

Moving for Job Reasons

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Abstract

In any economy, people are constantly moving around to take new jobs. This process is important to the efficiency of a nation. Yet little is known about it. The paper uses some of the first British panel data to examine the microeconomic determinants of residential mobility for job reasons. Two conclusions stand out. First, there is a marked asymmetry between males and females. When women are in relationships, they are less mobile than men for own job reasons, and more mobile for partner's job reasons. The most mobile males are those living with a partner who does not work. Second, private rental housing seems to help to foster a more mobile workforce. These effects are robust to controls for both person fixed-effects and potential endogeneity. The paper also studies the effects of IQ, education, and other personal characteristics.

Keywords: Mobility, jobs, housing tenure, female participation.

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1 Introduction

Every economy is in a kind of natural turmoil. Old jobs are constantly dying. New ones are being born. If they wish to stay in work, individuals have somehow to adapt to these changes. One way in which they do so is to move from place to place -- to take new kinds of employment, be closer to a workplace, and leave behind depressed areas.

This paper is an attempt to understand these mechanisms. What determines employees' spatial job-mobility? Do demographic forces, like gender, make a significant difference? Is it economic influences that dominate? Do housing characteristics shape moving behaviour? To explore these issues, the paper uses longitudinal data from the UK National Child Development Study and the British Household Panel Study. These data have the unusual advantage that respondents are asked the reasons why they moved.

2 Background

The empirical literature on this topic -- moving residence for job reasons -- is a tiny one. However, many economists have written about mobility in a more general way.

Ehrenberg and Smith (1991) and Hamermesh and Rees (1993) point out that migration and mobility are manifestations of a search process. Mobility is associated with short-run losses of income, and with moving and psychic costs. These imply there is a significant investment associated with any move -- requiring a return over ensuing years. The young are therefore likely to be more mobile. They have a greater number of years from which to benefit from the investment of a move, and may have lower psychic and family costs. One formal model is that of Hey and McKenna (1979). Because few offers are acceptable to them, high-wage earners need less incentive to move. On the other hand, low-wage earners face greater uncertainty (a more beneficial offer may be around the corner) and need a greater incentive to switch jobs. These results imply -- consistent with the data -- low-wage earners experience greater benefits from any move. Job-to-job moves become less likely as the costs of moving jobs increase. As the individual receives more job

offers, he or she becomes more selective about jobs. Van den Berg (1992) is similar to Hey and McKenna, but costs-of-moving are made a function of the wage. The author develops a model of reservation wages associated with job-changing costs. The study finds that these costs are increasing in the difficulty of selling a house, the difficulty of finding rented accommodation, the shorter is the distance to the current workplace, the higher are fringe benefits, and the older is the worker.

Burgess (1992) extends Hey and McKenna's model. Here the cost of mobility includes the job-acceptance cost and the job-leaving cost (for those already employed¹). When both types of costs are positive, employed workers are less likely to move (i.e. quit their current job) both because future moves are constrained and because they incur the cost of accepting a new job. As unemployed individuals are forward-looking, they take into account that once employed they will face the job leaving cost for any subsequent move. Therefore, even when the job acceptance cost is zero, they will still raise their reservation wage above the alternative.

Mincer (1978) is concerned with families' choices. Restricting attention to a husband-wife family unit, a move for job reasons takes place only if one partner's net gain exceeds the other's net loss. The probability that a family moves is equal to the individual's probability only if gains and losses of the husband-wife pair are perfectly correlated or if one of the spouses is ignored in the mobility decision. The model predicts fewer moves and a higher number of "tied" stayers² where, first, the gains from a move to the husband and wife are less correlated, and, second, the closer is the female's position to the male in the wage distribution. Mincer considers gender differences. He suggests that wives are more likely to be tied partners than their husbands. As men are generally more highly paid, they have larger gains and costs (especially forgone earnings) associated with any move. Marital dissolution is found to restore or create new individual incentives and it should thereby cause greater mobility (in the short-term) compared to both being married and never married. Cross-tabulations of US data for the late 60's to early 70's are generally supportive: having an employed wife is associated with reduced male migration

¹ The author assumes that individuals suffer the same loss whether or not they quit voluntarily.

² Tied stayers are those individuals whose individual net gain from moving for job reasons is outweighed by their partner's loss. Hence they do not move.

(there is some limited regression evidence) whilst divorce may increase the migration rate.

Hughes and McCormick (1985) provide some of the best UK empirical evidence. They examine moving and migrating households. First, cross-tabulation comparisons of the UK (General Household Survey 1973-4) and the US (PSID 1980) show that gross mobility rates are 2-3 times higher in the US. This increases to 3.5 times for job reasons. US mobility is significantly higher for manual than non-manual workers. For the UK, however, the reverse is true (mobility of manuals is known to be low). Migration equations, estimated on the GHS, demonstrate that migration rates for owner-occupiers are four times those of council tenants, although the intended mobility rates are the same. Owners have low migration rates relative to private tenants. Migration equations (Labour Force Survey 1983) find that high regional unemployment does not have a positive effect on out-migration. However, unemployed individuals are more likely to migrate. Mobility for job reasons (GHS) is examined by the authors. This appears to be one of the few studies ever done on the topic. Hughes and McCormick regress mobility for job reasons on housing tenure, age, age squared, time of residence in house, and dummy variables for socioeconomic group, education, service sector, depressed region, and being single. Only the housing results are reported. Council tenants are less likely to migrate for job reasons than owner-occupiers (the omitted category) and the coefficient on private renting is large.

McCormick (1997) studies more recent empirical work on unemployment and labour mobility. He uses the Labour Force Surveys. There is evidence that non-manual labour tends to flow to the region with the lowest unemployment rate -- while manuals tend to be immobile. The main determinants of non-manual mobility are vacancies in the growing region, changes in relative wages, and higher migration rates for the additional unemployed due to an adverse shock. For manual employees, there are low levels of gross migration, and little evidence that adverse demand shocks influence migration except when there is a change in relative wages.

Although the work of Hughes and McCormick has dominated the field, it was based, of necessity, on cross-section data. Longitudinal data are needed if unobservable

characteristics are to be controlled for, and such data have only recently become available. This is likely to matter; for example, people with a taste for immobility will engage in activities (being a home owner, perhaps) that may in a cross-section analysis be wrongly seen as a true cause of immobility.

New work by Böheim and Taylor (1999b) uses 1990s data from the British Household Panel Study. The authors make a number of discoveries. They estimate residential-mobility equations (our later estimates are for a class within this set, namely, for moves done specifically for job reasons). The authors find that in Britain approximately ten percent of all individuals aged 16 to 55 move house each year. Most of these residential moves are over short distances (only a fifth are across the borders of the 11 regions of the UK). The moves are often made to improve the quality of the occupants' accommodation.

The authors' main conclusion is that, after controlling for other influences, it is the unemployed who are most likely to move residence. This finding seems important. As Böheim and Taylor explain, it means that – consistent with classical kinds of economic theory – jobless individuals try to escape unemployment by being geographically mobile. Previous evidence for this has been scant. Indeed the simple patterns in aggregate data would not predict it: mobility in a country falls when unemployment rises.

New microeconomic work by Henley (1998, 1999) suggests two things. First, homeowners are less likely than others to move in response to downturns in their area's economy. This is inimical to mobility. Second, an increase in housing wealth -- through for example a rise in house values -- tends to lead to an increased chance of later mobility. In this sense, booms foster mobility.

3 Data and Simple Patterns

The paper differs from most of the literature in three main ways. First, it studies residential mobility for *job reasons*. Second, it attempts to instrument to allow for the potential endogeneity between mobility and the choice of partner or of housing tenure. Third, it uses panel data to control for person-specific fixed effects.

The paper uses two recent sources of information. The British Household Panel Study (BHPS) data set is an annual panel of people representative of the British population. We exclude those aged over 65, students, the self employed, and people out of the labour force. The first eight waves (1991 to 1998) are used, and each individual's data are matched with information about their partner. The British National Child Development Study (NCDS) data set is also longitudinal. It provides five waves of information on people who were born in one particular week in March 1958. In this paper, we use all five waves; we have information on individuals at ages 7, 11, 16, 23 and 33.³ We use information obtained through interviews with the individuals (at age 23 and 33), and through further interviews, during childhood, with their parents and school.

There are many reasons why human beings change location. We focus on one. The aim of the paper is to understand the relative importance of the economic and social forces that make people move to fit in with existing or new jobs. We call this 'mobility for job reasons'. The information obtained is slightly different in each data set.

In the fifth wave of the NCDS, the cohort members fill in a questionnaire about their life between the age of 16 and 33. It is the only information available concerning events that have occurred within this period. However, partner information is only available at age 23 and 33. Past addresses of the cohort members are recorded and they are asked to indicate why they moved out of a particular place. Among the possible reasons is "moved because of own work or partner's work". The dependent variable indicates whether the respondent moved for work reasons at least once in the ten years between the age of 23 and 33 (and 20 percent of the whole sample did so).

In the BHPS, the relevant question is: "did you move for reasons that were wholly or partly to do with your own job, or employment opportunities?" Approximately 1.5

³ The first two waves consist of an interview with the parents, questionnaires completed by the school, results from a medical examination conducted by the school's health service and tests of ability of the subjects themselves. The third wave is basically the same, with the addition of an interview of the cohort members. The fourth wave consists of an interview with the cohort member; the fifth wave also contains such an interview as well as questionnaires for the partner of the cohort members and for cohort members who are mothers.

percent of the estimation sample⁴ (427 people) move for job reasons in a year. These represent 14.2 percent of all residential mobility and 5.3 percent of those who change employer. Over the sample period of 1991-1998, 7.5 percent of men and 5.2 percent of women moved at least once for own-job reasons.

To examine the comparability of the two data sets, we constructed a variable that indicates whether a respondent had ever moved for own job or partner's job reasons in the eight-year period of the BHPS.⁵ In sum, 8.3 percent of men and 6.3 percent of women moved. The NCDS mobility rates cover people aged between 23 and 33 years old. As a cross-check, BHPS data conditional on age being less than 33 were also examined. The comparable mobility rates are 15.5 and 13.2 percent for men and women respectively. This is not very different from the NCDS results.

To facilitate the comparison of results across the two data sets, the econometric specifications include similar explanatory variables. The paper is especially interested in the effects of gender, residential housing and having a partner. Housing tenure is classified into three categories: owners, public renters (council tenants and people renting from housing association or charity), and private renters (private tenants, share with kin, flat share, tied to work or rent free, other). Partner is defined as the person with whom the cohort member lives. This may not imply formally married. We divide the partner effect into three categories: having no partner, having a partner who is employed, and having a partner who is not in work.

Before presenting formal regression results, it is of interest to look at raw patterns in the data. Table 1 compares the two estimation samples. It reveals that men are a little more mobile than women and that single people are the most mobile group in society. These hold in both columns of Table 1. Around 17 percent of people without a partner move for job reasons in a decade and 2.2 percent per year. In the NCDS we find that people with partners who work are more mobile than those with partners who do not have a job;

⁴ In the BHPS, the question concerning moves for job reasons refers to the previous year (that is, the mobility variable is recorded from year $t-1$ to year t). For the explanatory variables to be pre-determined they are taken from a previous wave. The sample is therefore restricted to people who are observed in two consecutive years.

⁵ To generate this variable, we dropped people who were not present at each of the seven interviews.

the opposite is true for the BHPS. However, this comparison is complicated by the fact that the BHPS describes mobility for own-job purposes while the NCDS examines mobility for the larger class of own-or-partner's-job reason. We return to this issue later. Private renters are highly mobile (the proportion in the BHPS at 5.85 percent is the largest in the column). Public tenants move the least – about 0.8 percent per year according to the BHPS. People with no qualifications are the least mobile; those with university degrees the most.

From the BHPS, those out of work at the interview date are more likely to move in the following year. Experiences of joblessness, then, may have an effect on the moving probability. If replicated in NCDS and fixed-effects regression analysis this would be a useful confirmation of the Böheim-Taylor kinds of findings. Finally, as might be expected, mobility rates seem to fall monotonically as age rises.

4 Framework and Econometric Results

Theoretical ideas

To fix ideas, consider the following simple theoretical framework.

Assume that a mover can obtain a draw from a different wage distribution than that available locally. Let the local wage be w . Let the percentage wage premium in another location be p^* , randomly distributed $g(\cdot)$. Assume that the expected value of the wage premium from moving is $E p^* > 0$. If this were not true of the premium, for the type of individual concerned, there would never be observed moves. Let there be t periods left when the individual decides to go or stay. Assume no discounting, risk neutrality, and no return-migration (these can be altered without changing the ideas).

Moving costs can be thought of as taking two forms. First, assume everyone pays a simple fixed penalty c . Second, assume there is a further kind of cost that varies by person and is given by a function $m(h, f)$, where h captures housing variables and f is family or spouse variables. Let the person's income in the original area be y . It is w if employed and b if jobless. The expected wage elsewhere is $E w(1 + p^*) = wE(1 + p^*)$.

It is then rational to move for job reasons if the following inequality is satisfied:

$$tEw(1 + p^*) - c - m(h, f) - ty > 0. \quad \textit{Rational-moving condition}$$

The t terms, of course, reflect the investment nature of the person's choice of location. In general, the choosing individual is an employed worker, in which case the rational moving condition can be compressed to the form

$$twEp^* - c - m(h, f) > 0.$$

The interpretation of the inequality conditions is straightforward. An individual's probability of moving is increasing in the number of periods remaining for work, t , increasing in the wage, w , or with variables positively correlated with the wage, increasing in the attractiveness of the other area's pay premium, Ep^* , and decreasing in those costs of moving, m , due to housing or spouse (and family) constraints.

Estimation Strategy

We therefore model mobility for job reasons as a function of housing tenure, household structure, individual characteristics (such as education and gender) and labour market characteristics (e.g. employment status, wage and occupation). A limited dependent variable model is adopted. The latent variable -- the propensity to move -- takes the following linear form:

$$m^*_i = h_i'\beta_h + p_i'\beta_p + n_i'\beta_n + s_i'\beta_s + x_i'\beta_x + \varepsilon_i$$

where:

ε is the error term with $E(\varepsilon_i) = 0$ and $V(\varepsilon_i) = 1$

$i = 1, \dots, n$

h is the vector of housing variables, p the partner variables, n the unemployment variable, s is the vector of education variables, x the other control variables, and β 's the coefficients to be estimated.

The latent variable (m^*_i) is unobserved; rather we observe whether an individual has moved for job reasons or not, in the last year for the BHPS, and the last ten years for the

NCDS. For the BHPS, we then examine mobility for job reasons within the last year as a function of the previous year's characteristics. For the NCDS, we model mobility between age 23 and 33 as a function of characteristics observed at age 23. Estimation upon these dichotomous dependent variables is then carried out using standard Maximum Likelihood techniques.

Partner and Gender

Evidence from NCDS can be found in Tables 2a and 2b. In the whole sample, people with a partner seem to have a higher probability of moving and they move more often. The largest effect comes from having a partner who does not work; it has a coefficient of 0.23.

For males, having at 23 either no partner or a partner who is working is equivalent, while having a non-working partner increases future mobility. Compared to being single, those who have a non-working partner have a probability of moving 6 to 10 percentage points higher depending on education and housing tenure (see Table 2b). Compared to those with no partner, females with a non-working partner have a lower probability of moving, although this effect is statistically insignificantly different from zero. On the other hand, having a partner who works is associated with a positive effect on the probability of moving, with an increase of 3 to 11 percentage points compared to being single.

The relevant information for the BHPS is in Table 3a. In the whole sample, having a partner who is employed is associated with a lower probability of moving compared to being single. This effect, however, is on the border of statistical significance. The effect of having a partner who is not employed is positive but poorly determined.

The large gender differences found for the NCDS are also observed in the BHPS. Men with non-working partners are the most mobile. The effect of having an employed partner is here, however, smaller and no longer statistically significant. For a man, having a partner without a job raises the predicted probability of moving by between 0.2 and 2.0 percentage points per year depending upon housing tenure and education level (for predicted probabilities see Table 3b).

For females, the reverse pattern is found. Having a partner (employed or not) has a large negative effect on mobility, although only the former effect is statistically significant. Being single is associated with an increased chance of moving for job reasons of between 0.2 and 1.5 percentage points.

In both data sets, then, men with a non-working partner have a higher probability of moving. In the BHPS, single women are more mobile (for their own job reasons) than women with partners. In the NCDS, women with working partners are more mobile than others. However, this mobility measures own or partner's job reasons. Together, the results are consistent with the view that men exert an asymmetric dominant influence on mobility for job reasons decisions within households.

Housing

Consistent with the early Hughes and McCormick work, housing seems important. In the whole NCDS sample, Table 2a, there is evidence that private renters are more mobile for job reasons than home owners. Moreover, perhaps unexpectedly, public tenants and owners do not have a statistically different degree of mobility (though the signs go in the way predicted by earlier Hughes-McCormick analysis). It is the private renters who stand out. The private renter effect is not statistically significant for men, but Table 2b shows that they are the most mobile group. For women, the effect is highly statistically significant; private renters are 7 to 10 percentage points more mobile than home owners.

In the BHPS results of Table 3a, owner-occupiers and public renters have approximately the same probability of moving. Private tenants are again much more likely, for reasons of job, to change where they reside (by between 1 to 6 percentage points). The predicted probability of moving would increase approximately fourfold if a hypothetical individual switched tenure from owning to private renting. This effect is one of the largest in the BHPS equations of Table 3, and is statistically significant across specifications.

The importance of housing is a little smaller in NCDS -- possibly because accommodation type can pre-date measured mobility by up to nine years. In the BHPS,

housing tenure is measured in the previous year. These findings may be relevant to the more highly aggregated inquiry in Oswald 1996, where regions with larger private rental sector are found to have lower levels of unemployment.

Other influences

In the NCDS, the subjects were intermittently given a range of IQ and aptitude tests. Interestingly, higher test scores at 11 years old (in particular, the mathematics test score) are generally associated with an increased probability of future job mobility. The results are not shown but are available on request. Leaving school at 17 and after 18 means an increase in the probability of moving for males. In the whole sample, only the effect of leaving school after 18 is significant. For women, the effects of test scores are insignificantly different from zero. Diplomas statistically increase, for males and females, the probability of moving compared to having no diplomas. Table 2b shows that the probability of moving is higher for those with a degree than for those who have no qualification. For men, the difference is greater than 10 percentage points, and for women it varies between 4 and 10 percentage points.

The NCDS finding on diplomas is replicated in the BHPS's Table 3a; higher levels of education are associated with increased mobility. The change in the predicted probability of moving, due to having a degree compared to no qualification, ranges from 0.7 percent for a female living in an owner occupied dwelling with a working partner, to 5 percent for a man whose partner is not employed and who is a private renter. However, NCDS specifications contain a larger number of education controls (such as leaving-school age and test scores).

In the NCDS, the presence of children reduces mobility overall and for both men and women (column 1 of Table 2a). The effect is larger for men than for women. This seems consistent with them forming different type of households. In the whole data set, we indeed observe that the average age of the partner at the last birthday is older for women (26.3 years) than for men (22.5 years). We can deduce that certain variables, such as housing and children, will have different effects on mobility depending on the household

type (represented by the gender of the individuals). This is especially relevant for the NCDS because we measure mobility for own or partner's job reasons.

Having children is also found to decrease BHPS mobility. Contrary to NCDS's results, the effect is larger for women compared to men, and the results for men are not statistically significant. Estimating the same specification⁶ for only those individuals with a partner, it can be shown that there are similar child-effects for each sex (coefficients of -0.104 and -0.149 for men and women, respectively). The above-mentioned difference between men and women then seems to arise through the effect of separation. This is consistent with women disproportionately bearing the responsibility for children in cases of marital breakdown.

The impact of marital separation is investigated in more detail in Table 3a. Mincer (1978) suggests marital dissolution restores or creates new incentives to move, and so causes a jump in mobility. A dummy variable for marital separation enters positively and significantly in Table 3a for men (column 5). The effect is, however, estimated to be of the opposite sign for women, though not well determined. Again this points to an asymmetry in mobility rates (for job reasons) between men and women; in this case it is in response to partnership breakdown, whereupon men become markedly more mobile.

Joblessness stimulates mobility.⁷ This is true of Tables 2a and 3a. Our results reiterate those of Böheim and Taylor on BHPS. People unemployed at age 23 in the NCDS have a higher probability of moving for job reasons. The effect is significantly larger for men than for women. Individuals out of work (defined as people unemployed and long-term sick) in the BHPS tend subsequently to be more mobile. Somewhat contrary to what was found for the NCDS, the effect here is largest for women.

In both data sets, the unemployment effect is one of the largest that is visible in the econometric findings. The results for the BHPS may be biased because of people

⁶ The results of this estimation are not reported here.

⁷ Whilst unemployed individuals have higher mobility rates, the county unemployment rate exerts only a weak and insignificant influence on mobility. Furthermore, mobility rates are lower in the higher unemployment North than in the low unemployment South. This is consistent with Hughes and McCormick and suggests that there is little evidence that mobility is influenced by adverse demand shocks.

voluntarily quitting their jobs (and claiming to be unemployed) prior to a move. For this to be the case we would expect these individuals, on average, to have worked more weeks in the year prior to the interview date. However, the data suggest that the mean number of weeks employed, for the year prior to the interview, is approximately the same for both out-of-work movers and non-movers.⁸ Furthermore, the National Child Development Study does not suffer from this problem.

Moves for job reasons versus all moves

Before turning to further analysis of the determinants of moves for job reasons, it is instructive to compare the former results with models examining residential mobility for *any* reason. The results are not shown but are available upon request.

The private renter effect is again present and statistically significant for both males and females in the BHPS. In the NCDS, as was found before, it is only statistically significant for women. This suggests a broader influence upon mobility than just upon mobility for job reasons.

In the NCDS, we do not find that having a partner has an effect compared to being single. The education and unemployment effects also become statistically insignificant, except for women, for whom having a degree or a higher vocational diploma is associated with higher mobility for any reason. Given that nearly 90 percent of the individuals move in the 10-year period considered, these statistically insignificant results may not be surprising.

In the BHPS, the effect of having a partner who does not work has an insignificant effect upon mobility for any reason. This suggests this variable exerts an influence on *job* mobility. As with mobility for job reasons, those individuals who are out of work are predicted to be more likely to move for any reason. However, this effect is not well

⁸ For those movers who were unemployed at the interview date the average number of weeks employed in the previous year was 32.6 as opposed to 31.2 weeks for unemployed non-movers.

determined for males, and is close to zero for females. Finally, women are predicted to be more mobile for any reason, while they were less mobile for job reasons.

The above discussion has shown that housing would appear to exert a general influence on mobility for any reason. In contrast, the partner effects seem specific to mobility for job reasons, underlining the importance of the distinction between these two types of mobility. This suggests that the analysis of mobility for job reasons is not just potentially important directly but may bring broader insight into the issue of household mobility.

Instruments and fixed effects

The partner and housing variables are potentially endogenous. Such a concern is motivated by the fact that partner and housing characteristics may be intrinsically linked to the individual's anticipated career path. For example, the characteristics of the partner may reflect the anticipated choices concerning employment and mobility. Two methodologies are adopted to control for this possibility. First, partner and housing characteristics are instrumented. Second, person-specific fixed effects are controlled for.

The instrumentation strategy allows the propensity to move to be correlated with preferences over partner (housing) choice using a bivariate probit estimator (see Maddala; 1997, pp122-125). The model for the partner effect, is as follows:

$$m^*_{it} = p_{ij}'\beta_p + z_{ij}'\beta_x + \varepsilon_{1it}$$

$$p^*_{ij} = z_{ij}'\gamma_p + w_{ij}'\gamma_x + \varepsilon_{2it}$$

where: $E(\varepsilon_{1it}) = 0$ and $V(\varepsilon_{1it}) = 1$

$$E(\varepsilon_{2it}) = 0 \text{ and } V(\varepsilon_{2it}) = 1$$

$$\text{Cov}(\varepsilon_{1it}, \varepsilon_{2it}) = \rho \neq 0$$

m^* is the latent mobility variable as previously, p is defined as before, z includes the rest of the explanatory variables previously defined, while w is the set of identifying variables.

Intuitively the propensity to move may be correlated with preferences over partner (housing) choice. Endogeneity is modeled through the correlation of the error terms. As the explanatory variables pre-date the mobility variable, the partner variables are assumed not to be a direct function of mobility decisions. The model is then estimated by Maximum Likelihood.⁹ To find an instrument, it is necessary to have something that is plausibly excluded from the moving equation. This requires instruments that are correlated with partner's employment (housing) but uncorrelated with (joint) mobility decisions.

The identifying variable adopted, within the BHPS, for the partner's employment status is *whether the partner's mother did/did not work*. This instrument is thought of as a variable that determines female labour market participation, by capturing a preference for employment passed on either genetically or through social conditioning and expectations, but that is uncorrelated with mobility. Such an instrument seems only applicable to female participation, and so regression results are now for the non-single male sample only. Unfortunately no such instrumental variables are available in the NCDS.

Column one of Table 4a reports the probit estimation results for the entire male sample, whilst column two only those males with a partner. In both cases, the effect of the partner being out of work lies on the border of normal statistical significance (with p-values of six and five percent respectively). Column three reports the estimates of the mobility equation using the bivariate probit model. Column four reports the instrumented partner employment equation, as would be expected maternal employment is a significant determinant of female employment. The estimated coefficient upon the partner out of work variable remains positive, however the effect is not well determined. The estimated correlation between the error terms, ρ , is, however, not statistically significant. The evidence for endogeneity is here then weak, and the simple probit estimates may be favoured.

The same bivariate probit model is applied to the housing choice. The motivation for using this model is that the probability of moving and being a private renter may be

⁹ Although we also present the results of probit estimations for reference, the coefficients of the bivariate probit are not directly comparable with the coefficients of the probit.

correlated with other unobservable individual factors. Again a persuasive instrument is, of course, crucial. The instruments we choose include *having inherited £500 or more by the age of 23*. This is viewed as an exogenous event that may increase (decrease) the likelihood of becoming a home-owner (private renter) because inheritance makes it more likely -- by reducing capital constraints -- to lead to house purchase or even directly to the inheritance of a house. The data show that 19.6 percent of owners had inherited by the age of 23, while only 5.6 percent of public tenants and 9.07 percent of private tenants had inherited. The data set also has parental housing tenure (when the cohort members were 16 years old). For genetic or other reasons, children may tend to replicate the behaviour of their parents or have the financial help of their parents. Again the data agree with this idea; for example, 56.2 and 55.8 percent of owners and private tenants respectively had parents who were owners, while only 25 percent of public tenants did so. Finally, we use as an additional instrument the proportion of private renters in the local authority of residence. The idea is to capture the availability of houses to buy or rent. Such instruments are not available in the BHPS and these estimations are carried out with the NCDS only.

The results are shown in Tables 5a and 5b. We see that the private renter effect remains positive in all cases but is no longer statistically significant for women. For the latter, the correlation coefficient between the two equations of the bivariate probit is not statistically significant, and the correction does not appear necessary. The rest of the results are unaffected. It therefore appears that the private renter effect that we have found in the simple probit estimations is robust to the instrumentation.

A way to control for unobserved heterogeneity is to explore the results of fixed-effects models. With variables of the kind studied in the paper, estimation of a fixed effects logit model by conditional maximum likelihood is a natural procedure. This approach has, as far as we know, never been applied to this issue.¹⁰

For this, the two data sets do not provide exactly the same type of information. The BHPS offers a straightforward panel of individuals observed every year. The NCDS

¹⁰ We should note that the coefficients of logit models are sometimes inflated compared to those of probit models. The fixed effects results are therefore not strictly comparable to earlier cross-section ones.

provides information on cohort members at two widely spaced points in time (when they are 23 and 33 years old). -Some additional information, such as the moves for job reason, is available over the whole period. The way our dependent variable is constructed for the NCDS is the following: we record how many times a person moved for his or her own job, or partner's job, in two three-year periods (when they were 23 to 25 years old and then when they were 31 to 33 years old). The dependent variable is set equal to one if they moved in a period and zero if they did not. The panel therefore includes two time periods. Construction of a dependent variable in this way helps to catch young movers and older movers, and to allow for a change in the tendency to move as people become older. The explanatory variables are those observed at age 23 and 33.¹¹ Sample sizes are necessarily reduced.

The NCDS panel findings are in Table 6. The base variable is "being single" and the coefficients on the partner's variables are all positive but now not well-determined. However, the key results are consistent with previous findings. In particular, men are found to be more mobile when they have a non-working partner (significant at 15 percent). In terms of the housing effect, the results continue to be statistically significant. Private renters are far more mobile than others. Public tenants appear to be slightly more mobile than owners.

Table 7 does the equivalent for BHPS. Here the partner effects take the same sign as in the basic model. The coefficient on having a partner who is employed is positive but insignificantly different from zero. The effect of having a partner who does not work, relative to being single, is negative but not robust. This effect is though statistically significant relative to having a working partner, for both the whole sample and for men only. Probably because of the small sample, for women coefficients are not robust. The BHPS housing effects follow the same pattern in the fixed effects logits of Table 7 as in the earlier probit case. Owner-occupied and social housing have insignificantly different impacts upon mobility. Being a private renter is associated with significantly increased mobility.

¹¹ This is because most of them are observed only at these points in time.

Because we control for person-effects, this material reinforces our previous findings. Overall, these results suggest that the private renter effect is robust to controlling for individual fixed effects. The partner effect is less robust, although it keeps the same sign in all specifications, and some coefficients are significant at normal confidence levels. Other conclusions for NCDS show that being unemployed still leads to greater estimated mobility, but the effect is not statistically significantly different from zero. Having a child reduces mobility. Children dummies enter negatively but are not significantly different from zero at the five percent level. Unemployment still exerts a positive and significant influence on job mobility; this is mainly driven here by the female results.

Discussion

We find that private renters are more mobile than others. Several hypotheses can explain this result. Private renters may be younger or tend to have better jobs, yet we still find a private renter effect whilst controlling for age, occupation and income. Another hypothesis may be that more mobile people will choose to live in rented accommodation. Nevertheless the private renter effect remains robust in both the instrumental variable and fixed effects estimates. These results suggest that an alternative explanation is more likely. For example, it could be that greater psychic and financial costs are associated with moving when owning a home or living in public rented accommodation. In addition, public tenants may have specific difficulties in moving due to the nature of the public housing market.

For both the BHPS and NCDS, men with a non-working partner have a higher probability of moving, especially compared to men with working partners. This may reflect individuals choosing partners whose preferences match their anticipated employment and mobility career path. To check this hypothesis, we used an instrumental variable approach. Results are substantively unaltered. An alternative explanation, which we favour, can be found in Mincer's (1978) model. Here the effect of dual career households is to hinder job mobility. Men are more likely to be tied stayers if their wife is working.

In the BHPS, single women are more mobile for own job reasons. In the NCDS, women with working partners are more mobile for own or partner's job reasons. These results are consistent with the idea that wives are more likely to be both tied movers and tied stayers, and that men exert a dominant influence on mobility decisions. We note that these findings are not particularly well determined in the fixed effects estimations. This may be due, however, to low number of observations.

5 Conclusions

Shocks hit the economy all the time. Technology changes and tastes alter. Labour economists and macroeconomists are aware that an important role in the economy's adjustment mechanism is played by people moving around to take different jobs, but the details of the process are not well understood.

This paper studies a particular class of people -- those who move residence for job reasons. To check the reliability of the results, two data sets, the British Household Panel Study and the National Child Development Study, are used and compared. They have different strengths and weaknesses, but give similar answers.

Two main findings emerge. First, there is a strong asymmetry between men and women. For a female, being in a relationship appears to be associated with markedly reduced own-job mobility; this is not true of men. The most mobile men are those with non-working partners; this is not true of women. Lastly, marital separation appears to make men more mobile but women less mobile.

Second, there is a strong correlation between mobility for job reasons and the nature of housing. Private renting is associated with a rate of mobility that is noticeably higher than other forms of accommodation.¹²

¹² This link is not often discussed in the public debate. Many European governments have enacted tax and subsidy policies since the War that have helped produce a rise in home ownership and a dwindling of the private rental market. Britain, for example, had 50 percent of its population in private rental housing in 1950; the figure is now approximately 10 percent. Even in the United States, where a third of people are private renters, mobility is observed to be high, and the labour market appears to work efficiently, some politicians argue that there should be large rises in home ownership. A labour economist might doubt the wisdom of this if it reduces job mobility.

Furthermore, these results continue to hold when housing type and partner status are instrumented, and when we control for person-effects.

Other conclusions include the following. Consistent with theoretical predictions, people with university degrees are markedly more likely to move for job reasons. There is also some evidence that higher childhood IQ test scores are a predictor of mobility later in life. Like Böheim and Taylor's new work, we find that the unemployed are the most likely, other things held constant, to move.

**Table 1: Proportion of People whom Moved House
For Job reasons in the Two Estimation Samples**

| Moved at least once (23-33) NCDS | | Moved in the last year BHPS | |
|-------------------------------------|-------|--------------------------------|-------|
| Overall | 17.26 | Overall | 1.52 |
| Male | 17.65 | Male | 1.84 |
| Female | 16.91 | Female | 1.20 |
| No partner | 19.71 | Single | 2.18 |
| Partner works | 15.65 | Partner has job | 1.11 |
| Partner does not work | 12.21 | Partner does not work | 1.70 |
| Owner | 15.09 | Owner occupied | 1.18 |
| Public tenant | 9.27 | Social housing | 0.78 |
| Private tenant | 20.95 | Private renter | 5.85 |
| Degree | 44.93 | Degree | 3.79 |
| Higher vocational | 29.13 | A-Level | 1.96 |
| A levels | 25.35 | O-Level | 1.13 |
| Middle vocational | 23.74 | None | 0.35 |
| 5+ O levels | 22.45 | | |
| Lower vocational | 20.07 | | |
| Other | 21.82 | | |
| None | 11.74 | | |
| Employed | 17.42 | Employed | 1.47 |
| Unemployed | 16.73 | Out of work | 2.69 |
| | | Age 16-25 | 2.52 |
| | | Age 26-35 | 2.13 |
| | | Age 36-45 | 1.11 |
| | | Age 46-55 | 0.50 |
| | | Age 56-65 | 0.13 |
| Observations | 6616 | | 28127 |

Table 2a: Probit Estimation (NCDS)

Dependent Variable: Residential Mobility for Job reasons between 1981 and 1991

| Regressors | All | Males | Females |
|-------------------------------------|-------------------|-------------------|-------------------|
| Partner working | 0.191 (0.063) | 0.100 (0.097) | 0.236 (0.084) |
| Partner not working | 0.233 (0.089) | 0.281 (0.130) | -0.116 (0.159) |
| Public renters | -0.072 (0.074) | 0.078 (0.118) | -0.153 (0.095) |
| Private renters | 0.269 (0.065) | 0.093 (0.100) | 0.408 (0.085) |
| Degree | 0.413 (0.078) | 0.477 (0.107) | 0.350 (0.114) |
| Higher vocational | 0.263 (0.087) | 0.142 (0.131) | 0.347 (0.117) |
| A levels | 0.178 (0.123) | 0.108 (0.171) | 0.288 (0.179) |
| Middle vocational | 0.294 (0.123) | 0.216 (0.174) | 0.377 (0.179) |
| 5+ O levels | 0.344 (0.097) | 0.387 (0.139) | 0.289 (0.133) |
| Lower vocational | 0.284 (0.092) | 0.107 (0.260) | 0.289 (0.102) |
| Other | 0.234 (0.102) | 0.090 (0.171) | 0.284 (0.127) |
| Left school at 17 | 0.088 (0.067) | 0.203 (0.099) | -0.007 (0.093) |
| Left school at 18 or older | 0.232 (0.062) | 0.366 (0.088) | 0.105 (0.088) |
| Number of children born before 1981 | -0.107 (0.043) | -0.145 (0.080) | -0.102 (0.057) |
| Number of children born after 1981 | -0.007 (0.020) | -0.037 (0.029) | 0.016 (0.030) |
| Unemployed | 0.562 (0.127) | 0.784 (0.181) | 0.548 (0.194) |
| Constant | -1.502 (0.322) | -1.312 (0.483) | -1.878 (0.277) |
| Female | -0.026 (0.048) | | |
| Observations | 6616 | 3144 | 3472 |
| Log likelihood | -2692.82 | -1260.28 | -1401.33 |
| Pseudo R2 | 0.115 | 0.140 | 0.112 |

Notes:

1. Controls include tests scores at 11, region of residence at 23 (1981), job characteristics in 1981 (hours worked, net pay per week, job tenure, and occupation).
2. Standard errors in parentheses.
3. For the partner variables the omitted category is no partner, for housing owner-occupiers are the reference group whilst for education those with no qualifications.

Table 2b: Predicted Probabilities

| Education | Partner Status | Housing Tenure | Males | Females |
|------------------|----------------------|----------------|-------|---------|
| Degree | Single | Owner occupier | 21.43 | 13.65 |
| | | Public renter | 23.77 | 10.57 |
| | | Private renter | 25.26 | 24.57 |
| | Partner not employed | Owner occupier | 30.48 | 11.27 |
| | | Public renter | 33.25 | 8.60 |
| | | Private renter | 33.83 | 21.06 |
| | Partner employed | Owner occupier | 24.48 | 19.49 |
| | | Public renter | 26.98 | 15.54 |
| | | Private renter | 27.51 | 32.57 |
| No qualification | Single | Owner occupier | 10.24 | 7.40 |
| | | Public renter | 11.69 | 5.48 |
| | | Private renter | 12.01 | 14.95 |
| | Partner not employed | Owner occupier | 16.18 | 5.90 |
| | | Public renter | 18.15 | 4.30 |
| | | Private renter | 18.57 | 12.41 |
| | Partner employed | Owner occupier | 12.15 | 11.31 |
| | | Public renter | 13.79 | 8.63 |
| | | Private renter | 14.14 | 21.12 |
| Total | | | 14.59 | 14.22 |

Table 3a: Probit Estimation (BHPS)

Dependent Variable: Residential Mobility for Job Reasons

| Regressor | All | Male | Female | All | Male | Female |
|----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Partner not employed | 0.044 (0.072) | 0.158 (0.085) | -0.168 (0.167) | 0.050 (0.072) | 0.181 (0.083) | -0.173 (0.167) |
| Partner employed | -0.100 (0.054) | -0.018 (0.077) | -0.197 (0.077) | -0.095 (0.054) | 0.002 (0.076) | -0.201 (0.078) |
| Social Housing | -0.018 (0.087) | -0.045 (0.119) | 0.001 (0.127) | -0.019 (0.087) | -0.051 (0.119) | 0.002 (0.127) |
| Private Renter | 0.567 (0.053) | 0.635 (0.070) | 0.503 (0.084) | 0.564 (0.053) | 0.631 (0.070) | 0.506 (0.084) |
| Dependent Child | -0.160 (0.065) | -0.077 (0.085) | -0.259 (0.107) | -0.160 (0.065) | -0.075 (0.085) | -0.258 (0.107) |
| Out of Work | 0.636 (0.153) | 0.511 (0.212) | 0.885 (0.257) | 0.634 (0.153) | 0.498 (0.212) | 0.885 (0.257) |
| O-level | 0.163 (0.090) | 0.273 (0.128) | 0.029 (0.125) | 0.163 (0.090) | 0.267 (0.128) | 0.027 (0.125) |
| A-level | 0.307 (0.090) | 0.386 (0.127) | 0.204 (0.130) | 0.308 (0.090) | 0.383 (0.127) | 0.202 (0.130) |
| Degree | 0.470 (0.099) | 0.542 (0.134) | 0.407 (0.152) | 0.472 (0.099) | 0.544 (0.134) | 0.404 (0.152) |
| Female | -0.108 (0.050) | | | -0.109 (0.051) | | |
| Marriage Ended | | | | 0.132 (0.176) | 0.405 (0.226) | -0.166 (0.298) |
| Observations | 28127 | 13812 | 14315 | 28115 | 13804 | 14311 |
| Log-likelihood | -1916.9 | -1093.9 | -801.3 | -1916.4 | -1092.4 | -801.1 |
| Pseudo R2 | 0.133 | 0.139 | 0.140 | 0.134 | 0.140 | 0.140 |

Notes:

1. Standard Errors are in parentheses and correct for repeat sampling of individuals.
2. All estimates include controls for year, region, county unemployment, age, occupation, earnings, hours of work, job tenure, travel to work time and where relevant gender.
3. For the partner variables (partner employed and partner not employed) the omitted category is single, for housing owner-occupiers are the reference group whilst for education those with no qualifications.

Table 3b: Predicted Probabilities

| Education | Partner Status | Housing Tenure | Males | Females |
|------------------|----------------------|----------------|-------|---------|
| Degree | Single | Owner occupier | 1.30 | 1.67 |
| | | Social housing | 1.21 | 1.69 |
| | | Private Renter | 5.75 | 5.05 |
| | Partner not employed | Owner occupier | 1.81 | 1.32 |
| | | Social housing | 1.69 | 1.34 |
| | | Private Renter | 7.46 | 4.16 |
| | Partner employed | Owner occupier | 1.23 | 1.01 |
| | | Social housing | 1.14 | 1.02 |
| | | Private Renter | 5.52 | 3.32 |
| No qualification | Single | Owner occupier | 0.33 | 0.54 |
| | | Social housing | 0.31 | 0.55 |
| | | Private Renter | 1.96 | 1.97 |
| | Partner not employed | Owner occupier | 0.49 | 0.42 |
| | | Social housing | 0.46 | 0.42 |
| | | Private Renter | 2.69 | 1.57 |
| | Partner employed | Owner occupier | 0.31 | 0.30 |
| | | Social housing | 0.29 | 0.31 |
| | | Private Renter | 1.86 | 1.21 |
| Total | | | 0.82 | 0.59 |

Note: The predicted probabilities are derived from the gender specific regressions that exclude the marriage termination variable.

Table 4a: Probit Estimation (BHPS: Men)

Dependent Variable: Residential Mobility for Job Reasons

| | Male | Male with Partner | | |
|------------------------|-------------------|-------------------|-------------------|-------------------|
| | Probit | Probit | Bivariate Probit | |
| <i>Regressor</i> | Mobility | Mobility | Mobility | Partner No Job |
| Partner not employed | 0.158 (0.085) | 0.169 (0.084) | 0.463 (0.356) | |
| Partner employed | -0.018 (0.077) | | | |
| Social Housing | -0.045 (0.119) | -0.005 (0.149) | 0.062 (0.162) | 0.585 (0.082) |
| Private Renter | 0.635 (0.070) | 0.669 (0.108) | 0.661 (0.107) | 0.023 (0.094) |
| Dependent Child | -0.077 (0.085) | -0.103 (0.088) | -0.025 (0.127) | -1.179 (0.056) |
| Out of Work | 0.511 (0.212) | 0.305 (0.459) | 0.251 (0.451) | 0.590 (0.247) |
| O-level | 0.273 (0.128) | 0.173 (0.141) | 0.166 (0.141) | 0.081 (0.076) |
| A-level | 0.386 (0.127) | 0.259 (0.142) | 0.261 (0.141) | -0.024 (0.081) |
| Degree | 0.542 (0.134) | 0.455 (0.152) | 0.446 (0.153) | 0.076 (0.107) |
| Partners mother worked | | | | -0.124 (0.054) |
| Rho | | | -0.170 (0.190) | |
| Observations | 13812 | 9345 | 9345 | 9345 |
| Log-likelihood | -1093.9 | -646.2 | -5316.9 | |

Notes:

1. Standard Errors are in parentheses and correct for repeat sampling of individuals.
2. All estimates include controls for year, region, county unemployment, age, occupation, earnings, hours of work, job tenure, travel to work time and where relevant gender.
3. For column one partner variables are relative to the omitted category single. In columns two to four the effect of partner not employed is relative to partner employed. For housing owner-occupiers are the reference group whilst for education those with no qualifications.

Table 4b: Predicted Probabilities

| | | | Probit | Bivariate Probit |
|-----------|----------------------|----------------|---------------|------------------|
| Education | Partner Status | Housing Tenure | Males Partner | Males Partner |
| Degree | Partner not employed | Owner occupier | 1.65 | 4.32 |
| | | Social housing | 1.63 | 3.82 |
| | | Private Renter | 7.19 | 13.49 |
| | Partner employed | Owner occupier | 1.07 | 1.60 |
| | | Social housing | 1.06 | 1.38 |
| | | Private Renter | 5.14 | 6.29 |
| No qual. | Partner not employed | Owner occupier | 0.49 | 1.66 |
| | | Social housing | 0.48 | 1.44 |
| | | Private Renter | 2.76 | 6.49 |
| | Partner employed | Owner occupier | 0.29 | 0.52 |
| | | Social housing | 0.29 | 0.44 |
| | | Private Renter | 1.85 | 2.59 |
| Total | | | 0.66 | 1.72 |

Table 5a: Probit and Bivariate Probit Estimations (NCDS)

Dependent variable: Residential Mobility for Job Reasons between 1981 and 1991

| | All | | | Males | | | Females | | |
|------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| | Probit | Bivariate probit | | Probit | Bivariate probit | | Probit | Bivariate probit | |
| Partner working | 0.218 (0.069) | 0.335 (0.172) | -2.106 (0.053) | 0.100 (0.104) | 0.644 (0.321) | -2.266 (0.084) | 0.299 (0.092) | 0.202 (0.219) | -2.023 (0.070) |
| Partner not working | 0.211 (0.099) | 0.318 (0.176) | -1.918 (0.093) | 0.261 (0.147) | 0.771 (0.319) | -2.089 (0.131) | -0.092 (0.170) | -0.175 (0.240) | -1.668 (0.146) |
| Private renters | 0.298 (0.067) | 0.473 (0.245) | - | 0.048 (0.101) | 0.827 (0.438) | - | 0.484 (0.088) | 0.333 (0.319) | - |
| Degree | 0.453 (0.086) | 0.447 (0.087) | 0.162 (0.120) | 0.518 (0.119) | 0.490 (0.122) | 0.050 (0.189) | 0.367 (0.128) | 0.376 (0.129) | 0.302 (0.156) |
| Higher vocational | 0.264 (0.095) | 0.267 (0.094) | -0.042 (0.111) | 0.179 (0.142) | 0.211 (0.139) | -0.219 (0.185) | 0.305 (0.128) | 0.306 (0.128) | 0.096 (0.133) |
| A levels | 0.188 (0.128) | 0.175 (0.129) | 0.331 (0.165) | 0.140 (0.184) | 0.061 (0.190) | 0.394 (0.267) | 0.283 (0.181) | 0.289 (0.182) | 0.272 (0.227) |
| Middle vocational | 0.304 (0.133) | 0.303 (0.133) | 0.075 (0.125) | 0.181 (0.188) | 0.148 (0.185) | 0.221 (0.173) | 0.407 (0.191) | 0.402 (0.192) | -0.104 (0.185) |
| 5+ O levels | 0.405 (0.103) | 0.399 (0.104) | 0.164 (0.116) | 0.553 (0.149) | 0.529 (0.151) | 0.085 (0.153) | 0.238 (0.145) | 0.245 (0.147) | 0.245 (0.160) |
| Lower vocational | 0.265 (0.102) | 0.267 (0.102) | -0.045 (0.109) | 0.134 (0.266) | 0.184 (0.261) | -0.420 (0.275) | 0.257 (0.114) | 0.258 (0.114) | 0.054 (0.115) |
| Other | 0.194 (0.116) | 0.191 (0.116) | 0.096 (0.129) | 0.032 (0.197) | 0.016 (0.194) | 0.126 (0.268) | 0.246 (0.143) | 0.248 (0.143) | 0.131 (0.151) |
| Left school at 17 | 0.102 (0.074) | 0.101 (0.074) | 0.018 (0.082) | 0.239 (0.109) | 0.218 (0.109) | 0.083 (0.135) | -0.002 (0.103) | -0.002 (0.103) | -0.034 (0.103) |
| Left school at 18 or older | 0.220 (0.069) | 0.219 (0.069) | 0.019 (0.082) | 0.328 (0.098) | 0.312 (0.100) | 0.039 (0.135) | 0.133 (0.099) | 0.132 (0.099) | -0.034 (0.106) |
| Number of children born bef. 1981 | -0.098 (0.047) | -0.082 (0.051) | -0.399 (0.056) | -0.136 (0.091) | -0.070 (0.095) | -0.391 (0.090) | -0.095 (0.062) | -0.108 (0.067) | -0.381 (0.074) |
| Number of children born after 1981 | 0.003 (0.022) | 0.007 (0.023) | -0.096 (0.024) | -0.031 (0.032) | -0.025 (0.032) | -0.036 (0.037) | 0.035 (0.032) | 0.030 (0.033) | -0.141 (0.032) |
| Unemployed | 0.565 (0.139) | 0.570 (0.140) | -0.199 (0.154) | 0.707 (0.203) | 0.723 (0.200) | -0.319 (0.250) | 0.657 (0.225) | 0.652 (0.225) | -0.081 (0.207) |
| Constant | -2.184 (0.216) | -2.349 (0.308) | 1.397 (0.222) | -1.965 (0.294) | -2.695 (0.476) | 1.520 (0.342) | -2.038 (0.313) | -1.904 (0.429) | 0.647 (0.297) |
| Female | -0.013 (0.054) | -0.002 (0.055) | -0.321 (0.058) | | | | | | |
| Observations | 5353 | 5353 | | 2535 | 2535 | | 2818 | 2818 | |
| Log likelihood | -2219.70 | -4051.44 | | -1025.92 | -1810.95 | | -1168.42 | -2190.40 | |
| Pseudo R2 | 0.108 | | | 0.136 | | | 0.102 | | |
| Rho | | -0.099 (0.132) | | | -0.431 (0.229) | | | 0.086 (0.169) | |

Notes:

1. Controls include tests scores at 11, region of residence at 23 (1981), job characteristics in 1981 (hours worked, net pay per week, job tenure, and occupation).
2. The second equation in the bivariate probit model has private renter as dependent variable, and include four sets of identifying variables: has inherited £500 or more at 23, proportion of private renters in local authority area of residence in 1981, parents' housing tenure in 1974 (owners, rent-free, public or private renters).

Table 5b: Predicted Probabilities

| Education | Partner Status | Housing Tenure | Probit | | Bivariate Probit | |
|-----------|----------------------|----------------|--------|---------|------------------|---------|
| | | | Males | Females | Males | Females |
| Degree | Single | Private Renter | 25.37 | 25.65 | 29.42 | 26.09 |
| | | Rest | 23.87 | 12.75 | 9.62 | 16.92 |
| | Partner not employed | Private Renter | 34.37 | 22.79 | 56.77 | 20.97 |
| | | Rest | 32.64 | 10.94 | 27.65 | 13.05 |
| | Partner employed | Private Renter | 28.68 | 36.13 | 52.12 | 32.68 |
| | | Rest | 27.08 | 20.05 | 23.87 | 22.20 |
| No qual. | Single | Private Renter | 11.87 | 15.35 | 16.04 | 15.92 |
| | | Rest | 10.96 | 6.61 | 3.96 | 9.43 |
| | Partner not employed | Private Renter | 17.86 | 13.28 | 38.88 | 12.21 |
| | | Rest | 16.65 | 5.51 | 14.80 | 6.93 |
| | Partner employed | Private Renter | 13.98 | 23.50 | 34.47 | 21.01 |
| | | Rest | 12.95 | 11.38 | 12.26 | 13.08 |
| Total | | | 14.81 | 14.97 | 18.87 | 17.28 |

**Table 6: Conditional Maximum Likelihood Estimation for the NCDS Sample
The Fixed Effects Approach**

Dependent Variable: Moved for Own or Partner's Work Reasons Once in Three-Year Period.

| | All | Men | Women |
|-----------------------------|-------------------|-------------------|-------------------|
| Partner working | 0.174 (0.228) | 0.002 (0.369) | 0.250 (0.327) |
| Partner not working | 0.498 (0.322) | 0.760 (0.477) | -0.185 (0.616) |
| Public tenant | 0.652 (0.328) | 0.857 (0.523) | 0.424 (0.463) |
| Private tenant | 1.657 (0.212) | 2.155 (0.375) | 1.465 (0.275) |
| Unemployed and seeking work | 0.568 (0.387) | -0.295 (0.544) | 1.151 (0.595) |
| Has had a child | -0.894 (0.200) | -0.901 (0.321) | -0.883 (0.294) |
| Region | Yes | Yes | Yes |
| Observations | 1206 | 562 | 644 |
| Log likelihood | -276.358 | -112.798 | -150.885 |

Notes:

1. Standard errors in parentheses.
2. Controls include occupation (part-time employed, full-time education, and out of the labour force) and region.
3. For the partner variables the omitted category is being single, for housing owner-occupiers are the reference group.

**Table 7: Conditional Maximum Likelihood Estimation for the BHPS Sample
The Fixed Effects Approach**

Dependent Variable: Residential Mobility for Job Reasons

| Regressor | All | Male | Female |
|----------------------|-------------------|-------------------|-------------------|
| Partner not employed | 0.264 (0.306) | 0.446 (0.392) | 0.075 (0.596) |
| Partner employed | -0.268 (0.259) | -0.142 (0.360) | -0.477 (0.411) |
| Social Housing | 0.368 (0.444) | 0.491 (0.634) | 0.291 (0.661) |
| Private Renter | 0.774 (0.199) | 1.098 (0.263) | 0.481 (0.348) |
| Dependent Child | -0.201 (0.295) | -0.117 (0.345) | -0.921 (0.723) |
| Out of Work | 0.841 (0.599) | 0.043 (0.887) | 2.303 (0.939) |
| Observations | 1664 | 990 | 674 |
| Log-likelihood | -520.1 | -300.8 | -203.0 |
| Pseudo R2 | 0.053 | 0.089 | 0.073 |

Notes:

1. Standard Errors are in parentheses.
2. All estimates include controls for year, region, county unemployment, age, earnings, hours of work, job tenure and travel to work time. Gender is excluded as it is time invariant, occupation and education variables are omitted due to insufficient variation over time.
3. For the partner variables the omitted category is single, for housing owner-occupiers are the reference group.

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