equation and see how far reducing job exits could potentially also work to increase the lone parent employment rate.

Predicting an outcome employment rate as a function of entry, persistence and exit rates is a relatively simple exercise as discussed in Box 2.2. What rate of job exits would be necessary, holding other elements constant to achieve the target 70 per cent rate? Table 2.6 shows the outcome of reducing the job exit rates for lone parents in a simulated prediction. Based on a current mean employment rate of 52.4 (from recent longitudinal LFS samples) then a one per cent reduction would raise the overall steady state employment rate to 56 per cent. A reduction by 10 per cent would achieve around 59 per cent and by 30 per cent would achieve around a 65 per cent employment rate. Indeed, the predicted reduction of job exit rates is 50 per cent to reach over 70 per cent employment. In other words, if lone parents had the same job exit rates as the rest of the population, previously seen as around double in Table 2.5, they would reach the target rate of 70 per cent without having higher entry rates.

Table 2.6 Predicted lone parent steady state employment rates based on changing job exit rates

	Q	X	Steady state employment rate
Mean	.117	.128	52.4
Reduction by 1%	.100		56.1
Reduction by 10%	.090		58.7
Reduction by 30%	.070		64.6
Reduction by 50%	.050		71.9

Source: Authors' Calculations from LFS longitudinal data.

Of course, this steady state assumption will not occur in reality because the composition of lone parents entering work would also change. This means that across the board both younger lone parents who are better qualified and older less skilled lone parents are increasingly taking up work. This will of course mean that job persistence and job entry profiles change. We recommend that the Department invest in developing multivariate prediction models that can estimate the outcome employment rates from changing composition of lone parent populations in and out of work taking into account probabilities of job exits.

The remaining chapters of this report thus address the questions surrounding an explanation of entry, exit and persistence for lone parents.

2.7 Summary

Lone parents' employment rates have grown over the period 1992 to 2003 and are currently around 54 per cent. Looking dynamically at employment rate it is composed of four underlying elements – job entry, job persistence in work, job exits and persistent non-employment out of work. Lone parents' job entry rates have grown over the period and have converged with the all non-lone parent group, compared to single women without children, a more consistent comparison,

However, while lone parent job exit rates have fallen over the same periods they remain higher than other groups and remain two to three percentage points higher than other groups. This means that, even with large falls in the probability of job-exiting, lone parents are still in 2002-2003 almost twice as likely to leave their job than non-lone parents and are a third more likely to leave their job than single childless women.

These differences between lone parents and other groups' employment dynamics are not merely the outcome of differences in characteristics. Lone parents do have higher job exit rates when such characteristics are controlled for.

The persistent employment rate has risen from 41 to 49 per cent. This appears to be unqualified good news for a growing overall employment rate. Job exit rates have, over time, fallen from around 13 per cent to 12 per cent and to around 10 per cent (9.8). Over the same period job entry rates have risen from 12 to 13 per cent. The overall resulting *steady state employment rate* has thus risen from around 48 to over 57 per cent.

Indeed, the predicted reduction of job exit rates is 50 per cent to reach over 70 per cent employment. In other words, if lone parents had the same job exit rates as the rest of the population, previously seen as around double in Table 2.5, they would reach the target rate of 70 per cent without having higher entry rates.

The high rates of job exits for lone parents brings a different emphasis to employment alongside concerns about job entry and leaving benefits through NDLP and other programmes. However, this characteristic of lone parents' employment is widely recognised elsewhere. The problem of lone parents' job exits has been well documented in the US (Bartik 1997, Brandon 1995, Elwood 1986, Blank and Ruggles 1994, Bane and Elwood 1994) who have all shown a considerable proportion of welfare leavers rapidly returning to benefit. The most well known of these studies is that of Bane and Elwood who find that 17 percent of women leaving welfare returned to it again the following year, and that 32 percent returned within 6 years. While we are unaware of any other studies that explicitly examine patterns of returning to non-employment among lone parents in the UK, our findings do echo those found in the literature on the unemployed. Stewart's (2002) evidence on the low-pay no-pay cycle suggests that low-paid jobs are not expected to be long lasting. The tendency of lone parents to be employed in low-wage part-time jobs may lead us to expect a similar pattern to be observed among lone parents. There is evidence of this among NDLP participants. Evan *et al.* (2003) report that of those leaving the NDLP for work, between 18 and 20 per cent return to IS within 6 months, 28 to 29 return within a year, and 40 per cent return within 2½ years.

3 Lone parents entering and leaving work

This chapter concentrates solely on lone parents to examine the variation of their experience of job entry and job exiting and the characteristics of lone parents who do. Our main data source changes to the Family and Children's Study (FACS), which enables us to look at longer transition periods as FACS follows a panel of lone parents from 1999, as well as other families with children, some of whom have entered the study at different points in time.

3.1 Lone parents' personal characteristics

How do lone parents who enter and leave jobs differ from those that are persistently in or out of work? Across all the waves of FACS we are able to identify the employment status of lone parents at annual intervals and thus mirror the analysis undertaken in the LFS reported in Chapter 2. This enables us to identify persistent non-workers and job exiters in any year as well as persistent workers and job entrants and to assess how their personal characteristics differ?

Figure 3.1 Lone parents' dynamic employment profiles by age

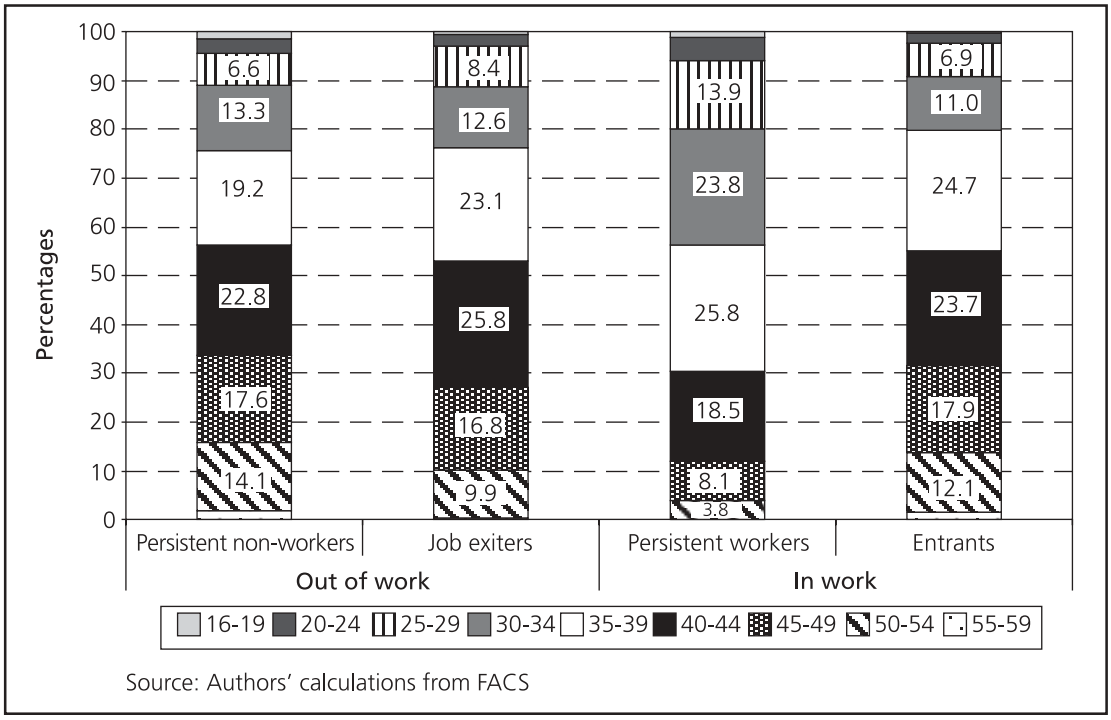
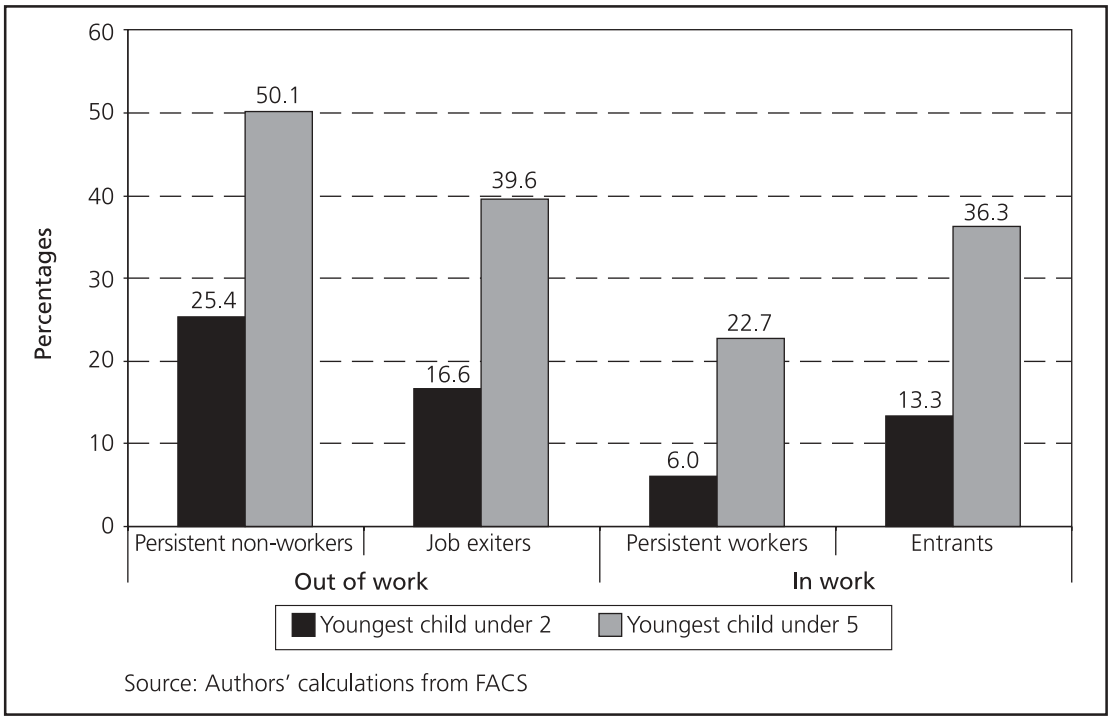


Figure 3.1 shows that those lone parents exiting and entering jobs tend to be younger than those persistently in work. The average age of persistently never working lone parents is 33.8, whereas job exiters average age is 34.5, job entrants is 34.6 and persistently employed are older on average at 38.3. This age profile is of course linked to underlying ages of children. Lone parents with young children often have severe constraints on working and Figure 3.2 shows that over 50 per cent of persistent non-working lone parents have children aged less than five while 25 per cent have a child aged less than two. Almost 17 per cent of lone parent job exiters have children aged under five and almost 40 per cent have children aged under two. This group will include those who have reached the end of their maternity leave and do not return to work. Only six per cent of persistently employed lone parents have children under two and 23 per cent have a child aged under five. Job entrant lone parents have higher proportions of young children, 13 per cent with a child aged under two and over 36 per cent with a child aged under five and this difference between job entrants and persistent workers can be partially explained by a different cohort of younger lone parents with more attachment to work but also may point to more temporary entry into work for these groups – a point that we explore further below.

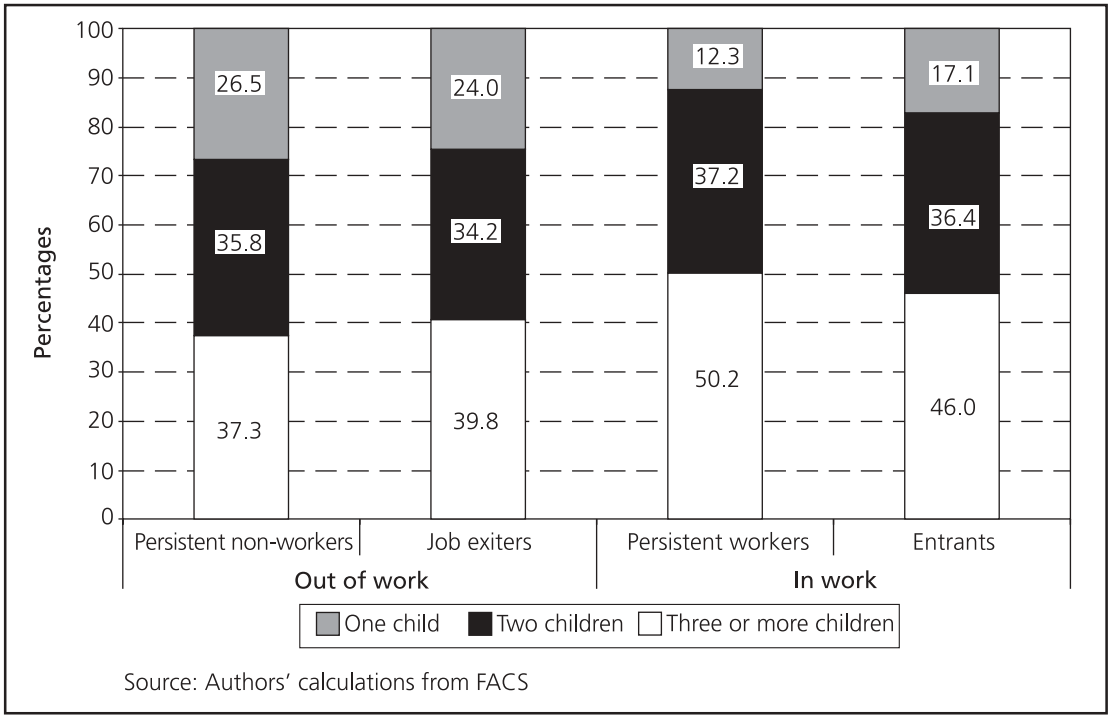
Figure 3.2 Lone parents' dynamic employment characteristics by age of youngest child



Source: Authors' calculations from FACS

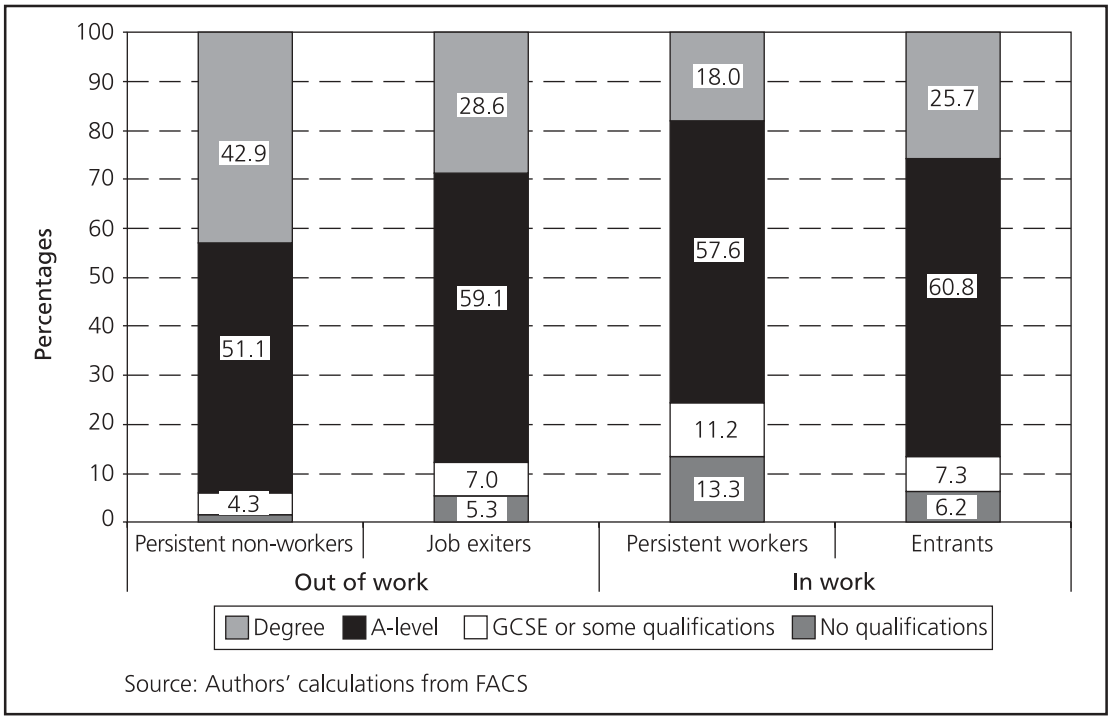
Size of family, that is the number of children, also differs across the dynamic lone parent employment profile. Figure 3.3 shows that persistent non-working lone parents are made up from 37 per cent with one child and 36 per cent with two children while a further 27 per cent have three or more children. Work is associated with higher proportions with single children and lower proportions with three or more. Around 40 per cent of job exiters have a single child, 34 per cent have two children and 24 per cent have three or more. Half of persistently working lone parents have only one child, 37 per cent have two children and only 12 per cent have three or more. Job entrant lone parents are also more likely to have one child compared to the persistently non-working with 46 per cent with one child, 36 per cent with two children and a further 17 per cent have three or more children.

Figure 3.3 Lone parents' dynamic employment characteristics by number of children



Source: Authors' calculations from FACS

Figure 3.4 Lone parents' dynamic employment characteristics by education level



Source: Authors' calculations from FACS

Owner occupation is associated with working. Only 11.3 per cent of lone parents persistently out of work were owner-occupiers but they were 20.6 per cent of job exiters, 58 per cent of those persistently in work and 22.6 per cent of job entrants.

The education profile is also markedly different between the different dynamic groups of lone parent. Figure 3.4 shows the highest concentration of those with no qualifications is in the persistently non-working group – 43 per cent. Job exiters and job entrants have very similar educational profiles and the persistently employed have far higher proportions of A-level and degree qualified lone parents (11 per cent and 13 per cent respectively)

Ill-health is more strongly represented among persistently non-working lone parents – of whom 34 per cent report that health limits their activity. Twenty seven per cent of job exiters also report such health limitations – suggesting that ill-health may be linked to job exits, something we discuss further below. Around one fifth of lone parents who are either persistently in work or entering work also report such health related limitations (19 per cent and 21 per cent respectively).

3.2 Lone parents' job characteristics

The personal characteristics of lone parents are not the only drivers of job persistence, job entry and job exits and we additionally have to take into account the demand side – the characteristics of the jobs that lone parents have. Readers are reminded at this point that our analysis looks at employment at 16 hours a week or more in order to align analysis with the benefit rules for distinguishing in work and out of work status.

Table 3.1 Lone parents' dynamic employment characteristics by pay

2003 prices	Job exiters	Persistent employed	Job entrants
Hourly wages			
Current		£7.68 (n=1826)	£6.16 (n=368)
Previous (lagged)	£5.63 (n=136)	£6.95 (n=1706)	
Weekly pay			
Current		£229.21 (n=1826)	£152.68 (n=368)
Previous (lagged)	£148.31 (n=136)	£225.64 (n=1706)	

Source: Authors' calculations from FACS.

Table 3.1 shows both the hourly rates of pay and weekly pay for lone parents according to their dynamic employment status. The persistently employed have higher hourly wages and higher weekly pay than either job entrants or job exiters as would be expected given the occupational and educational differences previously noted. Table 3.2 shows the hours of work for those in work (more than 16 hours a

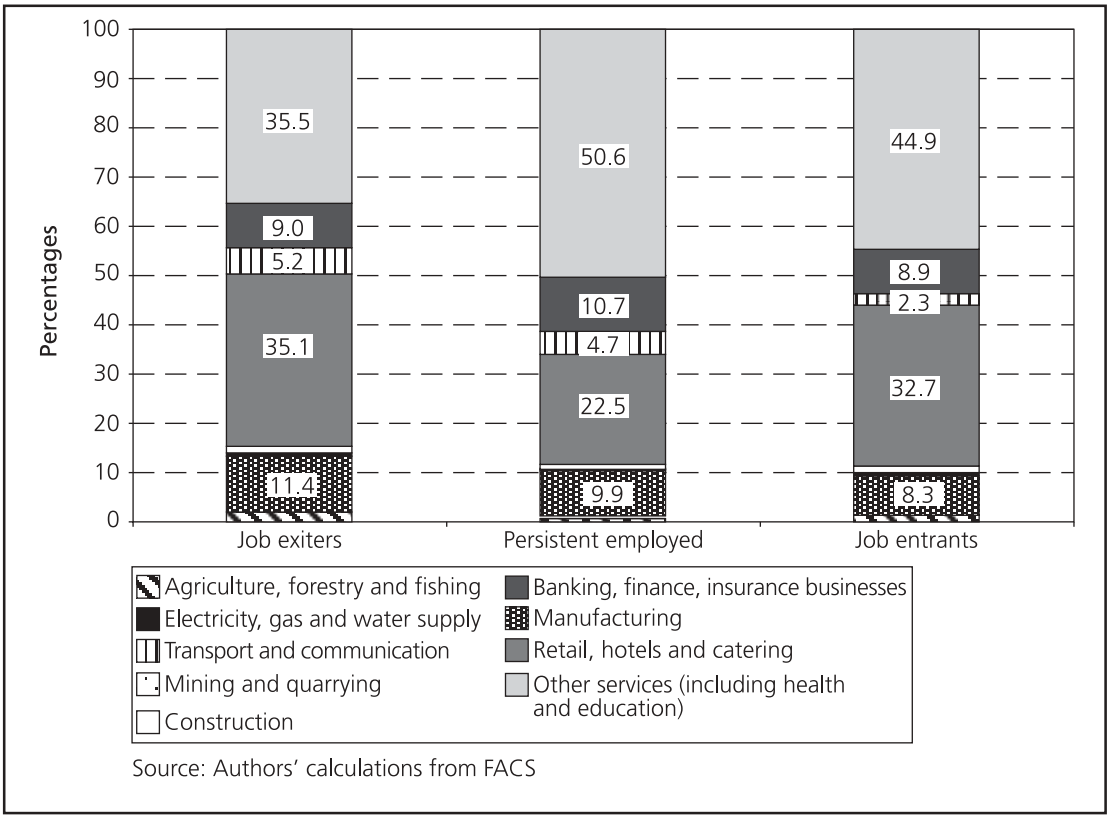
week) divided into part-time status of 16-29 hours and full-time of 30 or more hours a week. Dividing the line at the 30 hour mark is chosen in order to reflect the design of in-work tax credits and benefits such as HB that are structured to additionally reward work of 30 hours or more. Over half of all persistently employed lone parents work 30 hours or more – both currently (56 per cent) and in the previous year (52 per cent). By contrast, around a third of job enterers work 30 hours or more (33 per cent) and around a quarter (26 per cent) of job exiters work these hours. This means that average hours of work are highest for the persistently employed, around 29-30 hours, and lowest for job exiters and job entrants (23 and 25 respectively).

Table 3.2 Lone parents' dynamic employment characteristics by hours of work

	Job exiters	Persistent employed	Job entrants
30 hours or more			
Current		56.1%	32.8%
Previous (lagged)	26.3%	52.1%	
Average hours			
Current		29.8	25.0
Previous (lagged)	23.4	29.2	

Source: Authors' calculations from FACS.

Figure 3.5 Lone parents' dynamic employment characteristics by Standard Industrial Classification (SIC)

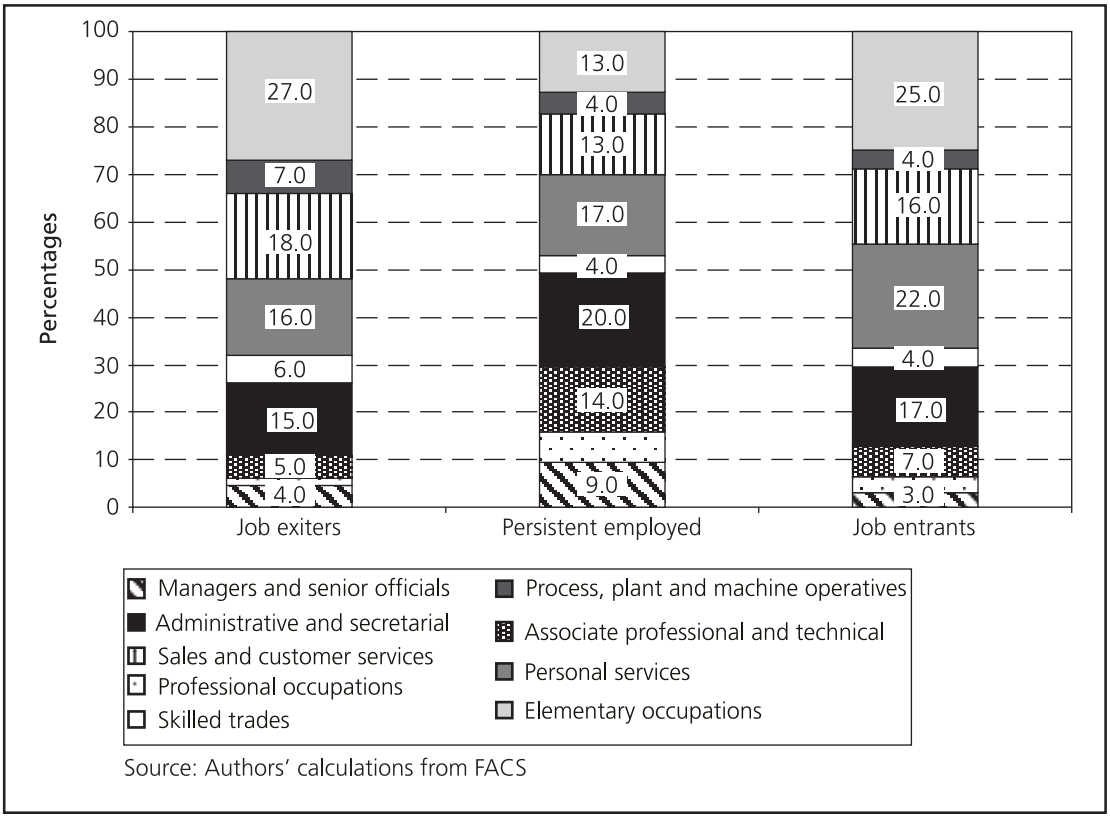


Source: Authors' calculations from FACS

Figure 3.5 shows the main industrial classification of jobs held by lone parents according to their dynamic employment status. It is clear that lone parents are in the majority employed in the service sector with two main sectors dominating – the social service sector or 'other services' that includes personal care and other health sector employment and the 'retail, hotel and catering' sector. Together these make up around three quarters of lone parent employment. Financial services in banking, insurance and other financial services also account for around 10 per cent of lone parents' employment. Figure 4.5 shows that job entrants and job exiters have a far higher proportion of retail, hotel and catering industrial jobs, which account for almost a third of jobs.

Figure 3.6 gives a far clearer indication of what types of underlying occupation lone parents are employed in within these industrial sectors. The profiles of occupational status reflect to some degree the educational profile previously shown above. However, Figure 3.6 additionally shows that the lowest unskilled category of 'elementary occupations' is a far higher proportion of job entrants (25 per cent) and job exiters (27 per cent) than of the persistently employed (13 per cent). It also shows a higher proportion of jobs in the personal services occupation for job entrants (22 per cent) and higher proportions in the retail and customer service occupations for job entrants and job exiters (16 and 18 per cent respectively) compared to the persistently employed (13 per cent). Conversely, the persistently employed have higher proportions of higher skilled occupations than either job entrants or job exiters.

Figure 3.6 Lone parents' dynamic employment characteristics by Standard Occupational Classification (SOC)



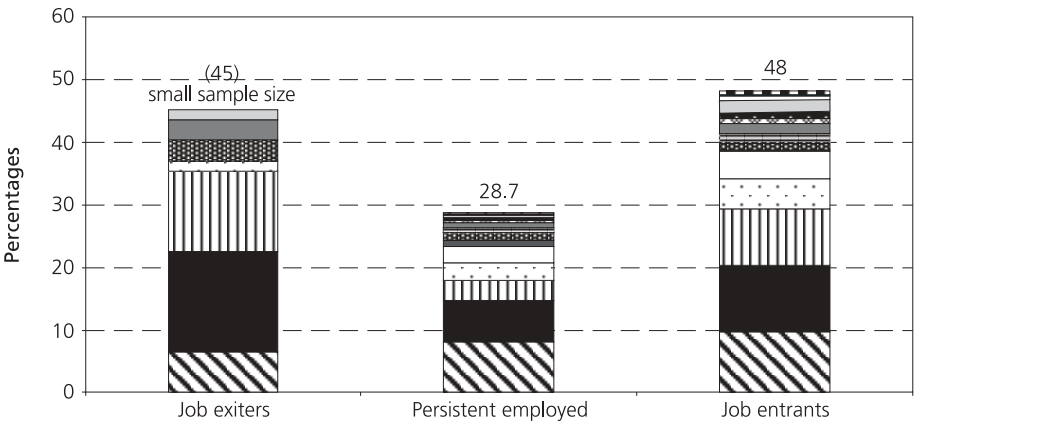
Source: Authors' calculations from FACS

So far, the description of job characteristics has shown a different pattern of hours and pay in different industrial and occupational job classifications for the persistently employed and job entrants and job exiters. How far does the overlap between such job characteristics and remuneration form a low paid sector for lone parents' employment?

3.3 Lone parents and low pay

There are several definitions of low pay and different data sources tend to give different relative low pay thresholds. This report uses two definitions – first a low paid sector definition based on the lowest paying jobs and then secondly a relative measure that is discussed further below. The definition of a sector of low paid jobs follows the work of Stewart (1999) who found twelve low paid jobs that were particularly likely to be low paid. A full list of these jobs is found in the labels to Figure 3.7 and Table 3.3. Figure 3.9 shows the proportion of lone parents who hold or held such jobs according to their dynamic employment status. Ten of these jobs coincide with the ten lowest paid jobs identified in the New Earnings Survey 2003. Figure 3.9 shows that such jobs make up the employment of 48 per cent of all lone parent job entrants, but only 29 per cent of persistently employed lone parents. FACS data for job exiters must be treated with some caution, because lagged data on SOC status used to identify their jobs can only be obtained for a single year and thus sample sizes are small. However, the evidence from these small samples suggests that job exiters are more likely to be in low paid jobs than the persistently employed. Table 3.3 provides additional data on the individual jobs, many of which have small proportions apart from the major sources of low paid jobs for lone parents: care assistants, sales assistants and cashiers and cleaners and domestics, which together make up 35.5 per cent of job exiters and 34 per cent of job entrants.

Figure 3.7 Lone parents' dynamic employment characteristics by low paid jobs



Source: Authors' calculations from FACS

Table 3.3 Lone parents' dynamic employment characteristics by low paid jobs

Percentages	Job exiters	Persistent employed	Job entrants
Care assistants	6.5	8.1	9.7
Sales assistants	16.1	6.6	10.6
Cleaners and domestics	12.9	3.2	9.1
Kitchen and catering assistants	1.6	2.9	4.7
Retail cashiers and check-out operators	0.0	2.5	4.4
Hairdressers, barbers	0.0	1.2	0.3
Bar staff	3.2	1.1	1.2
Childcare	0.0	0.8	1.5
Shelf fillers	3.2	0.8	1.5
Launderers, dry cleaners, pressers	0.0	0.4	0.9
Sewing machinists	0.0	0.4	0.9
Waiters and waitresses	1.6	0.4	2.1
Security guards	0.0	0.3	0.6
Animal care occupations	0.0	0.1	0.6
Hotel porters	0.0	0.0	0.3

Source: Figure 4.9.

Table 3.4 gives the results using a monetary definition of low pay – 66 per cent of median male hourly earnings – a definition used by the Low Pay Unit among others. This analysis confirms the findings that persistently employed lone parents are less

likely to be low paid, some 39 per cent were currently low paid, and confirms that job entrants and job exiters are more likely to be low paid – 66 per cent of job exiters and 59 per cent of job entrants.

Table 3.4 Lone parents' dynamic employment characteristics by relative low pay measure: 66 per cent of male median earnings definition

Percentage with low pay	Job exiters	Persistent employed	Job entrants
Current pay level		39.3	59.2
Previous pay level (lagged)	65.6		

Source: Authors' calculations from FACS.

All in all there appears to be evidence of lone parents' employment, and especially lone parents entering and leaving employment being linked to a low paid sector. However, it is not at this stage of the analysis clear that such a profile is either independent of lone parents' own characteristics, nor is it clear that low paid jobs are linked to persistence in work or to less secure periods of attachment to work. The analysis takes these two questions separately – first by examining how the factors so far identified go to explain rather than describe lone parents' employment dynamics. The question of persistence, progression and cycling is left to Chapter 4.

3.4 Explaining lone parent employment dynamics

How far do lone parents' characteristics and job characteristics explain lone parent employment dynamics?. The remaining analysis in this chapter takes forward multivariate analyses. This allows us to hold all factors constant relevant to the main factors that drive employment dynamics for lone parents. This allows us to estimate answers to two key questions in turn about lone parents' employment dynamics:

1 What explains who enters jobs?

2 What explains who leaves employment?

Before answering these questions separately it is worth outlining how far the current employment status of lone parents affects overall probabilities of entering and exiting work. Durations out of work and durations in work lead to state dependency for both groups and affects the probabilities of changing status. Table 3.5 shows the proportions of non-employed and employed lone parents by their duration in that status and shows alongside their probability of changing status. Twenty eight per cent of out of work lone parents have been so for under one year, a further 22 per cent for between one and two years, 15 per cent for between two and three years and a further 21 per cent for between three and five years. Long durations out of work of five years or more represent only 14 per cent, of which only two per cent are out of work for more than ten years. The effect on duration of unemployment on the

probability of entering work is not linear due to underlying profiles of children's age and arranging working life around periods of being at home to look after children. However, lone parents with the shortest durations have the highest probabilities of returning to work, 0.284. Probabilities of around 0.19 to 0.21 then occur for periods of over one to three years and drop slightly for those with longer durations, to 0.16 for three to five years and 0.18 for those out of work for five to ten years.

Table 3.5 Duration dependent employment rates and probabilities of entering static distribution of durations for non-employed and employed

	Non-employed		Employed (16+ hours)	
Duration of current activity	**Percentage of all non-employed**	**Probability of entering work** (P(E|NEt-1))	**Percentage of all employed**	**Probability of exiting work** (P(N|Et-1))
Less than 1 year	28.3	.284	26.5	.159
1 year but less than 2	22.0	.189	15.4	.106
2 years but less than 3	15.2	.208	10.8	.008
3 to 5 years	20.6	.164	13.5	.007
5 to 10 years	11.6	.183	18.1	.030
10 or more years	2.2	**	15.7	.035
Sample small				
Never worked	.085 (mean duration 22 months)	.068	-	-

Source: Authors' calculations from FACS.

Over a quarter of employed lone parents, 26 per cent, have durations of employment of less than a year. A further 15 per cent have employment durations of between one and two years, eleven per cent have durations of two to three years and over thirteen per cent have durations of three to five years. However there are a third of lone parents (32.8 per cent) who have longer durations of over five years in employment with almost 16 per cent having worked for over ten years. The probability of exiting work is more linear with duration in employment – around 0.16 for those lone parents who have under one year's duration in work and falling to monotonically until durations of ten years or more at which point retirement flattens the falling probability. All in all, 69 per cent of lone parents have worked since the birth of their eldest child. Only very small proportions of non-working lone parents have never worked.

3.4.1 Explaining job entry

Table 3.5 gives the results from a probit model that estimates the probability of a lone parent who is not employed at time *t* being in work one year later at time *t+1* from a set of characteristics observed at *t*. We look at all one-year transitions between 1999 and 2002. The main explanatory variables used in the regression are: *demographic characteristics* such as age and ethnicity; a variety of *individual resources and capabilities* including educational qualifications, economic activity while 'non-employed', health and financial resources such as savings and maintenance; *duration and time status* – the duration out of work period, seasonal and year effects and region.

While previous descriptions of profiles of lone parents showed differences in age and age of children between non-employed and employed lone parents such demographic characteristics are poor explanators of moving into work on their own. Age and age of children are not statistically significant. This is, perhaps, because while younger mothers and those with younger children may be more likely to remain out of work, it is not the fact that they are young that explains this. Instead age appears to be correlated with other factors, such as relatively poor education, that mean they are less likely to enter work. Relatively small sample sizes, and the fact that lone parents' age and the age of youngest child are related, may mean that these variables are not found to have a statistically significant effect on entering work. Number of children is an important determinant of entering work, with lone parents with two or more children having a reduced the probability of moving into work of around 3.7 per cent compared to having a single child.

On the other hand, human capital and other capabilities and resources are on the whole stronger predictors of gaining work. Working less than 16 hours (remembering that Income Support rules allow such hours of work and disregard a portion of earnings) is associated with a significantly increased probability of entering work of around 12 to 13 per cent compared to not working at all. This finding mirrors previous findings looking at one-year transitions using FACS data (ex. see McKay 2002). Additionally, but unsurprisingly, looking for work (that is being self-defined as unemployed and looking for work rather than inactive and not looking for work) is also associated with a significant increased probability of entering work of around 10 to 11 per cent compared to being inactive. Participation in the New Deal for Lone Parents is also associated with an increased probability of entering employment (taking into account being 'unemployed and looking for work'). However, it is clear that the self-reported status of participating in the programme, which shows a 3.7 per cent participation rate among non-employed lone parents, under-reports actual programme figures where participation rates were around six to nine per cent over the 1999 to 2002 period covered by FACS. These two findings on unemployment and NDLP participation broadly support recent policy moves to increase lone parents' incentives to look for work through the piloting of Work Search Premiums and to increase participation rates in NDLP through work-focused interviews. Duration out of work is seen to have no significant impact on returns for work once controlled by other characteristics.

Table 3.6 Who gets jobs?[3] Probit estimates from all FACS waves of job entry on the characteristics of previous years characteristics while non-employed

	Marginal increase in probability of employment	Mean values %
Demographic characteristics		
Age – by bands – omitted category less than 30		
age 30-39	0.000	41.2
age 40-49	-0.001	19.2
Age of children – omitted category having a child over 5		
child under 2	-0.026	28.1
child 2-5	-0.004	51.6
Number of children – omitted category 1 child		
2 children	-0.022	34.5
3 children	-0.037**	23.8
Non white ethnicity	-0.022	7.6
Duration out of work – omitted category 5 years and more		
Less than 1 year	0.038	28.4
1-2 year	0.004	18.9
2-3 years	0.062	20.8
4-5	-0.041	28.4
Human capital, capabilities and resources		
Worked less than 16 hours	0.126**	9.0
Unemployed compared to inactive	0.108**	9.3
Holds driving license & has access to car	0.053**	28.9
Home owner	0.041**	15.2
Education level – omitted category no qualifications		
Degree	0.164**	2.4
A levels	0.091**	5.1
less than A level	0.038**	51.0
Self-reported ill-health	-0.041**	33.8
Has a sick/disabled child	-0.008	33.0
NDLP in last 12 months	0.064*	3.7
Receives maintenance	0.053**	21.9
Has any savings	0.008	28.8
Time		
Entered work in December	0.097**	1.5
Year omitted category 1999		
2000	0.045**	32.6
2001	0.003	29.9

Continued

[3] All probit estimates are reported in marginal terms throughout the report. This means that the coefficients report the increased probability for a one incremental point change in a continuous variable or at changing status compared to the omitted category in a dummy variable.

Table 3.6 Continued

	Marginal increase in probability of employment	Mean values %
Region – omitted category South West		
North East	-0.019	7.1
North West (including Merseyside)	-0.05**	10.4
Yorkshire & Humber	-0.013	8.7
East Midlands	-0.027	9.6
West Midlands	-0.007	7.9
Eastern	-0.046*	6.0
London	-0.063**	5.9
South East	-0.046*	14.7
Wales	-0.021	8.4
Scotland	-0.022	9.8
Observations	3845	
Probability	0.1287	
Predicted probability	0.1042	

* Significant at 5%.

** Significant at 1%.

Source: Authors' calculations from FACS.

Ill-health, that is self-reported restrictions on activity due to a health problem are associated with a reduced probability of entering work and effect over a third of non-employed lone parents. Having a sick or disabled child does not appear to be significant although this result must be interpreted with some care as there is obvious interaction with 'inactive' status of the lone parent and the measure appears to capture a large proportion of lone parent families perhaps suggesting that common but low level chronic problems are diluting any strong association that would be associated with severe disability of a child.

Education level is clearly associated with entering work. The rising levels of qualifications from below A level, A level and Degree level are monotonically associated with increased probability to enter work. Compared to those with no qualifications, those with below A level qualifications are around three per cent more likely to enter work, while those with A levels are around nine per cent more likely and those with a degree are 16 per cent more likely to enter work.

Receiving maintenance is associated with increased probability of entering work for the 22 per cent of lone parents that receive it and raises probability of working by around five per cent compared to those with no maintenance. Having savings is found to have no significance; again this has to be carefully interpreted, as intuitively savings would make employment transitions more probable by covering one-off costs of entering work. However, many of these identified with savings will be marginal savers with small amounts and this dilutes the probable effect of having substantial savings.

There are other measures of individual resources that are seen to be associated with a significantly increased probability to enter work. They are having both access to a car and a driving licence and owner occupation. These are, perhaps, more difficult to interpret. Access to a car and driving licence potentially greatly help lone parents find and maintain work. A car not only allows independent travel to work and thus raises the number of job opportunities that can be taken up but also helps parents effectively manage the time and locational demands of having children in school and/or childcare. Without a car then making sure that travel to work, school and childcare provision is so much more difficult. However, it must also be recognised that this variable may be acting as a proxy for unobserved characteristics about past resources and employment patterns, as car ownership/access is a clear indicator of financial resources. Similarly, being an owner-occupier is also a reflection of past earnings capacity – most probably of joint earnings with a former partner[4].

The region of residence is also associated with decreased probability of entering work for those that live in London, the East, the South East, and the North West regions when compared to the South West (this comparator had the highest positive association with job entry). The three regions of the south of the country – the East, South East and London are those of most rapid economic growth and suggest that higher living costs in these areas may have an impact on returning to work.

Lastly, over the four years of FACS data we are able to estimate some effect of potential periods within each year, or seasonality, on entering employment alongside overall change in the macro-economic and policy environment over the period by comparing years. There is evidence of seasonality, with an association of the December month with increased probability of entering work – around five per cent increased probability compared to the remainder of the year. Compared to 1999, the year 2000 is associated with an increased probability of entering work – this can be interpreted as both macro-economic and policy-related as Working Families' Tax Credit was introduced late in 1999 and the economy.

3.4.2 Job exiting

Table 3.6 gives the results of the probit model to estimate the probability of being non-employed in any year given that they were employed one year earlier. The main explanatory variables at the individual level are the same as those used in Table 4.5 as discussed above. However, in addition to personal characteristics, the regression has also used job characteristics in two additional models that are also reported.

[4] Alternatively it may also indicate inheritance.

Demographic characteristics appear only to be associated with a decreased probability of leaving work for the 30-39 year group compared to the under 30s[5]. Education and health are not observed to have any association with the probability of job exit either before or after job characteristics are taken into account. As before we see significant association with having access to a car and a driving licence and to owner occupation to job retention – or in other words a negative relationship to job exit. The caveats surrounding interpretation of these variables previously discussed in job entry estimation apply equally here to explaining job exits. It is probable that the car and driving does have strong links to maintaining the balance of children and work pressures previously described and reflect a previous period of economic stability when durables and cars were purchased. Similarly, being an owner-occupier may change incentives to remain in work due to mortgage liability but also may reflect prior unobserved periods of high earning capacity to gain entry into owner occupation. Having savings also appears to have a protective effect on employment – i.e. it is associated with a reduced probability of job exit. Interpreting this is not easy and may depend on the form of savings involved as there are obvious types of investment – particularly in the company that employs one – that may have direct incentives to remain in work. However, more generally, having savings may just reflect unobserved longevity in employment. Job tenure has an overall negative association with lone parent job exits, with those with employment duration of under-one year having an increased probability of exiting work by around seven to eight per cent and durations of one to two years increasing the probability of job exits by four to five per cent compared to those who have been employed for over five years.

Low pay appears to have the strongest association with the probability of job exits – especially those who work 16-30 hours a week and who are also low paid.

[5] No lone parents aged 50 and over are observed.

Table 3.7 Who leaves jobs? Probit estimates across all FACS waves of the probability of job exiting based on previous year's personal and job characteristics

	Personal characteristics only	With low pay job characteristics	Mean values %
Demographic characteristics			
Age by bands – omitted category less than 30			
age 30-39	-0.028*	-0.028*	44.0
age 40-49	-0.025	-0.022	35.6
Age of children – omitted category over 5			
child under 2	0.005	0.001	9.8
child under 5	0.006	0.005	28.6
Number of Children – omitted category 1 child			
2 children	0.006	0.003	38.6
3 children	0.025	0.017	13.5
Non white ethnicity	0.051	0.052	3.3
Human capital, capabilities and resources			
holds driving license and has car access	-0.025*	-0.021	65.5
Home owners	-0.075**	-0.066**	54.5
Educational level – omitted category No qualifications			
Degree	-0.016	-0.003	12.5
A level	-0.019	-0.01	10.6
less than A level	-0.009	-0.006	55.8
Self-reported health	-0.009	-0.01	19.4
Has a sick/disabled child	0.008	0.008	24.6
Receives maintenance	-0.001	-0.001	48.7
Has any savings	-0.029*	-0.024*	63.9
Duration in work – omitted category 5 years and over			
Less than 1 year	0.083**	0.069**	26.5
1-2 year	0.048*	0.038*	15.4
2-3 years	0.042	0.032	10.8
4-5	0.028	0.023	13.5
Time			
December	-0.052*	-0.049	2.9
2000	-0.019	-0.015	31.1
2001	-0.019	-0.011	36.4

Continued

Table 3.7 Continued

	Personal characteristics only	With low pay job characteristics	Mean values %
Region			
North East	-0.015	-0.006	6.2
North West (including Merseyside)	-0.004	0.002	12.9
Yorkshire & Humber	-0.035	-0.033	11.4
East Midlands	-0.012	-0.003	8.6
West Midlands	-0.008	-0.005	10.6
Eastern	0.003	0.011	5.7
London	-0.024	-0.012	9.4
South East	-0.025	-0.021	11.6
Wales	-0.019	-0.016	5.0
Scotland	-0.01	-0.005	11.5
Job characteristics			
Pay and hours – omitted category high paid over 30 hours			
low paid and 16-30 hours		0.057**	29.6
high paid and 16-30 hours		0.014	17.8
low paid and 30+ hours		-0.005	24.4
SOC			
Managers and senior officials			7.3
Professional occupations			6.4
Associate professional and technical			12.2
Administrative and secretarial			21.1
Personal services			15.8
Sales and customer services			13.3
Process, plant and machine operatives			4.8
Elementary occupations			16.6
Agriculture, forestry and fishing			0.5
Manufacturing			9.9
Retail, hotels and catering			25.9
Banking, finance, insurance business services and leasing			10.7
Other Services			48.8
Observations	2002	2002	
actual probability			
predicted probability	0.5762	0.5472	

* Significant at 5%.

** Significant at 1%.

Source: Authors' calculations from FACS.

While characteristics can explain a large proportion of job exits it is also important to be able to link job exits to *events.* FACS contains data on reasons for job exits, based on respondents' own interpretation of events. Table 3.7 shows a summary of all stated reasons for leaving work for all lone parents that report leaving work over all four waves of FACS since 1999. As lone parent status may change and events such

as pregnancy and relationship breakdown lead to entry into lone parent status for many lone parents as well as being a reason for leaving work, the tables shows a sample constructed to only report those who also report being lone parents when at work.

Table 3.8 Reasons for job exits

Percentages

	Job exiters over past year	Persistent non-employed over both years
For health reasons	16.9	13.3
Decided to leave yourself	15.3	13.7
Redundancy	11.8	7.8
Fixed term or temporary job	11.6	7.7
Pregnancy	11.4	22.4
Problems with transport	7.8	2.9
Childcare broke down	7.2	7.4
Wanted to look after family	6.4	6.6
Breakdown of marriage/relationship	2.2	7.9
Financial reasons	1.7	1.8
College/ full-time study	1.5	1.3
Dismissed	1.4	4.3
Other	4.7	3.0
Observations	(141)	(1087)

Source: FACS.

Health reasons represent a major stated reason for job exits for lone parents with employer-led termination through redundancy or the end of a fixed-term or temporary employment also a large proportion. A large proportion of lone parents who report that job exit was ‘a decision to leave’ by themselves probably includes some hidden dismissals, a category that otherwise is very small.

3.5 Summary

Simple cross-tabulated descriptions of lone parent job enterers in comparison to persistently non-working lone parents show them to be younger and fewer, have young children under two and fewer aged two to five. They also tend to have fewer children, are more likely to be owner occupiers, have higher educational qualifications and to have less self reported ill-health.

In multivariate estimation the probability of entering work from non-employment is seen to be significantly associated with the following characteristics: having fewer children; working less than 16 hours in so-called ‘mini-jobs’, looking for work rather than being inactive, having a driving licence and access to a car, being a home owner, receiving maintenance and the level of their educational qualifications. Having three or more children, self-reported ill-health and living in London, the South East, East and North West regions worsen probability of entering work.

Job entrants are seen to have higher incidence of low pay and part-time work and to be more concentrated in the retail, hotels and catering sectors and in low or unskilled occupations such as personal services and 'elementary occupations' when compared to the persistently employed.

Simple cross-tabulated descriptions of lone parent job exiters comparing them to persistently employed lone parents show them to be younger on average and more likely to have young children and more than one child. Job exiters are also less qualified overall, fewer have degrees and A level education and more are unqualified. One-third of job exiters report ill-health compared to only 19 per cent of persistently employed.

In multivariate estimation the probability of lone parents exiting work are associated with the following personal characteristics: being aged less than 30, not being a homeowner and having no savings. Having entered work in the past year and in the past two years both significantly raised probability of exit and additionally so did working part-time for low pay.

4 Longer-term trajectories

Chapters 2 and 3 have all looked at two-point dynamic transitions – moving into or out of work as single change in status. This chapter looks at the evidence from FACS of longer-term employment dynamics over the four waves of FACS from 1999 to 2002.

4.1 Job returners, benefit returners and cycling: an overview

First is the issue of those that have multiple transitions in and out of work. There is significant US literature on the potential for lone parents and others to have repeated patterns of work and non-work, a phenomenon sometimes called 'churning', but is called here 'cycling' between work and non-work. Bane and Ellwood identified three types of out of work 'welfare' claimants: those who used benefits as a *stepping stone* to assist in times of hardship/unemployment who then were able to re-integrate into working life; second, those who were long-term welfare *dependants* and third, *cyclers*, who move between benefits and work and never manage to become permanently established in employment (Bane & Ellwood 1994).

Cycling is actually difficult to accurately identify. Some who leave benefits for work may take one or more attempts to obtain a permanent foothold others may have repeated periods in work and out of work claiming benefits for a period for underlying life-cycle reasons (for instance, they may adopt seasonal patterns of work that match school terms), while others, true cyclers perhaps, participate in a sector of the labour market that provides periodic insecure and low paid work. The data sources used in this research limit our ability to distinguish between patterns of periodic and permanent cycling, as we are unable to observe lone parents for long enough time to establish medium to long-term patterns. FACS data provides a four-year observation period and while it also provides retrospective and inter-year data on work this data has not provided any greater robust detail of employment patterns than year-on-year comparisons. Similarly with the longitudinal LFS samples used in Chapters 2 and 3 – year-on-year comparisons overall provided as good a view of

employment transitions as within year transitions. Thus, some questions about employment trajectories can only be partially answered in this chapter.

The first rudimentary signs of cycling – of *two* transitions between non-employment and work can be observed and form an important part of further discussion. However some of these will be *job returners* in the first instance as they are observed in work, that are then observed out-of-work and subsequently in-work. Others will be *benefit returners* who are first observed out of work, then observed to move into work but subsequently return to out of work status[6]. The phenomenon of British lone parents with repeated spells on out of work NDLP programme with intervening periods in employment has already been noted (Evans *et al.* 2003).

More complex patterns and durations of cycling inevitably consider overall trajectories in work as well as transitions in and out of work. Cycling can mean moving between jobs and this can be an indication of wage progression rather than poor attachment to the labour market. Conversely, the absence of cycling or stability in a persistently poor quality job is not, perhaps, an aim of employment policy. This chapter touches on early and tentative indications of longer-term trajectories, but as shown below firm evidence and conclusions are limited by small sample sizes and insufficient period of observation.

Table 4.1 gives the evidence on the group of lone parents that can be observed for the longest possible period and hence most likely to provide evidence of cycling. These lone parents are those first observed in 1999 in the first year of FACS and subsequently followed[7]. Forty per cent of these lone parents in 1999 were persistently out of work over the four years and almost 30 per cent were persistently working. Ten per cent were working one out of four, eleven per cent were working two out of four and around nine percent were working three out of four annual waves. The majority of these non-persistent workers were either job enterers or job exiters on a single occasion and not cyclers.

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[6] Such cases are called 'recidivists' in the US literature and the policy problem of returns to out of work benefits 'recidivism'. This term is not appropriate for British policy environment where the approach is less punitive and stigmatising. The terms 'returning to benefit' and 'benefit returners' are used throughout the remainder of this report.

[7] Only 73 percent of lone-parents in 1999 are observed in all subsequent waves. No longitudinal weights have been successfully obtained or applied.

Table 4.1 Four wave employment profile 1999-2002 for the 1999 lone parent cohort

	Percentages
Persistently non-working	
(Not employed any wave)	40.4
Employed 1/4 waves	10.3
Employed 2/4 waves	11.4
Employed 3/4 waves	8.8
Persistently working	
Employed all waves	29.2
Total (5672 observed all waves)	100

Note: no appropriate longitudinal weighting available.

Source: Authors' calculations from FACS.

Table 4.2 gives the probabilities for each of the dynamic transition profiles for this 1999 lone parent cohort. The standard probabilities of being employed are first estimated on single transitions and show that the probability of a lone parent being employed this year if they were employed last year are 0.91, whereas the probability of entering employment from non employment is 0.15.

Over two-year transition profiles (three points of time and two potential transition points) then the probabilities on persistence and transition change. For job entrants then, the probability of being in work if you were employed last year and entered employment the previous year is 0.84, but the probability of exiting work if they had entered from an out of work status is thus 0.16. Comparing these probabilities for job enterers to two-year persistent status shows that recent job entrants have a lower probability of remaining in work (0.94) and a higher probability of exiting work than those persistently not-working have of entering work (0.13). Finally, the *job returners*, those who are first observed in work and then out of work and subsequently return to work, have a 0.37 probability of being in employment.

Table 4.2 Lone parent 1999 cohort: probability of current employment given past status: one transition and two transition cases

	Probability	*n*
One-year transitions		
Employed if employed year before *(Et | Et-1)*	.911	2476
Employed in non-employed year before *(Et | Nt-1)*	.147	3165
Two-year transitions		
Job Entrants		
Employed currently and last year not employed year prior *(Et | Et-1, Nt-2)*	.844	270
Currently not employed, employed last year and previously not employed (Benefit returners) *(Nt | Et-1,Nt-2)*	.156	
Persistent workers		
Employed currently and past two years *(Et | Et-1, Et-2)*	.944	1140
Persistent non-employed		
Non-employed currently and past two years *(Et | Nt-1, Nt-2)*	.135	1540
Returned job exiters	.367	116
Employed now, not employed last year but employed previous year *(Et | Nt-1, Et-2)*		

Note: no longitudinal weighting available.

Source: Authors' calculations from FACS.

4.2 Benefit returners and job returners

What distinguishes the groups who return to benefits or return to work having previously been out of work or in work respectively? Table 4.3 shows the characteristics of those that move into work – job entrants – but divides and compares this group into those that remain in work and those that return to out of work status. The sample sizes for these groups can be small and, therefore, the discussion is hedged with many caveats. Benefit returners appear to have, on average, longer durations out of work and to be less likely to be owner occupiers and to have degrees and more likely to be unqualified than those that enter work and remain. Benefit returners also report more ill-health and have younger children and a higher percentage has three or more children than those that enter and remain in work. Benefit returners appear also to have lower wages and weekly earnings.

Table 4.3 Lone parent job entrants: those that remain in work and those that return to not working

	Job retainers	Benefit returners
	Remain in work	Return to non-working
Age when out of work	34.0	34.0
History		
Time out of work – average months	25.6	29.2
Time out of work – banded time in years		
Under 1 year	37.4%	44.2%
1-2 years	21.0%	19.5%
2-3 years	19.6%	12.3%
4-5 years	13.4%	19.2%
5-10 years	7.0%	0.0%
over 10 years	1.7%	4.8%
Owner occupier	27.9%	22.9%
Education level		
Degree	5.5%	1.9%
A levels	6.1%	6.0%
Less than A levels	63.0%	62.7%
No qualifications	25.5%	29.4%
Self-reported ill-health	23.7%	32.7%
Has child under 2	18.2%	23.8%
Has child aged 2- 5	41.2%	50.3%
Number of children		
1 child	45.2%	35.0%
2 children	35.9%	32.3%
3 or more children	18.5%	32.8%
Hourly wage	£6.10	£5.45
Weekly pay	£159.89	£115.84
Working 30 or more hours	37.3%	24.4%
Hours worked per week	19.80	19.85
	170	40

Note: no longitudinal weighting available.

Source: Authors' calculations from FACS.

The key question of policy concern is to understand what drives returning to benefit and this means a fuller analysis of how such characteristics interact and have independent significant associations with entering work and subsequently returning to out of work status – and thus probably to out of work benefits. Table 4.4 give the results for a regression model to estimate the probability of returning to benefits for lone parent entrants to employment. Readers are forewarned that interpretation is difficult for two main reasons. First, small sample sizes mean that some explanatory variables that are estimated as having no significance may be potentially significant variables in a larger sample. There is thus a problem of generalising with any certainty from these estimates. Second, the estimates are made on the cohort of lone parents observed in 1999 over subsequent waves and there are no robust longitudinal weights available to adjust the cohort sample for attrition. This means that if characteristics associated with returning to benefits are also associated with

attrition there will be measurement error. These caveats must be borne in mind when interpreting the model results. The probit estimates follow previous practice in running versions of the models based on personal characteristics and then re-estimating in a second version using additional job characteristics. The same overall theoretical approach is maintained by grouping characteristics into areas of known influence on employment dynamics.

Table 4.4 Probit model of returning to benefit for lone parent entrants to employment (estimates of employment retention for entrants)

	Model 1 Personal characteristics only	Model 2 With pay and hours of work
Personal characteristics		
Demographic characteristics		
Age – omitted band less than 30		
30-39	0.121	0.131*
40-49	0.096	0.105
Age of youngest child – omitted category 5 and over		
Under 2	-0.048	-0.026
2 to 5	-0.009	0.003
Number of children omitted category = 1		
2 children	-0.072	-0.078
3 or more children	-0.267**	-0.326**
Non white ethnicity	-0.006	0.031
Duration – omitted category = 5 years and over		
under 1 year	-0.107	-0.121
1 to 2 years	-0.016	-0.025
2 to 3 years	-0.005	-0.029
3 to 5 years	-0.179	-0.22
Human capital, capabilities and resources		
Never worked previously	-0.037	-0.03
NDLP	-0.085	-0.127
Receives maintenance	0.027	0.037
Has savings	0.115	0.118*
Worked under 16 hours	-0.08	-0.078
Unemployed compared to inactive	-0.106	-0.079
Has driving licence and access to car	-0.01	-0.012
Owner occupier	0.039	-0.004
Education Level – omitted category no qualifications		
Degree	0.091	0.07
A levels	-0.138	-0.17
Less than A levels	0.016	0.01
Self-reported ill-health	-0.158*	-0.161*
Has a sick/disabled child	0.065	0.093

Continued

Table 4.4 Continued

	Model 1 Personal characteristics only	Model 2 With pay and hours of work
Time		
December	0.007	-0.121
2000 compared to 1999 transition	0.078	0.065
Region		
North East	-0.041	-0.061
North West (including Merseyside)	-0.056	-0.05
Yorkshire & Humber	0.081	0.07
East Midlands	0.062	0.07
West Midlands	-0.04	-0.053
Eastern	0.017	-0.002
London	-0.073	-0.073
South East	-0.036	-0.03
Wales	-0.009	0.029
Scotland	0.1	0.105
Job characteristics		
Pay and part-time status – omitted category high paid full time		
Low pay full-time		-0.109
Low pay part-time		-0.107
High pay part-time		0.109

Note: no longitudinal weighting available.

Source: Authors' calculations from FACS.

The probit estimates are actually based on the converse of benefit returning – that is of retaining a job for entrants and therefore negative signs indicate increased association with returning to benefit. Lone parents in their thirties are less likely to return to benefit, compared to those in their twenties, but this only appears to be significant when the pay levels and hours of work are taken into account. However, lone parent entrants to work with three or more children appear more at risk of returning to benefit across the board. Self-reported ill-health also seems to have a strong association with returning to benefits but having savings appears to be a protective factor for job entrants and reduces the probability of returning to benefit.

How does the analysis of benefit returners compare to the situation for job-returners, those that exit work and subsequently return to work again? Table 4.5 shows a similar comparison for job exiters to that shown for benefit returners in Table 4.3. Again, the sample sizes for these comparison groups are small and therefore the discussion is hedged with many caveats. The two groups of job exiters distinguished in Table 5.5 are those job exiters that remain out of work and those that subsequently return to work again – job returners. Job returners appear to have longer durations in work and to be more likely to have degrees and less likely to report ill-health and have higher pay than those job exiters that remain out of work.

Table 4.5 Lone parent job exiters: those that remain out of work and those that return to work

	Job exiters remain out of work	Job returners re-enter work
Age when in work	33.8	33.9
Time in employment – average months	24.6	38.0
Time in employment – banded years		
under 1 year	45.8%	40.9%
1-2 years	19.7%	15.4%
2-3 years	12.1%	10.0%
4-5 years	13.2%	10.2%
5-10 years	5.3%	12.9%
over 10 years	4.0%	10.5%
Owner occupier	14.6%	15.5%
Education level		
Degree	2.6%	7.7%
A levels	3.9%	10.5%
Less than A levels	59.4%	48.5%
No qualifications	34.0%	33.4%
Self-reported ill-health	22.3%	18.2%
Has child under 2	18.2%	17.8%
Has child aged 2 to 5	41.7%	33.5%
Number of children		
1 child	44.8%	56.1%
2 children	34.1%	25.9%
3 or more children	19.8%	18.1%
Hourly wage	£4.30	£5.10
Weekly pay	£91.76	£125.32
Working 30 or more hours	27.5%	20.8%
Average hours worked per week	24	23
Number of observations	(76)	(39)

Note: no longitudinal weighting available.

Source: Authors' calculations from FACS.

Table 4.6 shows the probit estimates found for job exiters and their likelihood of re-entering employment or remaining non-employed. The regression estimates are subject to the same caveats concerning sample size and longitudinal weighting and attrition discussed previously for Table 4.4. Table 4.6 shows two variations of the probit model run with the same theoretical approach for two versions of the model based on solely personal and subsequently for personal and job characteristics as outlined in previous models.

Results from the probit estimates suggest that older lone parents are more likely to re-enter employment, compared to those in their twenties and that additionally those with younger children are less likely to re-enter work. A level qualifications are also observed to increase the probability of re-entering work. Other significant estimates from the regression are more difficult to interpret. For instance, those observed to leave work in 2000 are estimated to have a negative probability of re-

entering work but with no longitudinal weighting such a result must be treated with great caution and may be unreliable. Similarly, the regression suggests that those in low paid full-time work are more likely to re-enter employment and this is both counter-intuitive and contradicts findings later in this chapter.

Table 4.6 Probit estimates of regaining employment for lone parents who exited employment in the previous year

	Model 1 Personal characteristics only	Model 2 With pay and hours of work
Personal characteristics		
Demographic characteristics		
Age – omitted band less than 30		
30-39	0.317*	0.318*
40-49	0.473*	0.498*
Age of youngest child – omitted category 5 and over		
Under 2	0.248	0.337
2 to 5	0.01	-0.063
Number of children omitted category = 1		
2 children	-0.345**	-0.332**
3 or more children	-0.222	-0.107
Non-white ethnicity	0.186	0.347
Duration – omitted category = 5 years and over		
Under 1 year	-0.02	-0.162
1 to 2 years	-0.009	-0.19
2 to 3 years	0.139	-0.059
3 to 5 years	-0.236	-0.303*
Human capital, capabilities and resources		
Receives maintenance	0.143	0.154
Has savings	0.064	0.123
Has driving licence and access to car	-0.017	0.032
Owner occupier	-0.071	-0.086
Education level – omitted category no qualifications		
Degree	0.44	0.444
A levels	0.531**	0.687**
Less than A levels	0.091	0.156
Self-reported ill-health	-0.139	-0.171
Has a sick/disabled child	0.222	0.212

Continued

Table 4.6 Continued

	Model 1 Personal characteristics only	Model 2 With pay and hours of work
Time		
December	0.509	0.651**
2000 compared to 1999 transition	-0.365**	-0.289*
Region		
North East	0.022	0.081
North West (including Merseyside)	0.198	0.412
Yorkshire & Humber	0.22	0.193
East Midlands	-0.258	-0.236
West Midlands	0.155	0.173
Eastern	-0.326	-0.28
London	-0.094	-0.012
South East	0.014	0.087
Wales	0.099	0.171
Scotland	-0.077	-0.036
Job characteristics		
Pay and part-time status – omitted category high paid full time		
Low pay full-time		0.409**
Low pay part-time		-0.155
Not low pay part-time		0.177
Observations	(119)	(119)

Note: no longitudinal weighting available.

Source: Authors' calculations from FACS.

4.3 Cycling, progression and low pay

So far this chapter has looked at multiple transitions and has primarily focused on re-entering work or non-work status without looking at underlying trajectories. There is considerable literature in Britain about the effect of low paid work on work history and earnings progression. Stewart's findings of the incidence and dynamics of low paid employment have led to a general finding of a cycle of low pay and no pay (Stewart 1999). Lydon and Walker on the other had have recently observed substantial wage progression in WFTC claimants, who in general either work constrained hours or have below average earnings to qualify (Lydon & Walker 2003). Is there evidence of a low pay no pay cycle or constrained earnings progression for lone parents? The analysis here only looks at evidence from FACS.

Table 4.7 shows the conditional probabilities of being employed in a low paid job, defined as employment at pay levels less than 0.66 of male median earnings, according to past status. For those lone parents who remain in employment (that is they are observed to be employed currently *(t)* and in the previous year *(t-1)* then the overall probability of being currently low paid is 0.42. However, if the previous year

was low paid employment the probability of being low paid is 0.62, whereas if the previous year was not low paid there is only a 0.19 probability of being low paid. For persistently longer working lone parents who have been employed for two consecutive years previously (we can only observe a maximum of three potential transitions in currently available FACS data) then the overall probability of being low paid falls. For all such working lone parents the probability is 0.35 and for those who were previously low paid it is 0.56 and the risk of low pay is very small for those previously observed twice in continuous non-low pay, 0.81. Readers are reminded that the low pay measure used here is a relative one so that even real increases in pay may not move low paid across the threshold over time.

Lone parent job enterers are less protected against low pay than persistent workers. Table 4.7 shows the overall probability of low pay to be 0.65 if they entered work last year, compared to 0.42 observed for persistent one year employed discussed above.

Table 4.7 Wages and low pay conditional on previous employment status and pay

	Conditional probability of low pay	Hourly wage	Weekly wage
Persistent employed lone parents			
Observed over two periods			
All	.416	£7.65	£228.24
Low-paid in *t-1*	.619	£6.34	£177.34
Not low paid in *t-1*	.189	£9.13	£286.74
Observed over three periods			
All	.347	£8.06	£241.11
Low-paid *t-1* and *t-2*	.560	£6.56	£183.21
High-paid *t-1* and *t-2*	.081	£10.45	£336.71
Job entrants			
Entered employed this year *(t-1)*	.649	£6.14	£152.06
Job returners *(Et| Nt-1 Et-2)*	.610	£6.06	£164.50
Entered employment two periods ago			
All	.492	£7.08	£184.35
Entered into non-low paid job	.358	£7.87	£221.39
Entered into low paid job	.568	£6.63	£168.38

Source: Authors' calculations from FACS.

The probability of low pay for job enterers persists for those who entered work two years previously. The overall probability of being low paid is 0.49, higher than 0.42 for all persistently employed and even entering via a non-low paid job does not protect fully against low pay because the probability of being low paid is 0.36 – far higher than the probability for persistently low paid who were previously not low paid. For job returners who were employed at *t-2* and then observed non-employed the previous year the probability of being low paid is 0.61.

Overall this means that large sections of the employed lone parent population are low paid. Table 4.8 gives the summary position for the incidence of low pay across all employed lone parents observed over the four waves of FACS. Sixty per cent are seen to be employed for some period and a third of those (34 per cent) are permanently low paid and a further 40.5 per cent experienced low pay temporarily. Only 26 per cent were never low paid. Dividing the ever low paid employed lone parents, that is those we observed at any time over all four waves to be low paid, then almost 46 per cent are permanently low paid. However, if each wave is taken as a separate cross-section of low paid lone parents, then a half are permanently low paid (50.5 per cent).

The high incidence of low pay together with the high probability for job-enterers to be low paid raises the potential of the 'low pay – no pay' cycle being observed. Are the probabilities of being low paid and being non-employed such that cycles of periods of no pay and low pay are more likely than moving into higher paid employment?

Table 4.8 Lone parents' permanent and transitory low-pay profile 1999-2002: low pay defined at 66 per cent of male median earnings

All ever employed	59.7%
Of the ever employed:	
Persistently low paid	34.0
Temporary low paid	405
Never low paid	25.6
Of low paid employed	
Persistent low pay as % of the ever low paid	45.6%
Persistent low pay as % of cross-sectionally observed low paid over 4 waves	50.5%

Source: Authors' calculations from FACS.

Note:

1 Data reported for all those observed in all four waves, lone parent in 1999.

2 Permanent low paid: low paid in at least 1 wave, high paid in none.

Temporary low paid: low paid in at least 1 wave, high paid in at least 1 wave.

Never low paid: high paid in at least 1 wave, low paid in none.

Table 4.9 gives the probabilities of being non-employed for low paid and non-low paid employed lone parents. Low paid lone parents are approximately twice as likely to be non-employed than non-low paid (0.2 compared to 0.05). However, how far is it also true that the relative disadvantages of low pay and no pay are equal? Stewart demonstrates that periods of low pay and unemployment can have similar scarring effects. FACS evidence suggests that this is not exactly similar for lone parents – perhaps because periods of inactivity differ from unemployment or because part-time work has different effects on transitions or perhaps due to the different characteristics of unemployed – largely male populations and lone parents. Table 5.10 shows that for those lone parents who were non-employed two years previously there is a small probability of progression from non-employment to

eventual non-low paid employment. The probabilities of entering and remaining in low paid employment are relatively higher (as are the probabilities of remaining non-employed – see above), but there is the potential for progression for job-enterers.

Table 4.9 Probabilities of non-employment for employed lone parents conditional on low pay

	Probability of non-employment *(t)*
Previously low paid employed *(t-1)*	.117
Previously not low paid employed *(t-1)*	.049

Source: Authors' calculations from FACS.

Table 4.10 Probability of being currently not low paid *(t)* for all those non-employed two years previously, conditional on intervening status

All job enterers non-employed two years previously *(t-2)*	Probability of current non-low paid employment *(t)* (all employed)
Low paid in previous year *(t-1)*	.432
Not low paid in previous year *(t-1)*	.642

Source: Authors' calculations from FACS.

It is difficult to generalise from this finding to a wider and longer sample of lone parents, indeed it would not be robust to do so. This finding represents the aggregate probability for a small sample and therefore is subject to real concerns about robustness. A larger and longer-term sample is needed before we can accurately assess the true extent and application of a low pay – no pay cycling. There may be a group of lone parents working at the margins or who are particularly prone to cycling in and out of low paid work.

4.4 Summary

Observing cycling as a trajectory where lone parents enter and exit work and out of work benefits on a number of occasions is difficult with current FACS data given that data currently covers only four waves. Looking at periods of less than a year does not provide any real additional volume of transitions.

Research focused on two main forms of cycling, both of which only comprised of two transitions:

- Job returners: those observed in work, then out of work who were then observed to return to work.
- Benefit returners: those observed out of work, then moved into work and who subsequently returned to not working. This group are called 'recidivists' in the US literature, a term seen as inappropriate in the UK policy context.

Multivariate estimation of the characteristics associated with job returning are subject to underlying small sample sizes and the absence of appropriate longitudinal weights to account for attrition but suggest that regaining employment after a job exit is associated with: being older (over 30), having one child only, having previous employment of five years or more and A level qualifications.

Multivariate estimation of the characteristics associated with benefit returning are subject to the same concerns about robustness as mentioned above but suggest that returning to non-working after entering work from non-working is linked to the risks of: being aged in the twenties, having three or more children, having some savings and reporting ill-health.

What evidence is there of a low pay – no pay cycle for lone parents? Sixty per cent of lone parents over the period 1999 to 2003 worked but one-third of these were persistently low paid over the period and a further 40 per cent were low paid over part of the period. Only a quarter were never low paid. Low paid lone parents are twice as likely to exit work than their counterparts who are not low paid. However, comparing the probabilities of being out of work and being low paid (conditional on past status) it appears that lone parents do not face equal probabilities of no pay or low pay and that low paid jobs have a small probability of being 'stepping stones' at the same time as having relatively higher probabilities of cycling between low pay and no pay. However, this is an aggregate finding and sample sizes are too small to decompose the sample. If this was probable it is highly likely that there are groups of low-skilled low qualified lone parents for whom the low pay - no pay cycle is a reality.

5 Conclusions

The evidence from this study contributes several original insights into lone parent employment in Britain as well as confirming much that has previously been found in cross-sectional and longitudinal studies. This chapter puts these findings in a wider context and discusses areas for further research and areas for some reflection on policy approach and implementation.

'What, if any, are the penalties for lone parents who have had spells out of the labour market?' was the underlying question that led to our research. The answer in some respects is simple. If the overall risk group is limited to lone parents then the estimates of conditional probabilities on past non-employment made in Chapter 4 show that over two-year transition periods previous non-employment more than doubles probability of job exiting compared to those who are persistently employed. However, further evidence of scarring from non-employment is not easily identified. Chapter 3 shows that duration out of work showed no significant association with probability of entering work when personal characteristics are also taken into account. Furthermore, but more tentatively, Chapter 4 suggested that duration out of work suggested *no* association with the probability of returning to benefit. Demographic composition of the lone parent family (age, age and number of children) and ill-health were more important as scarring effects than non-employment durations in both instances.

The research however has been able to additionally explore a wider set of penalties, and countervailing protective factors for lone parent employment. Indeed, a lone parent penalty, independent of characteristics, was found to affect job retention. Lone parents were more likely to exit work than a matched control group, although this penalty appeared to be narrowing in recent years. Additionally, low paid employment for lone parents was seen to scar. Chapter 3 showed that low paid and part-time work was associated with job exits and, less clearly, returning to benefit. On the other hand, low paid part-time employment was also associated with returning to work for job exiters. However, once in work the probabilities of moving to high paid work were much lower for low paid lone parents than persisting in low paid work. Overall, low pay and no pay were not seen as equal probabilities and there was a small chance of earnings progression.

Evidence of protective factors tended to match that found before in analysis of cross-sectional or single point in time transitions. Receiving maintenance, being an owner occupier, having a driving licence and access to a car and, on some occasions, having savings were all identified as protective factors for work or to promote entering work.

There is one major factor that has not been observed and allowed for directly in the analysis – the factor relating to entry into lone parenthood. All the evidence from NDLP evaluations and from qualitative studies that show that planning a return to work involves an assumption about adaptation to lone parent status – either from birth or from separation. Additionally, children have to adapt to emotional upheaval from separation, and it is observed in other studies that lone parents, when timing returns to work, take considerable consideration of such needs. This means that if we view entry into lone parenthood as a major life-cycle event, both the event and the elapsed time are important factors that are particular to lone parents.

How does this evidence potentially inform policy? We tend to think of lone parents having 'barriers to work' rather than more general constraints on work. Barriers to work obviously focus on job entry problems and when we consider lone parents' work constraints more generally it is easier to reconcile both their job entry and job exit characteristics. This is not to downplay the importance of continued improvements to job entry nor to understate the sea change in policy since 1997 in seeing lone parents as job-seekers and offering employment services and is a huge step forward in promoting equality of treatment and promoting employment and opportunity. However, the findings in Chapter 2 show that lone parents' entry rates into employment from non-employment have converged with other groups. This may be partly due to compositional changes – that lone parents have on balance become a more relatively employable group from the reservoir of non-employed as unemployment has decreased and overall rates of inactivity linked to ill-health, disability and incapacity for work have increased.

Future improvements in job entry for lone parents will face a population that has potentially more constraints on work. Berthoud has suggested that reaching the employment target of 70 per cent will involve far higher participation rates from the non-employed lone parent population with younger and very young children and those with more disadvantages and barriers to work (Berthoud 2003)[8]. The research reported in the previous chapters suggests that there is a complimentary need to look at the prospects of retention in work both for this group and for currently working lone parents in order to meet the target. The evidence of multiple barriers to work has to be put alongside the 'lone parent penalty' associated with higher rates of job exit above and beyond the normal characteristics surrounding employability found in Chapter 2.

[8] It is unclear how far foreseeable changes in composition over the next seven years alter underlying assumptions. Few existing lone parents will persist and the non-working lone parent population will change due to inflows being younger more qualified cohorts with increased likelihood of single parenthood rather than separation. Such changes alter the underlying probabilities to move into work when compared to the composition of the current population.

There is an underlying need to look at the causes of lone parents' job exits that are specific to their status as sole carers for children. Chapters 3 and 4 show that age and number of children are nearly always significant explanations of job exits, independent of other factors. This suggests there is a need to know how far wider changes in employment practice that promote family friendly work alongside the provision of childcare can be a protective factor in sustaining work for lone parents and thus promote retention. The potential gains to the lone parent rate are considerable – Chapter 2 suggests that equalising the lone parent job exit rate to other groups can approximately hit the employment rate. It is worth pointing out that such improvements in working conditions may actually protect those who enter lone parenthood through pregnancy while at work and thus reduce inflows into non-employment in the first instance. However, evidence also points to the fact that risks of job exit are highest for lone parents in their first year of re-entering work, and thus more specific interventions could be targeted on this group with the highest risk.

There are two additional factors that appear to add to the lone parent penalty in probabilities of job exits: low pay, especially when linked to part-time work, and ill-health. Again, these point to wider structural problems in employment practice and conditions but they also have more impact on the strategies underlying moving out of work lone parents into work as low pay and ill-health also appear to be associated with returning to benefit. This raises the problem of how far to encourage large numbers of lone parents who are more marginal in the employment market to enter work if it can be foreseen that their job retention is probably poor. Without providing a counterbalancing effort in retention there could be a point at which a higher volume of job entry for those with poor employability would yield only small marginal increases in the net employment rate because of their higher probability of job exit. This is not to say that all those with higher job constraints will have poor retention, far from it, but that purely to promote job entry for groups when the risk of job exits are known to be high may not be optimal policy.

The main suggestions that spring from the research in this report relate to a need for better information rather than to substantiate any change in overall policy. Chapter 2 showed the clear advantage of being able to predict outcome employment rates on different profiles of job exits holding inflow and persistence constant. Further work of this kind is needed to carefully examine how underlying characteristics and volumes in the lone parent population and their different dynamic employment profiles will produce an outcome employment rate. It is obvious that current policy is doing a good job and promoting employment opportunities and incentives and lone parents are taking them up. It is less obvious that extrapolation forward of the current policy mix will necessarily work for a group with greater work constraints. Modelling (far more sophisticated than that done in Chapter 2) can then assist policy makers in making strategic choices of where resources are best invested for both job entry and job retention and this approach complemented by results from ERA could illuminate how to respond to lone parents cycling between benefits and work.

References

Bane and Elwood (1994), *Welfare Realities: From Rhetoric to Reality*, Cambridge MA: Harvard University Press.

Bartik, T. (1997) *Short-term Employment Persistence for Welfare Recipients: The Effects of Wages, Industry, Occupation and Firm Size*, Kalamazoo: WE Upjohn Institute for Employment Research.

Berthoud, R. (2003) in Thurley D (ed) *Working to Target: Can Policy Deliver Paid Work for Seven in Ten Lone Parents?* London: One Parent Families.

Blank, R.M. and Ruggles,P. (1994) Short-term recidivism among public assistance recipients, *American Economic Review* 84(2):49–53.

Brandon, P.D. (1995) *Vulnerability to Future Dependence among Former AFDC Mothers* DP no 055-95, Madison: Institute for Research on Poverty, University of Wisconsin-Madison.

Brauner and Loprest (1999) *Where are they now? What States' Studies of People Who Left Welfare Tell Us* Washington: The Urban Institute.

Eissa and Liebman (1996) 'Labor Supply Responses to the Earned Income Tax Credit', *Quarterly Journal of Economics*, May 1996, p605-637.

Ellwood, D. (1999) *The Impact of the Earned Income Tax Credit and Social Policy Reforms on Work, Marriage, and Living Arrangements* JCPR Working Paper No.124, Chicago: University of Chicago.

Evans, M., Eyre, J., Millar, J. and Sarre, S. (2003) *New Deal For Lone Parents: Second Synthesis Report of the National Evaluation,* Department for Work and Pensions Report Number WAE 163, Sheffield.

Gregg, P. and Harkness, S. (2003) *Welfare Reform and Lone Parents Employment in the UK* CMPO Working Paper No. 03/072, Bristol: University of Bristol.

Knight, G. and White, M. (2004) Evaluation of Lone Parent Personal Adviser meetings: Interim findings from administrative data analysis, *Department for Work and Pensions*.

Lessof, C. *et al.* (2003) 'New Deal for Lone Parents Evaluation: Findings from the Quantitative Survey', DWP Research Report No. 147, Leeds: CDS.

Lydon, R. and Walker, I. (2003), 'Welfare-to-Work, Wages and Wage Growth', *Inland Revenue*, Working Paper 3.

Meyer, B. and Rosenbaum, D.T. (1999). *Welfare, the Earned Income Tax Credit, and the Labor Supply of Single Mothers*, NBER Working Papers 7363, Washington: National Bureau of Economic Research, Inc.

Rosenbaum, P. and Rubin, D. (1983) The Central Role of the Propensity Score in Observational Studies for Causal Effects, *Biometrika*, 70, 41-55.

Stewart, M. (1999) 'Low Pay in Britain', in *The State of Working Britain*, ed. by Paul Gregg and Jonathan Wadsworth, Manchester University Press, 1999.

Stewart, M. (2002) 'The Inter-related Dynamics of Unemployment and Low-wage Employment' 10th International Conference on Panel Data, Berlin, July 5-6, 2002 B2-4, International Conferences on Panel Data.