New Deal for Partners:

characteristics and labour market

transitions of eligible couples

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The views expressed in this report are those of the authors and do not necessarily reflect those of the Department for Work and Pensions.

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Abbreviations and acronyms

JSA	Jobseeker's Allowance
IS	Income Support
IB	Incapacity Benefit
SDA	Severe Disablement Allowance
ICA	Invalid Care Allowance
LFS	Labour Force Survey
NDP	New Deal for Partners

Executive Summary

This report uses longitudinal survey data on 5,600 workless couples observed over the period 1996-2000 to examine the characteristics of those claiming JSA, IS, IB, ICA or SDA and therefore eligible for New Deal for Partners. As with earlier reports on workless couples more generally (ESR79, ESR98), transitions between employment, unemployment and types of inactivity are a particular focus and these are also examined using econometric techniques. Three types of worklessness were considered: unemployment, type 1 inactivity (inactive but with some desire to work) and type 2 inactivity (inactive and with no desire to work). These categories can be interpreted as a measure of distance to the labour market: unemployment is closest, type 2 inactivity furthest away.

Characteristics of couples on benefit

When first observed, about a third of male worklessness was explained by unemployment, a quarter by type 1 inactivity and two-fifths by type 2 inactivity. For women, only a tenth were unemployed, a quarter were type 1 inactive, and three-fifths were type 2 inactive. Male inactivity was dominated by health and disability. For women, family considerations were more important, especially for type 2 inactivity.

Men were twice as likely to be seeking full-time rather than part-time work. Only four per cent of men and 16 per cent of women had never worked. Forty per cent of men and 24 per cent of women had worked within the last two years. The proportion of women without work for more than 10 years (at 36 per cent) was more than twice that for men.

Men were 42 years of age on average compared to 39 years for women. Three-quarters of couples were married and most lived in rented accommodation. The sample was predominantly white (90 per cent) and most were originally from the UK. More than half the women had no qualifications compared to 43 per cent for men. About two-thirds of the men and half of the women reported a disability of some form. Similar proportions reported a long-term health problem.

Strong evidence was observed of the similarity of partners with respect to a number of characteristics: age, ethnicity, country of origin, qualifications and education, disability and health, type of worklessness, duration of unemployment, work experience, length of time since last job, type of job and benefits claimed.

In 70 per cent of the couples only the male partner was claiming benefits, in 10 per cent the female partner was the sole claimant and in the remaining 20 per cent both partners were claiming benefits. For male claimants, the most popular benefit was JSA. For female claimants the most popular benefit was Incapacity Benefit. Over 80 per cent of couples claimed only a single type of benefit.

Changes over time

There was a decline in the number of workless couples over the period 1996-2000. For men, type 2 inactivity accounted for a growing proportion of worklessness. For women, there was more stability although an increase in the proportion of type 2 inactivity for other than family reasons was observed.

Over the course of a year, 17 per cent of couples moved from the position of worklessness to having at least one partner in work. In 3 per cent of cases they became dual-earner couples, in 10 per cent the man only found work and in about 5 per cent the woman only.

Of men in employment, 85 per cent were still employed when next observed. Hence, this appears to be quite a stable economic status. The majority of leavers became unemployed. Over three-quarters of unemployed men were still unemployed when next observed, most leavers finding work. More left to type 1 than type 2 inactivity. Inactivity as a whole was characterised by few exits, although there was some movement between the two types.

For women, employment and type 2 inactivity were even more stable. There was more movement between unemployment and type 1 inactivity. Those exiting employment were more likely to become inactive than unemployed. The reason for female inactivity remained constant for those switching between type 1 and type 2 inactivity.

Three-quarters of dual-earner couples retained this status when next observed. In nearly all cases, they were not workless. This was also true for single-earner couples in most cases. For dual unemployed couples, the chances of being non-workless when next observed were 23 per cent. For a mix of unemployment and inactivity, the chances were lower still. Where both partners were inactive, the chances of being non-workless when next observed were negligible. Partners' transitions seem to be related - where one partner is further from the labour market, the other partner appears drawn in the same direction.

All couples were claiming benefits when first observed. After a year, sixteen per cent were no longer claiming any benefits. A quarter of men were claiming no benefit by the end of the year. This was due largely to a reduction in the proportion receiving JSA but also in those claiming IB. For women, there was no real change.

Overall, benefit claims were relatively stable for men: more than three-quarters of men were observed claiming the same benefits as in the period before. A fifth of those claiming JSA were claiming no benefits when next observed. For women, a similar picture of stability was seen. However, the proportion moving from JSA to no benefits was twice that for men.

Modelling transitions

The further a couple is from the labour market the more likely it is to remain workless. For couples where at least one partner was unemployed, by the end of the observation period 57 per cent remained workless. The corresponding proportions for other couples ranged from 87 per cent (both type 1 inactive) to 94 per cent (both type 2 inactive).

The longer the workless spell, the less likely the couple is to find work. This probability is also reduced where either partner has a long term health problem affecting work or the male partner is claiming either IS and IB or another combination of benefits. Having qualifications (especially NVQ4 equivalent or higher) is associated with increased probability of exit.

Over the one year period, more than half the unemployed men changed status, most finding work. For women, only about a quarter remained unemployed. Controlling for other characteristics, women are likely to exit unemployment more quickly than men but not necessarily by finding work.

For type 1 inactivity, most exits are to type 2 inactivity. For both men and women, exits are concentrated at the beginning of the inactivity spell. The majority of these exits are to type 2 inactivity. However, within a year and a half, about a fifth had left type 1 inactivity for unemployment or work.

There were relatively few exits, for either men or women, from type 2 inactivity. This indicates the rigidity of this type of worklessness. The vast majority of observed exits were to type 1 inactivity. There were few transitions into work or unemployment but women were more likely to move from type 2 inactivity straight into employment.

An inter-relationship between the partners' statuses was evident. For both men and women, their partner finding work is mostly associated with moving closer to the labour market, although not necessarily entering work.

Summary and conclusions

The tendency for exits from worklessness to be concentrated in the early stages of the spell suggests that it is in these early stages that policy might be most effective. While the task of helping inactive people find work is certainly difficult, the movement within types of inactivity provides some grounds for optimism. Simply helping people take the first step towards finding work may be a significant achievement with a possible longer-term payoff. However, it is bridging the gap between unemployment and type 1 inactivity that is likely to pose the greatest challenge. To be effective, measures should acknowledge how characteristics affect transitions. The qualitative difference between men and women in their employment transitions is very apparent.

1. Introduction

Unemployment is now at its lowest level for more than twenty years. This, combined with the fact that inflationary pressures remain weak, suggests that the UK labour market is currently in good shape. However, while these macroeconomic indicators are undoubtedly positive, there are microeconomic considerations that are a cause for concern. In particular, the aggregate unemployment rates mask important distributional changes in unemployment and employment. Perhaps the most significant change to the labour market over the last thirty years has been the growing polarisation of work. That is, there has been an increased tendency for households to be either 'work-rich' (all adults in work) or 'work-poor' (no adults in work) with the intermediate status of a mix between working and non-working adults becoming increasingly rare. As a dramatic illustration of this, Gregg et al. (1999) show that the proportion of households with nobody in work almost tripled from a level of 6.5 per cent in 1975 to 17.9 per cent in 1998. Going back further, the rates are even lower. Over the same period, the proportion of households where all adults are in work has risen from 56 per cent to 63 per cent. In 1996 the UK had the fourth highest rate of workless households out of all OECD countries. The level of polarisation was higher than in *any* other OECD country.

There are reasons why this is an important development. From the macroeconomic perspective, received wisdom suggests there is a relationship between the extent to which unemployment is concentrated among certain groups and the extent to which it is effective in reducing wage pressure (Layard et al, 1991). Hence, an even spread of unemployment maximises its inflation-quelling efficiency. There are also other concerns at the individual and household level. Since earnings are the main generator of wealth, households without work are more likely to be poor. To illustrate this, in 1996 some 70 per cent of workless households had less than half mean household income. The corresponding figure for workless households with children was 90 per cent (Dickens et al., 2000). In 1996, the UK had by far the highest proportion of children growing up in workless households of any OECD country.

As well as the poverty implications, there are also wider ramifications. Lack of employment can result in social exclusion as individuals and households become increasingly distanced from mainstream activities and unable to afford to participate in outside leisure activities. Being reliant on benefits can result in a culture of dependency for adults, and children in such households may grow up lacking an employed role model. Hence, there may be some concern that children growing up in workless families may themselves have labour market disadvantages by the time they reach working age. In support of this view, Johnson and Reed (1996) show that while one in ten men aged 33 had been unemployed for more than a year in the period 1981-91, this rose to 19 per cent when considering those men who, at age 16, had unemployed fathers. Using the same data, Machin (1998) finds that inter-generational mobility is also limited in

terms of earnings. Furthermore, unemployment can have scarring effects. Gregg (2001) shows that British men experiencing unemployment when young are likely to endure long-term labour market disadvantage as a result. Arulampalam (2001) and Gregory and Jukes (2001) show that this scarring effect is also evident when considering wages: unemployment imposes a penalty on future earnings.

An obvious question to ask is why this increase in worklessness arose. One possibility is that it simply reflects a demographic change. The increased prevalence of single adult households will, by definition, increase polarisation. However, this only accounts for a fraction of the trend that has been seen. Dickens et al. (2000) show that only a third of the observed polarisation can be explained by changing household composition. The bulk of observed polarisation is accounted for by different underlying factors. This is clear when considering a single type of household. For couples, 10.4 per cent of couples without children and 7.5 per cent of those with children were workless in 1996. This represents a huge rise on the corresponding proportions in 1968: 2.7 and 1.6 per cent respectively (Gregg et al., 1999).

Some further insight is possible. Two notable labour market trends over the past twenty or so years have been the increase in female participation and the increase in male inactivity. If these transitions do not take place in tandem within the household, increased polarisation must result. Further examination of the trends shows that, despite the overall rise in women's employment, there has been little change for those partnered with jobless men (Desai et al., 1999). Almost all the increase has been among those with working partners. The main increases in male inactivity, on the other hand, have been among those aged over 50. Taken together, these trends are unlikely to both be found within a single household. Consequently, polarisation has resulted.

An interesting point noted by Gregg et al. (1999) is that while the proportion of workless households rose rapidly in each of the last three recessions, these proportions did not revert to their earlier levels during the subsequent recoveries. In effect, the proportions were ratcheted up with each successive recession. This suggests that the recovery takes a longer time to permeate workless couples. There is evidence that this is finally happening. Cooper-Green (2001) shows that the rate of worklessness has fallen from 18.9 to 16.3 per cent over the five years to Spring 2001. While this is encouraging, these levels are still high in a historical context.

All these points suggest the urgency of addressing the problems of worklessness both from the viewpoint of alleviating existing poverty and preventing longer-term problems from arising. Furthermore, the importance of encouraging inactive workers to engage with the labour market is evident. Labour market policy in the UK is beginning to acknowledge this. A number of programmes are in place that aim to encourage individuals to move towards employment. Key examples

include the New Deal for Lone Parents, the New Deal for Disabled People and the New Deal for Partners. Furthermore, the New Deal 50 plus is aimed at older people, not necessarily in receipt of Jobseeker's Allowance. As another example, from 2004 work-focused interviews for partners will be available under Jobcentre Plus. Hitherto, these client groups have not been the focus of employment efforts. In contrast to the New Deal for Young People and the New Deal 25 plus which are focused on those in receipt of JSA, the inactivity-focused New Deals are voluntary.

There is a general acceptance that individuals who are inactive may face considerable obstacles to employment. First, they may have a specific characteristic that reduces their employment options (poor health or disability, for example) or may be trapped by circumstances (as a lone parent, perhaps). Second, inactivity tends to be long-term in nature. Consequently, those who have been workless for some time may have outdated skills and be unattractive to employers who interpret their long spell of inactivity as signalling a more fundamental problem. In 60 per cent of workless couples, no adult has been in work within the last three years (Dickens et al., 2000). Machin and Manning (1999) show that the extent to which the probability of exiting employment falls with the duration of worklessness is more severe in the UK than anywhere else in Europe. In view of this, programmes aimed at helping the inactive into work face the most exacting challenges of any labour market policies. Rather than measuring the success of such programmes in terms of the number of jobs secured for participants, it is acknowledged that simply helping individuals move towards finding a job constitutes a success, albeit qualified. The more tangible benefits of participation may not arise for some time after the programme itself. The immediate contributions are likely to be less concrete and include such things as increased employability, improved confidence and a more positive attitude towards work.

Clearly, if programmes are to be effective they must be based on a good understanding of the client group to which they relate. In this report, attention focuses on those couples eligible for the New Deal for Partners (NDP). NDP is a voluntary programme which aims to help partners enter or move closer to the labour market. Those couples who are in receipt of at least one qualifying benefit[1] are eligible to participate. The help on offer includes assistance with job search, information about in-work benefits and financial assistance towards childcare and travel costs for partners taking part in labour market programmes, training and education and access to the Adviser Discretionary Fund. In addition to understanding the characteristics of these couples, a key interest is in their transitions between employment states. Using a dataset of eligible couples drawn from the Labour Force Survey and interviewed five times over the period of a year, such transitions can be observed. As noted above, moves from inactivity to employment are rare in the short-term. Consequently, four

[1] These comprise Jobseeker's Allowance, Incapacity Benefit, Income Support, Severe Disablement Allowance, Disability Living Allowance and Invalid Care Allowance.

employment states are considered. These comprise employment, unemployment, inactivity but with a desired to work and inactivity with no desire to work. These four states can be viewed as discrete points on a continuum representing 'distance' from work.

The structure of the report is as follows. Chapter 2 summarises the main results and offers some conclusions. In Chapter 3, the data are described. While the Labour Force Survey is a widely used source of labour market information, the manipulations required for the purposes of carrying out the analysis in this report deserve some explanation in order to make subsequent results understandable. Next, the main results are presented. There are three stages to this. The first (Chapter 4) is an examination of the characteristics of NDP-eligible couples. In addition to basic demographics, this section has a particular focus on type of worklessness. There is also an examination of the extent to which the characteristics of partners are related. The second set of results (Chapter 5) is concerned with changes over time. This section exploits the longitudinal nature of the data. Chapter 6 presents the results of duration models used to analyse transitions between employment states.

2. Summary and conclusions

This report considers those workless couples eligible for NDP. Descriptive analysis summarises the individual characteristics of partners within a couple and shows the tendency for partners to share these characteristics. Making use of the longitudinal nature of the data, changes over time in employment status and in benefit receipt are also investigated. The changes in economic status are investigated more rigorously using econometric techniques. Through duration analysis, the extent to which these transitions away from worklessness are associated with particular characteristics is explored. A number of findings emerge. These mostly confirm the impressions created from the descriptive analysis but also provide a new interpretation of the results.

Many of the findings are similar to those of Dorsett (2001a, 2001b). In fact, the couples considered in this report have even less favourable labour market characteristics than workless couples as a whole (who provided the focus for these earlier analyses). The tendency for partners to share characteristics, including obstacles to employment, again suggests that policies that have been ineffective for one partner may be equally ineffective for the other. Hence, even within this marginalised sub-group of workless couples, it appears there may be a polarisation of disadvantage and consequently a core of couples who are very hard to reach. It is possible to interpret the observed tendency for movements towards the labour market to be concentrated within couples as being, to some extent, a manifestation of these shared characteristics.

Another finding shared with the earlier research is that exits from worklessness are concentrated in the early stages of the non-employment spell. This reinforces the suggestion that it becomes increasingly difficult to find work as the length of time without work increases. There are a number of possible reasons for this but the implication is that policy may be most effective if it tries to help people early in their worklessness spell.

An important innovation in this report is the concept of distance from the labour market. Four employment states are considered each one successively ‘further’ from the labour market: working; unemployed; economically inactive but with some desire to work (‘type 1 inactive’); and, economically inactive with no desire to work (‘type 2 inactive’). The results demonstrate the robustness of this characterisation of worklessness and its usefulness in interpreting transitions between economic states. This lends a greater subtlety to the results. The richness of the insight that this allows is evident when considering movement within inactivity. Taken as a whole, inactivity is a rigid employment status with few exits observed over the one year period for which data were collected. However, when one allows for the possibility that some types of inactivity are actually closer to the labour market than others, the impression of inactivity becomes less one of stagnation and more one of internal transition. This paints

a more optimistic picture since if policy can operate to influence some movement towards the labour market, in the long-run this may translate into actual job-entry.

As a general comment, large jumps either towards or away from the labour market are relatively rare. Moves in both directions tend to be more incremental in nature. This is particularly true for men for whom most unemployment exits are accounted for by job entry, and most exits from one type of inactivity are to the other type of inactivity. For women, the pattern is not so fixed. For example, a sizeable proportion of female unemployment exits are to type 1 inactivity. Furthermore, moves from type 2 inactivity to employment, while still rare, are noticeably more likely than for men. This is likely to be due, at least in part, to women returning to work after their children reach a particular age. It seems appropriate to echo the conclusion from the earlier report that policy must be sensitive to gender differences.

The principal difference between the couples considered in this analysis and those considered in the earlier research is that the sample in this study is defined on the basis of benefit receipt. Clearly, it is of policy interest to examine how labour market transitions vary by benefit type. JSA stands apart from other benefits as being predominant among those couples and individuals closest to the labour market. This is unsurprising since JSA is an unemployment rather than an inactivity benefit. The remaining benefits are largely concentrated among the inactive, especially type 2 inactivity for women. Consistent with this, those claiming JSA are most likely to move closer to the labour market and least likely to move away from it. Conversely, IB is the benefit least associated with a move towards the labour market.

Finally, the results make clear that a measure of churning is evident between employment and unemployment on the one hand and the two types of inactivity on the other. The implication of this is that there is a greater distance between unemployment and type 1 inactivity than there is between other neighbouring categories. Seen in this way, the immediate challenge to policy is not necessarily to seek to achieve a move from inactivity to employment. Rather, it is to bridge the gap between inactivity and unemployment. It is inactive rather than unemployed men and women who are most difficult to help into work. The role for policy in helping unemployed people is to help them overcome the hurdle of finding and securing employment. With economically inactive people, there is the additional hurdle of encouraging them to take an interest in the labour market in the first place – this is likely to be just as significant an obstacle. Consequently, when assessing the success of a policy intermediate achievements (increased motivation, for example) should be taken into account.

3. Defining the sample

All the analysis contained in this report is based on the Labour Force Survey (LFS). The LFS is a quarterly survey of 60,000 households in the UK with a focus on those characteristics related to the labour market. It is carried out as a rotating panel with one-fifth of the respondents being replaced each quarter. Hence, each (fully-participating) household is interviewed five times over a period spanning 12 months. All household members at a given address are sampled, although information on unavailable members of the household is collected by means of proxy interview. It is the address rather than the household that is the sampling unit. This means that households leaving or moving to a new address will not be observed for the full year.[2]

The longitudinal element of the LFS is important for this analysis and permits changes over time between economic states to be considered. To do this required linking records for partners within households, and records for individuals across the five quarters over which the LFS tracks each household. In order to maximise the number of observations on the populations of interest, a number of waves of LFS data were pooled. The resulting dataset spans the period from the Winter quarter of 1996 to the Winter quarter of 2000. This observation period pre-dates the introduction of NDP. It comprises those couples who were observed to be jointly workless when they were first observed as a couple. This could either be an existing couple being interviewed for the first time (wave one) or a partnership formed during the time a household was observed, thus a newly formed couple could be first observed at any wave of the survey. Since the focus was on working age couples, those couples where one or both partners were aged 60 years or over at any point were excluded from further consideration.

The selection of the data set differs slightly from that used in the earlier report on workless couples (Dorsett, 2001a, 2001b) in three key respects:

- Only couples receiving one or more of the following benefits are included: Job Seeker's Allowance (JSA), Income Support (IS), Incapacity Benefit (IB), Severe Disablement Allowance (SDA) or Invalid Care Allowance (ICA). These are the benefits that qualify couples for NDP.[3]
- The dataset starts with the Winter 1996 rather than Winter 1994 quarter. This later starting point was chosen because it is the first LFS wave which lies fully in the period after the introduction of JSA in October 1996.

[2] In contrast, the British Household Panel Survey (BHPS) tracks movers and those who leave the household. However, the sample size of the BHPS is too small for the purposes of this report.
[3] It has been shown (Jenkins and Laux, 1999) that in the LFS benefits are underreported by around 20 per cent. This is of course a disadvantage of the LFS as the data selection for this project is based on benefits. However, there is no other data source at hand which covers benefits and labour market transitions and has a sufficient sample size.

- Only couples who were workless when they were first observed were selected. In the earlier reports, couples were selected if they were observed workless at any point. This change in the selection criteria should help to get a more representative mix between the different forms of worklessness.[4]

In many cases, couples were observed fewer than five times in the final dataset. Such attrition of the sample may be for a variety of reasons, and the implications are considered more fully later in the report. However, in addition to the usual problem of attrition due to non-response to subsequent interviews, there are problems introduced by the complicated structure of the data. Specifically, couples only feature in the data while the partnership lasts. The third change in the sample selection process noted above means that a higher percentage of couples were observed for all five waves compared to the earlier report and therefore the attrition problem is less severe.

In Table 3.1 the structure of the sample in terms of response to the five waves is considered. For each cell, a cross indicates a response to a particular wave. The first column shows that (by construction) all couples responded at the time of first being observed. For most couples this time coincides with their first LFS interview. The exceptions are relationships formed during the time the household features in the LFS. Such couples can be observed for the first time at the second, third, fourth or fifth interview.

There were 5,600 couples in the dataset. Of these, over 40 per cent participated fully. These couples will be referred to as 'full participants' later in the text and the term 'balanced panel' will be used to refer to the dataset comprising only full participants.

Table 3.1: Structure of the sample

Months since first observed jointly non-employed:						
0	3	6	9	12	N	%
Whether responded in this wave:						
X					1195	21.3
X	X				811	14.5
X	X	X			633	11.3
X	X	X	X		601	10.7
X	X	X	X	X	2360	42.1
					5600	

In the remainder of this report, the results concerned with examining the characteristics of workless couples and changes over the period 1996-2000 are based on the full sample of 5,600 couples. The descriptive results that consider

[4] Unemployed couples might have been overrepresented in the previous report because there is more movement in and out of unemployment compared to inactivity.

changes over the observation year and transitions between economic states are based on the balanced panel, although there is some consideration given to the likely effects of excluding couples observed for fewer than five waves. The econometric analysis is based on the unbalanced panel.

4. Characteristics of couples on benefits

In this chapter, the characteristics of all workless couples claiming one of the qualifying benefits when first observed are reported. To start with, the concept of 'distance to the labour market' is introduced and the relationship between benefits claimed and different types of worklessness is considered. This is followed by an examination of unemployment and job search and then a more general consideration of basic individual and household characteristics. Also of interest is the extent to which partners in a couple tend to be similar. This is the focus of the last section in this chapter.

4.1 Worklessness and benefits

4.1.1 Type of worklessness

Table 4.1: Type of worklessness by gender

	Male	Female
ILO unemployed	35.1	10.1
Inactive – seeking, unavailable, student	0.1	0.0
Inactive – seeking, unavailable, looking after family, home	0.2	0.4
Inactive – seeking, unavailable, temporarily sick or injured	0.5	0.1
Inactive – seeking, unavailable, long-term sick or disabled	0.2	0.1
Inactive – seeking, unavailable, other reason	0.6	0.2
Inactive – seeking, unavailable, no reason given	0.1	0.0
Inactive – not seeking, would like work, waiting results of job application	0.1	0.1
Inactive – not seeking, would like work, student	0.2	0.2
Inactive - not seeking, would like work, looking after family, home	2.7	13.6
Inactive - not seeking, would like work, temporarily sick or injured	2.4	0.8
Inactive - not seeking, would like work, long term sick or disabled	17.8	6.7
Inactive - not seeking, would like work, believes no job available	0.6	0.5
Inactive - not seeking, would like work, not started looking	0.2	0.8
Inactive - not seeking, would like work, not looked	0.8	2.1
Inactive - not seeking, would like work, no reason	-	-
Inactive - not seeking, not like work, waiting results of job application	0.1	0.0
Inactive - not seeking, not like work, student	0.4	0.9
Inactive - not seeking, not like work, looking after family, home	4.8	38.8
Inactive - not seeking, not like work, temporarily sick or injured	1.5	1.1
Inactive - not seeking, not like work, long term sick or disabled	29.4	19.3
Inactive - not seeking, not like work, not need or want job	0.2	0.6
Inactive - not seeking, not like work, retired	0.9	1.0
Inactive - not seeking, not like work, other reason	0.8	2.3
Inactive - not seeking, not like work, no reason given	0.5	0.3
Total	5600	5600

Table 4.1 shows the profile of non-employment for men and women.[5] There are clear differences. For men, 35 per cent of non-employment was explained by unemployment. Nearly half was accounted for by long-term sickness or disability. For women, both unemployment and inactivity due to long-term sickness or disability were less important, they accounted for ten and 26 per cent respectively. More important were domestic responsibilities with over half of workless women inactive due to looking after the family or home.

One possible explanation for the higher number of men than women that were inactive due to sickness or disability may be the persistence of traditional gender roles whereby the man's role is that of breadwinner while the woman's role is that of homemaker. If partners of sick or disabled men are looking after the family or home and partners of sick or disabled women are working then one would expect a higher percentage of sick or disabled men among workless couples.

Table 4.2: Aggregated type of worklessness – Distance to the labour market

(column percentages)

Aggregate type of worklessness	Male	Female	
Unemployed	35.1	10.1	
Inactive, type 1	26.4	25.7	
family reasons			*13.6*
other reasons			*12.1*
Inactive, type 2	38.5	61.2	
family reasons			*38.8*
other reasons			*25.4*
Total	5600	5600	

Table 4.2 aggregates the information in Table 4.1 to derive a measure of distance from the labour market. Three categories are considered: unemployment and two types of inactivity which, for convenience, will be labelled type 1 inactivity and type 2 inactivity in the remainder of this report. Type 1 inactivity comprises people who are inactive and who are either seeking work or, if not seeking, would like work. Type 2 inactivity includes those who are inactive and who are not seeking and do not want work. It seems justifiable to view these categories as indications of distance from the labour market. Unemployed people are trying to find work and are therefore closer to the labour market than type 1 inactive people who show signs of being interested in working. In turn, type 1 inactivity can be seen as being closer to the labour market than type 2 inactivity since, in the latter case, there is no interest in working.

There are differences between men and women in how they are distributed across these categories. A quarter of the men in workless couples were type 1 inactive and two-thirds of these were suffering from long-term sickness or disability. Two-fifths of the

[5] These categories are based on the International Labour Organisation (ILO) definitions.

men were type 2 inactive and this was due to being long-term sick or disabled in three-quarters of cases. Inactivity was more pronounced for women and less dominated by health considerations. In view of this, Table 4.2 draws a distinction between being inactive for family reasons and being inactive for other reasons. As with men, about a quarter were type 1 inactive. Slightly more than half of this type of inactivity was due to family responsibilities. Type 2 inactivity was much higher than for men and within this category, family responsibilities were considerably more important than other reasons. It should be noted that long-term sickness or disability accounted for the majority of other reasons for both type1 and type 2 inactivity and consequently, these other reasons are comparable to the reasons cited by men for their inactivity.

Introducing these additional sub-divisions for women is not intended to achieve a finer gradation of the concept of distance from the labour market. For example, it is unclear whether type 1 inactivity for family reasons or type 1 inactivity for other reasons is closer to the labour market. The purpose of retaining the distinction is that it is useful in interpreting some of the findings that follow.

4.1.2 Worklessness and benefits

The remainder of this section considers the extent to which particular benefits characterise types of worklessness. Further consideration is given to benefits in chapters 5 and 6.

The sample consists of couples who were claiming one of the following benefits: JSA, IS, IB, SDA or ICA. In the next three tables, more details about the types of benefits claimed, the correspondence between partners' claims, and between claims and type of worklessness are presented. Throughout this section it is helpful to keep in mind that some of the benefits are paid out to one person for the couple (JSA, IS) while others are designed as individual benefits (IB, SDA, ICA).

It is also important to note that benefits in the LFS are self-reported. Jenkins and Laux (1999) show that this under-counts true numbers of benefit claimants by around 20 per cent. There are differences in this under-reporting by benefit type. Among the NDP benefits there was least under-reporting of IB (3 per cent). For the other benefits, roughly similar levels of under-reporting were observed: JSA - 23 per cent; IS - 27 per cent; SDA - 26 per cent; and, ICA - 26 per cent (all numbers taken from Jenkins and Laux, Table 2). Non-reporting may sometimes validly occur among individuals within couples when, for example, one partner is claiming JSA at the higher rate for a dependent partner and the other partner reports not receiving JSA. However, in this scenario, the couple will still be identified as eligible for NDP by virtue of the partner who does report a claim.

Table 4.3: Types of Benefits claimed

(column percentages)

Type and combination of benefits claimed	Male	Female
No benefit	9.9	70.1
JSA only	33.7	4.2
IS only	11.8	6.1
IB only	25.3	10.1
SDA only	1.0	2.7
ICA only	1.0	2.3
JSA and IS	0.7	0.0
JSA and IB	0.1	0.0
JSA and ICA	0.1	-
IS and IB	12.9	2.2
IS and SDA	0.9	1.0
IS and ICA	1.4	0.5
IB and SDA	0.5	0.3
IB and ICA	0.2	0.1
SDA and ICA	0.1	0.1
JSA, IS and IB	0.1	-
IS, IB and SDA	0.4	0.2
IS, IB and SDA	0.1	0.0
IB, SDA and ICA	0.1	0.0
IS, IB, SDA and ICA	0.1	-
Both partners claiming benefits	20.1	
Total	5600	5600
Number of different benefits claimed		
One benefit	80.6	84.8
Two or more benefits	19.4	15.2
Total	5047	1676

Notes: Combinations not listed are not observed in the data set. Based on self-reported benefits, thus contains theoretically impossible benefit combinations.

Table 4.3 contains information about the types and combinations of benefits claimed, whether both partners claim and the number of different benefits claimed. In 70 per cent of the couples only the male partner was claiming benefits, in 10 per cent the female partner was the sole claimant and in the remaining 20 per cent both partners were claiming benefits. For male claimants, the most popular benefit was JSA, followed by IB, the combination of IS and IB, and IS. For female claimants the most popular benefit was IB and a higher proportion of females compared to males were claiming SDA and ICA only. These gender differences can be explained by the fact the some of the benefits are designed for couples while others are individual-based. Where benefits are for a couple they seem to be claimed for by the male partner in the majority of

cases. Among those claiming benefits, over 80 per cent claimed only a single type of benefit.

Table 4.4: Combination of benefits claimed by couples

(row percentages)

	JSA only	IS only	IB only	IS & IB	Other	Total
Only one is claiming:						
Only male partner claiming	40.8	12.3	25.3	16.2	5.5	3924
Only female is claiming	17.4	23.0	27.5	13.7	18.4	553
Both are claiming:						
			Female claiming:			
Male claiming:	JSA only	IS only	IB only	IS & IB	Other	Total
JSA only	39.1	25.4	21.5	2.5	11.6	284
IS only	3.9	30.3	22.5	7.9	35.4	178
IB only	3.8	9.9	57.7	2.4	26.2	423
IS & IB	3.5	20.7	26.4	5.8	43.7	87
Other combination	0.7	18.5	31.1	8.6	41.1	151

Table 4.4 contains information on benefits claimed by couples. The first two rows show the benefits claimed when only one in the couple was claiming. The emerging picture is similar to the overall distribution of benefits. The lower part of the table contains the combination of benefits claimed by couples where both partners were claiming benefits. The claims of the two partners were clearly related and there is some indication that couples were claiming similar benefits. It should be kept in mind that all the information on benefits in the LFS is based on self-reporting.

Tables 4.5a and 4.5b focus on the dependence between benefits claimed and distance to the labour market of the claimant and his/her partner. Table 4.5a looks at the distance to the labour market by the type of benefits the male partner is claiming and Table 4.5b is the equivalent for couples where the female partner is claiming benefits. To reduce the size of the tables and increase their readability, information on couples where both partners are claiming is ignored.

Table 4.5a: Male benefits and distance to labour market *)

(row percentages)

Men's (own) distance:	Unemp	Inactive type 1	inactive type 2	Total
JSA only	90.3	6.8	3.0	1601
IS only	1.9	41.2	57.0	481
IB only	2.4	32.9	64.7	994
IS and IB	2.8	47.2	50.0	634
Other combinations	17.8	24.8	57.5	214
Total	39.1	25.1	35.8	3924

		Inactive type 1			inactive type 2			
Women's (partner) distance:	Unemp	All	*family*	*other*	All	*family*	*other*	Total
JSA only	16.4	28.7	*19.8*	*8.9*	55.0	*44.9*	*10.1*	1601
IS only	4.8	22.7	*16.0*	*6.7*	72.6	*55.3*	*17.3*	481
IB only	4.8	20.6	*12.0*	*8.6*	74.6	*52.0*	*22.6*	994
IS and IB	4.3	28.7	*18.8*	*9.9*	67.1	*51.0*	*16.1*	634
Other combinations	5.1	20.6	*11.2*	*9.4*	74.3	*51.9*	*22.4*	214
Total	9.5	25.4	*16.7*	*8.7*	65.1	*49.3*	*15.8*	3924

*) Couples where only male partner is claiming benefits

As would be expected, there is a high association between the type of benefit claimed and labour market status. Ninety per cent of males who claimed JSA only were unemployed. Men claiming IB were more likely to be type 2 inactive compared to men claiming IS or IS and IB. The female partner's labour market status was less dependent on the type of benefit her partner was claiming. The most notable association was that women were much more likely to be unemployed if their partner was claiming JSA. With regard to inactivity, women were more likely to be type 2 inactive for other than family reasons if their partner was claiming IB. They were least likely to be type 2 inactive if their partner was claiming JSA.

For couples where the female partner was the only claimant, JSA was once again associated with being closer to the labour market than were other benefits. This was true for both partners. With regards to other benefits, there did not appear to be much difference in how they correlated with female distance.

Table 4.5b: Female benefits and distance to labour market *)

(row percentages)

Men's (partner) distance:	unemp	Inactive type 1			inactive type 2			Total
JSA only	57.3	14.6			28.1			96
IS only	16.5	29.9			53.5			127
IB only	23.7	21.7			54.6			152
IS and IB	23.7	42.1			34.2			76
Other combinations	15.7	36.3			48.0			102
Total	26.4	27.9			45.8			553
		Inactive type 1			inactive type 2			
Women's (own) distance:	Unemp	All	*family*	*other*	All	*family*	*other*	Total
JSA only	72.9	16.7	5.2	11.5	10.4	5.2	5.2	96
IS only	0.8	24.4		24.4	74.8	11.8	63	127
IB only		26.3	1.3	25	75.5	6.4	69.1	152
IS and IB	1.3	27.6	2.6	25	71	10.5	60.5	76
Other combinations	2.0	25.5	4.9	20.6	72.5	8.8	63.7	102
Total	13.4	24.2	2.5	21.7	62.4	8	54.4	553

*) Couples where only female partner is claiming benefits.

4.2 Unemployment and job search

4.2.1 Looking for work

Among those looking for work there were gender differences with respect to the type of work sought and the length of time individuals had been looking for work. Table 4.6 shows that men were nearly three times as likely as women to consider either employment or self-employment. Women were more likely to be seeking work as an employee and less likely to consider self-employment. With regard to hours worked, men were twice as likely to be seeking full-time rather than part-time work. Hardly any men were seeking part-time work, compared to a third of women.

Table 4.6: The type of work sought

(column percentages)

The type of work sought	Male	Female
Employee	79.3	92.2
Self-employed	3.7	1.7
No preference	17.0	6.1
Total	2045	605
Full-time	84.5	43.0
Part-time	3.2	34.1
No preference	12.4	22.9
Total	1968	595

Table 4.7: How long been looking for work

(column percentages)

How long been looking for work	Male	Female
Not yet started	0.4	0.3
Less than 1 month	6.1	13.7
1 month but less than 3 months	15.1	22.1
3 months but less than 6 months	12.7	14.6
6 months but less than 12 months	16.2	17.6
12 months but less than 18 months	9.2	9.4
18 months but less than 2 years	5.2	3.6
2 years but less than 3 years	7.2	6.5
3 years but less than 4 years	5.0	4.2
4 years but less than 5 years	3.4	0.8
5 years or more	19.5	7.2
Total	2062	615

Table 4.7 shows that the main differences between men and women in how long they had been looking for work were at the extremes; 36 per cent of women had been looking for less than 3 months compared to 22 per cent of men, while 20 per cent of men had been looking for more than 5 years compared to 7 per cent of women.

4.2.2 Work experience

Another interesting point to investigate is the past work experience of couples. Table 4.8 gives details of whether they had ever worked and how long ago.

Table 4.8: Whether ever worked

(column percentages)

	Male	Female
Whether ever worked:		
Yes	96.1	84.1
No	4.0	15.9
Total	5594	5595
How long since last worked:		
Less than a year	18.1	9.8
1 to 2 years	21.6	14.4
3 to 5 years	20.4	18.4
6 to 10 years	23.8	21.9
More than 10 years	16.2	35.5
Total	5389	4775

Very few had no experience of employment. Table 4.8 shows that only four per cent of men and 16 per cent of women had never worked. There was a difference between the sexes in how recent this experience was. For men, 40 per cent had worked within the last two years. For women, the corresponding proportion was 24 per cent. At the other extreme, the proportion of women without work for more than 10 years (at 36 per cent) was more than twice that for men. This might be a reflection of the fact that men were on average closer to the labour market; they were more likely to be unemployed and less likely to be type 2 inactive than females.

4.2.3 Characteristics of last job

Tables 4.9 to 4.11 consider some of the characteristics of the most recent job. The largest categories for men in Table 4.9 relate to skilled manual and partly skilled occupations. Women were most likely to be in the partly skilled and skilled non-manual categories. Over 60 per cent of men and women were concentrated in one of the top two categories of their respective gender.

Table 4.9: Socio-economic class in last job

(column percentages)

Socio-economic group in last job	Male	Female
Professional occupations	1.6	0.3
Intermediate occupations	11.9	13.2
Skilled non-manual occupations	7.6	26.5
Skilled manual occupations	39.8	11.4
Partly skilled occupations	27.0	35.0
Unskilled occupations	11.4	13.6
Members of armed forces	0.6	-
Total	4003	2632

Table 4.10: Industry of last job

(column percentages)

Industry	Male	Female
Agriculture and fishing	2.1	0.9
Energy and water	2.4	0.3
Manufacturing	27.5	19.8
Construction	18.4	0.9
Distribution, hotels and restaurants	18.6	31.5
Transport and communication	10.0	2.6
Banking, financial and insurance	8.3	9.2
Public administrations, education and health	7.6	27.0
Other services	4.3	7.6
Workplace outside UK	0.8	0.5
Total	3989	2632

Table 4.10 considers the industry of the last job. The three most popular industries for men were manufacturing, construction and distribution, hotels and restaurants. In total, 65 per cent of men worked in one of these three industries. Women were even more concentrated with 78 per cent in the three most popular industries. Two of these – manufacturing and distribution, hotels and restaurants – were also among the top three for men. The third main industry for women was public administration, education and health.

Table 4.11: Occupation in last job

(column percentages)

	Male	Female
Managers and administrators	.5	6.0
Professional occupations	2.5	1.8
Associate professional and technical occupations	2.7	4.1
Clerical, secretarial occupations	5.6	12.6
Craft and related occupations	25.2	6.5
Personal, protective occupations	9.7	23.6
Sales occupations	3.8	14.3
Plant and machine operatives	26.1	12.3
Other occupations	16.1	18.7
Manual occupation	78.7	59.3
Non-manual occupation	20.7	40.7
Armed forces	0.6	-
Total	4003	2632

Table 4.11 presents information on the occupation of the last job. Men had worked mainly as plant and machine operatives and in craft and related occupations. Women, on the other hand, had worked mainly in personal and protective and sales occupations. For both sexes, 'other occupations' scored quite highly. A much higher percentage of men (79 per cent) compared to women (59 per cent) worked in manual occupations.

4.3 Personal and household characteristics

4.3.1 Basic demographics

As shown in Table 4.12, the distribution of ages was quite similar for both partners in the middle of the age distribution (from age 31 to age 50). Men were relatively concentrated in the highest age group and women in the three youngest groups (from age 16 to age 30). This difference is also reflected in the average age which was 42.1 years for men and 39.1 years for women.

Table 4.12: Household demographics

(column percentages)

	Male	Female
Age range:		
16-17	0.1	1.3
18-24	7.1	11.5
25-30	11.9	14.5
31-40	22.3	23.4
41-50	28.6	27.6
51-60	30.1	21.8
Total	5600	5600
Marital status:		
Never married	16.8	17.2
Married, living with husband/wife	76.2	76.2
Married, separated from husband/wife	1.0	0.9
Divorced	5.9	5.4
Widowed	0.1	0.3
Total	5600	5600
Dependent children:		
No	40.9	
Yes	59.1	
Total	5600	
Housing tenure type:		
Owned outright	10.6	
Being bought with mortgage or loan	19.2	
Part rent, part mortgage	0.6	
Rented	69.3	
Rent free / squatting	0.7	
Total	5599	

The marital statuses of men and women were very similar. By definition, the same number of men and women were married and living together. This category comprised three-quarters of the sample, the remainder being cohabitees. Dependent children were present in three-fifths of all households. Most couples were living in rented accommodation but about a third owned their property or were buying it on a mortgage.

4.3.2 Region

The regional breakdown of the sample is represented in Table 4.13. 18 per cent of the couples in the sample were living in London and the South East.[6]

Table 4.13: Region

(column percentages)

Region	
Tyne and Wear	3.4
Rest of northern region	6.0
South Yorkshire	3.9
West Yorkshire	3.7
Rest of Yorkshire & Humberside	3.0
East Midlands	6.9
East Anglia	2.7
Inner London	4.2
Outer London	4.6
Rest of South East	9.1
South West	4.7
West Midlands (Met County)	5.8
Rest of West Midlands	3.9
Greater Manchester	5.6
Merseyside	3.8
Rest of North West	4.5
Wales	8.0
Strathclyde	5.7
Rest of Scotland	4.4
Northern Ireland	6.5
Total	5600

4.3.3 Ethnicity and country of origin

Just over 90 per cent of the sample was white. This was true for both men and women. Most were also originally from the UK. Of those with a different country of origin, many had been in the UK for a long time; 74 per cent of men and 64 per cent of women had been here for more than 10 years. Considerably fewer men and women arrived in the UK less than a year ago than was true for workless couples as a whole (Dorsett, 2001a). This may reflect differences in the sample selection process. Here, only couples on specific benefits were considered. As it takes time to get to know the benefit system, to submit a benefit claim and to wait for the outcome it is not unexpected that this sample contains fewer new arrivals to the UK.

[6] Note that it is not straightforward to draw a comparison with the proportion of the population living in London and the South East since the data used in this report have not been weighted to account for the higher levels of survey non-response typically observed in London and the South East.

Table 4.14: Ethnicity and country of origin

(column percentages)

	Male	Female
Ethnic group:		
White	90.0	90.2
Black – Caribbean	0.3	0.3
Black – African	0.5	0.4
Black – other	0.1	0.1
Indian	2.3	2.4
Pakistani	3.4	3.5
Bangladeshi	1.5	1.4
Chinese	0.2	0.1
Other	1.8	1.6
Total	5596	5597
Country of origin:		
UK, British	87.3	87.5
Irish Republic	1.1	1.0
Other	11.6	11.4
Total	5599	5599
How long resident in UK:		
Less than a year	1.8	3.3
1 to 2 years	4.2	5.9
3 to 5 years	9.1	10.0
6 to 10 years	11.3	16.9
11 to 20 years	15.6	24.1
21 to 30 years	24.0	24.1
More than 30 year	34.1	15.8
Total	684	673

4.3.4 Qualifications and education

Table 4.15 shows that men were better qualified than women despite leaving full-time education at a younger age. More than half the women had no qualifications compared to 43 per cent for men. The difference in qualifications is particularly notable at the NVQ 3 level where men were more than three times as represented as women. Slightly more men (87 per cent) than women (85 per cent) left education at the age of 16 or under. The apparent contradiction of men leaving education at a younger age yet appearing more qualified is explained by the fact that the qualifications are given in terms of their NVQ equivalents. It is likely that vocational qualifications contributed to the apparent better performance of the men. This is further evidenced by the much higher percentage of men who had completed an apprenticeship, 19 per cent compared to only three per cent of women.

Table 4.15: Qualifications and education

(column percentages)

	Male	Female
Highest qualification:		
NVQ 4 or higher	4.8	4.4
NVQ 3	22.2	6.9
NVQ 2	10.3	16.9
NVQ 1	6.2	8.6
Other	13.5	7.1
None	43.1	56.1
Total	5458	5492
Age completed full-time education:		
Under 16	47.7	42.3
16	39.6	42.7
17-18	7.2	10.2
Over 18	5.5	4.9
Total	5533	5465
Whether doing/done apprenticeship:		
yes (completed or still doing)	19.4	3.4
no (including begun but discontinued)	80.6	96.6
Total	5567	5581

4.3.5 Disability and health

Table 4.16 shows that there was a high level of disability and ill-health reported among the sample. This is unsurprising given that eligibility for NDP relies on receipt of either JSA or another, often health-related benefit. About two-thirds of the men and half the women reported a disability of some form. Similar proportions reported a long-term health problem. In the majority of cases, the disability was work-limiting.

Table 4.16: Disability

(column percentages)

	Male	Female
Whether has a disability:		
DDA disabled and work-limiting disabled	56.9	39.2
DDA disabled only	1.4	1.8
Work-limiting disabled only	7.6	6.1
Not disabled	34.1	53.0
Total	4670	4673

Note: DDA disabled relates to individuals who have a long-term disability that substantially limits their day-to-day activities. Work-limiting disabled relates to individuals who have a long-term disability which affects the kind or amount of work they can do.

Table 4.17 presents more detailed results for the health status of the sample. The vast majority of reported long-term health problems affected the kind and the amount of work that respondents could undertake.

Table 4.17: Health

(column percentages)

	Male	Female
Health problem lasting more than a year:	67.3	49.8
If yes:		
- Health problem affects kind of work possible:	92.5	86.6
- Health problem affects amount of work possible:	85.4	80.4
Total	5174	5170

Note: Only data from Spring 97 onwards was used in this table as the structure of health questions changed. As a consequence 419 couples are excluded.

4.4 Similarities within couples

In this section, the extent of the similarity between partners in a couple with respect to various characteristics is considered. For some of these characteristics (age, for example) there is no possible causal relationship. That is to say, forming a couple will not affect the age of either partner. For other characteristics it is plausible that a causal relationship exists. In other words, the characteristic of one partner may affect the corresponding characteristic of the other. This section begins by first considering those individual characteristics which can be regarded as unaffected by the other partner[7] before moving on to a consideration of employment-related characteristics, for which this assumption is invalid. However, in all cases it is important to bear in mind that there is no attempt to explain any similarities found, merely to report them.

All of the tables in this section follow the same format and tabulate the male characteristic in question against the corresponding female characteristic. The percentages in each cell are row percentages and show the proportion of the men with a given characteristic who are partnered with women with that or other characteristics. It is possible to compare the observed tabulation with that which would be expected were the characteristics of the partners independent of each other. This null hypothesis of independence can then be tested statistically. For completeness, the chi-squared statistic is presented in each table. However, it would suffice to say that, in all cases, the null hypothesis of independence is rejected beyond any reasonable doubt.

4.4.1 Age

Table 4.18 shows that there is a clear tendency to partner somebody of a similar age. In all age categories but one, the entries on the leading diagonal (shown in bold) exceed

[7] Although in some cases this assertion may be debatable.

those elsewhere in the row. The exception to this rule are the seven men aged 16 or 17 who are partnered with older females. Comparing these entries with those in the final row also shows women to be disproportionately partnered with someone of a similar age. In most cases the second largest entry in a row is to the left of the leading diagonal indicating that men were more likely to partner younger than older women.

Table 4.18: Dependence between age of partners

(row percentages)

	Female:						
Male:	16-17	18-24	25-30	31-40	41-50	51-60	Total
16-17	**28.6**	71.4					7
18-24	12.2	**69.9**	13.9	3.5	0.5		395
25-30	2.4	34.9	**46.6**	14.1	2.0		665
31-40	0.5	9.0	28.9	**51.5**	9.7	0.4	1251
41-50	0.0	0.9	4.4	29.7	**56.5**	8.5	1559
51-60		0.1	0.9	4.9	30.1	**64.0**	1683
Total	1.3	11.5	14.5	23.4	27.6	21.8	5600
Chi-squared (25) = 6990							

4.4.2 Ethnicity and country of origin

There were also strong correlations between partners with respect to ethnic group and country of origin. Whereas nine per cent of non-white men were partnered with white women, less than one per cent of white men were partnered with non-white women. The figures for country of origin are slightly less dramatic but are still marked. One quarter of men originating from outside the UK had partners from the UK, while the corresponding figure for men from the UK was 97 per cent.

Table 4.19: Dependence between ethnic group and country of origin

(row percentages)

Ethnic group:			
	Female:		
Male:	Non-white	White	Total
Non-white	**91.4**	8.6	559
White	0.7	**99.3**	5037
Total	9.8	90.2	5596
Chi-squared(1) = 4693			
Country of origin:			
	Female:		
Male:	From outside UK	From UK	Total
From outside UK	**75.0**	25.0	713
From UK	3.3	**96.7**	4886
Total	12.5	87.5	5599
Chi-squared(1) = 2931			

4.4.3 Qualifications and education

Table 4.20 displays a clear tendency for partners to have similar levels of highest qualification. For example, while only 5 per cent of women had a qualification at NVQ 4 level or higher, this rose to 26 per cent among those whose partner had this level of qualification. At the other end of the scale, 56 per cent of all women had no qualifications but, among those whose partners had no qualifications, the level was 70 per cent.

Table 4.20: Dependence between qualifications of partners

(row percentages)

	Female:						
Male:	NVQ4	NVQ3	NVQ2	NVQ1	Other	None	Total
NVQ 4 or higher	**26.1**	12.5	19.8	8.2	8.6	24.9	257
NVQ 3	6.1	**9.8**	19.2	8.4	7.3	49.2	1190
NVQ 2	6.2	10.1	**30.0**	10.8	5.7	37.3	547
NVQ 1	1.2	7.3	27.1	**15.6**	4.9	43.9	328
Other	3.5	6.9	12.2	7.8	**17.8**	51.9	721
None	1.6	4.1	12.0	7.1	4.3	**70.9**	2314
Total	4.5	7.0	16.7	8.4	7.2	56.2	5357
Chi-squared(25) = 875							

Unsurprisingly, a corresponding pattern is found when considering the age at which full-time education was completed. While only 5 per cent of women stayed in education

beyond the age of 18, for those with partners educated beyond this point the proportion was 37 per cent. At the other extreme, 63 per cent of women partnered with men who left school before the age of 16 did likewise. The figure for women in the whole sample was 42 per cent.

Table 4.21: Dependence between age completed full-time education

(row percentages)

	Female:				
Male:	Under 16	16	17-18	Over 18	Total
Under 16	**63.0**	28.3	7.0	1.7	2604
16	23.4	**63.0**	10.8	2.8	2155
17-18	24.9	40.5	**22.3**	12.3	390
Over 18	18.7	25.4	18.7	**37.3**	284
Total	42.2	42.8	10.2	4.7	5433
Chi-squared(9) = 1722					

4.4.4 Disability and health

Dependence between the statuses of partners was also evident when considering disability and health. Table 4.22 shows that all levels of disability were more highly represented among women partnered to men with a similar level of disability than they were in the sample of women as a whole.

Table 4.22: Dependence between disability of partners

(row percentages)

	Female:				
Male:	Disabled and working	Disabled not working	Work-limiting disability	Not disabled	Total
Disabled and working	**44.3**	2.3	5.7	47.7	2655
Disabled, not working	45.5	**4.6**	1.5	48.5	66
Work-limiting disability	33.3	2.0	**13.5**	51.3	357
Not disabled	31.7	0.8	5.2	**62.3**	1590
Total	39.2	1.8	6.1	53.0	4668
Chi-squared(9) = 138					

Also self-reported long-term health problems were concentrated within couples albeit the correlation was somewhat weaker.

Table 4.23: Dependence between health problems (lasting more than a year) of partners

(row percentages)

	Female:		
Male:	Problem	No problem	Total
Long-term health problem	**54.7**	45.3	3737
No long-term health problem	39.7	**60.3**	1796
Total	49.9	50.2	5533
Chi-squared(1) = 110			

4.4.5 Type of worklessness

Table 4.24 considers the distance to the labour market in order to examine the extent to which individuals tended to be partnered with those of a similar employment status. There was clearly a tendency to be partnered with somebody of a similar status. Whereas ten per cent of women in workless households were unemployed, the corresponding proportion for those partnered with unemployed men was 20 per cent. Type 1 inactive women were more likely to be with men with the same type of inactivity and similarly, type 2 inactive women were more likely to be partnered with type 2 inactive men. For both types of inactivity, women inactive for family reasons were more likely to be partnered with unemployed men than were women inactive for other reasons, possibly suggesting that female inactivity due to family reasons is less permanent and closer to the labour market than inactivity due to other reasons. This hypothesis will be investigated further when transitions between types of worklessness are analysed.

Table 4.24: Dependence between economic status of partners

(row percentages)

	Female:					
Male:		Inactive type 1		Inactive type 2		
	Unemp.	family	others	family	others	Total
Unemployed	**20.1**	17.9	10.2	38.7	13.2	1966
Inactive type 1	5.6	**20.2**	**22.2**	31.1	20.8	1477
Inactive type 2	4.1	5.2	7.0	**44.1**	**39.7**	2157
Total	10.1	13.6	12.1	38.8	25.4	5600
Chi-squared(8) = 1006						

4.4.6 Duration of unemployment

There was a strong association of partners' unemployment duration among workless couples. More details are revealed in Table 4.25. In jointly unemployed couples, men were likely to have had longer unemployment spells than their partners. Furthermore, there is a clear correlation between durations. Comparing the leading diagonal with the

final row shows that, for all categories of duration, the proportion is higher for those women partnered with a man in a similar category than among women as a whole. For example, whereas only 33 per cent of women in jointly unemployed couples had an unemployment duration of less than three months, for those with partners of the same duration the proportion rose to 67 per cent.

Table 4.25: Dependence between duration of unemployment of partners

(row percentages)

	Female:						
Male:	<3 m	3-6	6-12	1-2 y	2-5 y	>5 y	Total
Less than 3 months	**67.3**	16.4	7.7	4.8	2.9	1.0	104
3 months but less than 6	36.9	**29.2**	9.2	15.4	6.2	3.1	65
6 months but less than 12	23.7	17.2	**43.0**	7.5	8.6	0.0	93
1 year but less than 2	17.7	7.8	29.4	**31.4**	11.8	2.0	51
2 years but less than 5	19.1	6.4	19.1	12.7	**31.8**	11.1	63
5 years or more	14.1	4.7	15.6	15.6	20.3	**29.7**	64
Total	33.2	14.3	20.7	12.7	12.3	6.8	440
Chi-squared(25) = 232							

4.4.7 Work experience

Table 4.26 shows the dramatic extent to which women without any employment experience were concentrated among those whose partners had no such experience. While only 16 per cent of women in workless households had no experience of employment, the level was 58 per cent among those partnered with men who had never worked.

Table 4.26: Dependence between work experience of partners

(row percentages)

	Female:		
Male:	Ever worked	Never worked	Total
Ever worked	**85.9**	14.1	5369
Never worked	41.8	**58.2**	220
Total	84.2	15.8	5589
Chi-squared(1) = 308			

4.4.8 Length of time since last job

When considering the length of time since last employed, there is once again evidence of dependence between the partners. However, in this case, there appears to be a tendency for men's employment to be a more recent experience than that of their partners. All the entries to the left of the leading diagonal are smaller than the

corresponding entries in the final row of the table indicating that women with a spell since their last period of employment shorter than that of their partner were disproportionately absent.

Table 4.27: Dependence between how long since last worked

(row percentages)

	Female:					
Male:	<1 year	1-2 yr	3-5 yr	6-10 yr	10+ yr	Total
Less than a year	**31.0**	20.7	15.7	16.0	16.6	830
1 to 2 years	8.2	**24.7**	22.3	20.0	24.8	998
3 to 5 years	6.1	10.6	**27.7**	23.5	32.1	956
6 to 10 years	3.2	7.5	16.3	**32.2**	40.8	1122
More than 10 years	3.0	7.1	8.4	14.3	**67.3**	765
Total	9.8	14.1	18.5	22.0	35.7	4671
Chi-squared(16) = 1194						

4.4.9 Manual vs. non-manual employment

Table 4.28 considers the tendency for manual workers (as were) to be partnered with other manual workers. Again, there is strong evidence of dependence with partners in a couple likely to have been either both manual or both non-manual.

Table 4.28: Dependence between whether last job was manual

(row percentages)

	Female:			
Male:	Manual	Non-manual	Forces	Total
Manual	**65.2**	34.8	-	1691
Non-manual	33.7	**66.3**	-	517
Armed forces	87.5	12.5	**-**	16
Total	58.1	42.0	-	2224
Chi-squared(4) = 168				

5. Changes over time

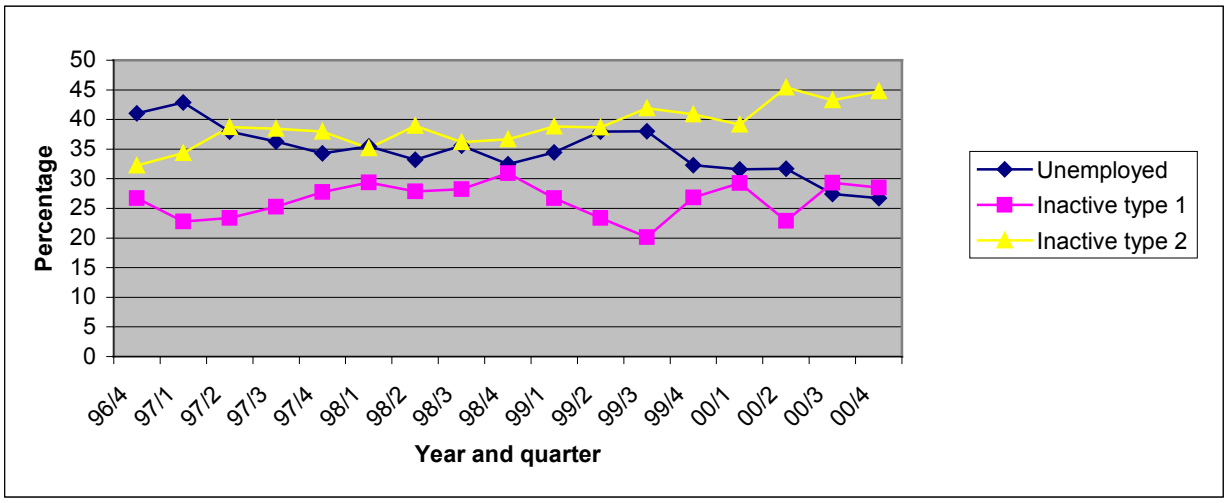
In this chapter, attention turns to changes in worklessness over time. The principal focus is on changes over the period for which each household is observed in the data (a maximum of one year). This is done to assess both the changing profile of the sample over the year and to focus more closely on individual transitions between economic states. However, before this is done, changes over calendar time are considered. The chapter ends with an analysis of changes in benefit claiming.

5.1 Changes in the unemployment/inactivity mix, 1996-2000

In this section, the focus is on the change over time in the proportion of worklessness accounted for by unemployment and inactivity. As in previous chapters, inactivity is further divided into type 1 and 2 inactivity for men and women and for women the additional dimension of the reason for inactivity is included. This analysis is based on the full sample and considers only the quarter at which the workless couple was first observed.

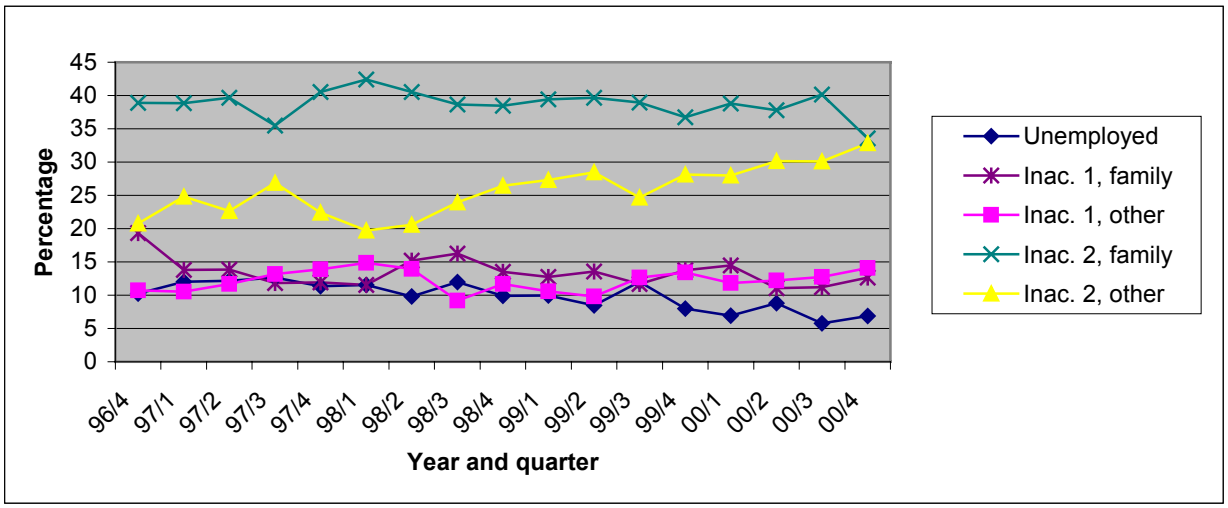
Figure 5.1 considers the economic status of men in workless households. For each quarter, the percentages of men unemployed, type 1 inactive and type 2 inactive at the point of the couple first being observed are plotted. The trends show an increase in the proportion of worklessness due to type 2 inactivity and a fall in the proportion of worklessness due to unemployment over the period winter 1996 to winter 2000. Type 2 inactivity increases from just over 30 to about 45 per cent while unemployment falls from over 40 to about 27 per cent. Type 1 inactivity shows considerable fluctuation but the value at the beginning of the observation period is close to that at the end.

Figure 5.1: The relative proportion of unemployment and inactivity over time for men in workless couples



For women, the patterns are different. Most of the five states observed for women were relatively stable over time. A small fall in the proportion of unemployment from slightly above ten to just over five per cent and of type 1 inactivity due to family reasons from 20 to about 13 per cent can be observed. The only marked trend is the increase in the proportion of workless women being type 2 inactive due to other than family reasons. The proportion of this group increased from 20 per cent in Winter 1996 to nearly 35 per cent in Winter 2000.

Figure 5.2: The relative proportion of unemployment and inactivity over time for women in workless couples



Given these changes in the proportion of different types of worklessness, it is instructive to examine the absolute numbers of men and women in different types of worklessness. Figure 5.3 shows this for men. In absolute numbers all types of worklessness were falling over time. However, unemployment fell at a faster rate which explains its reduced proportion. The proportionate increase in type 2 inactivity appears to be caused by its relative stability compared to falls in the numbers of unemployed and type 1 inactive.

Figure 5.3: The numbers in unemployment and inactivity over time for men in workless couples.

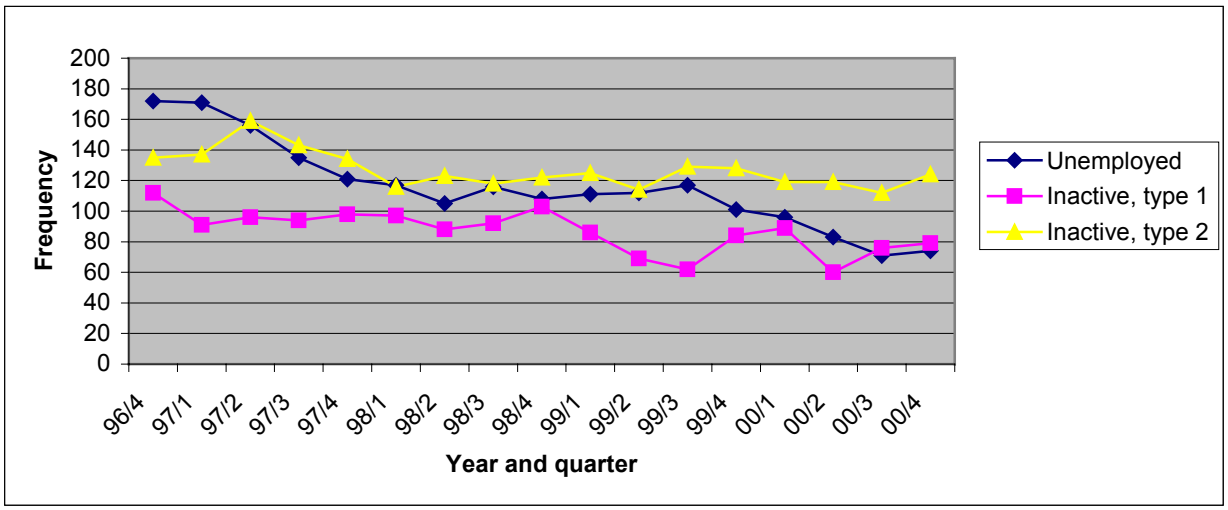


Figure 5.4: The numbers in unemployment and inactivity over time for women in workless couples.

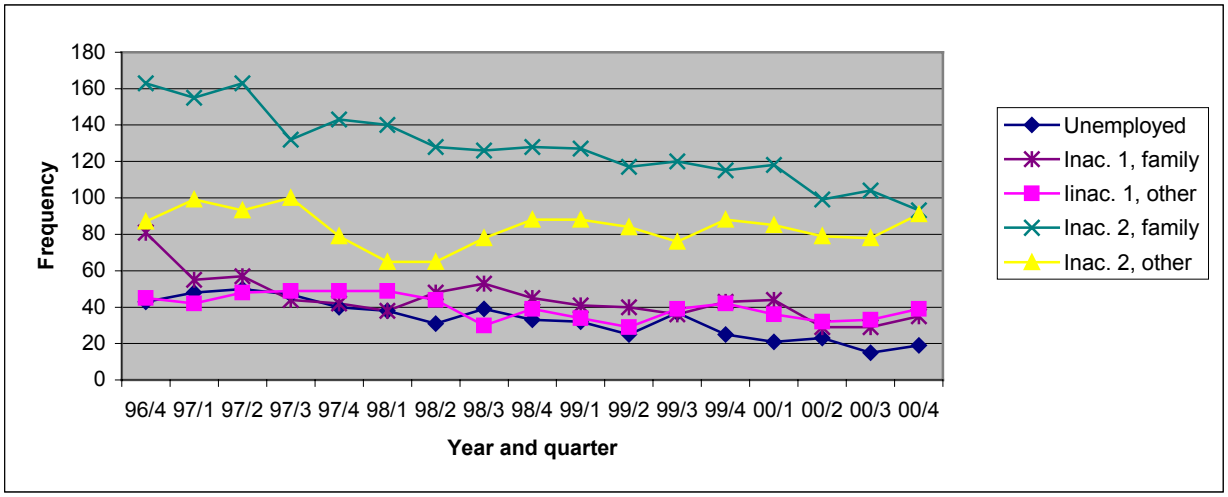


Figure 5.4 shows the absolute number of women in different economic states over the observation period. Because couples were analysed, the total number

of workless men and women is the same in each period. Consequently, the noted decline in worklessness among men over the period 1996-2000 is equally true for women. Inactivity of both types due to other reasons was relatively stable, while type 1 and 2 inactivity due to family reasons dropped over the observation period. There was also a drop in the number of unemployed women. This suggests that, for women, inactivity due to family reasons may be a less rigid form of inactivity than that due to other reasons.

5.2 Changes over the observation year

The preceding evidence was based on the point in time at which each couple was first observed. The longitudinal nature of the LFS permits transitions between economic states to be considered in more detail. Specifically, one can inspect changes over those periods for which individuals were observed. As noted earlier, couples were observed at up to five points spanning a maximum period of one year. In this section, and the remainder of this report, changes over these five observation points are considered.

5.2.1 The changing economic status of men and women over the observation year

Table 5.1: The changing economic status of men and women (balanced panel)

	Months since first observed jointly non-employed:				
	0	3	6	9	12
Men:					
Working	0.0	5.9	9.2	11.5	12.6
Unemployed	30.2	25.5	22.4	20.1	18.8
Inactive, type 1	28.3	30.5	30.0	30.2	30.7
Inactive, type 2	41.5	38.1	38.4	38.2	38.0
Base	2360	2360	2347	2342	2330
Women:					
Working	0.0	3.1	4.9	6.4	7.3
Unemployed	8.3	7.0	6.1	5.6	5.9
Inactive, type 1	26.4	27.0	26.9	26.3	25.7
family reasons	*13.5*	*14.0*	*13.6*	*13.7*	*12.6*
other reasons	*12.8*	*13.0*	*13.2*	*12.6*	*13.0*
Inactive, type 2	65.4	63.0	62.1	61.7	61.1
family reasons	*39.5*	*37.1*	*35.9*	*35.5*	*35.2*
other reasons	*25.9*	*25.9*	*26.3*	*26.2*	*25.9*
Base	2360	2360	2354	2348	2342

Due to rounding percentages might not add up to 100.

The analysis that follows is based on the sample of full participants (the balanced panel). This has the advantage that the problems of changing sample composition and differential non-response can be ignored. Table 5.1 shows that in approximately 13 per cent of cases the man in a workless couple will have found work[8] within the year covered by the survey. This is twice the level for women. Men's movement into employment appears (although see below) to be due mainly to the reduction in unemployment[9] which falls from 30 per cent to below 20 per cent over the year while the level of the two types of inactivity remains relatively stable. For women, transitions were much fewer in number and the proportion in each type of worklessness was relatively stable. The seven per cent increase in employment was accounted for mainly by a drop in type 2 inactivity due to family reasons (four per cent), unemployment (two per cent) and type 1 inactivity due to family reasons (one per cent).

It is important to be careful when interpreting these changes. For example, the rise in the proportion of working women appears to be due mainly to a reduction in type 2 inactivity, more specifically, among those who are type 2 inactive for family reasons. This would seem to have implications for regarding type 2 inactivity as the most distant status from the labour market. However, it is not possible to make such assertions since it is possible that there is a cascade effect whereby those in type 2 inactivity move to type 1 inactivity, those in type 1 inactivity move into unemployment and those in unemployment move into work. In this scenario, the snapshot proportions of the sample in any given economic state will provide no information on flows into and out of that status. To illustrate, if the same number of people move from type 2 to type 1 inactivity as move from type 1 inactivity to unemployment, no change in type 1 inactivity will be evident. To investigate such movements requires focusing explicitly on transitions (the focus of section 5.3).

For clarity, the results from Table 5.1 are also represented in Figures 5.5 and 5.6. They confirm the picture that inactivity was more prevalent among women in workless couples and that the composition of states was more stable for women.

[8] The category 'working' combines employees and self-employed.
[9] From this point onwards unemployment is not only ILO unemployment but also includes the small number of cases reporting to be on a government scheme or working (unpaid) in the family business.

Figure 5.5: The changing economic status of men

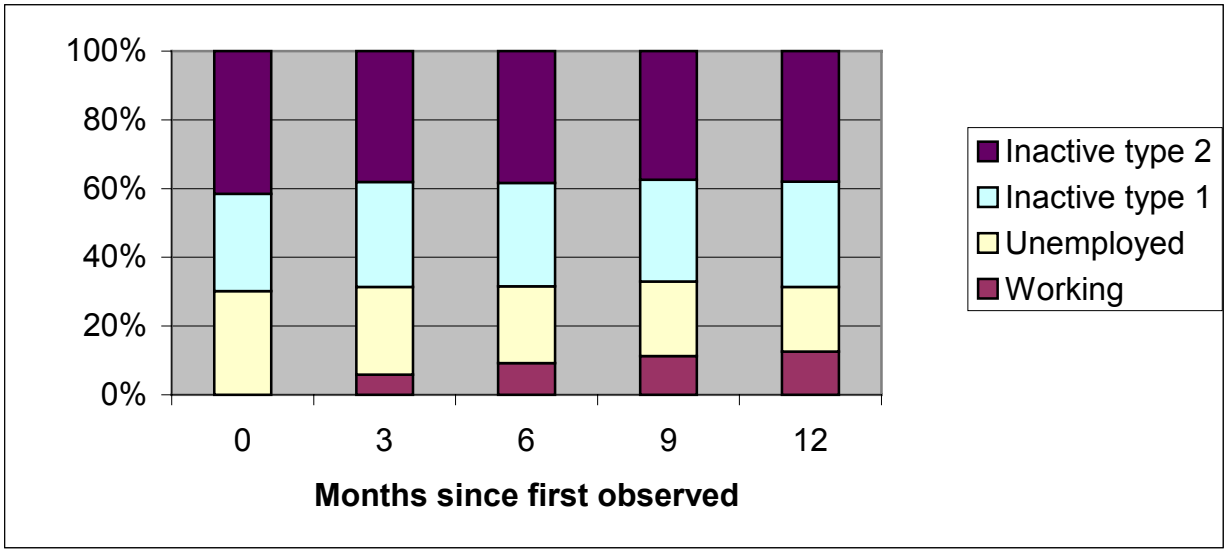
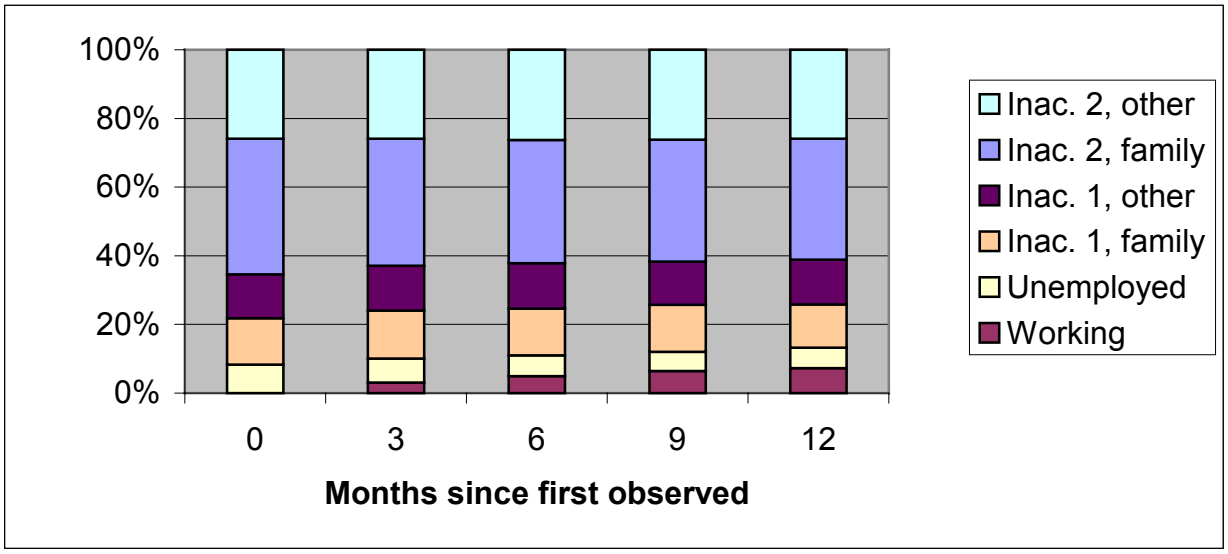


Figure 5.6: The changing economic status of women



5.2.2 Changes in economic status for the full sample

Focusing on the balanced panel means that information is lost through discarding observations. In fact, more than half the couples in the sample are discarded by this process. Given this large reduction, it is useful to consider how the observed transitions differ when working with the full sample. This provides an indication of the likely bias introduced through the sample reduction. While, as noted earlier, attrition in this sample may be for a variety of reasons, if the tendency not to respond were correlated with the outcome of interest (employment status, in this case) problems of inference may arise. For example, if those more likely to

find employment were also more likely to disappear from the sample, those individuals remaining would create an overly pessimistic impression of movements into work.

Table 5.2 shows that the proportions of the different labour market states 12 months after first being observed was identical for the two samples. This is so by construction as all those observed after twelve months are the ones forming the balanced panel. Differences occur at earlier points. For men and women there is only a small difference in the proportion in employment. There was a higher proportion of unemployed in the unbalanced panel which was compensated by a smaller proportion of inactives – more or less evenly distributed over all types of inactivity.

Overall, the effect of restricting attention to the balanced panel is that inactivity as a proportion of all worklessness is overstated in the earlier quarters of the observation period. This is true for both men and women, although it is more marked among men. Hence, being unemployed as opposed to inactive appears to be associated with failing to respond to subsequent interviews. This is also reflected in the fact that 45 per cent of couples where the male was inactive when first observed responded in all five waves but the same was true of only 36 per cent of couples with an unemployed male in the first period. This may indicate higher non-response among those in work and a greater tendency for unemployed people rather than inactive people to find work. In view of this, it is plausible to view the increased prevalence of work revealed by the balanced panel as being a lower bound on the true proportion, since those entering jobs may be lost to the sample.

Table 5.2: The changing economic status of men and women (unbalanced panel)

	Months since first observed jointly non-employed:				
	0	3	6	9	12
Men:					
Working	0.0	5.8	9.7	11.9	12.6
Unemployed	35.1	29.2	24.5	21.4	18.8
Inactive type 1	26.4	28.6	28.9	29.5	30.7
Inactive type 2	38.5	36.5	36.9	37.2	38.0
Base	5600	4403	3563	2930	2330
Women:					
Working	0.0	3.2	4.8	6.1	7.3
Unemployed	10.1	8.3	7.2	6.4	5.9
Inactive type 1	25.7	27.1	26.5	26.2	25.7
Family reasons	*13.6*	*14.5*	*14.0*	*13.9*	*12.6*
Other reasons	*12.1*	*12.6*	*12.5*	*12.2*	*13.0*
Inactive type 2	64.2	61.4	61.6	61.4	61.1
Family reasons	*38.8*	*36.8*	*36.4*	*35.6*	*35.2*
Other reasons	*25.4*	*24.7*	*25.2*	*25.8*	*25.9*
Base	5600	4405	3575	2940	2342

Due to rounding percentages might not add up to 100.

5.2.3 The changing joint economic status of partners over the observation year

In Table 5.3, the economic status of both partners is considered simultaneously. In this way, it is possible to gain an insight into the existence and persistence of worklessness at the level of the partnership.

Over the five observation points, 17 per cent of couples moved from the position of worklessness to having at least one partner in work. This is a positive finding in terms of addressing the problem of worklessness since it does not appear that moves into employment among men and women were concentrated within the same household, at least over the period of a year. In fact, only 3 per cent of workless couples had become dual-earner couples over the period considered. In about 5 per cent of cases, only the woman found work and in the remaining 10 per cent it was only the man. The most common combination among couples finding work was for the man to be employed and the women to be type 2 inactive.

Table 5.3: Changes in joint economic status of partners

	Months since first observed:				
	0	3	6	9	12
Partners' economic status:					
male working, female working		0.7	1.5	2.3	2.7
male working, female unemployed		0.7	1.0	1.0	1.0
male working, female inactive 1		1.3	2.1	2.8	2.9
male working, female inactive 2		3.3	4.5	5.3	5.9
male unemployed, female working		1.0	1.2	1.6	1.5
male unemployed, female unemployed	5.3	4.2	3.6	2.8	3.2
male unemployed, female inactive 1	8.6	7.7	6.3	5.4	4.5
male unemployed, female inactive 2	16.3	12.6	11.3	10.3	9.8
male inactive 1, female working		0.9	1.1	1.2	1.5
male inactive 1., female unemployed	1.5	1.2	0.9	0.9	0.7
male inactive 1, female inactive 1	12.5	13.2	12.6	13.0	13.4
male inactive 1, female inactive 2	14.3	15.3	15.5	15.2	15.0
male inactive 2, female working		0.6	1.1	1.3	1.5
male inactive 2, female unemployed	1.4	0.9	0.6	0.8	1.0
male inactive 2, female inactive 1	5.2	4.9	5.9	5.1	5.0
male inactive 2, female inactive 2	34.8	31.8	30.9	31.0	30.6
Total	2360	2360	2343	2332	2317

Due to rounding percentages might not add up to 100.

The combination of an unemployed man partnered with a type 2 inactive woman was the combination which declined most in size over the period. Couples with both partners type 2 inactive accounted for the highest proportion among all couples during the full observation period. This proportion dropped slightly from 35 per cent at the first period to 31 per cent after one year. Two-thirds of couples were inactive (either type) at the onset of the observation period. Their proportion fell only slightly over the year. This indicates that inactivity is a relatively stable state and it seems of special interest to investigate whether differences by the type of inactivity can be detected.

5.3 Transitions between individual economic states

The preceding section considered changing economic status over time. This is not the same as considering individual transitions between states since these summary levels of employment status provide no information on the extent to which the changes are concentrated among particular individuals. Put another way, does the growing proportion observed as being employed, for example, reflect individuals finding work in the early stages remaining in work and having their numbers boosted in subsequent years by additional long-term job entrants, or does it reflect a different (but growing) group of people being observed in employment at each stage? This is an important distinction since the policy

implications of stable employment are different from those associated with employment 'churning'. The answer is not to be found by considering changing profiles of the sample in terms of economic status but rather by considering individual transitions.

5.3.1 The proportion of the sample with experience of each employment status

Table 5.4 provides some indication of the relative importance of the economic states over the full observation period by showing the proportion of the sample having a particular employment status in at least one of the five observation points. These percentages do not sum to 100 since individuals may experience more than one status.

The number of men experiencing employment was higher than that for women. This finding is consistent with the observations made in the previous sections where changes in status over time were considered. Furthermore, for both sexes, the proportion experiencing employment in at least one of the five waves was higher than the proportion in employment at wave five indicating at least some short-term employment. It was much more common for men than women to experience unemployment. However, it is clear that inactivity was the most prominent status. Over the observation year, both types of inactivity were experienced by more than half the men. A similar proportion of women experienced type 1 inactivity but more than 80 per cent of women were type 2 inactive at some point. This was mainly for family reasons.

Table 5.4: Proportion of sample with experience of each employment status

	%	
Men:		
Working	15.8	
Unemployed	36.1	
Inactive, would like to work	52.3	
Inactive, not wanting work	57.0	
Women:		
Working	9.0	
Unemployed	14.1	
Inactive, would like to work	49.6	
Family reasons		*27.0*
Other reasons		*28.0*
Inactive, not wanting work	81.8	
Family reasons		*51.3*
Other reasons		*38.6*

5.3.2 Transitions between economic states

Tables 5.5a and 5.5b consider the transitions between economic states for men and women, respectively. This makes full use of the longitudinal nature of the data and summarises changes in employment status for all couples over all time periods. Since only fully participating couples are considered, four 'transitions' are observed for each individual. Some of the 'transitions' are actual transitions from one state to another while the rest are non-transitions: people being observed in the same state as in the preceding period. The results in Table 5.5a and the following tables in this chapter simply show the percentage who change from one state (original) to another (destination). The destination can be the same as the original status. In this case the amount represents the percentage remaining stable – this is given in bold and is along the main diagonal in the table. The entries for each row sum to 100 per cent. Hence, it is possible to see the level of stability of the different economic states. This represents an advance on the results presented earlier for changes in employment status over time since these could not provide any indication of whether the general trend towards employment among workless households was explained by a cumulative move into long-term jobs or a growing number of short-term jobs distributed across the sample.

Table 5.5a: Transitions between economic states – Men

(row percentages)

	Destination economic status:			
	Working	Unemployed	Inactive type 1	Inactive type 2
Original economic status:				
Working	**84.6**	12.4	1.6	1.5
Unemployed	13.4	**76.9**	6.7	3.0
Inactive, type 1	1.9	4.8	**75.1**	18.1
Inactive, type 2	0.8	1.4	16.0	**81.8**

Due to rounding percentages might not add up to 100.

Table 5.5a shows that:

- 85 per cent of employed men were still employed when next observed. Hence, this appears to be quite a stable economic status. Of those who left employment, the majority became unemployed and relatively few became inactive.
- Over three-quarters of the unemployed remained unemployed in the next observation period. Of those who left, employment was the main destination, while type 1 inactivity claimed twice as many leavers as type 2 inactivity.

- The two types of inactivity were also relatively stable: 75 per cent of those who were type 1 inactive stayed in that status for the next period while this number was 82 per cent for type 2 inactivity.
- Movements out of one type of inactivity were predominantly into the other type of inactivity. Hence, inactivity as a whole was characterised by few exits.

Two remarks are in place. First, the two extreme states are the most stable. This provides some support for the interpretation of the different types of worklessness as reflecting distance to the labour market. The fact that most exits from an initial state were to a state that can be considered neighbouring lends further support to this interpretation. Second, the majority of transitions occur between working and unemployment on the one hand and between the two types of inactivity on the other hand. Thus, the distance between unemployment and type 1 inactivity seems to be greater than between working and unemployment or between the two types of inactivity. More simply, inactivity is considerably further from working than is unemployment.

Table 5.5b presents the results for women with the additional distinction between inactivity of either type due to family or due to other reasons. Given those additional statuses it is not surprising that the picture is not as clear-cut as it was for men:

- It is still true that the two extreme states (employment and type 2 inactivity) were the most stable. However, there was more movement among the intermediate states of unemployment and type 1 inactivity. There was also more movement from one state to a non-neighbouring state.
- Those women who worked were, if anything, more likely than men to still be working when next observed. However, those exiting employment were more likely to become inactive than unemployed. In fact, women leaving to inactivity were fairly evenly split between types of inactivity. This suggests they may be *choosing* to leave work since they were not trying to re-enter employment.
- As noted, unemployment was less stable than for men. Furthermore, while only a tenth of unemployed men became inactive, the corresponding proportion for women was a quarter. Type 1 inactivity accounted for twice as many leavers as type 2.

It is when considering female exits from inactivity that the benefit of subdividing type of inactivity becomes apparent:

- exits from one type of inactivity were mainly to the other type of inactivity.
- the reason for inactivity is persistent. That is, most of those moving between types of inactivity did not change the reason (family, other) for their inactivity.

Possibly the most important finding from these results is the degree of movement between types of inactivity. While inactivity as a whole was very rigid with few

exits, within inactivity there were a considerable number of moves both towards and away from the labour market that are of potential policy interest. To investigate these fully requires an econometric approach. However, in the case of women, the sub-divisions within type of inactivity provide some clues to the process. The fact that exits from unemployment were mainly to type 1 inactivity and then moves from type 1 to type 2 inactivity appear not to be prompted by a change in the reason for inactivity is suggestive of a process whereby those women who were looking for work became inactive and, with time, their desire to return to work disappeared. Such a model of labour market disenfranchisement highlights the potential value in concentrating on those who are type 1 inactive to prevent them losing all interest in work. It is noteworthy that the chances of moving from type 1 to type 2 inactivity are twice those of moving in the opposite direction.

Table 5.5b: Transitions between economic states – Women

(row percentages)

	Destination economic status:					
	Working	Unemp.	Inactive type 1		Inactive type 2	
			family	other	family	other
Original economic status:						
Working	**86.7**	4.1	2.1	2.4	2.1	2.7
Unemployed	12.8	**62.2**	7.7	9.2	4.4	3.6
Inactive 1, family reasons	2.9	5.0	**65.5**	4.1	19.4	3.1
Inactive 1, other reasons	3.1	4.5	5.2	**63.7**	4.7	18.7
Inactive 2, family reasons	1.2	1.1	7.8	1.8	**85.0**	3.1
Inactive 2, other reasons	0.7	0.6	1.4	10.8	3.2	**83.5**

Due to rounding percentages might not add up to 100.

5.3.3 The proportion of the sample with experience of each joint employment status

In this and the following section the transition analysis is repeated for both partners simultaneously. Table 5.6 shows the relative importance of each joint economic status over the full observation period. Half of all couples had some experience of being jointly type 2 inactive. This was by far the largest category. The next most common joint status was the male partner experiencing type 1 inactivity and the female partner type 2 inactivity. Only 4 per cent of couples experienced a period of being dual-earners. This number is higher than the percentage of couples jointly in employment at wave 5 (see Table 5.3) indicating that part of this joint employment was short-term.

Table 5.6: Proportion of sample with experience of each joint employment status

	percentage with this status at some point
Partners' economic status:	
male working, female working	3.7
male working, female unemployed	2.4
male working, female inactive 1	5.0
male working, female inactive 2	8.8
male unemp., female working	2.8
male unemp., female unemployed	9.1
male unemp., female inactive 1	16.1
male unemp., female inactive 2	23.4
male inactive 1, female working	2.5
male inactive 1, female unemployed	3.2
male inactive 1, female inactive 1	28.3
male inactive 1, female inactive 2	34.1
male inactive 2, female working	2.3
male inactive 2, female unemployed	2.8
male inactive 2, female inactive 1	14.2
male inactive 2, female inactive 1	49.6

5.3.4 Transitions between joint economic states

In Table 5.7, the transitions between economic states at the level of the couple are considered. However, not all possible transitions were observed and some cells are therefore left empty. In contrast, an entry of zero means that the proportion of transitions in this cell was less than 0.5 per cent. The table is read in the same way as previous transition tables. Each row contains information on one specific status combination and each cell gives the proportion of transitions to the states given in the column headings. 'Non' transitions, i.e. couples being observed in the same state in the next period, are given in bold and form the main diagonal of the table. Before commenting on specific states and transitions some key patterns are noted:

- as a general rule, the patterns found in the individual level analysis are confirmed here. Employment and type 2 inactivity were the most stable states and any combination of these two within a couple would result in over 70 per cent stability from one quarter to the next
- the partner who was in the less stable state was more likely to cause a transition. For example in the case of a working male and a type 1 inactive female, in 84 per cent of the cases the status of the male partner was stable
- where there was a transition, it was the woman who changed in over 60 per cent of cases
- the transitions were more likely to be to a neighbouring state

- transitions between work and unemployment on the one hand and between the two types of inactivity on the other hand were more likely than other transitions
- only in a few cases did both partners change their status from one period to the next. This happened in less than 7 per cent of all transitions.

Table 5.7: Transitions between joint economic states

(row percentages)

	Destination economic status: male partner – female partner)																
Original economic status: male partner – female partner	work – work	work – unemp.	work – inact. 1	work – inact. 2	unemp. – work	unemp. – unemp.	unemp. – inact. 1	unemp. – inact. 2	inact. 1 – work	inact. 1– unemp.	inact. 1 – inact. 1	inact. 1 – inact. 2	inact. 2 – work	inact. 2 – unemp.	inact. 2 – inact. 1	inact. 2 – inact. 2	Number of observations
Work – work	**74**	6	5	3	8		1	1	2			1					169
Work – unemployed	19	**44**	13	11		11	2										87
Work – inactive 1	9	4	**57**	14	1	3	6	4			2				1		209
Work – inactive 2	1	1	7	**74**			2	11				1	0			2	444
Unemployed – work	15	1			**61**	5	1	4	10			1	2				122
Unemp. – unemp.	4	7	3	2	6	**55**	12	5	1	2	2	1	0	0		1	449
Unemp. – inactive 1	2	1	8	3	3	8	**52**	14	0	0	5	3		0	1	1	760
Unemp. – inactive 2	1	0	1	10	1	3	9	**66**	0	0	1	5	0	0	0	4	1413
Inactive 1 – work	3				10				**61**	3	4	1	15		3		107
Inactive 1 – unemp.		2	1			7	3		11	**42**	12	5		8	5	5	125
Inactive 1 – inactive 1	0	0	1	0	0	1	3	1	1	1	**62**	14	0	0	7	8	1515
Inactive 1 – inactive 2	0		0	1		0	1	4	1	0	12	**61**	0	0	1	19	1761
Inactive 2 – work					3				13			1	**71**	1	3	7	104
Inactive 2 – unemp.		2				5	2		5	10	6		15	**43**	8	3	108
Inactive 2 – inactive 1			0	0		0	1	1	1	0	19	4	1	2	**47**	22	611
Inactive 2 – inactive 2	0		0	1		0	0	1	0		5	10	0	0	4	**79**	3728
Total	2	1	2	5	1	3	6	11	1	1	13	15	1	1	5	31	

Due to rounding percentages might not add up to 100.

It is helpful to put these general rules into a more concrete context. Dual-earner couples were quite stable. Although, as shown in the previous table, only a small proportion of couples comprised two earners at any point in the observation year, nearly three-quarters of those who did attain this status retained it in the next period. The main cause of change was either partner becoming unemployed. This accounted for 14 per cent of transitions. Inactivity among women was also important, with eight per cent moving to some type of inactivity. In nearly all cases, dual-earner couples in one period had at least one earner in the subsequent period. Single-earner couples were the next most likely group to be

non-workless at the subsequent point of observation. In such couples, there was an earner at the time of next observation in 83 – 89 per cent of cases. In summary, where the couple was non-workless, there was a very strong possibility of also being non-workless in the next time period.

For dual unemployed couples, the chances of being in a non-workless household when next observed were 23 per cent. For a mix of unemployment and inactivity, the chances were lower and the move away from worklessness was generally thanks to the unemployed partner. A slightly intriguing exception was the combination of a type 2 inactive male and an unemployed female. The chances of such a couple exiting worklessness (22 per cent) were similar to dual unemployed couples.

Where both partners were inactive, the chances of being non-workless when next observed were negligible, never more than two per cent for any combination of type of inactivity. It is instructive to consider inactivity in more detail. There is some evidence that transitions out of type 1 inactivity were related to partner's status. For men, ten per cent of those partnered with working or unemployed women would become unemployed. This is twice the level for those with inactive partners. For type 1 inactive women, ten per cent of those with working partners and five per cent of those with unemployed partners would move into employment. The level for those with inactive partners was one to two per cent. A similar pattern was found when considering movements into unemployment. Seven and nine per cent respectively of those with working and unemployed partners would themselves become unemployed, compared with only two per cent of those with inactive partners.

As noted, moves away from worklessness were rare for jointly inactive couples. However, there were transitions between the two types of inactivity and these appear to be influenced by the status of the other partner. To illustrate, of those type 1 inactive men with type 1 inactive partners, 15 per cent moved to type 2. This compares to 20 per cent for those with type 2 partners. Similarly, 24 per cent of type 2 men with type 1 partners move to type 1, compared with only 15 per cent of those with type 2 partners. For women, the results are qualitatively similar, although a general comment is that there were more moves into type 2 inactivity and fewer moves away from it than for men. For a type 1 inactive woman, 23 per cent of those with a type 1 inactive partner would move to type 2, compared with 27 per cent for those with a type 2 inactive partner. For a type 2 inactive woman, 14 per cent of those with a type 1 partner would become type 1 inactive, compared with only nine per cent of those with a type 2 inactive partner.

While the description of such transitions between types of inactivity quickly becomes cumbersome, the important point is that the movements between types of inactivity appear related to the partner's type of inactivity. Where one partner is further away from the labour market, the other partner appears drawn in the same direction.

5.4 Changes and transitions in benefits claimed

In this section, a similar analysis of changes and transitions is carried out for benefits. First, the change in benefit status is analysed for each partner separately and for the couple, followed by transition analyses similar to the ones carried out on labour market status in the previous section.

5.4.1 The changing types of benefits claimed over the observation year

Table 5.8 shows the changing composition of the sample in terms of benefit claiming status. The top half of the table contains information for men and the bottom half for women. There was a marked increase over the year in the proportion of men not claiming any benefits. This was compensated mainly by a decrease in JSA claimants, although there was also a notable move away from IB. Movements in other benefits were much smaller. The situation was more stable for women. However, most of the women were not claiming benefits to start with and therefore one would expect the situation to change more for men. This gender difference reflects the specific design of the benefits. JSA and IS, which made up the largest proportion of benefits claimed, are benefits based on a couple rather than the individual whereas IB, SDA and ICA are designed as individual benefits.

Table 5.8: The changing type of benefits claimed for men and women (balanced panel)

	Months since first observed jointly non-employed:				
	0	3	6	9	12
Men:					
No benefit	9.9	17.4	21.3	22.2	24.5
JSA only	28.6	22.2	17.8	16.4	14.3
IS only	9.4	9.9	10.1	10.9	10.7
IB only	31.1	28.3	27.7	27.3	26.1
IS and IB	14.4	14.8	15.3	15.3	15.5
other combination	6.7	7.5	7.7	7.9	8.9
Women:					
No benefit	73.2	72.6	72.5	72.2	71.9
JSA only	2.4	1.6	1.3	1.1	1.3
IS only	3.2	3.8	3.6	3.6	3.7
IB only	11.6	10.6	10.8	10.8	10.6
IS and IB	1.9	2.7	2.3	2.2	2.1
other combination	7.8	8.7	9.5	10.2	10.4
Base	2360	2360	2360	2360	2360

Due to rounding percentages might not add up to 100.

Table 5.9 contains similar information for the couple. Again, there was a marked increase over the observation year of couples not claiming any benefits. By construction, all couples were claiming benefits when first observed. After just three months, eight per cent of couples were no longer claiming any benefits. After a year, this proportion had doubled.

Table 5.9: The couple's changing benefit claiming status (balanced panel)

	Months since first observed jointly non-employed:				
	0	3	6	9	12
No benefits claimed	0	8.3	12.1	13.7	15.7
Only male claiming	73.2	64.4	60.4	58.5	56.2
Only female claiming	9.9	9.1	9.2	8.5	8.8
Both claiming	17.0	18.3	18.3	19.3	19.3

Due to rounding percentages might not add up to 100.

As with the analysis of the change in labour market states it is interesting to see to what extent these changes were stable as opposed to short term. The next two sections can give an indication of this.

5.4.2 The proportion of the sample with experience of the different benefit types

Table 5.10: Proportion of sample with experience of different benefit claiming patterns

	%
Men	
No benefits claimed	33.1
JSA only	31.0
IS only	18.8
IB only	36.9
IS and IB	22.8
Other combinations	13.4
Women	
No benefits claimed	80.3
JSA only	3.7
IS only	7.2
IB only	14.2
IS and IB	3.7
Other combinations	13.9

Table 5.10 exhibits the proportion of men (top half) and women (bottom half) who had experience of different benefit claiming states. It is important to note that a third of men had at least one period where they did not claim any benefit. This is higher than the quarter who were not claiming after 12 months (see Table 5.9). Thus, some of the movement away from claiming benefits must be short-term. Also the proportion having claimed other benefits is higher than at any one period, further supporting the suggestion that some of the movements between benefits were temporary. The difference is smallest for JSA indicating that movements away from JSA were relatively permanent. IB also had a relatively small difference while the difference was greater for IS. This might be due to the fact that claiming IB is a relatively long process – the incapacity to work has to be assessed – while it is easier and quicker to claim IS. A more formal assessment of the stability of benefit states will be conducted in the transition tables below. The patterns observed for women were similar.

Table 5.11 presents similar evidence for couples. Nearly a quarter of the sample was not claiming any benefits for at least one period. The situation where the female was the sole claimant in a couple was the least common state with only 15 per cent of couples having experienced it.

Table 5.11: Proportion of couples with experience of different benefit claiming patterns

	%
No benefits claimed	22.3
Only male claiming	77.3
Only female claiming	14.5
Both claiming	27.4

5.4.3 Transitions between types of benefits claimed

In Tables 5.12a and 5.12b, transitions between different benefit claiming states are reported for men and women respectively. The first thing to note is that the different benefit combinations were relatively stable: 76 to 88 per cent of men were observed claiming the same benefits as in the period before.[10] If men moved from not claiming any benefits back on to benefits it was most likely to be JSA. This is consistent with the observation that most transitions from work back to worklessness were to unemployment rather than to inactivity. Similarly, most men moving away from JSA were not claiming benefits in the next period, presumably working. A much smaller percentage moved from JSA to other benefits.

[10] As the category 'others' is made up of a number of different combinations of benefits, there could have been changes in the exact combination of benefits claimed.

Table 5.12a: Transitions between types of benefits claimed – Men

(row percentages)

	Destination benefits claimed					
	No benefit	JSA only	IS only	IB only	IS and IB	Others
Original economic status:						
No benefit	**84.7**	5.5	3.8	2.6	0.6	2.9
JSA only	18.8	**75.8**	2.8	0.9	0.7	1.1
IS only	7.8	2.7	**77.9**	2.3	5.4	4.0
IB only	3.3	0.6	1.0	**88.4**	5.0	1.7
IS and IB	2.6	0.4	4.8	5.4	**85.3**	1.6
Other combinations	3.7	1.1	3.7	5.4	3.4	**82.6**

Due to rounding percentages might not add up to 100.

The picture was similar and in some respects even more pronounced for women. Nearly all women not claiming benefit at one point in time were also not claiming in the next period. Among those claiming JSA, only 56 per cent were claiming in the next period as well. However, it is important to bear in mind the distinction between household and individual benefits. Since men tend to be the claimant partner for household benefits (JSA, IS), the picture when considering these benefits may be misleading.

Table 5.12b: Transitions between types of benefits claimed – Women

(row percentages)

	Destination benefits claimed					
	No benefit	JSA only	IS only	IB only	IS and IB	Others
Original economic status:						
No benefit	**96.1**	0.5	0.9	0.6	0.1	1.8
JSA only	40.7	**56.0**	3.3	0	0	0
IS only	16.9	1.2	**72.7**	1.5	3.6	4.2
IB only	4.8	0.3	1.4	**89.3**	2.2	1.9
IS and IB	5.2	0	5.6	6.6	**80.3**	2.4
Other combinations	6.7	0	1.6	2.8	0.7	**88.2**

Due to rounding percentages might not add up to 100.

Finally, Table 5.13 contains transitions in the benefit claiming state of couples. The stability of the 'no benefits claimed' category is quite remarkable given that this category is made up solely of couples moving away from claiming benefits. Thus, three-quarters of couples who moved off benefits during the observation period were also without benefits the next period. There was very little movement between the male and the female partner being the sole claimant but

considerable movement from female only to both claiming. Couples where only one partner was claiming were more than three times as likely to move off benefits compared to couples where both partners were claiming.

Table 5.13: Transitions between couples' benefits claiming states

(row percentages)

	Destination benefits claimed			
	No benefits	Only male	Only female	Both claiming
Original economic status:				
No benefits claimed	**77.1**	17.3	4.1	1.5
Only male claiming	7.5	**88.9**	0.4	3.2
Only female claiming	7.4	1.9	**80.5**	10.3
Both claiming	2.2	6.9	5.0	**85.9**

Due to rounding percentages might not add up to 100.

6. Modelling transitions

In this chapter the modelling results are presented. In section 6.1 the models are described. Section 6.2 gives the results for the analysis of couple-level exits from worklessness. In Section 6.3, the results for individuals are presented. This last section also includes a consideration of the extent to which the transitions of partners within a couple are related.

6.1 The models to be estimated

The advantage of using econometric models rather than simple descriptive analyses is that the extent to which the characteristics of couples or individuals are linked to their probability of exiting a given labour market state can be assessed. This contributes to the understanding of movements between states.

It is appropriate to use duration analysis to model transitions. This allows an explicit focus on the *time* it took to exit from a particular state. As a result, not only the probability of exit but also changes in this probability with increasing spell length can be shown. Apart from this, the results of the estimations also show which characteristics were most associated with transitions between states. Some details of the analytical approach are provided in the methodological appendix, which also considers the interpretation of the results. The aim of this section is to set out the models to be estimated.

The descriptive analysis in the previous chapters has revealed the importance of the initial type of worklessness. These different types were interpreted as measuring how far away an individual or couple is from the labour market. Unemployment was seen as being closest to the labour market, followed by type 1 inactivity. The furthest from the labour market are individuals who are type 2 inactive. The models in this chapter also make use of this distance concept. The distance to the labour market proves to be strongly associated with transitions between labour market states. Furthermore, couples are analysed separately from individuals. With this in mind a number of models are required.

6.1.1 Couple-level analyses

For the examination of worklessness at the couple level, the models examining the time to exit worklessness are considered for the following groups:

- all couples
- couples first observed having at least one unemployed partner
- couples first observed having both partners type 1 inactive

- couples first observed having one partner type 1 inactive, the other type 2 inactive
- couples first observed having both partners type 2 inactive.

6.1.2 Individual-level analyses

At the individual level there is interest not only in moves into employment but any moves away from the original status. Thus, the individual-level models not only take the initial state into account but also consider transitions to all the other states. These analyses allow for the possibility that those exiting their original state can do so in a number of ways. For example, an individual originally type 1 inactive can leave this state to become employed, unemployed or type 2 inactive. Hence, three models for each initial state of worklessness are estimated separately for men and women. The resulting six models examine:

- Time to exit unemployment for men
- Time to exit unemployment for women
- Time to exit type 1 inactivity for men
- Time to exit type 1 inactivity for women
- Time to exit type 2 inactivity for men
- Time to exit type 2 inactivity for women.

The next section considers results for the five models estimated at the couple level, followed by a section presenting the results for the six models estimated at the individual level. The exposition of results focuses on the most influential characteristics and makes extensive use of graphical tools. Full estimation results are given in Appendices 2 and 3.

6.2 Couples' exits from worklessness

In this section, the outcome of interest is whether *either* of the partners has found work. This is a couple-level variable since, at this stage, the concern is not with which partner finds work but rather with whether the couple exits worklessness. A complication arises from the fact that the independent variables used to model this exit are largely at the individual level. This means that, although a characteristic may be associated with success in a couple exiting worklessness, one cannot state that it is the partner having that characteristic who has actually found employment. This is unavoidable when considering worklessness at the level of the couple. However, it should be borne in mind that the descriptive analysis highlighted the high degree of similarity between partners in a couple. Hence, where one partner has a particular characteristic, there is a reasonable chance of the other partner sharing it. The individual-level analysis in the next section does not suffer from this ambiguity.

The concept of distance to the labour market had to be adapted for the analysis of couples. Four categories were defined:

- At least one partner unemployed
- Both partners type 1 inactive
- One partner type 1 inactive, the other type 2 inactive
- Both partners type 2 inactive.

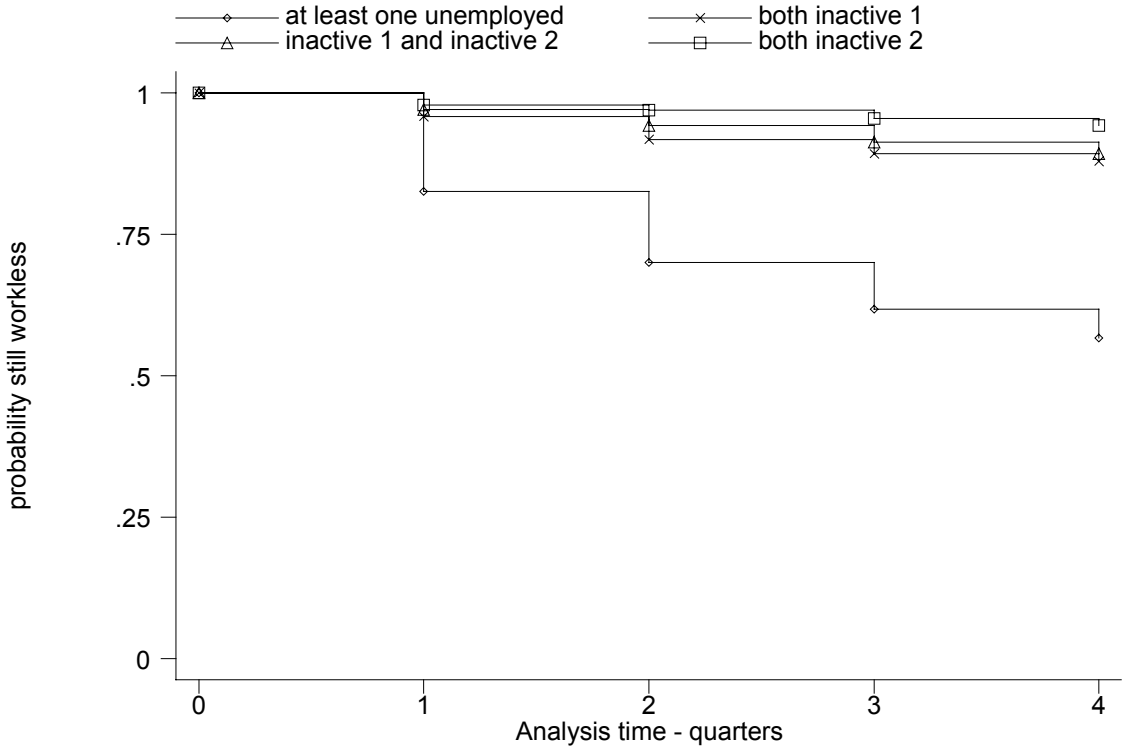
These categories are useful in that they provide a clear ranking with regard to distance from the labour market. Furthermore, they split the sample into roughly similar-sized groups.

Figure 6.1 shows the cumulative movements out of work over the five observation points. This type of graph is often referred to as a 'survival curve' because it represents what proportion survives in the initial state (here, worklessness) as time progresses. It is a purely descriptive presentation of the movement away from worklessness and does not incorporate any statistical adjustment for other factors which may exert an influence. The "step" nature of this chart reflects the fact that couples are sampled only at quarterly intervals. Clearly the proportion remaining workless will fall gradually during the first quarter, not all at once at the end of the quarter, but the information to show this is not available.

There are a number of noteworthy points which combine to demonstrate the importance of controlling for the initial type of worklessness:

- Couples where at least one partner was unemployed were much more likely to exit worklessness. By the end of the observation period 57 per cent of such couples remained workless.
- The other three categories are relatively close together with the proportion remaining workless ranging from 87 per cent (both type 1 inactive) to 94 per cent (both type 2 inactive).
- The further a couple is from the labour market the more likely it is to remain workless.

Figure 6.1: Empirical survivor functions by initial state



The observed exits presented in Figure 6.1 do not control for any differences in characteristics of the couples. These can be taken into account by estimating duration models which assess the impact of characteristics on the probability of exiting the initial state. Characteristics can be associated with a higher or a lower probability of exit. Table 6.1 presents the results for the most important characteristics. A value greater than one indicates that that characteristic is associated with speedier exit, while a value less than one indicates the reverse. A more comprehensive guide to the interpretation of the results is provided in Appendix 1. The results themselves are given in full in Appendix 2.

Table 6.1: Modelling exits from worklessness – selected results

	All couples	At least 1 unempl.	Both inac. 1	Inact. 1 & 2	Both inac. 2
Age group male partner					
up to 30	1.268	1.071	2.179	1.753	1.449
	(1.46)	(0.35)	(1.21)	(0.85)	(0.63)
31 to 40	1.271	1.027	2.967	1.590	2.292
	(1.58)	(0.14)	(1.78)	(0.88)	(1.92)
41 to 50	1.344	1.346	1.442	1.706	0.750
	(2.13)*	(1.63)	(0.80)	(1.10)	(0.71)
Highest qualifications of either partner:					
NVQ4+	1.538	1.407	3.271	2.148	1.497
	(2.77)**	(1.79)	(2.33)*	(1.74)	(1.06)
NVQ3	1.327	1.287	0.715	1.980	1.250
	(2.74)**	(2.04)*	(0.82)	(2.09)*	(0.66)
NVQ2	1.157	1.157	0.627	1.648	0.792
	(1.35)	(1.18)	(1.11)	(1.20)	(0.50)
NVQ1	1.466	1.429	0.768	2.801	1.155
	(3.05)**	(2.46)*	(0.40)	(2.71)**	(0.28)
Other	1.267	1.328	0.704	1.658	1.244
	(1.97)*	(1.96)	(0.61)	(1.34)	(0.55)
Long term health problem					
Affecting work: either partner	0.708	0.669	0.612	0.912	0.383
	(3.40)**	(3.60)**	(0.98)	(0.18)	(2.12)*
Affecting work: both partners	0.778	0.940	0.782	1.119	0.626
	(1.83)	(0.31)	(0.57)	(0.31)	(1.58)
Length of non-employment Spell	0.939	0.937	0.886	0.918	0.972
	(9.36)**	(5.53)**	(4.27)**	(4.46)**	(1.43)
Length of spell, squared	1.000	1.001	1.001	1.001	1.000
	(6.37)**	(2.68)**	(3.69)**	(3.95)**	(0.56)
Initial state of worklessness					
Both inactive 1	0.555				
	(2.92)**				
Inactive 1 & 2	0.474				
	(4.20)**				
Both inactive 2	0.284				
	(6.35)**				
Couple claiming JSA	1.234	1.554			
	(0.94)	(1.51)			
Male partners benefits					
IS	0.806	1.183	0.466	0.515	0.350
	(0.85)	(0.43)	(1.45)	(1.33)	(1.66)
IB	0.954	1.701	0.393	0.740	0.514
	(0.22)	(1.60)	(1.81)	(0.71)	(1.50)
IS & IB	0.563	1.420	0.326	0.311	0.156
	(2.18)*	(0.79)	(1.83)	(2.22)*	(2.99)**
Other benefit (combination)	0.370	0.312	0.170	0.123	0.283
	(3.10)**	(2.29)*	(2.55)*	(2.43)*	(1.99)*

Reference categories for the categorical variables: aged 51 or over; no qualifications; neither has health problem affecting work; at least one unemployed; not claiming any non-JSA benefit. * significant at 5 per cent, ** significant at 1 per cent.

Inspecting the results for workless couples as a whole (first column of numbers in Table 6.1) reveals a number of factors to be associated with exits:

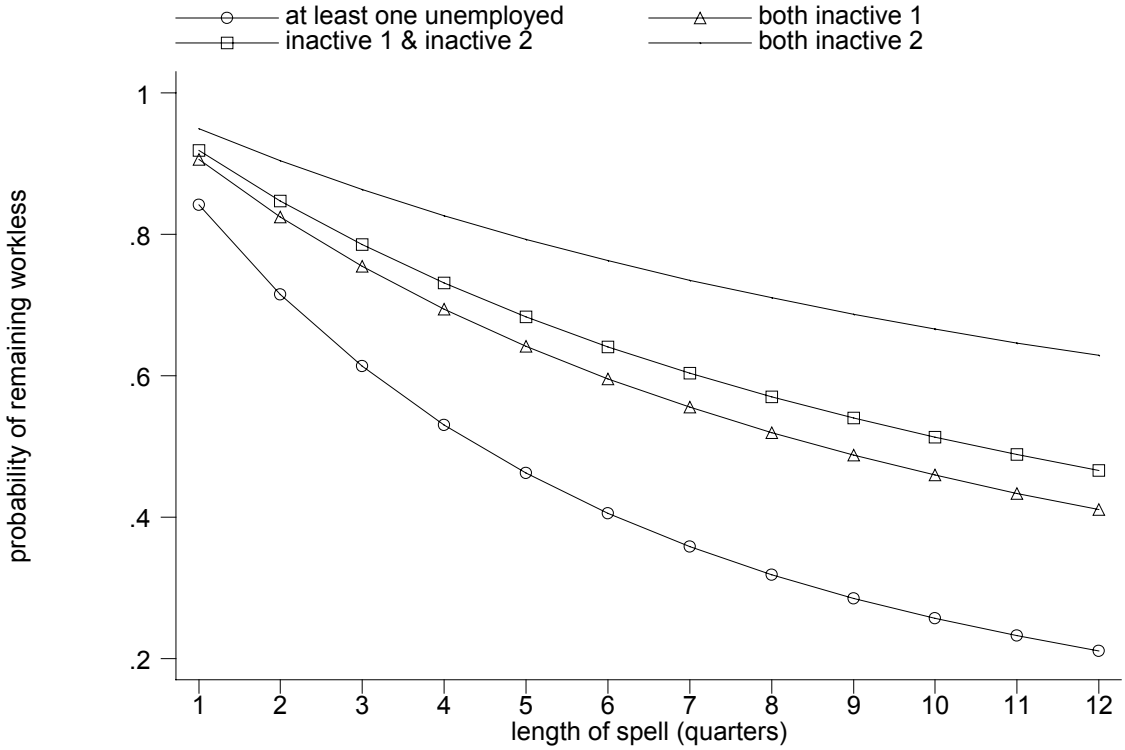
- having qualifications (especially NVQ4 equivalent or higher) is associated with increased probability of exit
- either partner having a long term health problem affecting work is associated with a reduced probability of exit
- couples with longer spells without work are less likely to exit worklessness. The strength of this effect declines over time
- the initial state of worklessness is important. Compared to the group where at least one partner is unemployed the probability of exit is increasingly reduced the further away from the labour market the couple is initially
- male partner claiming either IS and IB or another combination of benefits is associated with a reduced probability of exit compared to not claiming any individual benefit

Models estimated separately for the four initial states of worklessness confirm these results. On the whole, it is the same group of characteristics that prove to be important. There are, however, differences in the effects of these characteristics.

- Having a qualification at NVQ 4 or above has the most pronounced effect on couples where both are type 1.
- Either partner having a health problem that is affecting work seems to be important for couples where at least one partner is unemployed and couples at the other extreme where both partners are inactive 2. However, the variable is insignificant for the other two types of couples.
- The length of the workless spell has a similar effect across all the four groups of couples. However, it is not significant for couples where both are type 2 inactive.
- Benefits seem to have most effect on couples where at least one person is type 2 inactive.

Figure 6.2 uses the estimation results to summarise movements away from non-employment for four ‘average’ couples in the sample who differ only in their type of initial worklessness. By varying the length of worklessness spell, it is possible to trace out how quickly couples move from their initial state. Whereas Figure 6.1 simply showed observed exits over the observation period, the curves in Figure 6.2 take differences in the characteristics of couples into account. The model can predict these exits over a longer period than the observation period. Consequently, exits over a three year (12 quarter) period are given.

Figure 6.2: Predicted exits from worklessness by initial state



The results confirms the findings of the descriptive analysis. The closer a couple is to the labour market the more likely it is to exit worklessness. The curves depict the cumulative probability of remaining workless depending on the initial state of worklessness. The probability of remaining workless is by far the lowest for couples where at least one partner is unemployed. In contrast, this probability is highest for couples furthest away from the labour market where both partners are type 2 inactive.

Predictions from estimating the model separately for each type of initial worklessness are broadly similar. Table 6.2 below summarises the observed and predicted probabilities of remaining in the initial state.

Table 6.2: Observed and predicted probabilities of remaining workless

Duration of worklessness (months)						
Percentage remaining workless	3	6	9	12	24	36
At least one partner unemployed						
Observed	82.5	70.0	61.8	56.7		
Predicted from joint model	84.2	71.3	61.1	53.0	31.9	21.1
Predicted from separate model	76.5	59.4	46.8	37.3	16.9	8.8
Both partners type 1 inactive						
Observed	95.8	91.8	89.2	87.9		
Predicted from joint model	90.5	82.5	75.5	69.4	51.9	41.1
Predicted from separate model	92.4	86.0	80.8	76.3	64.2	57.3
One partner inactive 1 the other 2						
Observed	97.1	94.2	91.3	89.3		
Predicted from joint model	91.8	84.7	78.5	73.1	57.0	46.6
Predicted from separate model	95.3	91.2	87.6	84.4	74.5	67.9
Both partners type 2 inactive						
Observed	97.9	96.9	95.5	94.3		
Predicted from joint model	94.9	90.4	86.3	82.6	71.0	62.9
Predicted from separate model	98.1	96.4	94.7	93.1	87.3	82.4

In most cases the models predict lower percentages remaining workless than is observed. This is mainly due to the fact that the models predict the probability of remaining workless for a couple just starting a spell whereas the numbers for the 'observed' row contain couples with very different initial lengths of worklessness. As the probability of exit decreases with the length of the spell, the fact that the numbers are higher in the latter case is not surprising.

Using the separate models, predicted probabilities of remaining workless are even lower for couples closest to the labour market and higher for couples further away. Differences between the two models arise for two reasons:

- the estimated coefficients of the models are different (see Table 6.1)
- with separate models, the predictions are based on an average couple of the specific type. Consequently, characteristics of couples are not fixed in the comparisons across different types of initial worklessness.

Overall, the modelling confirms the results of the descriptive analysis:

- couples closer to the labour market have a higher probability of exiting worklessness compared to couples further away from the labour market
- The probability of exit diminishes the longer the spell of worklessness lasts.

6.3 Individuals' transitions between employment states

As already noted, modelling individuals' transitions required the estimation of six models. The full results are provided in Appendix 3. In this section, the key results are summarised graphically and using tables of predicted probabilities.

When considering couples, the outcome variable was whether they had exited worklessness. With individuals, all transitions are considered, regardless of whether they involve an exit from worklessness. It is therefore possible to detect moves towards or away from the labour market relative to the initial state. As the analysis below shows, this proves to be important; for some initial states, transitions into work account for only a small fraction of all transitions.

6.3.1 Transitions away from unemployment

This section is concerned with the transitions of those men and women in workless couples who were unemployed when first observed. This constitutes the group that is closest to the labour market and therefore one would expect a higher proportion of their transitions to be into employment than for those individuals who were first observed as being inactive.

The transitions are depicted graphically in Figures 6.3 and 6.4 for men and women respectively. Four lines appear in both charts. These indicate the destination on exiting unemployment. The line showing the steepest decline relates to total exits and this overall number of exits can be divided between those who find work, those who become type 1 inactive and those who become type 2 inactive. Over the one year period, more than 50 per cent of unemployed men exited unemployment. Most of these transitions were into work (second line from the bottom) and fewest were to type 2 inactivity. An even higher proportion of women exited unemployment during the observation period and only about 25 per cent remained unemployed. However, most female exits were to type 1 inactivity, closely followed by moves to work. Another gender difference is that, for women, a very high percentage of exits occurred in the first quarter while for men the exits were more evenly distributed over the whole observation period.

Figure 6.3: Empirical survivor functions – unemployed men

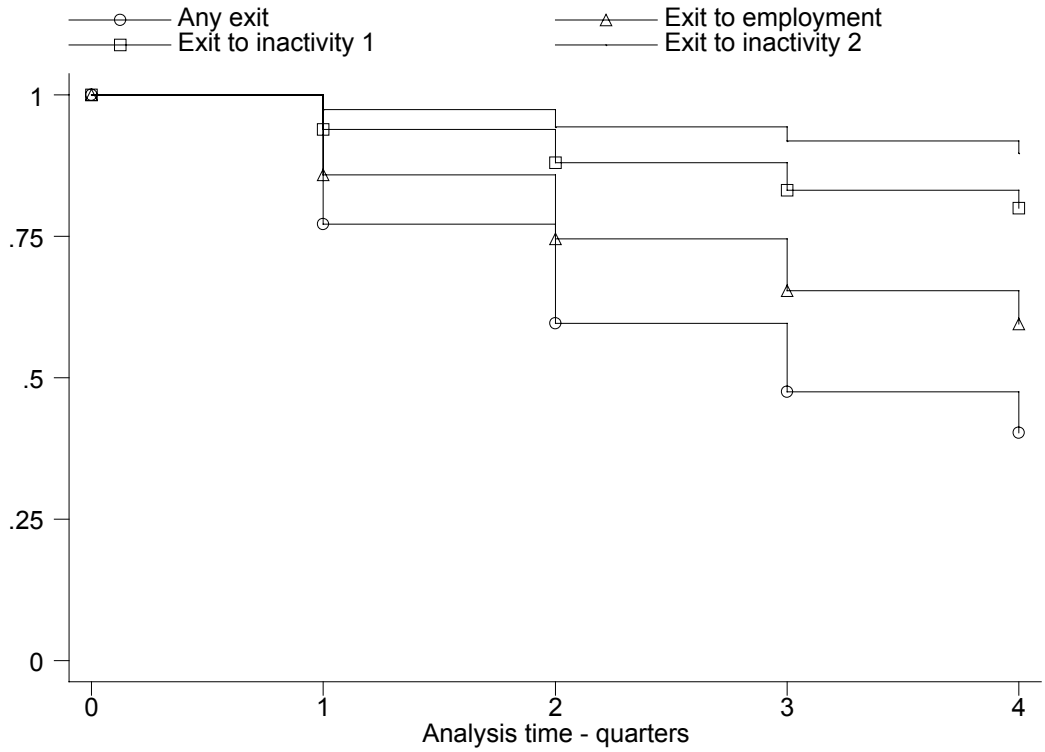
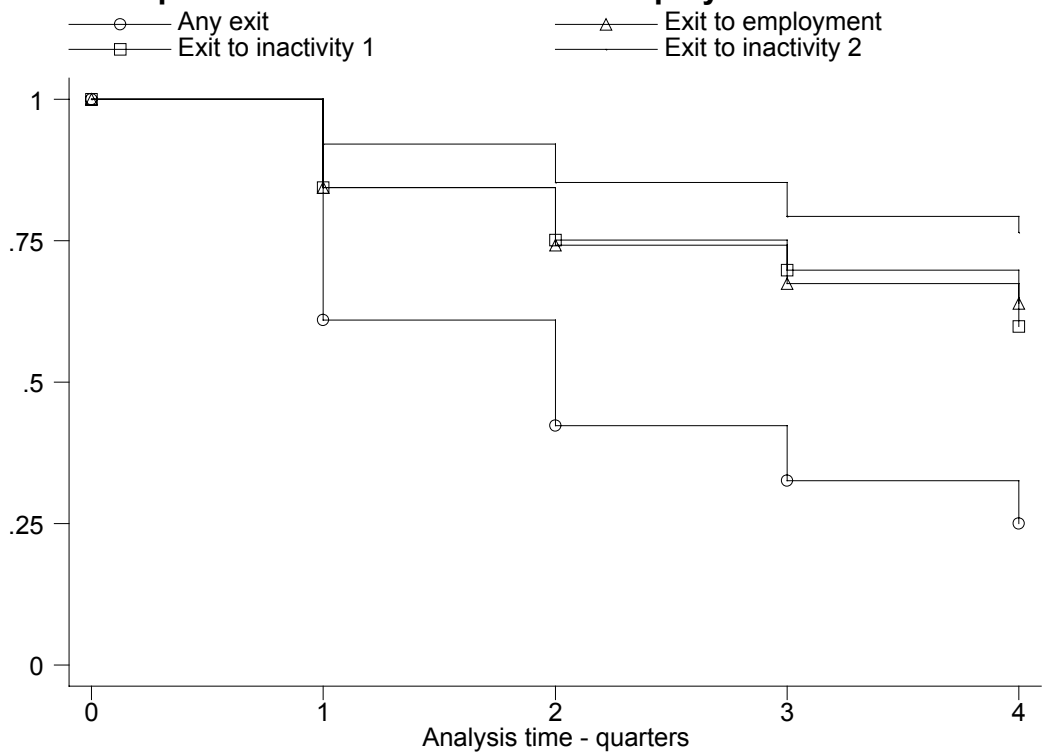


Figure 6.4: Empirical survivor functions - unemployed women



As with couples, descriptive analysis does not take into account any differences in characteristics. Of particular importance is the length of the unemployment spell. By estimating duration models it is possible to 'align' an average individual at the beginning of his or her workless spell and predict how exit rates change as the spell lengthens. It is also possible to predict the effect certain characteristics have on exit rates.

These predicted exit rates for average individuals are presented graphically below. Figure 6.5 considers male exits from unemployment. It is worth spending some time explaining the format of this graph as all those that follow are interpreted in the same way. Also the shading used for the different states remains the same throughout the remainder of this report. The graph shows three curves which illustrate the transitions to different states:

- the black area illustrates movements into work
- the striped area shows moves into type 1 inactivity
- the grey area shows moves into type 2 inactivity
- the speckled area shows moves into unemployment (in this case, remaining unemployed)

The size of these areas illustrates the relative importance of the destinations. Clearly, employment accounts for the largest proportion of predicted exits from unemployment for men. The top area gives an indication of the stability of the initial state. The larger this top area, the more stable is the initial state since fewer exits are predicted.

One important fact has to be kept in mind when interpreting the graphs. The models underlying these predictions only consider the first transition. Thus, the area representing the initial state can only reduce in size over time. In reality, some people will return to the initial state. The interpretations should thus focus more on relative differences between initial states of worklessness comparing the speed of exit and the importance of possible destination states.

Figure 6.5: Predicted exits from unemployment – Men

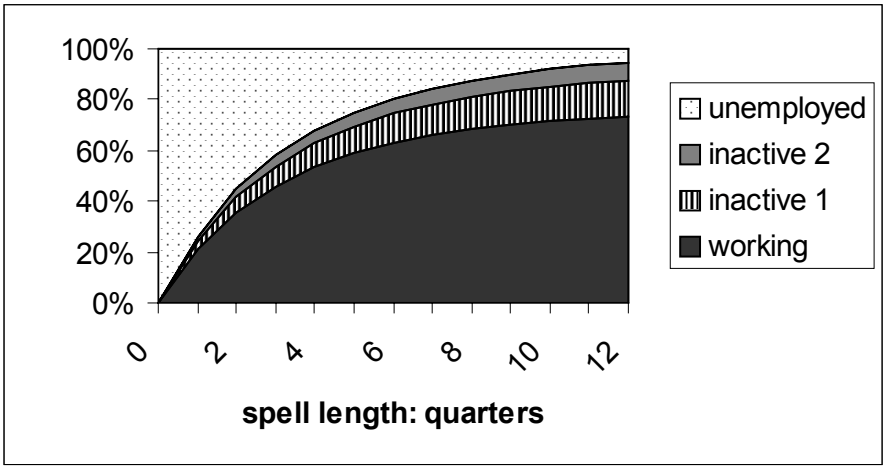
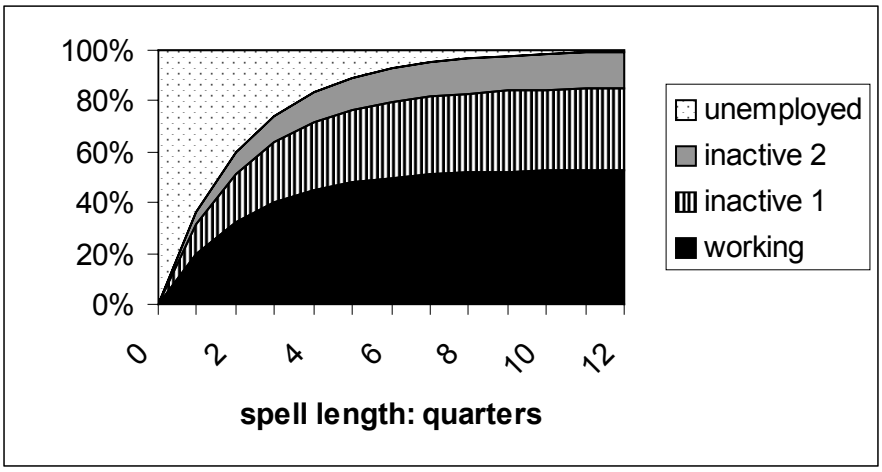


Figure 6.6: Predicted exits from unemployment – Women



Most male exits from unemployment are into work. While this is also the main destination for female exits from unemployment, nearly as many women move into type 1 inactivity. There is also a higher proportion of women moving to type 2 inactivity. Overall, women are likely to exit unemployment more quickly than men, but not necessarily by finding work.

Table 6.3 summarises the estimation results by showing how predicted exit rates vary with individual characteristics. The top line gives the exit probability for a man and a woman with 'average' characteristics (including average spell length). While the previous graphs plotted exit probabilities for an 'average' unemployed person starting their spell, the first row in Table 6.4 gives the probabilities that an 'average' person exits unemployment to one of the other states in the next period given that they have been unemployed for the average spell length. Hence, the

average unemployed man had a 79 per cent chance of still being unemployed in the next quarter. The corresponding figure for women was 66 per cent.
Each subsequent row of the table is derived by altering a single characteristic while holding all others at the average values. Thus the second row shows probabilities for an average individual in the youngest age group with all other characteristics at the average level. Comparing this to individuals in the other age groups gives an indication of the influence age has. The results should be interpreted with some caution in so far as some of these predictions are based on estimated coefficients that were not statistically significant.

Table 6.3: Effect of individual characteristics on unemployment exit

	Men				Women			
	empl.	unempl.	inac. 1	inac. 2	empl.	unempl.	inact. 1	inact. 2
'Average' individual	13	79	5	3	13	66	13	7
Age group:								
up to 30	11	82	4	2	10	70	15	6
31 to 40	12	79	6	2	14	68	12	7
41 to 50	16	76	4	4	20	60	11	10
51 and older	13	77	7	3	20	50	15	15
Youngest child:								
no children	12	81	5	2	12	72	9	6
0-1 years	14	77	4	4	16	45	23	16
2-4 years	12	78	7	3	10	66	13	11
5-10 years	15	78	6	2	18	62	16	4
11+ years	12	80	6	2	14	65	14	6
Non-white	14	79	4	3	8	69	11	11
White	13	79	6	3	14	66	14	7
Highest qualification:								
NVQ4+	15	78	4	3	15	58	23	4
NVQ3	13	81	5	2	12	67	15	6
NVQ2	11	75	8	6	15	63	15	7
NVQ1	17	73	5	5	13	70	5	12
Other	16	79	3	2	12	65	17	6
No qualifications	12	80	6	2	11	67	14	7
Left full-time education								
before 16	12	79	5	4	12	65	17	6
at 16	13	80	5	2	12	68	14	6
at 17 to 18	16	76	6	2	11	69	12	8
at 18 and over	15	76	6	2	24	53	6	17
No health problem	13	80	5	2	14	66	13	7
Health problem	12	78	7	4	9	68	14	9
Workless for:								
0 quarters	22	71	4	2	20	60	12	7
1 year	19	75	4	2	19	62	13	7
2 years	15	78	5	3	17	63	13	7
3 years	13	80	5	3	16	64	13	7

Claiming benefits								
no benefits*	12	72	12	5	12	64	16	8
JSA	13	80	5	2	17	72	7	4
IS	9	81	9	2	13	64	15	7
IB	14	61	17	8	13	58	16	13
IS & IB	12	73	10	6	-	-	-	-
other combination	4	86	9	2	-	-	-	-

* For women, the reference category 'no benefits' also contains women claiming IS & IB or another benefit combination.
Figures might not sum to 100 due to rounding.

Several key results are evident:

- The average woman has a 13 percentage point lower probability of remaining unemployed than the average man. The additional transitions are to inactivity, especially type 1 inactivity. The same percentage of men and women enter work.
- Among men, those aged 41 to 50 have the highest probability of entering work from unemployment. For unemployed women, the highest probability of entering work is among those aged over 41 years. The likelihood of women moving to type 2 inactivity increases with age.
- The presence of children does not seem to affect men's transitions by much. Unemployed women with children below the age of one year are much more likely to move to either type of inactivity. They are also more likely to enter work compared to their counterparts without children. Women with children aged two to four are least likely to move from unemployment to work.
- There are hardly any differences between white and non-white men. White women are more likely to move into work and less likely to move to type 2 inactivity compared to non-white women. However, this prediction is based on an insignificant coefficient.
- There is no clear-cut picture with regard to the level of qualifications. Women with an NVQ1 or equivalent qualification have a markedly higher probability of moving to type 2 inactivity and a lower probability of moving to type 1 inactivity.
- For men, the age of leaving full-time education does not influence transition probabilities much. Women who left full-time education at 18 or over are much less likely to remain unemployed and more likely to either start work or move to type 2 inactivity.
- Having a health problem reduces the probability of moving from unemployment into work for women.
- The picture with regard to the spell length is very clear-cut. The longer the spell the less likely unemployed men and women are to move into work. Increasing the spell length from zero to three years reduces this probability by 7 percentage points for men. The probability of remaining unemployed or moving to inactivity of either type increases with the length of the unemployment spell.

- Men claiming JSA are least likely to move away from the labour market into inactivity of either type. Men claiming IB have the lowest probability of remaining unemployed though most of the transitions are into inactivity. The highest probability of moving into work is predicted among men claiming IS. Unemployed men on other benefit combinations (which can include JSA) have by far the highest probability of remaining in their initial state.

6.3.2 Transitions away from type 1 inactivity

In this section, attention turns to type 1 inactivity. Figures 6.7 and 6.8 describe observed exits from this type of inactivity for men and women respectively.

Figure 6.7: Empirical survivor functions - type 1 inactive men

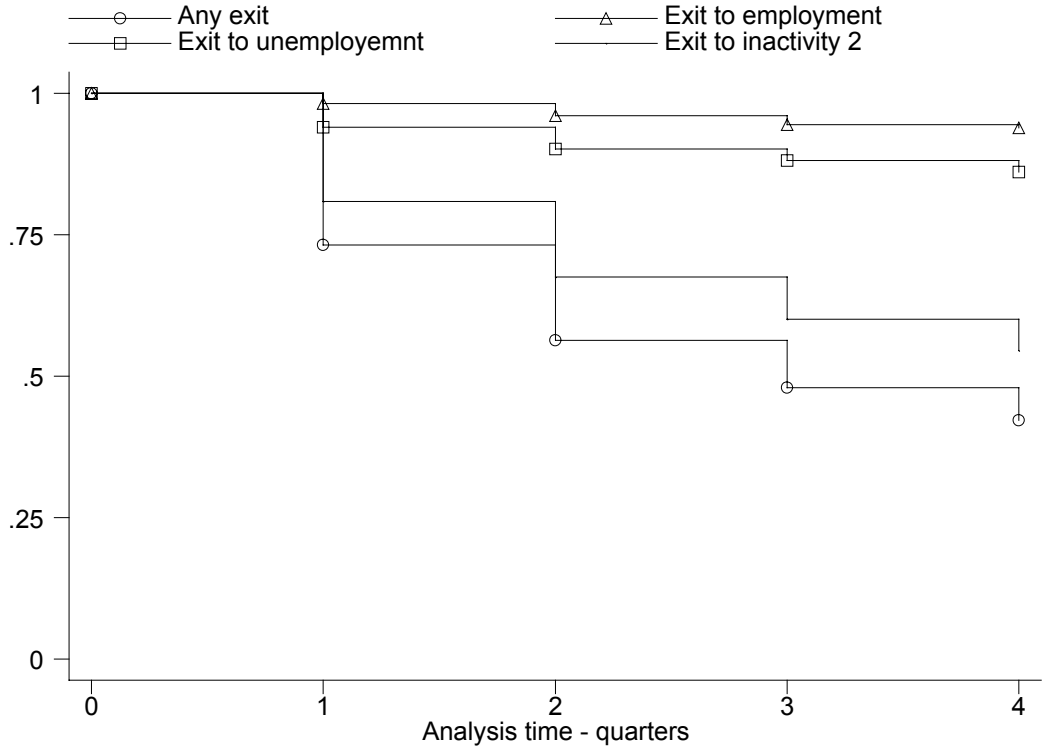
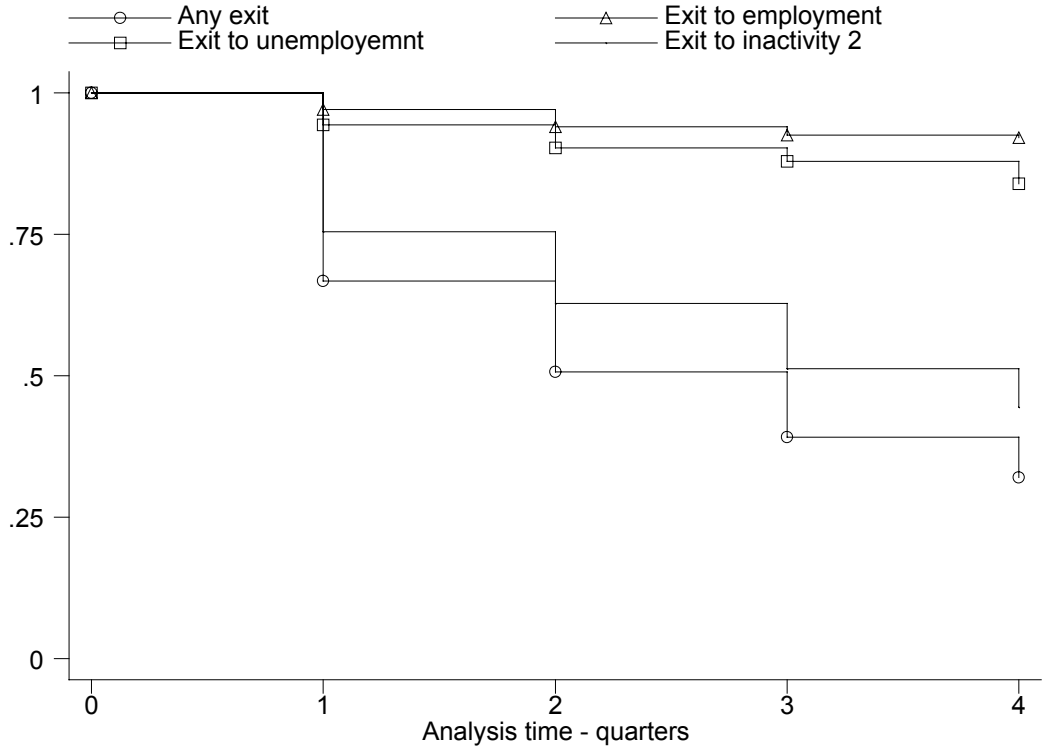


Figure 6.8: Empirical survivor functions - type 1 inactive women



For both men and women, most exits are away from the labour market to type 2 inactivity. Fewer exits to unemployment and employment are observed. Most exits happen at an early stage with fewer at later quarters over the observation period.

Figures 6.9 and 6.10 show a very similar picture for predicted exit rates. For both men and women, more exits take place at the beginning of the inactivity spell. The majority of these exits are to type 2 inactivity. However, within six quarters about 20 per cent had left type 1 inactivity for unemployment or (slightly less often) work.

Figure 6.9: Predicted exits from type 1 inactivity – Men

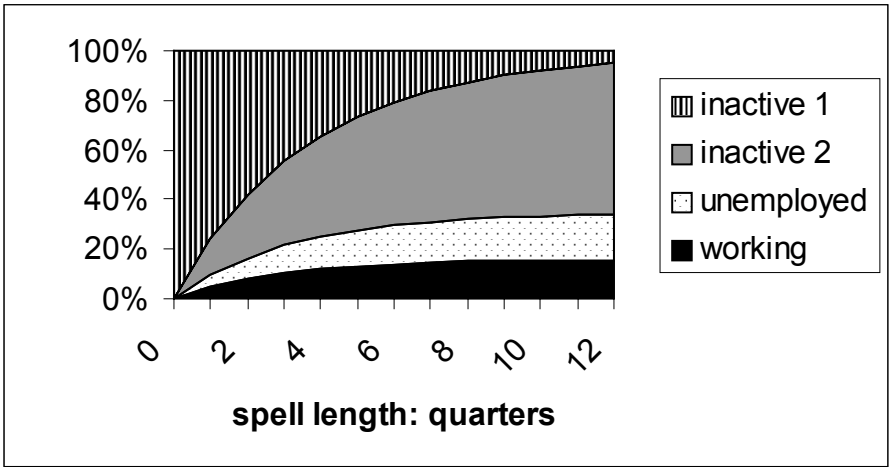


Figure 6.10: Predicted exits from type 1 inactivity – Women

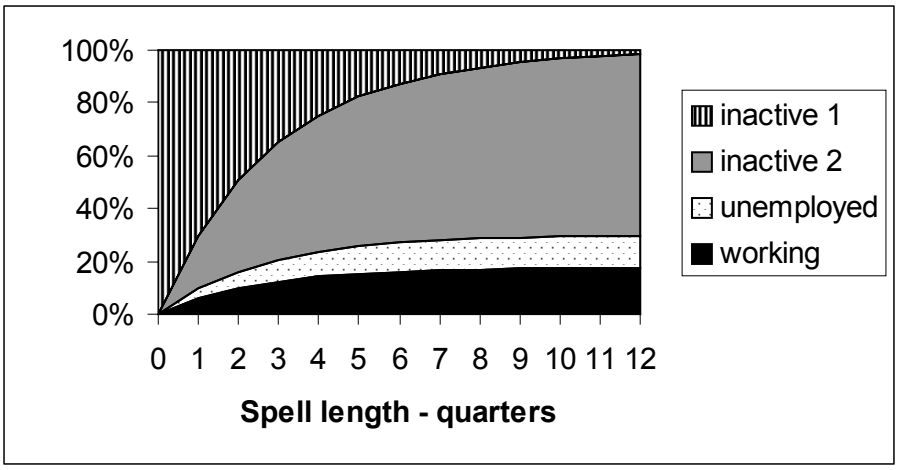


Table 6.4 presents transition probabilities by different characteristics. For the average man, the probability of remaining in the initial state of type 1 inactivity is one percentage point lower than for unemployed men. For women, 72 per cent probability remain type 1 inactive. This is six percentage points higher than the probability of remaining unemployed, indicating that type 1 inactivity is a more stable state.

Table 6.4: Effect of individual characteristics on type 1 inactivity exits

	Men				Women			
	empl.	unempl.	inac. 1	inac. 2	empl.	unempl.	inact. 1	inact. 2
'Average' individual	2	4	78	16	3	5	72	20
Age group:								
up to 30	2	6	78	13	2	7	73	18
31 to 40	3	7	76	15	3	5	73	19
41 to 50	1	4	79	16	3	3	70	24
51 and older	1	2	79	17	2	3	73	22
Youngest child:								
no children	2	6	76	17	3	5	70	22
0-1 years	2	5	78	16	2	4	71	24
2-4 years	2	4	82	12	2	5	73	20
5-10 years	2	3	78	17	3	4	73	20
11+ years	2	4	80	14	3	6	74	16
Non-white	2	6	80	12	1	2	71	26
White	2	4	78	16	3	5	72	20
Highest qualification:								
NVQ4+	2	8	78	11	6	10	69	15
NVQ3	2	5	76	17	4	7	74	16
NVQ2	2	5	79	14	1	4	71	23
NVQ1	2	5	80	14	2	7	74	17
Other	2	4	79	15	4	5	68	23
No qualifications	1	4	78	17	3	4	73	21
Left full-time education								
before 16	2	4	78	16	2	5	74	20
at 16	2	5	78	15	3	5	70	22
at 17 to 18	1	4	80	15	3	4	76	17
at 18 and over	1	1	79	18	3	7	66	24
No health problem	2	4	76	18	3	6	72	19
Health problem	2	5	78	16	2	3	73	22
Workless for:								
0 quarters	6	7	73	14	8	5	68	19
1 year	5	6	75	14	7	5	69	20
2 years	3	6	76	15	5	5	70	20
3 years	2	5	77	15	4	5	71	20
Claiming benefits								
no benefits*	2	6	78	14	3	5	72	20
JSA	5	23	63	9	5	12	54	29
IS	2	3	81	14	-	-	-	-
IB	1	2	76	20	1	3	73	24
IS & IB	1	2	82	15	-	-	-	-
other combination	-	-	-	-	2	1	76	21

* For men, the reference category 'no benefits' also contains other combination and for women it also contains women claiming IS only, or IS & IB.
Figures might not sum to 100 due to rounding.

Some of the main associations between characteristics and transitions are highlighted below:

- The older type 1 inactive individuals are, the more likely they are to move to type 2 inactivity. Men in the youngest age group have a 13 per cent probability of moving to type 2 inactivity while this is 17 per cent for the oldest group. For women these numbers are 18 and 22 per cent, respectively.
- Women with very young children (aged one year or less) are the most likely to move away from the labour market while women with children aged 11 or older are least likely to make a move from type 1 to type 2 inactivity.
- White men are more likely to move to inactivity 2. For women it is the other way round, non-white women are more likely to move away from the labour market while white women are slightly more likely to move to unemployment or work.
- Men with higher qualifications are more likely to move to unemployment. There is no pattern with regard to movements to employment or type 2 inactivity. Having an NVQ4 or a higher qualification increases the probability that women move towards the labour market: 16 per cent move to unemployment or into work. Women with NVQ2 qualifications are less likely to move towards the labour market (five per cent) and more likely to move away to type 2 inactivity (23 per cent).
- The age of leaving full-time education does not seem to affect men's transition probabilities. Women who left full-time education late (at 18 or older) are slightly more likely to move towards the labour market but at the same time also more likely to move to type 2 inactivity.
- Having a long-term health problem affecting work did not appear to be strongly associated with exits from type 1 inactivity.
- There is again a very clear-cut picture with regard to the length of the spell an individual has been workless. The longer the spell, the less likely are moves towards the labour market and the more likely the individual is to remain in the initial state or move away from the labour market. This pattern is valid for men and women.
- Men on JSA are most likely to move from type 1 inactivity. They are by far the most likely to move to unemployment (23 per cent). At the same time men claiming JSA are least likely to move further away from the labour market. A similar picture regarding benefits applies to women. [11]

[11] These results should be interpreted with some care as both the economic status and the benefit situation are self-reported and there is likely to be some error as JSA claimants should be unemployed and not inactive.

6.3.3 Transitions away from type 2 inactivity

The last set of results refers to individuals initially furthest away from the labour market - type 2 inactive. Figures 6.11 and 6.12 show that there were relatively few exits, for either men or women, from type 2 inactivity. This indicates the rigidity of this type of worklessness. The vast majority of observed exits were to type 1 inactivity. There were hardly any transitions into work or unemployment.

Figure 6.11: Empirical survivor functions - type 2 inactive men

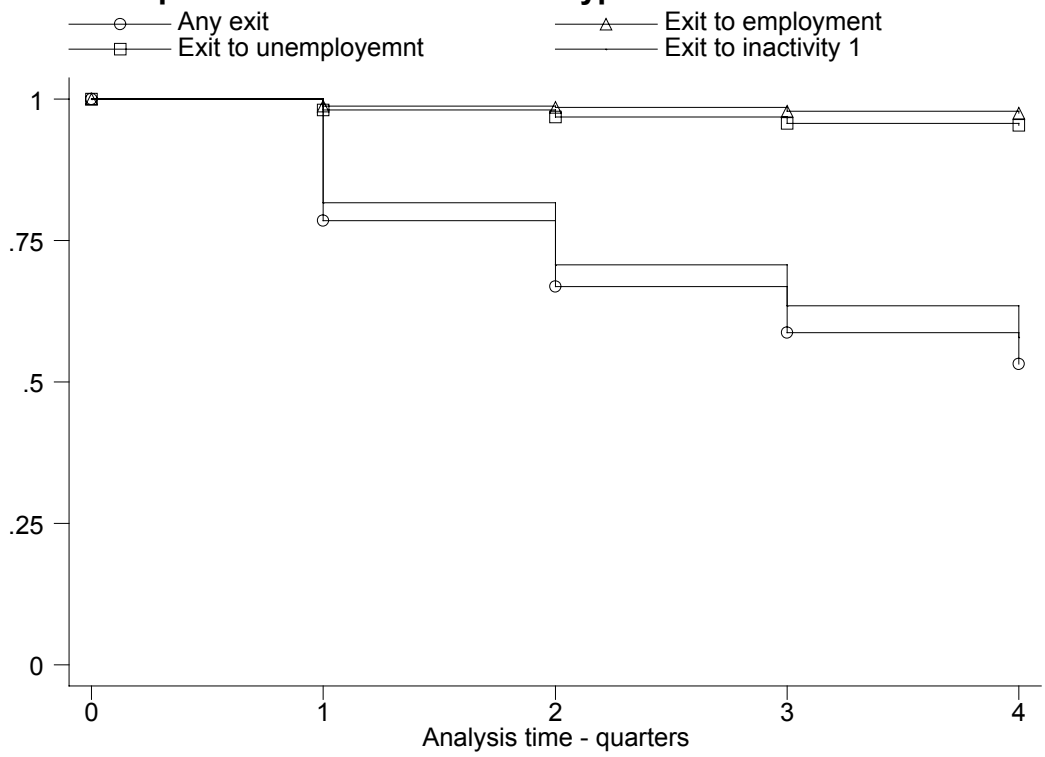
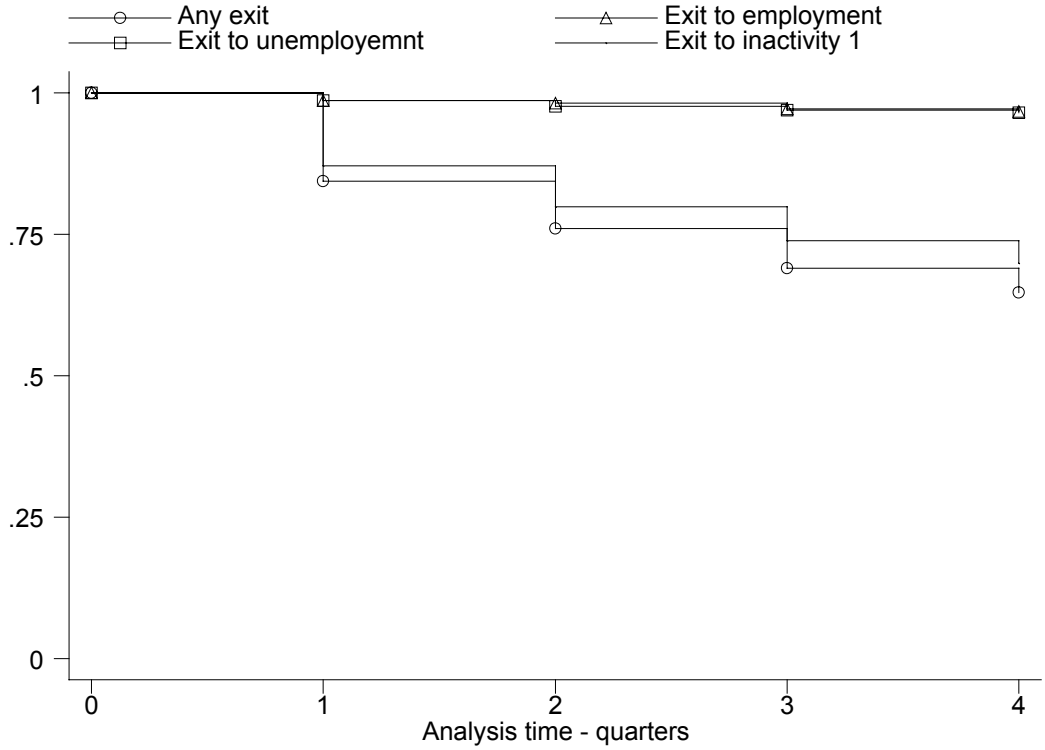


Figure 6.12: Empirical survivor functions - type 2 inactive women



This impression is confirmed when making predictions based on the estimated models. Figures 6.13 and 6.14 show that the proportion remaining in the initial state is much larger than for unemployed and type 1 inactive individuals, especially for women. Type 1 inactivity is by far the most common destination and there are very few movements to unemployment or work. For men, there seem to be slightly more movements to unemployment than to work while the opposite is true for women. In fact, while some transitions into work were predicted for women, there were hardly any for men.

Figure 6.13: Predicted exits from type 2 inactivity – Men

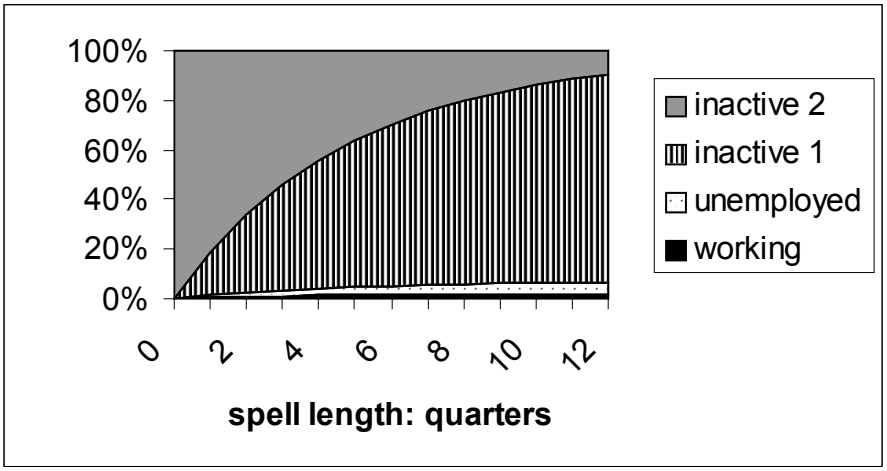


Figure 6.14: Predicted exits from type 2 inactivity – Women

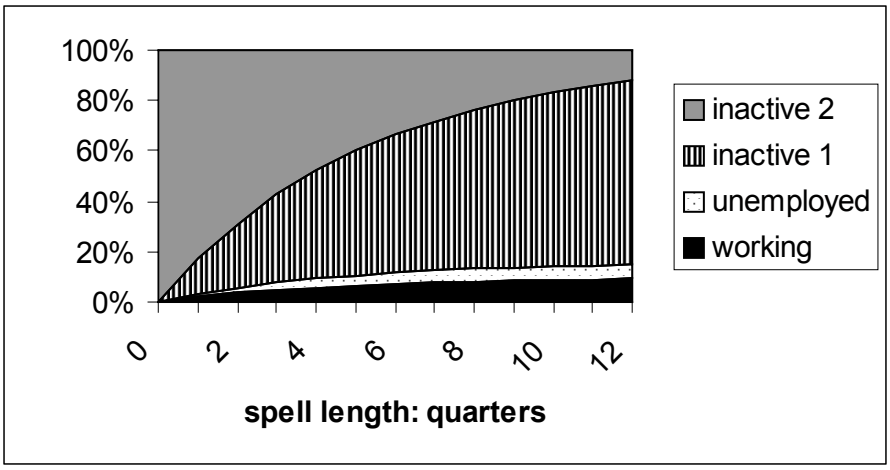


Table 6.5 presents predicted exit probabilities by characteristics. For men, type 2 inactivity is very stable - 84 per cent remain in this initial state. This compares with 79 per cent for unemployed men and 78 per cent for type 1 inactive men. A similar impression of stability emerges when considering women. Eighty-nine per cent remain type 2 inactive, compared to 65 and 72 per cent for unemployment and type 1 inactivity respectively.

Table 6.5: Effect of individual characteristics on type 2 inactivity exits

	Men				Women			
	empl.	unempl.	inac. 1	inac. 2	empl.	unempl.	inact. 1	inact. 2
'Average' individual	1	1	14	84	1	1	10	89
Age group:								
up to 30	1	2	12	86	1	1	10	88
31 to 40	1	3	17	80	1	1	10	87
41 to 50	0	1	17	82	1	1	10	88
51 and older	1	1	1	86	1	0	8	91
Youngest child:								
no children	1	2	15	83	1	1	9	89
0-1 years	1	1	14	84	1	1	8	90
2-4 years	1	2	13	84	1	1	10	88
5-10 years	0	2	13	85	0	1	10	88
11+ years	1	1	15	83	2	1	11	86
Non-white	1	4	7	89	1	1	6	92
White	1	1	15	83	1	1	10	88
Highest qualification:								
NVQ4+	2	1	20	77	1	1	6	92
NVQ3	0	2	13	85	1	1	9	89
NVQ2	1	2	18	79	1	1	10	88
NVQ1					1	1	9	89
Other	1	1	16	82	1	1	12	86
No qualifications	0	1	14	85	1	1	10	88
Left full-time education								
before 16	0	2	14	83	1	1	10	89
at 16	1	1	15	82	1	1	9	89
at 17 to 18	1	1	11	87	1	1	11	87
at 18 and over	1	1	9	89	1	3	8	88
No health problem	1	2	14	83	1	1	9	89
Health problem	1	1	14	84	1	1	10	88
Type 2 inactive for:								
0 quarters	1	2	17	80	3	2	14	81
1 year	1	2	17	81	3	2	13	82
2 years	1	2	16	81	2	2	13	83
3 years	1	2	16	82	2	1	12	84
Claiming benefits								
no benefits*	0	2	16	82	1	1	10	88
JSA	7	10	15	68	2	1	10	87
IS	0	1	13	85	1	1	9	89
IB	1	1	14	85	0	0	9	90
IS & IB	0	1	15	84				
other combination								

* For women, the reference category 'no benefits' also contains women claiming IS & IB or another benefit combination; for men, it also contains other benefit combinations.
Figures might not sum to 100 due to rounding.

Since, for both men and women, there are very few moves to employment or unemployment, much of the interpretation will focus on the relative stability of type 2 inactivity as opposed to moves to type 1 inactivity with less attention to the few moves to unemployment and work. The high stability of the initial state means that there is relatively little variation in the transition probabilities.

- For men, those aged between 31 and 50 years had the highest probability of moving away from type 2 inactivity. For women, there was little variation by age, although those in the oldest age group were most likely to remain type 2 inactive.
- The presence and age of children has little effect on exits from type 2 inactivity. This is true for both men and women.
- Men and women from minority ethnic groups have a larger probability of staying type 2 inactive compared with their white counterparts.
- Having a NVQ4 or higher has a very different effect on men and women. It increases the probability of men moving away from inactivity 2 while women with the highest level of qualifications are least likely to move.
- For men, the age they left full-time education is associated with movements from type 2 inactivity. The older they were when they left full-time education, the more stable is their type 2 inactivity.
- Again, there is a clear pattern with regard to the length of the spell – the longer the spell of worklessness the more stable individuals are in their type 2 inactivity.

6.3.4 The relationship between partners' employment statuses

In the final section of this chapter, attention turns to the question of the relationship between the employment statuses of the two partners. It is a well-established empirical finding that the partners of unemployed men in Britain are less likely to be engaged in paid work than the wives of men who are employed. This subject is considered by, for example, Davies et al. (1992) who conclude that a causal relationship exists between male and female employment statuses within a couple. The analysis that follows allows for the possibility that the relationship can operate in both directions. That is, the model assumes that the man in a couple finding employment can influence the probability of his partner moving closer to the labour market and that the woman finding employment can influence the chances of the man moving closer. This is a similar approach to that used in Dorsett (2001b). Fuller details of this approach are provided in Appendix 1.

All of the individual-level models discussed above took account of this possible correlation across the partners. The results were mixed in terms of whether this association was significant:

- For unemployed men, the partner finding work was associated with either remaining unemployed or moving into employment
- For type 1 inactive men, there was no association
- For type 2 inactive men, the partner finding work was associated with a move into unemployment
- For unemployed women, there was no association
- For type 1 inactive women, the partner finding work was associated with a move into unemployment
- For type 2 inactive women, the partner finding work was associated with a move to type 1 inactivity or unemployment.

Overall, these results suggest an inter-relationship between the partners' statuses. For both men and women, their partner finding work is associated with moving closer to the labour market, although not necessarily entering work. It does not necessarily follow that this is a causal relationship, however. It may be that there are some unobserved characteristics, shared by partners within a couple, that are associated with the probability of moving closer towards the labour market. In this case, the result simply captures the tendency for couples to be polarised with respect to these movements.

Appendix 1 Methodology

Duration models

The econometric results presented in this report are based on two types of model: binomial logistic regression and multinomial logistic regression. These are standard techniques which are routinely used when modelling a dependent variable[12] that is categorical in nature. It is well-acknowledged that such models can be used for the purposes of duration analysis (Allison, 1982). The binomial model is appropriate when the dependent variable is dichotomous. This will be the case when considering worklessness versus non-worklessness, for example. The multinomial model is simply a generalisation of this dichotomous case and allows the dependent variable to indicate one of a set number of states. For the purposes of this research, the multinomial model was used to differentiate between employment, unemployment and the two types of inactivity.

Clearly, individuals are not observed from the start of their worklessness spell. This means that only transitions for those couples or individuals who have remained workless up to the point of first appearing in the data can be observed. Jenkins (1995) shows that this does not pose any problems so long as the length of the spell is known. This highlights the importance of knowing the length of the worklessness spell. In the analysis that follows, this is simply taken as the time since last employment.[13] For those individuals with no previous employment, the spell of worklessness is taken to begin at the time they were aged 16. This implicitly treats any post-16 education as inactivity and in so doing is consistent with the ILO definition of economic inactivity. A complication arises when considering couples. In this case, the length of the worklessness spell is taken to be the minimum of the man's period of worklessness and the woman's period of worklessness. The implicit assumption is that the couple has existed at least as long as the period of worklessness. This assumption is required since there is no information in the dataset on how long the couple has, in fact, existed.

It is worth pointing out one important difference between the dataset used for the econometric analysis and that used for the descriptive analysis. For simplicity and clarity, the descriptive analysis only considered transitions for those couples who were observed five times in the dataset. The duration analysis used in modelling transitions is robust to attrition. That is, the influences on changes in economic status can be estimated across all couples, be they fully-participating or not. However, this relies on the assumption that attrition from the sample is independent of the probability of change in economic status. The descriptive analysis suggests that this was unlikely to be the case, and that focusing on the balanced panel was tantamount to considering a lower bound on the true

[12] The dependent variable is the variable that is to be predicted, ie the variable of interest.
[13] Note that all spells are given as quarters. This is in line with the LFS which carries out interviews each quarter.

proportion moving into work. In the econometric analysis, the full sample was used but, following the approach of Verbeek and Nijman (1992), variables indicating the panel nature of the data were included in an attempt to control for attrition.

The interdependence of partners' employment status

To allow for the influence of one partner's employment status on that of the other, the approach of Mallar (1977) was followed. This is a two-stage approach. In the first stage, two indexes are calculated, one reflecting the underlying propensity for the man to enter employment, the other a similar index for the woman. These indexes are based on two separate logistic regression models of observed employment for men and women, where the regressors in both are all those characteristics affecting either male or female employment. In the second stage, male employment participation is estimated, including as regressors those variables thought to influence male participation together with the index reflecting the propensity of the female to participate that was calculated in the first stage. For women's participation, an analogous model is estimated. The resulting estimates allow for the possibility that the male partner finding employment can influence the probability of his partner doing likewise and that the female partner finding employment can influence the chances of job entry for the man.

Clearly, this approach is suited to the consideration of the case where the dependent variable is dichotomous. When considering individual transitions, the destinations on worklessness exit are also important. In this case, the first stage is identical (estimating the probability of male or female job entry) but the second stage involves a multinomial rather than a binomial logistic regression. Consequently, what the results capture is the effect of one partner moving into work on the other partner moving to one of the other destinations.

Interpreting the estimation results

In the remainder of this appendix, a guide to interpretation of the model results is provided. This is for the benefit of those who are unfamiliar with such models, or with modelling terminology more generally.

The advantage of econometric models over purely descriptive accounts is that they allow the researcher to investigate the extent to which a dependent variable is simultaneously associated with a number of other variables. These other variables are often termed 'independent' or 'explanatory' variables, although one should be cautious in assuming the relationship is causal in nature. To examine the relationship, the dependent variable is 'regressed' on the independent variables with the result that a measure of the separate influence of each independent variable is obtained. An estimate of the statistical significance of the

influence is also obtained. This allows the researcher to reach a view as to what are the most important correlations.

With a logistic regression model, the measures of influence appear as 'odds ratios'. The interpretation of these ratios differs according to whether the independent variable is categorical (that is, it indicates a category such as gender or ethnic group) or continuous (that is, it indicates a quantity such as wages or age). In the categorical case, the ratios represent the extent to which the independent variable is associated with an increase in the odds of the dependent variable taking on a particular value relative to some reference category. To illustrate, if the dependent variable were a binary indicator of whether an individual was in work, the ratio attached to the independent variable indicating presence of children in the household would show the extent to which having a child changed the odds of working relative to not having a child. The term 'odds' is used here exactly as in betting. If an outcome occurs 1 time in ten, the odds-against are 9 to 1 (i.e. 9), and the odds-on are 1 to 9 (i.e. 1/9). If the effect is 1 then the odds are unchanged. If the effect is greater than 1, the odds are increased (become higher), while if the effect is less than 1, the odds are decreased (become lower).

When the independent variable is continuous, the interpretation of the odds ratio is slightly different. Now it represents the effect on the odds of a unit increase in the value of the predictor variable. Thus, considering the same dependent variable but a continuous independent variable (minimum net hourly pay for which the respondent will work), the odds ratio represents the marginal impact of each extra pound of expected earnings on the odds of being in work. The estimated odds ratio can be small in size for continuous variables, depending on the scale used. For example, the estimated effect of the length of non-employment spell would be smaller if measured in weeks that it would if measured in years.

With a multinomial logistic regression model, the interpretation is slightly different. Now the estimated effects show the association between an independent variable and the odds of the dependent variable taking a particular value *relative* to it taking another value. To make this more transparent, consider the case in which the dependent variable is the individual's economic status which can be either employed, unemployed or inactive. There may be interest in the effect on employment status of there being children in the household compared to the situation in which children are not present. The results will show this effect as it relates to a reference category of the dependent variable. Taking inactivity as the reference category, the results can show how the presence of children increases the odds of being employed rather than inactive, or of being unemployed rather than inactive.

Appendix 2 Results for couples

Table A1: Modelling exits from worklessness

	All couples	At least 1 unempl.	Both inac. 1	Inact. 1 & 2	Both inac. 2
Age group male partner					
up to 30	1.268	1.071	2.179	1.753	1.449
	(1.46)	(0.35)	(1.21)	(0.85)	(0.63)
31 to 40	1.271	1.027	2.967	1.590	2.292
	(1.58)	(0.14)	(1.78)	(0.88)	(1.92)
41 to 50	1.344	1.346	1.442	1.706	0.750
	(2.13)*	(1.63)	(0.80)	(1.10)	(0.71)
Youngest child:					
0-1 years	0.996	1.049	1.321	0.904	0.493
	(0.03)	(0.33)	(0.44)	(0.17)	(1.13)
2-4 years	1.034	0.956	0.805	2.259	0.622
	(0.24)	(0.28)	(0.31)	(1.51)	(0.98)
5-10 years	1.141	1.248	0.636	1.492	0.343
	(0.98)	(1.38)	(0.73)	(0.84)	(1.89)
11+ years	1.184	1.066	1.443	1.062	1.702
	(1.19)	(0.37)	(0.64)	(0.11)	(1.45)
Either partner not white	0.806	0.849	0.642	0.426	0.574
	(1.56)	(1.09)	(0.48)	(1.09)	(0.92)
Highest qualifications of either partner:					
NVQ4+	1.538	1.407	3.271	2.148	1.497
	(2.77)**	(1.79)	(2.33)*	(1.74)	(1.06)
NVQ3	1.327	1.287	0.715	1.980	1.250
	(2.74)**	(2.04)*	(0.82)	(2.09)*	(0.66)
NVQ2	1.157	1.157	0.627	1.648	0.792
	(1.35)	(1.18)	(1.11)	(1.20)	(0.50)
NVQ1	1.466	1.429	0.768	2.801	1.155
	(3.05)**	(2.46)*	(0.40)	(2.71)**	(0.28)
Other	1.267	1.328	0.704	1.658	1.244
	(1.97)*	(1.96)	(0.61)	(1.34)	(0.55)
SOC male partner					
Manager & administrator	1.797	1.518	4.143	0.409	3.933
	(2.31)*	(1.32)	(2.50)*	(1.31)	(2.90)**
Professional	1.279	1.524	0.515	1.402	0.901
	(1.26)	(1.85)	(0.60)	(0.70)	(0.15)
Associate professional & technical	1.075	1.396	1.039	0.500	0.413
	(0.45)	(1.79)	(0.05)	(0.81)	(1.17)
Clerical & secretarial	1.138	1.114	1.082	2.230	1.750
	(0.58)	(0.42)	(0.09)	(1.26)	(0.67)
Personal, protective services	1.137	1.322	0.681	0.673	1.107
	(1.12)	(2.03)*	(0.80)	(0.90)	(0.24)
Sales	0.882	0.962	0.680	0.548	2.275
	(0.88)	(0.23)	(0.62)	(0.95)	(1.89)
Plant & machine operatives	1.797	1.518	4.143	0.409	3.933
	(2.31)*	(1.32)	(2.50)*	(1.31)	(2.90)**
Other occupations	1.279	1.524	0.515	1.402	0.901
	(1.26)	(1.85)	(0.60)	(0.70)	(0.15)

Long term health problem					
Affecting work: either partner	0.708	0.669	0.612	0.912	0.383
	(3.40)**	(3.60)**	(0.98)	(0.18)	(2.12)*
Affecting work: both partners	0.778	0.940	0.782	1.119	0.626
	(1.83)	(0.31)	(0.57)	(0.31)	(1.58)
Length of non-employment spell	0.939	0.937	0.886	0.918	0.972
	(9.36)**	(5.53)**	(4.27)**	(4.46)**	(1.43)
Length of spell, squared	1.000	1.001	1.001	1.001	1.000
	(6.37)**	(2.68)**	(3.69)**	(3.95)**	(0.56)
Initial state of worklessness					
Both inactive 1	0.555				
	(2.92)**				
Inactive 1 & 2	0.474				
	(4.20)**				
Both inactive 2	0.284				
	(6.35)**				
Couple claiming JSA	1.234	1.554			
	(0.94)	(1.51)			
Male partners benefits					
IS	0.806	1.183	0.466	0.515	0.350
	(0.85)	(0.43)	(1.45)	(1.33)	(1.66)
IB	0.954	1.701	0.393	0.740	0.514
	(0.22)	(1.60)	(1.81)	(0.71)	(1.50)
IS & IB	0.563	1.420	0.326	0.311	0.156
	(2.18)*	(0.79)	(1.83)	(2.22)*	(2.99)**
Other benefit (combination)	0.370	0.312	0.170	0.123	0.283
	(3.10)**	(2.29)*	(2.55)*	(2.43)*	(1.99)*
Female partners benefits					
IS	1.087	0.894	0.196	1.695	1.087
	(0.35)	(0.35)	(1.24)	(0.99)	(0.12)
IB	0.934	1.494	0.238	0.460	0.672
	(0.41)	(1.80)	(1.99)*	(1.48)	(0.92)
IS & IB	0.382		1.330	0.204	0.516
	(1.79)		(0.28)	(1.52)	(0.89)
Other benefit (combination)	0.647	0.436	0.844	0.706	0.596
	(1.78)	(2.12)*	(0.26)	(0.54)	(0.87)
Interview in:					
1997	0.718	0.681	0.633	0.855	0.529
	(2.98)**	(2.91)**	(1.00)	(0.41)	(1.80)
1998	0.830	0.926	0.485	0.901	0.329
	(1.65)	(0.58)	(1.44)	(0.27)	(2.70)**
1999	0.809	0.894	0.598	0.910	0.543
	(1.73)	(0.77)	(1.04)	(0.21)	(1.72)
2000	0.718	0.681	0.633	0.855	0.529
	(2.98)**	(2.91)**	(1.00)	(0.41)	(1.80)
Quarter 2	0.912	0.965	0.451	1.346	0.708
	(0.81)	(0.26)	(1.78)	(0.89)	(1.02)
Quarter 3	0.955	1.130	0.509	0.816	0.479
	(0.40)	(0.90)	(1.54)	(0.56)	(2.00)*
Quarter 4	0.888	1.060	0.446	0.642	0.584
	(1.02)	(0.42)	(1.78)	(1.12)	(1.55)

couple not observed in all waves	0.838	0.819	1.205	0.359	1.117
	(1.93)	(1.90)	(0.44)	(2.65)**	(0.34)
LFS interview 3	0.882	0.873	1.736	0.767	0.746
	(1.23)	(1.13)	(1.35)	(0.79)	(0.85)
LFS interview 4	0.817	0.787	1.073	1.042	0.906
	(1.79)	(1.77)	(0.14)	(0.12)	(0.28)
LFS interview 5	0.763	0.627	2.062	1.111	1.089
	(2.20)*	(3.09)**	(1.65)	(0.28)	(0.24)
Observations	11989	3754	1516	2390	4278

Robust z-statistics in parentheses
* significant at 5% level; ** significant at 1% level

Reference categories for the categorical variables: aged 51 or over; no children; no qualifications; craft & related occupation; neither has health problem affecting work; at least one unemployed; not claiming any non-JSA benefit; interview in 1996; interview in quarter 1; LFS interview 2

Appendix 3 Results for individuals

Table A2: Modelling exits at the individual level: Men

Initial state	unemployed			Inactive type 1			Inactive type 2		
Exit to:	working	inactive 1	inactive 2	working	unemployed	inactive 2	working	unemployed	inactive 1
Age group:									
up to 30	0.812	0.522	0.571	2.512	2.799	0.780	1.056	2.885	0.971
	(0.92)	(1.95)	(1.12)	(1.45)	(2.39)*	(0.89)	(0.08)	(1.76)	(0.12)
31 to 40	0.889	0.885	0.623	3.108	3.170	0.900	1.543	5.005	1.504
	(0.54)	(0.44)	(1.05)	(2.01)*	(3.04)**	(0.51)	(0.54)	(2.56)*	(2.19)*
41 to 50	1.241	0.631	1.251	1.364	1.495	0.935	0.640	2.411	1.447
	(0.99)	(1.65)	(0.54)	(0.61)	(1.15)	(0.47)	(0.70)	(1.77)	(2.80)**
Youngest child:									
0-1 years	1.286	0.940	2.144	0.965	0.789	0.894	1.867	0.687	0.958
	(1.47)	(0.21)	(1.82)	(0.06)	(0.67)	(0.45)	(0.83)	(0.65)	(0.18)
2-4 years	1.069	1.502	1.397	1.191	0.519	0.678	1.496	0.904	0.875
	(0.36)	(1.55)	(0.84)	(0.30)	(1.75)	(1.64)	(0.66)	(0.17)	(0.64)
5-10 years	1.292	1.270	0.783	0.880	0.398	0.998	0.651	0.777	0.851
	(1.39)	(0.91)	(0.55)	(0.24)	(2.36)*	(0.01)	(0.49)	(0.44)	(1.03)
11+ years	0.994	1.425	1.121	1.100	0.629	0.777	1.927	0.397	1.023
	(0.03)	(1.35)	(0.28)	(0.17)	(1.24)	(1.41)	(0.95)	(1.97)*	(0.15)
non-white	1.067	0.736	1.373	0.869	1.476	0.723	0.979	2.880	0.438
	(0.36)	(0.96)	(0.83)	(0.18)	(0.81)	(1.21)	(0.02)	(2.10)*	(3.55)**
Highest qual.:									
NVQ4 +	1.390	0.683	1.249	2.141	2.485	0.646	9.997	0.493	1.660
	(1.23)	(0.95)	(0.43)	(1.12)	(1.70)	(1.18)	(2.74)**	(0.54)	(1.90)
NVQ3	1.100	0.838	0.758	1.807	1.340	1.024	0.888	1.168	0.956
	(0.60)	(0.75)	(0.70)	(1.31)	(0.96)	(0.16)	(0.14)	(0.36)	(0.33)
NVQ2	1.035	1.475	2.886	1.650	1.302	0.786	5.630	1.886	1.431
	(0.19)	(1.54)	(2.83)**	(0.90)	(0.65)	(1.00)	(2.16)*	(1.13)	(1.88)
NVQ1	1.610	0.942	2.648	1.434	1.318	0.788			
	(2.27)*	(0.17)	(2.26)*	(0.60)	(0.66)	(0.90)			

other	1.472	0.508	1.004	1.419	0.975	0.901	4.164	1.095	1.192
	(2.11)*	(2.13)*	(0.01)	(0.67)	(0.07)	(0.62)	(2.24)*	(0.18)	(1.06)
Left education:									
before 16	0.920	0.909	1.970	0.951	0.766	1.111	0.487	1.386	0.902
	(0.61)	(0.50)	(2.48)*	(0.13)	(1.04)	(0.69)	(1.10)	(0.91)	(0.84)
17-18	1.304	1.253	1.054	0.620	0.698	0.972	0.752	0.727	0.655
	(1.36)	(0.72)	(0.11)	(0.72)	(0.82)	(0.10)	(0.45)	(0.49)	(1.64)
over 18	1.254	1.236	1.259	0.556	0.237	1.210	0.635	0.610	0.527
	(0.99)	(0.57)	(0.45)	(0.88)	(2.20)*	(0.61)	(0.66)	(0.50)	(2.10)*
long-term	0.897	1.415	1.914	1.014	1.081	0.813	0.438	0.653	1.016
health prob.	(0.78)	(1.82)	(2.56)*	(0.03)	(0.25)	(1.03)	(1.38)	(0.82)	(0.09)
length of spell	0.936	1.013	0.998	0.906	0.966	1.004	0.971	0.985	0.992
	(7.95)**	(1.41)	(0.14)	(3.45)**	(2.70)**	(0.60)	(1.11)	(0.67)	(1.44)
square of spell	1.000	1.000	1.000	1.001	1.000	1.000	1.000	1.000	1.000
length	(5.19)**	(0.03)	(0.46)	(2.87)**	(2.31)*	(0.47)	(0.47)	(0.10)	(0.50)
Benefits									
JSA	1.037	0.341	0.418	4.483	5.735	0.760	25.414	7.264	1.140
	(0.15)	(4.05)**	(2.27)*	(2.80)**	(4.87)**	(0.78)	(4.57)**	(3.93)**	(0.31)
IS	0.675	0.661	0.265	1.033	0.507	0.932	0.438	0.433	0.800
	(0.68)	(0.78)	(1.22)	(0.06)	(1.81)	(0.33)	(0.61)	(1.26)	(1.13)
IB	1.422	1.779	1.797	0.807	0.406	1.434	1.142	0.470	0.814
	(0.57)	(1.09)	(0.80)	(0.42)	(2.35)*	(1.98)*	(0.16)	(1.52)	(1.17)
IS & IB	0.966	0.847	1.172	0.505	0.297	0.980	0.966	0.310	0.880
	(0.06)	(0.27)	(0.20)	(1.14)	(2.95)**	(0.10)	(0.03)	(1.62)	(0.72)
other benefit	0.246	0.654	0.296						
	(1.81)	(0.92)	(1.41)						
Interview in									
1998	0.597	0.617	1.235	0.578	0.483	0.842	1.030	0.360	0.921
	(3.37)**	(2.16)*	(0.65)	(1.18)	(2.54)*	(1.09)	(0.05)	(2.23)*	(0.56)
1999	0.901	0.736	1.195	0.636	0.546	0.754	0.332	0.431	1.030
	(0.70)	(1.37)	(0.51)	(0.99)	(2.14)*	(1.70)	(1.53)	(1.71)	(0.19)
2000	0.899	0.759	1.406	0.757	0.443	0.882	0.892	0.472	0.924

	(0.66)	(1.12)	(0.96)	(0.65)	(2.34)*	(0.73)	(0.16)	(1.95)	(0.50)
Quarter 2	1.083	1.153	0.822	0.884	1.402	0.925	0.617	0.504	0.859
	(0.51)	(0.63)	(0.61)	(0.30)	(1.08)	(0.49)	(0.79)	(1.33)	(1.06)
Quarter 3	1.143	0.833	0.998	0.908	1.479	1.082	0.398	0.841	0.900
	(0.87)	(0.74)	(0.01)	(0.24)	(1.26)	(0.50)	(1.37)	(0.39)	(0.74)
Quarter 4	0.945	1.139	0.753	0.598	1.641	1.108	0.733	0.910	1.008
	(0.35)	(0.58)	(0.86)	(1.08)	(1.60)	(0.64)	(0.59)	(0.24)	(0.06)
not observed in all waves	0.910	1.092	1.203	0.581	0.986	1.069	0.744	1.537	0.850
	(0.77)	(0.46)	(0.70)	(1.48)	(0.06)	(0.51)	(0.50)	(1.21)	(1.30)
LFS interview									
Number 3	0.959	0.947	1.247	1.197	0.765	0.760	0.552	0.779	0.702
	(0.31)	(0.27)	(0.77)	(0.50)	(1.05)	(2.06)*	(1.22)	(0.61)	(2.86)**
Number 4	0.901	0.805	1.244	1.008	0.640	0.500	0.556	1.111	0.568
	(0.66)	(0.92)	(0.71)	(0.02)	(1.50)	(4.22)**	(0.88)	(0.29)	(3.94)**
Number 5	0.824	0.874	0.937	1.285	0.639	0.505	0.329	0.232	0.463
	(1.13)	(0.52)	(0.17)	(0.55)	(1.39)	(3.68)**	(1.30)	(2.27)*	(4.72)**
Partner's prob. of emp	1.172	1.211	0.930	0.999	1.013	1.003	1.023	1.317	1.064
	(2.56)*	(1.99)*	(0.48)	(0.02)	(0.20)	(0.09)	(0.17)	(2.30)*	(1.72)
Observations	3256	3256	3256	2646	2646	2646	3500	3500	3500

Robust z-statistics in parentheses
* significant at 5% level; ** significant at 1% level

Reference categories for the categorical variables: aged 51 or over; no children; no qualifications; left full-time education at 16; no benefit (for unemployed and inactive 1), no benefit or other combination (for inactive 2); interview in 1996; interview in quarter 1; LFS interview 2.

Table A3: Modelling exits at the individual level: Women

Initial state	unemployed			Inactive type 1			Inactive type 2		
Exit to:	working	inactive 1	inactive 2	working	unemployed	inactive 2	working	unemployed	inactive 1
Age group:									
up to 30	0.312	0.719	0.219	1.109	2.533	0.823	1.328	4.368	1.307
	(2.38)*	(0.62)	(2.29)*	(0.17)	(1.84)	(0.80)	(0.56)	(2.09)*	(1.46)
31 to 40	0.462	0.593	0.272	1.808	1.796	0.853	1.618	3.663	1.416
	(1.46)	(0.94)	(1.83)	(0.94)	(1.14)	(0.70)	(1.08)	(1.98)*	(2.09)*
41 to 50	0.801	0.581	0.487	1.509	1.317	1.118	1.422	3.325	1.379
	(0.45)	(1.01)	(1.20)	(0.81)	(0.63)	(0.64)	(0.81)	(2.05)*	(2.62)**
Youngest child:									
0-1 years	2.230	4.231	4.770	0.642	0.669	1.075	0.418	0.819	0.930
	(1.70)	(3.46)**	(2.84)**	(0.82)	(0.96)	(0.31)	(1.80)	(0.41)	(0.40)
2-4 years	0.911	1.607	2.031	0.856	0.935	0.891	0.549	1.250	1.178
	(0.18)	(1.07)	(1.23)	(0.30)	(0.17)	(0.53)	(1.20)	(0.46)	(0.94)
5-10 years	1.842	2.086	0.727	1.078	0.808	0.863	0.327	1.340	1.175
	(1.62)	(2.00)*	(0.47)	(0.17)	(0.55)	(0.75)	(1.94)	(0.67)	(1.04)
11+ years	1.372	1.740	1.027	1.299	1.202	0.686	1.398	1.438	1.284
	(0.80)	(1.44)	(0.05)	(0.63)	(0.52)	(2.14)*	(0.87)	(0.83)	(1.93)
non-white	0.550	0.776	1.680	0.375	0.321	1.305	0.593	0.460	0.611
	(1.19)	(0.54)	(1.00)	(1.13)	(2.06)*	(1.12)	(0.89)	(1.71)	(2.94)**
Highest qual.:									
NVQ4 +	1.642	2.031	0.579	2.665	2.832	0.756	1.358	0.423	0.610
	(0.94)	(1.14)	(0.72)	(1.39)	(1.65)	(0.81)	(0.51)	(1.12)	(1.86)
NVQ3	1.042	1.117	0.814	1.338	1.825	0.743	0.676	0.489	0.969
	(0.08)	(0.22)	(0.29)	(0.60)	(1.61)	(1.30)	(0.75)	(1.19)	(0.18)
NVQ2	1.462	1.172	1.050	0.458	1.197	1.164	1.029	0.939	1.032
	(1.14)	(0.54)	(0.10)	(1.97)*	(0.60)	(0.93)	(0.08)	(0.19)	(0.24)
NVQ1	1.144	0.339	1.592	0.850	1.786	0.778	0.775	0.856	0.907
	(0.32)	(2.24)*	(0.84)	(0.31)	(1.75)	(1.16)	(0.49)	(0.35)	(0.58)
other	1.102	1.294	0.779	1.546	1.479	1.171	0.737	0.854	1.356
	(0.21)	(0.53)	(0.35)	(0.91)	(0.96)	(0.74)	(0.57)	(0.29)	(1.90)

Left education:									
before 16	1.039	1.350	1.166	0.611	0.951	0.831	0.911	0.755	1.026
	(0.12)	(0.99)	(0.31)	(1.27)	(0.18)	(1.34)	(0.33)	(0.84)	(0.25)
17-18	0.883	0.856	1.540	0.909	0.795	0.702	0.949	0.765	1.195
	(0.32)	(0.36)	(0.81)	(0.20)	(0.67)	(1.83)	(0.11)	(0.56)	(1.19)
over 18	2.712	0.612	4.503	1.305	1.697	1.129	1.462	2.746	0.838
	(2.23)*	(0.76)	(2.58)**	(0.43)	(1.11)	(0.39)	(0.60)	(1.65)	(0.68)
long-term	0.571	1.053	1.326	0.500	0.575	1.116	0.455	0.804	1.134
health prob.	(1.80)	(0.15)	(0.67)	(1.95)	(1.92)	(0.83)	(2.44)*	(0.62)	(1.19)
length of spell	0.971	1.003	1.000	0.940	0.989	1.002	0.955	0.970	0.989
	(2.01)*	(0.20)	(0.02)	(4.64)**	(0.96)	(0.35)	(3.44)**	(2.77)**	(2.49)*
square of spell	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
length	(0.07)	(0.60)	(0.26)	(3.76)**	(1.24)	(0.58)	(2.18)*	(2.17)*	(0.65)
Benefits									
JSA	1.300	0.361	0.467	2.643	3.481	2.016	2.455	1.256	1.052
	(0.98)	(2.94)**	(1.91)	(1.40)	(2.31)*	(1.60)	(1.18)	(0.26)	(0.08)
IS	1.094	0.997	0.854				1.745	0.691	0.905
	(0.13)	(0.01)	(0.21)				(1.07)	(0.67)	(0.51)
IB	1.296	1.104	1.933	0.229	0.490	1.184	0.109	0.290	0.947
	(0.21)	(0.09)	(0.61)	(1.75)	(1.27)	(0.87)	(2.13)*	(1.90)	(0.38)
Other benefits				0.801	0.132	0.999			
				(0.31)	(2.10)*	(0.01)			
Interview in									
1998	0.668	0.949	3.066	0.562	1.214	1.552	1.000	0.906	0.817
	(1.28)	(0.18)	(2.43)*	(1.57)	(0.70)	(2.89)**	(0.00)	(0.29)	(1.75)
1999	0.859	0.875	3.767	0.552	0.947	1.372	0.702	0.826	0.912
	(0.44)	(0.39)	(2.73)**	(1.58)	(0.19)	(1.95)	(0.97)	(0.58)	(0.80)
2000	1.108	1.142	1.720	0.491	0.672	1.291	0.827	0.756	0.755
	(0.29)	(0.33)	(0.94)	(1.80)	(1.18)	(1.49)	(0.51)	(0.78)	(2.27)*

Quarter 2	0.761	0.818	1.374	0.502	0.697	0.841	1.049	1.207	0.932
	(0.83)	(0.65)	(0.63)	(1.67)	(1.25)	(1.17)	(0.14)	(0.54)	(0.61)
Quarter 3	0.914	0.959	2.912	0.756	0.704	0.819	1.066	1.374	0.985
	(0.29)	(0.13)	(2.30)*	(0.76)	(1.23)	(1.34)	(0.18)	(0.94)	(0.13)
Quarter 4	0.693	0.866	1.725	0.754	0.658	0.782	0.988	0.869	0.855
	(1.09)	(0.44)	(1.11)	(0.75)	(1.46)	(1.65)	(0.03)	(0.37)	(1.34)
not observed in all waves	0.966	0.743	1.294	0.996	1.156	0.889	0.912	1.874	1.116
	(0.13)	(1.10)	(0.71)	(0.01)	(0.63)	(0.93)	(0.29)	(2.39)*	(1.16)
LFS interview Number 3	0.650	0.970	1.147	0.879	0.732	0.501	0.416	0.803	0.694
	(1.50)	(0.11)	(0.41)	(0.41)	(1.20)	(4.98)**	(2.45)*	(0.75)	(3.56)**
Number 4	0.663	0.727	0.575	0.470	0.777	0.544	0.620	0.553	0.615
	(1.20)	(0.91)	(1.09)	(1.67)	(0.91)	(3.99)**	(1.44)	(1.70)	(4.14)**
Number 5	0.489	0.677	0.774	0.598	0.731	0.434	0.292	0.279	0.542
	(1.68)	(0.96)	(0.51)	(1.18)	(0.99)	(4.74)**	(2.64)**	(2.78)**	(4.65)**
Partner's prob. of emp	0.969	0.930	1.101	1.207	1.279	1.025	1.210	1.447	1.006
	(0.41)	(0.95)	(0.85)	(1.93)	(3.82)**	(0.75)	(2.43)*	(4.06)**	(0.23)
Observations	755	755	755	2321	2321	2321	7209	7209	7209

Robust z-statistics in parentheses
* significant at 5% level; ** significant at 1% level

Reference categories for the categorical variables: aged 51 or over; no children; no qualifications; left full-time education at 16; claiming no benefit or IS & IB (for inactive 1), claiming no benefit, IS & IB or other combination (for unemployed and inactive 2); interview in 1996; interview in quarter 1; LFS interview 2.

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