# *Low Income Dynamics in 1990s Britain*

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*Abstract*

This paper analyses low income dynamics in Britain using the first four waves of the British Household Panel Survey. There is much low income turnover: although there is a small group of people who are persistently poor, more striking is the relatively large number of low income escapers and entrants from one year to the next. Simulations using estimated low income exit and re-entry rates demonstrate the importance of repeated low income spells for explaining a person's experience of low income over a given period. We also document the characteristics of low income stayers, escapers and entrants.

*JEL classification:* D31, I32.

## I. INTRODUCTION

In this paper, we analyse the dynamics of low income in 1990s Britain using data from the first four waves of the British Household Panel Survey (BHPS).[1] Our research provides a longitudinal complement to the Department of Social

[1]Jarvis and Jenkins (1995), Taylor et al. (1994) and Webb (1995) examined income dynamics using only two waves of BHPS data. Department of Social Security (1996) — which appeared after the more detailed version of this paper (Jarvis and Jenkins, 1996) — also used four waves of BHPS income data, but with different definitions and analyses. Most other UK research has largely focused on specific income components rather than the more comprehensive measure of personal living standards, income itself. Earnings dynamics are analysed by, for example, Dickens (1996) and Ball and Marland (1996), and welfare benefit dynamics by, for example, Shaw et al. (1996).

Security's *Households Below Average Income* (HBAI) reports which are largely based on cross-section data.

We document the size of the 'persistent poverty' problem and amount of low income turnover. Low income exit and re-entry rates are also calculated. In addition, we describe the characteristics of the people who were persistently poor, those making transitions out of low income and those making transitions into low income. For the latter two groups, we also investigate how these income changes are related to changes in household employment and demographic composition over the same period. All the patterns we describe are robust to the choice between two definitions of what the low income cut-off is.

We show that there is much turnover in the low income population. Although there is a small group of people who are persistently poor, it is the relatively large number of low income escapers and low income entrants from one year to the next that is more striking. Almost one-third of our sample experienced low income at least once during the four-year period. Simulations using estimated income exit and re-entry rates demonstrate the importance of repeated low income spells (rather than single spells) for explaining how often people experience low income over a given time period. Thus low income churning is a significant phenomenon in 1990s Britain.

Employment-related events such as getting a job are found to be associated with making transitions out of low income. For transitions into low income, job loss together with demographic events changing household composition are important. The group with low income at all four interviews mostly comprises single pensioners and families with children headed by a couple or lone parent not in work.

## II. DATA AND DEFINITIONS

Our research is based on data from Waves 1 to 4 of the BHPS. The first wave was designed as a nationally representative sample of the population of Great Britain living in private households in 1991. Households comprising the first wave (interviews in Autumn 1991) were selected by an equal probability sampling mechanism using a design standard for British household social surveys. The achieved sample comprises about 5,500 households, which corresponds to a response rate of about 65 per cent of effective sample size. At Wave 1, over 90 per cent of eligible adults (approximately 10,000 individuals) provided full interviews. Original sample respondents have been followed and reinterviewed at approximately one-year intervals subsequently. The wave-on-wave response rate was about 88 per cent for Wave 1 to Wave 2, and over 90 per cent thereafter.[2]

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[2]For a detailed discussion of BHPS methodology, representativeness, and weighting and imputation procedures, see Taylor (1994) and Taylor (1996).

We work with the subsample of 7,910 persons (adults and children) present in each of the four waves and who belong to complete respondent households. The first restriction arose from the desire to examine income sequences over all four waves; the second yields the sample for whom we can derive our preferred income measure.[3] In order to account for differential non-response at Wave 1, and subsequent differential attrition, all statistics presented below are based on data weighted using the BHPS Wave 4 longitudinal enumerated individual weights.

Our income measure, net income, has the same definition as the Department of Social Security's HBAI 'before-housing-costs' one (see, for example, Department of Social Security (1995)). In short, net income is the sum across all household members of cash income from all sources (income from employment and self-employment, investments and savings, private and occupational pensions, and other market income, plus cash social security and social assistance receipts) minus direct taxes (income tax, employee National Insurance contributions, local taxes such as the community charge and the council tax), with the result deflated using the relevant McClements equivalence scale rate in order to account for differences in household size and composition (Department of Social Security, 1995). In order to compare real incomes, all incomes have been converted to January 1995 prices. The unit of analysis is the person: following standard practice, each person is attributed the net income of the household to which he or she belongs. The income receipt period is the month prior to the wave interview or most recent relevant period for each income component (except for employment earnings, which refer to 'usual earnings').[4] We have converted all sums to a consistent pounds-per-week basis. Because our income observations for each person refer to their incomes round about the time of an interview (that is, some time during the last quarters of 1991, 1992, 1993 and 1994 for most respondents), we do not take account of the additional movements out of and into low income occurring outside the periods round the interview.

We side-step the vexed issue of what the appropriate definition of 'low income' is, by using in parallel two definitions of the low income cut-off:

- half Wave 1 mean income (a threshold that is fixed in real income terms); and
- the poorest quintile in each wave (a threshold that varies in real income terms).

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[3]For some analyses, this criterion may impart some selection biases that are not fully offset by the use of the BHPS weights. (We return to this issue later in the paper.) We hope to develop methods for imputing income values for the remainder of the BHPS sample.

[4]The derivation of the net income distributions requires much manipulation of the raw BHPS data. For detailed discussion of variable construction, and a demonstration of the validity of the derived distributions relative to a range of relevant HBAI bench-marks for Waves 1 and 2, see Jarvis and Jenkins (1995). The council tax imputations are explained by Redmond (1996). Our derived variables have been deposited with the Data Archive at the University of Essex.

The real income value of the first cut-off is some £127 per week for all four waves; the real income values of the second are £135, £139, £140 and £144 for Waves 1–4 respectively. Half mean Wave 1 income corresponds to the 18th percentile of the Wave 1 distribution, but only the 14th percentile by Wave 4.

There are empirical and conceptual advantages to using these two definitions in parallel. From a conceptual point of view, the dual usage strikes a balance between those who argue for a fixed real income cut-off, often on the grounds that the incidence of low income should necessarily decline as real income grows, and those who argue for a threshold that depends on the income distribution in question. Using the poorest quintile is an example of the latter approach (an alternative would be some fraction of the contemporary mean). From an empirical point of view, using the two thresholds allows sensitivity analysis of the conclusions drawn to variations in the generosity of the threshold: the quintile-based cut-off is higher than the absolute threshold (by some 6 per cent at Wave 1 and about 13 per cent at Wave 4). The particular levels of the chosen thresholds are, of course, somewhat arbitrary, as there is no clear-cut evidence of a sharp increase in poverty or deprivation at these specific values. However, half-the-average and quantile cut-offs do have the virtue of being commonly used in British empirical research on incomes; in particular, closely-related definitions are used in the DSS's HBAI statistics.[5] Finally, the cut-offs provide a sufficiently large number of cases in the low income stayer, escaper and entrant sub-groups to allow meaningful breakdowns by subsample characteristics.

## III. LOW INCOME DYNAMICS

### 1. The Extent of Persistent Poverty

Table 1 summarises the (Wave 1)(Wave 2)(Wave 3)(Wave 4) income sequence patterns for our longitudinal sample, where an income has been recoded as L (low) if it is below the low income cut-off for that year and H otherwise. The left-hand side of the table shows the results for the case when the low income cut-off is half Wave 1 mean income; the right-hand side shows the case when it is the poorest quintile. For both cases, the table shows the relative incidence of each of the relevant sequences.

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[5]Another reference point is social assistance benefit levels. These have remained fairly constant in real terms over this period and our half-1991-mean-income cut-off is more generous than the entitlements for many people. For example, in October 1991, a childless married couple with no income of their own were eligible for income support of £62.25 per week, plus housing benefit covering housing costs. If housing costs were £25 per week, total social assistance entitlement would be £87.25. In equivalent net income terms (converted using the McClements equivalence scale and reflated to January 1995 prices), this is a figure of about £94 per week. People with social assistance entitlements near to our half-Wave-1-mean cut-off (£127 per week) would be those with above-average housing costs.

TABLE 1

**Low Income Sequence Patterns for Two Low Income Cut-Offs**

| Income sequence | Low income cut-off = half Wave 1 mean | | Low income cut-off = poorest sample quintile | |
|---|---|---|---|---|
| | *Percentage* | *Cumulative percentage* | *Percentage* | *Cumulative percentage* |
| 1.  LLLL | 4.3 | 4.3 | 7.0 | 7.0 |
| 2.  LLLH | 1.8 | 6.0 | 1.9 | 8.9 |
| 3.  LLHL | 1.2 | 7.2 | 1.2 | 10.1 |
| 4.  LLHH | 2.2 | 9.4 | 2.2 | 12.2 |
| 5.  LHLL | 1.2 | 10.6 | 1.4 | 13.6 |
| 6.  LHLH | 1.2 | 11.8 | 1.0 | 14.6 |
| 7.  LHHL | 0.7 | 12.5 | 1.2 | 15.8 |
| 8.  LHHH | 5.5 | 17.9 | 4.2 | 20.0 |
| 9.  HLLL | 1.4 | 19.3 | 2.5 | 22.5 |
| 10.  HLLH | 1.5 | 20.8 | 1.5 | 24.0 |
| 11.  HLHL | 0.9 | 21.6 | 0.9 | 24.9 |
| 12.  HLHH | 2.6 | 24.3 | 2.9 | 27.8 |
| 13.  HHLL | 1.8 | 26.0 | 2.2 | 30.0 |
| 14.  HHLH | 2.2 | 28.3 | 2.6 | 32.6 |
| 15.  HHHL | 3.0 | 31.3 | 3.6 | 36.2 |
| 16.  HHHH | 68.7 | 100.0 | 63.9 | 100.0 |
| All | 100.0 | | 100.0 | |
| Base *n* | 7,910 | | 7,910 | |

Notes: The table summarises the income sequences (Wave 1 income)(Wave 2 income)(Wave 3 income)(Wave 4 income), with incomes recoded L if below the low income cut-off and H if equal to the cut-off or higher. Percentages calculated using BHPS longitudinal weights.

The first row of Table 1 helps address the issue of how widespread the persistent poverty problem is. We find that 4.3 per cent of the sample had an income below half Wave 1 mean income at all four interviews (those with LLLL, row 1). This proportion is about 70 times larger than the proportion one would expect to find were the chances of having low income at each interview statistically independent (0.06 per cent). If instead the low income cut-off is the poorest quintile, the proportion persistently poor rises to 7 per cent, which is about 44 times larger than the proportion were there statistical independence (0.16 per cent). To put things another way, we find that of the group of people with incomes below half Wave 1 mean income, 52 per cent still had low income when interviewed at Wave 2. About one-third (34 per cent) of the original Wave 1 low income group had low income at Waves 1–3, and about one-quarter had low income at all four waves.

Whether these figures indicate that the incidence of persistent poverty is relatively high or not is difficult to judge, and likely to depend on whether or not one believes the cut-offs are meaningful in terms of individual deprivation. None the less, we are struck by the sensitivity of the estimate of the proportion persistently poor to changing the low income cut-off. Although the quintile cut-offs are only some 6 to 13 per cent higher than half Wave 1 income, the 'percentage poor for four waves' score is about 60 per cent higher in the latter case. The lesson is that estimates of the incidence of persistent poverty can be sensitive to choice of low income threshold, especially if the thresholds are located in a relatively crowded section of the income range, as in our case.

International comparisons provide another yardstick for judging whether our estimates of persistent poverty are large or small. Duncan et al. (1993) report estimates for six countries in Europe and North America of the percentage of families with children with incomes below 50 per cent of median size-adjusted income in all three years of a three-year period during the mid-1980s. For Germany and the Lorraine region of France, the percentages were about 1.5 per cent, and for Luxemburg and the Netherlands, they were 0.4 per cent. They were much higher in Canada (11.9 per cent) and the US (14.4 per cent). Using estimates of the composition of the persistently poor population (presented later), we estimate that about 7 per cent of persons in couple or lone-parent families with children at Wave 1 had an income below half the Wave 1 mean at three consecutive interviews. Since half the mean is a more generous cut-off than half the median (£127 compared with £109 at Wave 1), the 7 per cent should be adjusted further downwards to be comparable with Duncan et al.'s estimates. But even if this adjustment halved the proportion, the British estimate of persistent poverty amongst families with children would be larger than the European ones cited above. Drawing firmer cross-national conclusions requires closer attention to be given to the comparability of the income definitions and more up-to-date data. There may have been changes in persistent poverty rates between the mid-1980s and the 1990s.

## 2. How Many People Experience Low Income over a Period of Time versus at a Point in Time?

Although, on either definition of the low income cut-off, a minority of the population had low income at every wave, many more had low income at one period or another. If we focus on the figures for the half-Wave-1-mean cut-off, we find that 5.6 per cent had low income at three interviews, 8.1 per cent had low income at two interviews (15.3 per cent had two or more consecutive Ls) and 13.1 per cent had low income at one interview in four. These statistics imply that during the four-year period, 9.8 per cent of the sample had at least three low income spells, 17.9 per cent of the sample had at least two low income spells and 31.3 per cent of the sample had at least one low income spell. In other words, almost a third

of the sample is touched by low income at least once over a four-year period (that is, about twice the proportion with low income at one interview, which was 18 per cent at Wave 1 and 15 per cent at Wave 4).

If the poorest quintiles are the low income cut-offs, the proportion touched by low income at least once is just over a third at 35 per cent, which is 175 per cent larger than the 20 per cent proportion for a single wave.

We are struck by the extent of low income turnover; so too are audiences to whom we have presented this research. The turnover is another manifestation of the Jarvis and Jenkins (1996) finding that there is much year-to-year income mobility for all income groups, albeit mostly short-range. It should also be remembered that our figures underestimate the proportion touched by low income throughout the four-year period. Recall that low income spells other than round about the time of the panel interviews are not examined here.

## IV. LOW INCOME EXIT AND RE-ENTRY RATES

With four waves of the BHPS, we can begin to look at how low income exit rates vary with the length of time people have had a low income, and at how low income re-entry rates vary with the length of time people have been out of low income. These rates can be used to predict the length of time that people will spend in low income during a single continuous low income spell, and the number of times they experience low income over a given number of years. The exit and re-entry rates that are relevant in this context are the ones that refer to the experience of a cohort of persons starting a low income spell (and thence at risk of exit thereafter) and to the experience of persons finishing a low income spell (and thence at risk of re-entry thereafter). The exit rates are not in general the same as the exit rates from the stock of low income persons at a particular time: the stock contains a mixture of recent entrants and long-term stayers. An analogous argument applies to the re-entry rates.

To estimate exit rates, we use data for cohorts of persons beginning a low income spell in the second or third wave (those with sequences HLxx and xHLx in Table 1); to estimate re-entry rates, we use data for cohorts of persons finishing a low income spell in the first or second wave (those with sequences LHxx and xLHx). Low income exit rates were calculated by dividing the number of persons ending a low income spell after $d$ waves with low income by the total number with low income for at least $d$ waves. Low income re-entry rates were calculated analogously. Our analysis is constrained by the small number of waves of data currently available: we can only estimate two exit and two re-entry rates.

### 1. Low Income Exit and Re-Entry Rate Estimates

The low income exit and re-entry rate estimates, for the two sets of low income cut-offs, are displayed in Table 2. Also shown are the proportions of persons

remaining on low income, or who re-enter low income, broken down by duration, corresponding to these estimates.

We find, using the half-Wave-1-mean cut-off, that the exit rate from low income after one year with low income is 0.54. The exit rate after two interviews reporting low income falls slightly, to 0.51. The results imply that, for a cohort starting a low income spell, just under one-half (46 per cent) still have low income after one year, and about one-fifth (22 per cent) still have low income after two years (that is, after the third interview reporting low income). That is, almost four-fifths of the low income entry cohort no longer have low income after two years.

The low income re-entry rate one year out of low income (that is, at the second interview) is 0.29, but after two years (at the third interview), the re-entry rate more than halves, to 0.11. The rates imply that, for a cohort of persons starting a spell out of low income, 29 per cent will start another low income spell after one year, and more than one-third (36 per cent) will have fallen below the threshold again after two years. Thus nearly two-thirds of the cohort will have incomes above the cut-off for at least two years (three interviews).

When the low income cut-off is the poorest quintile, we find different magnitudes but similar patterns. The main difference is that exit rates are slightly lower, and re-entry rates higher, which is not surprising since the real income levels characterising the low income thresholds are slightly higher. A higher crossbar is harder to jump over than a lower one, and easier to fall below. Another difference between the results for the different thresholds is that the low income exit and re-entry probabilities do not decline as quickly in the poorest-quintile cut-off case, again probably reflecting the crossbar effect. The differences in rates for

TABLE 2

**Low Income Exit and Re-Entry Rates, by Duration**

| Duration (years) | Low income exit rate | Percentage of cohort still with low income | Low income re-entry rate | Percentage of cohort re-entered low income |
|---|---|---|---|---|
| *Low income cut-off = half Wave 1 mean income* | | | | |
| 1 | 0.54 | 100 | 0.29 | 0 |
| 2 | 0.51 | 46 | 0.11 | 29 |
| 3 | | 22 | | 36 |
| *Low income cut-off = poorest quintile* | | | | |
| 1 | 0.50 | 100 | 0.30 | 0 |
| 2 | 0.38 | 50 | 0.23 | 30 |
| 3 | | 32 | | 47 |

Notes: Exit rates derived using data for persons beginning a low income spell in the second or third wave (sequences HLxx and xHLx in Table 1). Re-entry rates derived using data for persons finishing a low income spell in the first or second wave (sequences LHxx and xLHx in Table 1).

the different low income cut-offs have quite large implications. For the quintile thresholds, the proportion starting a low income spell still with low income after two further years is about one-third (rather than one-fifth), and the proportion of low income escapers starting a new low income spell after two years is nearly one-half (rather than just over one-third).

Our estimated probabilities of exit and of re-entry are higher than those found by Shaw et al. (1996) in their study of income support (IS) receipt during 1991–92. Their life-table estimates show that the proportion of a cohort starting an IS spell still claiming after one year is about 60 per cent, and that about one-half are still claiming two years after the spell starts (Shaw et al., 1996, ch. 10). The proportion of former IS claimants who start another claim after one year of finishing the previous spell is estimated to be about 25 per cent. The results are consistent with our results for low income, since IS entitlement levels are less generous than the thresholds we are using — the crossbar is lower still (see footnote 5).

Our results can also be compared with estimates of US poverty exit and entry rates for 1971–81 made by Bane and Ellwood (1986) and for 1970–87 by Huff Stevens (1994 and 1995) using Panel Study of Income Dynamics (PSID) data. Bane and Ellwood's classic study reported that the probability of exit from poverty after one year was 0.45, and after two years 0.29 (1986, Table 6), and Huff Stevens reports almost identical figures when eliminating some one-year poverty spells as Bane and Ellwood did. When these adjustments are not made, Huff Stevens estimates the poverty exit rate after one year to be 0.53, and after two years to be 0.36. She also reports poverty re-entry rates of 0.27 after one year out of poverty, and 0.16 after two years out of poverty (1995, Table 1). We are struck by the fact — differences between the US and British welfare states and between the periods covered aside — that our estimates are not too far out of line with Huff Stevens's ones.

It is important to take the exit and re-entry probability results together. The exit rates, if looked at on their own, might suggest that the majority of people falling into low income will spend only a couple of years in this situation. However, the path out of low income is not a one-way up-escalator: the re-entry estimates remind us that there is a not insignificant chance of finding oneself on the down-escalator to low income again within two years. This implies that low income spell repetition is an important phenomenon in Britain, and needs to be taken into account alongside the issue of single long-term low income spells.

## 2. Accounting for Multiple Spells is Important for Predicting the Number of Low Income Interviews over a Given Period

These remarks are emphasised by the results of a simulation exercise, comparing single-spell and multiple-spell predictions of the number of interviews at which people will have low income during a fixed period, with the actual number. The

methodology follows that used by Huff Stevens (1995, Table 2), though we have data for a much shorter period than she does (three years rather than 10) and, as a consequence, our sample sizes are much smaller (hundreds rather than thousands). The single- and multiple-spell predictions have been derived using the exit and re-entry rates shown in Table 1, and the actual distribution of 'number of interviews with low income out of next three' is derived using data for all persons comprising the low income entry cohort at Wave 2 (those with an income sequence HLxx in Table 1).[6]

The results are summarised in Table 3. The single-spell distribution estimates (first column) suggest that about one-half of those starting a low income spell will have low income for only one year, and this fraction is much higher than actually occurred (last column) or was predicted by the multiple-spell distribution estimates (second column). These results underline our point that repeated low income spells are an important feature of poverty dynamics in Britain.

TABLE 3

**Distribution of 'Number of Interviews with Low Income Out of Next Three':
Single Spells and Multiple Spells**

| *Number of interviews with low income* | *Distribution of single spells* | *Distribution of 'number of interviews with low income out of next three'* | |
|---|---|---|---|
| | | Predicted | Actual |
| *Low income cut-off = half Wave 1 mean income* | | | |
| 1 | 0.54 | 0.38 | 0.42 |
| 2 | 0.24 | 0.38 | 0.36 |
| 3 | 0.22[a] | 0.23 | 0.22 |
| *Low income cut-off = poorest quintile* | | | |
| 1 | 0.50 | 0.35 | 0.37 |
| 2 | 0.19 | 0.34 | 0.31 |
| 3 | 0.31[a] | 0.31 | 0.32 |

[a]Three or more interviews.

Notes: Columns 1 and 2 derived from Table 2 exit and re-entry rates. Column 3 derived from Wave 2 low income entry cohort (sequences HLxx in Table 1).

Comparisons of the multiple-spell distribution estimates with the observed distributions provide a guide as to how well simple life-table models predict observed distributions of the number of years with low income over a given period (more precisely, the number of interviews out of three with a low income). As it happens, they do fairly well, in the sense that the estimates are not too far apart. None the less, it appears that the simulations underpredict the fraction

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[6]Our thanks to Carol Propper for suggesting this exercise. The formulae used to generate the estimates are given in Jarvis and Jenkins (1996).

experiencing low income at only one interview out of three, and overpredict the fraction experiencing low income at two interviews.

These results are consistent with Huff Stevens's (1994 and 1995) finding (for the US) that taking account of repeat spells provides much better predictions than does relying on single-spell estimates. She also reports that the former underpredict very short poverty spells. As Huff Stevens goes on to demonstrate, better predictions of the time spent in poverty over a given period require substitution of the simple life-table methods with poverty exit and re-entry models that allow rates to differ between people with different levels of education, age and other characteristics. Application of these more sophisticated modelling methods to British poverty dynamics will become more feasible as the number of waves of BHPS data increases.

## V. WHO ARE THE PERSISTENTLY POOR?

From a policy perspective, it is important to be able to distinguish the causes of long- and short-term poverty in order to tailor anti-poverty policy measures accordingly. Is long-term low income systematically associated with having some particular set of characteristics, or are the persistently poor simply a random subset of those who are poor at a particular point in time? If the latter case obtains, then there is no particular reason to develop a policy programme specially directed at long-term poverty alleviation separate from the 'standard' anti-poverty measures for the point-in-time poor population (Duncan, Coe and Hill, 1984).

We begin to address these issues here by looking at the characteristics of low income stayers, defined as those persons having low income at all four interviews. We compare breakdowns by sex, family type and family economic status for this group with the corresponding breakdowns of all the people who had low income at Wave 1: see Table 4. We shall discuss the results based on using half Wave 1 mean income as the low income cut-off, as the results for the other threshold definition are very similar (see Jarvis and Jenkins (1996) for details).

*The Characteristics of Low Income Stayers*

We find that, although many of the same types of people who are low income stayers are the same as those who comprise the Wave 1 low income population,

TABLE 4

**Characteristics of Low Income Stayers,
by Person Type, Family Type and Family Economic Status**
*(low income cut-off = half Wave 1 mean income)*

| *Column percentages* | *Low income stayers* | | *Low income at Wave 1* | *All at Wave 1* |
|---|---|---|---|---|
| | Wave 1 | Wave 4 | | |
| *Person type* | | | | |
| Male adult | 20 | 22 | 27 | 36 |
| Female adult | 45 | 46 | 46 | 42 |
| Dependent child | 35 | 32 | 28 | 22 |
| *Family type* | | | | |
| Single pensioner | 24 | 27 | 21 | 11 |
| Couple pensioner | 7 | 7 | 12 | 10 |
| Couple and child(ren) | 35 | 37 | 34 | 40 |
| Couple, no children | 4 | 2 | 8 | 21 |
| Single and child(ren) | 26 | 19 | 17 | 7 |
| Single, no children | 5 | 7 | 8 | 13 |
| *Family economic status* | | | | |
| 1+ adults full-time self-employed | 5 | 6 | 5 | 11 |
| All adults employed full-time | 0 | 0 | 2 | 24 |
| Couple: 1 full-time, 1 part-time | 0 | 0 | 2 | 14 |
| Couple: 1 full-time, 1 not in work | 3 | 7 | 8 | 13 |
| Single or couple: 1+ part-time work | 10 | 4 | 11 | 7 |
| Head or spouse aged 60+ | 33 | 36 | 36 | 19 |
| Head or spouse unemployed | 25 | 22 | 18 | 5 |
| Other (lone parent, disabled, etc.) | 23 | 23 | 17 | 6 |
| | | | | |
| All | 100 | 100 | 100 | 100 |
| Base *n* | 321 | 321 | 1,386 | 7,910 |

Notes: Low income defined as having income less than half Wave 1 average income. Low income stayers are those with low income at all four waves (income sequence LLLL in Table 1). 'Low income at Wave 1' column refers to all persons with low income at Wave 1. 'All at Wave 1' column refers to all longitudinal sample members at Wave 1. Family type and family economic status definitions as in HBAI reports (Department of Social Security, 1995). Percentages calculated using BHPS longitudinal weights.

there are some marked differences in the breakdowns. The Wave 1 low income population mostly comprises elderly persons (single adults and married couples) and non-working families with children (married couple and lone-parent families), and each of these sub-groups is over-represented relative to their numbers in the Wave 1 sample as a whole (compare last two columns of Table 4). In contrast, the

breakdowns of the Wave 1 characteristics of the low income stayer group reveal that elderly persons and non-working families with children are heavily represented amongst this group too, but in a different mix from the Wave 1 low income population. In particular, there are noticeably more people belonging to lone-parent families (26 per cent compared with 17 per cent) or to couple families with children in which neither the head nor the spouse is working (25 per cent compared with 18 per cent). As a result, there are more dependent children amongst the low income stayers than amongst the Wave 1 low income group (35 per cent compared with 28 per cent). There are also more single pensioners (24 per cent compared with 21 per cent).

There are both similarities and differences between our findings and those of Duncan et al. (1984) based on US PSID data for 1969–78. The results are similar because we also find that the persistently poor differ from the short-term poor. However, the differences we find are not as marked as theirs, though this may simply reflect the different definitions and observation period (for example, they define persistently poor as eight or more years poor out of 10, and discuss the 1970s rather than the 1990s). Like us, Duncan et al. find an over-representation of families headed by a woman.

Table 4 also breaks down the low income stayer population according to their characteristics in Wave 4, and interestingly the distribution across sub-group categories is broadly similar to the Wave 1 one. Not everyone remains in the same sub-group though. Over time, people's household contexts change: people marry, divorce, have children, get jobs, lose jobs, children leave home, etc. We calculate, for example, that 18 per cent of the sample experienced a family type change between Wave 1 and Wave 4, and 32 per cent experienced a change in their family's economic status. These results do not lead us to change our conclusions about which sort of people are most likely to be persistently poor, since the Wave 4 breakdowns are much the same as the Wave 1 ones. However, we are struck by how much family context change was experienced even within the low income stayer group, whose incomes did not fluctuate significantly over the period (by definition). We look at the relationship between economic and demographic flux and income changes in the next section.

## VI. WHO MOVES OUT OF LOW INCOME? WHO MOVES IN?

We now turn from considering the characteristics of the low income stayers to seek to identify those who escape from low income and those who enter it. We examine the characteristics and events associated with making a transition out of low income or making a transition into low income. Bane and Ellwood's (1986) study of US poverty spells during the period 1970–82 is the pioneering example of such research. In common with all such studies, we had to consider the issue of how to identify 'genuine' transitions separately from those simply representing measurement error or random year-to-year fluctuations. Following Duncan et al.

(1993), we defined a low income escaper to be someone with an income below the low income cut-off at Wave *t* and an income at least 10 per cent higher than the low income cut-off at Wave *t*+1, where *t* = 1, 2, 3. Similarly, a low income entrant has an income above the low income cut-off at Wave *t* and an income at least 10 per cent lower than the low income cut-off at Wave *t*+1. We then pooled all the transitions and examined the characteristics and events of those experiencing them.[7] Between one in six and one in seven of the sample made a transition out of low income over the four waves, and a similar fraction made a transition into low income: see Table 5.

In seeking to document the factors associated with transitions into and out of low income, our analysis has two dimensions. First, we describe those making transitions between Waves *t* and *t*+1 in terms of their characteristics at Wave *t*. Second, we examine the associations between low income exit and entry and contemporaneous economic and demographic changes in a person's family environment. More precisely, we compare the incidence, amongst those who escape or enter low income between Waves *t* and *t*+1, of various events occurring between Waves *t* and *t*+1, with the incidence amongst the sample as a whole. The events considered are changes in family type, number of adults and number of children in the household, family economic status, and number of earners in the household. Results are broadly the same whichever low income cut-off definition is used, and so we refer below to results for the low income cut-off of half Wave 1 mean income (see Jarvis and Jenkins (1996) for the full set of results).

## 1. The Characteristics of Low Income Escapers and Entrants

Table 5 displays the breakdowns by age at Wave 1, pre-transition person type, family type and family economic status. By definition, low income escapers are drawn from amongst the low income population, and entrants from amongst the non-poor, and so it is of interest to know how the characteristics of the mover and at-risk groups match up — are the movers a random selection of those at risk? Table 5 reveals that escapers are predominantly elderly people or belong to non-working families with children, i.e. precisely the same groups most commonly found amongst the low income group as a whole (compare with the 'Low income at Wave 1' column). However, some interesting differences stand out: note amongst the escapers the higher proportions of childless couples (and adults aged 40–54 years at Wave 1) and childless single adults (and adults aged less than 30 years). We have checked whether these two groups were disproportionately located close to the low income cut-off in the first place, and it does not appear that this is in fact the case, suggesting the results do not arise simply because childless          people          required          smaller          income          changes          to          escape          low

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[7]By construction, each person contributes a maximum of one transition out of low income and a maximum of one transition into low income. For the very small number of persons making two transitions in (or out), we use the later transition.

TABLE 5

**Characteristics of Low Income Escapers and Entrants
at the Wave prior to the Transition**
*(low income cut-off = half Wave 1 mean income)*

| *Column percentages* | *Low income escapers* | *Low income entrants* | *Low income at Wave 1* | *All at Wave 1* |
|---|---|---|---|---|
| *Age (at Wave 1 interview)* | | | | |
| Dependent child | 24 | 30 | 28 | 22 |
| Adult aged <30 years | 16 | 18 | 14 | 18 |
| 30–39 | 10 | 13 | 10 | 15 |
| 40–54 | 12 | 11 | 8 | 18 |
| 55+ | 37 | 29 | 40 | 28 |
| *Person type* | | | | |
| Male adult | 34 | 32 | 27 | 36 |
| Female adult | 45 | 42 | 46 | 42 |
| Dependent child | 21 | 26 | 28 | 22 |
| *Family type* | | | | |
| Single pensioner | 19 | 14 | 21 | 11 |
| Couple pensioner | 9 | 6 | 12 | 10 |
| Couple and child(ren) | 32 | 37 | 34 | 40 |
| Couple, no children | 12 | 13 | 8 | 21 |
| Single and child(ren) | 11 | 14 | 17 | 7 |
| Single, no children | 16 | 16 | 8 | 13 |
| *Family economic status* | | | | |
| 1+ adults full-time self-employed | 7 | 15 | 5 | 11 |
| All adults employed full-time | 2 | 9 | 2 | 24 |
| Couple: 1 full-time, 1 part-time | 3 | 7 | 2 | 14 |
| Couple: 1 full-time, 1 not in work | 9 | 9 | 8 | 13 |
| Single or couple: 1+ part-time work | 11 | 12 | 11 | 7 |
| Head or spouse aged 60+ | 33 | 21 | 36 | 19 |
| Head or spouse unemployed | 17 | 11 | 18 | 5 |
| Other (lone parent, disabled, etc.) | 18 | 16 | 17 | 6 |
| | | | | |
| All | 100 | 100 | 100 | 100 |
| (As a percentage of total longitudinal sample) | (15) | (12) | (18) | (100) |
| Base *n* | 1,132 | 897 | 1,386 | 7,910 |

Notes: A low income escaper has an income below the low income cut-off at Wave *t* and an income at least 10 per cent higher than the low income cut-off at Wave *t*+1. A low income entrant has an income above the low income cut-off at Wave *t* and an income at least 10 per cent lower than the low income cut-off at Wave *t*+1. 'Low income at

Wave 1' column refers to all persons with low income at Wave 1. 'All at Wave 1' column refers to all longitudinal sample members at Wave 1. Transitions pooled from *t* = 1, 2, 3.

income.[8] And remember that these childless groups form a minority of the escapers in any case.

When we look at the characteristics of the low income entrants, we find that their profile is similar to that of the escapers. In other words, the entrants group is mainly comprised of elderly people (about a fifth are from pensioner families) or people from families with children (about one-third are couple families, about one-seventh lone-parent families). Compared with the distribution for the sample as a whole at Wave 1, there are disproportionately more unemployed or part-time couple and lone-parent families (and hence dependent children) and single pensioners. In part, this is because these groups are more likely to have incomes relatively close to the income cut-off, and have less far to 'fall' — this comment applies particularly to single pensioners and unemployed and part-time couple families.[9]

## 2. Economic and Demographic Events associated with Low Income Exits and Entries

We now investigate the association between *changes* in people's household context and changes in income, comparing the incidence of events amongst low income escapers and entrants with those of the sample as a whole — see Table 6.

We find that family economic status changed for about one-third of escapers and for more than 40 per cent of entrants, which is much higher than the incidence amongst the sample as a whole of about one-quarter. The incidence of pure family type changes is less than the incidence of family economic status changes for all groups, but this is to be expected since changes in one's family economic status can come about via family type changes.[10] Looking at family type changes, there is above-average incidence for entrants (14 per cent) but, interestingly, not for escapers (about one-tenth). There is a similar pattern in the relative incidence of joint changes in family economic status and family type. They were experienced

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[8]We compared the composition of the group with incomes between the cut-off and 10 per cent less with the composition of the group with lower incomes. If any group amongst the escapers is notably disproportionately close to the cut-off, it is the elderly.

[9]We compared the composition of the group with incomes between the cut-off and 10 per cent above it with the composition of the group with higher incomes.

[10]We should stress that our economic status variable refers to an individual's family context. Changes in this may occur even if the individual in question has not changed his or her own work pattern. They may also arise via changes in work status for other family members, or by a change in family composition. (An example would be a married couple family at Wave *t* with the husband working full-time and the wife part-time. If the woman is a lone parent at Wave *t*+1 but still working part-time, her family economic status, according to our definition, will have changed.) The emphasis on family (or household) context is entirely appropriate because we are interested in household income.

by 6 per cent or fewer of the total sample and of low income escapers, but by about one-tenth of the entrants.[11]

TABLE 6

**Percentages Experiencing Economic and Demographic Events:**
**Low Income Escapers and Entrants compared with Whole Sample**
*(low income cut-off = half Wave 1 mean income)*

| *Column percentages* | *Whole sample* | | | *Low income escapers* | *Low income entrants* |
|---|---|---|---|---|---|
| | W1–W2 | W2–W3 | W3–W4 | | |
| Family economic status changed | 26 | 23 | 23 | 32 | 43 |
| Family type changed | 11 | 7 | 8 | 11 | 14 |
| Both economic status and type changed | 6 | 4 | 2 | 6 | 10 |
| *No. of earners in household:* | | | | | |
|     decreased | 13 | 13 | 12 | 15 | 30 |
|     unchanged | 75 | 76 | 77 | 67 | 56 |
|     increased | 12 | 11 | 11 | 18 | 14 |
| *No. of adults in household:* | | | | | |
|     decreased | 7 | 7 | 5 | 6 | 14 |
|     unchanged | 82 | 88 | 87 | 85 | 79 |
|     increased | 11 | 5 | 8 | 9 | 7 |
| *No. of dependent children in household:* | | | | | |
|     decreased | 10 | 3 | 6 | 4 | 8 |
|     unchanged | 86 | 93 | 90 | 91 | 85 |
|     increased | 4 | 4 | 5 | 4 | 6 |

Note: Low income escapers and entrants defined as in Table 5.

The lower panels of Table 6, focusing on changes in the numbers of earners, adults and children in a person's household, provide greater detail and reveal some clear patterns. Looking at the changes in the number of earners first, we find that increases in the numbers of earners in the household are associated with transitions out of low income, whereas decreases in the number are associated with transitions

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[11]The decline in the incidence of economic status and family type changes between Waves 1–2 and Waves 3–4 may arise for several reasons. One is that it may reflect a sample selection bias: we are working with a longitudinal sample from complete respondent households, and one might expect that economic and demographic change — especially the latter (for example, divorce and separation) — is more common amongst households with incomplete responses, and that this effect will cumulate over time. That part of the impact of complete non-response (that is, panel attrition) that is not fully accounted for by the longitudinal sample weights we use would have a similar effect. The trend might also be genuine: there was a general recovery in the British economy after 1991, and with this may have come greater stability in family context.

into low income. The number of earners increased for 18 per cent of escapers compared with 11 to 12 per cent of the sample as a whole. For entrants, the contrast with the sample as a whole is even more distinct: the proportion with a decrease in the number of earners is more than twice the average sample incidence — 30 per cent compared with 12 to 13 per cent.

There are also some interesting associations between household composition change and low income status change. Escapers appear to experience about average, or slightly above-average, demographic stability: the fraction of the group with the same number of adults is much the same as for the whole sample, the fraction with the same number of dependent children is a little larger than for the total sample, and there are slightly lower fractions experiencing either increases or decreases in numbers. There is a more distinctive picture for entrants. In particular, the number of adults in the household decreased for 14 per cent of this group, twice the fraction for the whole sample. Entrants also experienced (slightly)-above-average changes in the numbers of children in the household.

In sum, escapers appear to have above-average incidence of increases in the numbers of earners, combined with roughly average changes in the number of adults and number of children. Increases in the numbers of earners may arise either through an existing household member getting a job or by the arrival of a new partner who also works, or both. Since the incidence of household composition change is about average for this group, this suggests that getting a job plays a particularly important role in taking people out of low income. Stability in household composition may also have a benign influence. This story fits best for the escapers who are in non-working families with children. For others, such as pensioners, it is less relevant. For this sub-group, it may simply be that transitory income fluctuations are much more important. These may be due to measurement errors rather than genuine transitory fluctuations (expected to be less important, given the nature of most pensioners' income packages).

Our results about the correlates of transitions out of and into low income are not directly comparable with those of Bane and Ellwood (1986) for the US and Duncan et al.'s (1993) cross-national study because we have not used such a detailed (and mutually exclusive) list of named economic and demographic events as they did.[12] However, Duncan et al. conclude that employment-related events were the most important events associated with transitions both into and out of poverty for their samples of families with children, and this finding is consistent with the ones we report above for this group. Both Duncan et al. and Bane and Ellwood also draw attention to the impact of demographic events (for example, marriage/remarriage and divorce/separation) and report that such events were

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[12]This is the subject of current work. However, for some more detailed breakdowns of Table 6, by pre-transition family type and economic status, see Jarvis and Jenkins (1996). Jarvis and Jenkins (1997) provide detailed evidence about the income changes associated with marital splits.

more important for entries to poverty than exits. This appears to be the case in our analysis as well.

## VII. CONCLUDING COMMENTS

This paper has provided new evidence about low income dynamics using a large sample of British households interviewed annually during the early 1990s. From one year to the next, there are significant numbers of both low income escapers and low income entrants. Over time, there is significant churning in the low income population, and this is highlighted by our simulations of low income experience over a period based on the low income exit and re-entry rate estimates.

The results have implications for both welfare benefit and labour market policies. The large amount of low income turnover means that the welfare benefit system has an important role providing short-term support: over a year, many more people are helped by the benefit system than would be revealed by focusing on the benefit caseload at a point in time (which disproportionately comprises long-term stayers). Longer-term help from the benefit system is also important of course, particularly for poor people beyond retirement age. Single pensioners form about one-quarter of the persistently poor group but they have limited opportunities to improve their incomes through paid work or marrying someone with sufficient income. These opportunities, especially the former, are of course more relevant to those of working age. However, although we have shown that getting a job is associated with escaping low income, it should be remembered that we examined associations with short-term income changes. If the job gained were of only short duration, then the low income escape is also likely to be only temporary (as the turnover and spell repetition results remind us). Policies for permanent escapes need to increase the tenure and quality of labour market attachment.

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