Escaping poverty: are there any differences by household type?

Elena Bárcena Martín
Antonio Fernández Morales
Guillermina Martín Reyes
(Universidad de Málaga, España)

Abstract

The sociological type of a household can be a strong determinant of movements out of low income. The main aim of this paper is to assess which of the various events associated with a poverty exit are the most significant ones depending on the type of household. For this study we use the first eight waves of the European Community Household Panel.

We use a decomposition method based on a mutually exclusive hierarchical categorization of event types for each person experiencing a poverty spell ending. The main family structure change is a change in the identity of the head of the household. If the household has not experienced a change in household head, we determine whether the change in the household needs is proportionately greater than the concurrent change in household net money income, classifying the trigger event as demographic or as an income event and detail the source that change most. In this method we have to construct a hierarchical algorithm to determine event importance. It is therefore straightforward to assess the importance of different trigger events. This inevitably involves assumptions that are potentially debatable, but the major drawback to this approach is that many events can occur simultaneously. To complete the analysis we allow the possibility of non-exclusive trigger events. These two issues provide useful and complementary information about the relative importance of trigger events.

Several studies have examined the relationship between events and individuals' exits from poverty, but most use only descriptive

analysis. While informative, descriptive analyses provide limited information because individuals can experience more than one event at a time. But multivariate analysis disentangles the relationship between one event and the poverty transition from other events or household characteristics. Therefore we estimate a logit model where the probability of exiting poverty depend on a set of explanatory variables, which includes not only trigger events but also other characteristics of the person or household. We estimate the logit model broken down by household type at the interview prior to the potential transition. So, we can determine the relative importance of multiple events in poverty transitions, something that can not be learned by the descriptive analysis.

We compare the results obtained from these three different approaches and we get robust conclusions on the main events in the way out of poverty for each household type.

1. Introduction

Changes in income between one year and the next, and poverty transitions, are associated with trigger events. The main aim of this paper is to assess which of the various events are the most significant ones in escaping poverty depending on sociological type of household. For this study we work with the first eight waves of the European Community Household Panel (ECHP)

We apply a decomposition method based on a mutually exclusive hierarchical categorization of event types for each person experiencing a poverty spell ending. In this method we have to construct a hierarchical algorithm to determine event importance. This inevitably involves assumptions that are potentially debatable, but the major drawback to this approach is that many events can occur simultaneously. To complete the analysis we allow the possibility of non-exclusive trigger events. These two issues provide useful and complementary information about the relative importance

of trigger events. But they are only descriptive analysis. While informative, descriptive analyses provide limited information because individuals can experience more than one event at a time. But multivariate analysis disentangles the relationship between one event and the poverty transition from other events or household characteristics. Therefore we estimate a logit model where the probability of exiting poverty depend on a set of explanatory variables, which includes not only trigger events but also other characteristics of the person or household. We estimate the logit model broken down by household type at the interview prior to the potential transition. So, we can determine the relative importance of multiple events in poverty transitions, something that can not be learned from the descriptive analysis. Finally, we estimate intradistributional mobility in Spain by household type, using stochastic kernels tracking the evolution of the entire income distribution.

Motivation

The study of poverty dynamic and trigger events, especially in the routes out of poverty, is interesting and important for many reasons:

First, it has intrinsic social relevance and policy significance. It is necessary to know the trigger events in escaping poverty to decide the ideal redistribution policy. The static approach can give an idea of the effect on the public policy on low-income people, but longitudinal studies allow distinguishing between policies of enabling people to climb out of poverty from those of preventing people falling back in.

Second, little research has been done on it in Spain and, up to now and the best of my knowledge, there has been just one relevant study in Spain to analyse the routes out of poverty (Canto 2003) that covers the period 1985-1995 and use the Encuesta Continua de

Presupuestos Familiares[1]. In this study the influence of the household type in the transition out of poverty has been pointed out as an important feature (Canto 2003).

Third, eight waves of data have now been released. Having a longer panel has several advantages. Moreover, only with a large number of waves can one observe the incidence of long poverty spells, and also model them better (because their start dates are more likely to be observed).

Outline

This paper is organized as follows. In the next section we describe our data and definitions. Section 3 provides an impression of the evolution of poverty in Spain in the period 1993-2000. Then section 4 focuses on the analytical framework. Section 5 summarizes results on the mutually exclusive hierarchical categorization of events, on the non-mutually exclusive categorization, on the logit analyses and on intradistributional mobility in Spain considering the effect of the household type. Finally, section 6 concludes.

2. The data set and definitions used in the paper

The results presented in this paper are based on the ECHP User Data Base (UDB) containing data of waves one to eight (1994-2001) as released for public use by EUROSTAT[2]. The ECHP is an annual survey of private households undertaken in the EU states covering a wide range of areas. Our dataset takes information from the households' file, the individual's file and the country's file for Spain. So, we use

[1] It is a rotating panel based on a survey conducted by the INE. The ECPF reports interviews for about 3,200 households every quarter randomly rotating at 12.5 per cent each quarter. As a result, we can follow a household for a maximum of eight consecutive quarters. It begins in 1985.

[2] For a discussion of the quality of the ECHP data see Whelan et al. (2000).

information about the household and about each of the household adult members (people aged 16 years or more).

A relevant question is the definition of income used in the survey. The main concept is that of net monetary income, calculated by adding together net income from work (wage and salary earnings and self-employment earnings), other non-work private income (capital income, property/rental income and private transfers received) and pensions and other social transfers. Net monetary income includes all income received by the household as a whole and by each of its current members in the year preceding the survey. Social insurance contributions, pay-as-you-earn taxes and non-monetary income that may be received by the household (wages in kind, home production, imputed rents associated with owner occupation, etc.) are not included in the definition of income. The income data provided by the ECHP is annual, and refers to the year previous to the survey, i.e., the first income data available corresponds to 1993. That is the reason why the period of analysis is from 1993 to 2000.

We deflate incomes using the Harmonised Indices of Consumer Prices (HICPs) with 1996 as the reference year, so that we ensure that incomes are comparable.

Following the terminology in Jenkins (2000), a clear way to write the economic measure of well-being is to use the household income-equivalent or *HIE*. HIE_t is the needs-adjusted household net income at year t. Thus:

$$HIE_t = \frac{\sum_{j=1}^{n} \sum_{k=1}^{K} x_{jkt}}{m(a,n)}$$

where j indexes individuals in the household ($j = 1, 2, \ldots, n$) and k is each money income source. The denominator is an equivalence scale factor depending on household size n and on a vector of household

composition variables *a* (ages of individuals or role within the household). The welfare measure *HIE* is therefore the sum of all household members monetary income adjusted by household needs.

Since a given level of household income will support a different standard of living depending on the size and composition of the household, we adjust for these differences using equivalence scale[3]. We use the modified-OECD equivalence scale[4] as recommended by EUROSTAT.

We consider distributions of income among individuals, not distributions of income among households or families. We follow conventional practice and assume that, within each household, total household income – the sum of all the incomes of each household member – is distributed equally among household members.

The definition of poverty used in this paper is based on income. An individual is defined to be poor if he or she has an income, which fell below a particular low-income cut-off (the 'poverty line'). The poverty line used for our analysis is 60 per cent of contemporary median income, as recommended by EUROSTAT.

This paper is mainly based on a balanced panel sub-sample of adults (people aged 16 or above) in complete respondent households for all waves for which they are in the panel. We use this adults only panel for all eights waves to estimate poverty exit, re-entry rate, and analyse trigger events.

The use of sample weights is the conventional way to mitigate potential biases, introduced by potential differential non-response,

[3] For the effects of the choice of equivalence scale on poverty measurement in Spain see Mercader-Prats (1998).
[4] This scale assigns value 1 to the first adult in the household, 0.5 to each remaining adult, and 0.3 to each person younger than 14.

together with differential attrition, and we have used the relevant sample weights where appropriate[5].

3. The evolution of poverty in Spain: 1993-2000.

During the second half of the seventies, the eighties and the nineties, the income distribution in Spain experienced a substantial improvement towards equalization (Oliver et al., 2001) even though the increase in relative poverty during the crisis 1980-1985. As a result, the number of relatively poor households in Spain between 1970 and 1990 has decreased. Canto et al. (2003) comes across that from 1985 until 1990-1991 absolute and relative poverty decrease. But the first part of the nineties appears to register not only stabilization in the decline of the number of the households in poverty, but also a change to a slight increase. However the whole period, 1985-1995, ends up with a positive result: relative and absolute poverty measures considerably decrease.

Results in the longitudinal approach, are scarce and recent. Canto et al. (2003) and Barcena and Cowel (2005) find that there is a remarkable degree of longitudinal mobility, which coexists with the decrease in cross-sectional poverty in Spain. Specifically, the reduction in poverty until 1990 seems to be more connected to high poverty exit rates, than to financial aids to people in risk of poverty. However, the increase in poverty in 1991-1995 emerges as the result of higher poverty re-entry rates and, basically, of significant reductions in poverty exit rates.

[5] In longitudinal analysis over the eight waves (persons interviewed in all these waves) the normalised base weights of wave 8. This is as recommended by EUROSTAT.

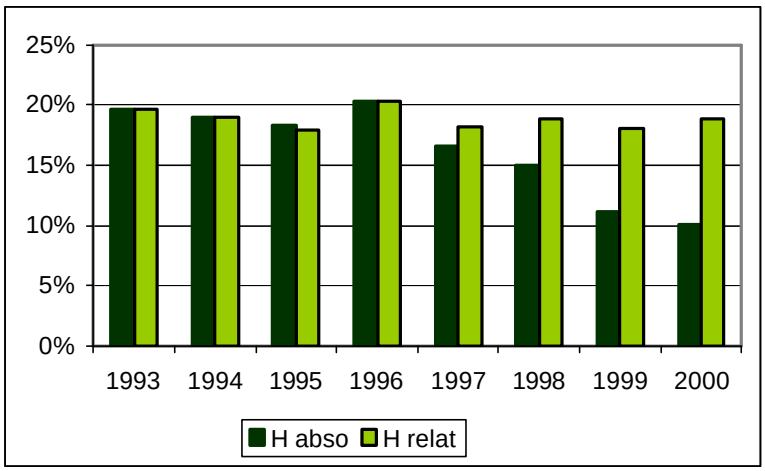
Table 1. Trends in mean and median income, inequality and low income:1993-2000.

Year	Average	Median	Gini	P90/P10
1993	1,281,465	1,063,912	33.79%	4.82
1994	1,281,878	1,062,779	32.87%	4.67
1995	1,283,475	1,054,106	32.38%	4.67
1996	1,289,040	1,064,000	34.16%	5.17
1997	1,340,540	1,106,278	33.36%	4.76
1998	1,435,713	1,206,686	31.65%	4.60
1999	1,532,255	1,293,621	31.02%	4.52
2000	1,607,971	1,370,234	32.58%	4.42

Source: Own construction using ECHP 1994-2001
Note: needs-adjusted income (modified OECD scale)

The eight first waves of the ECHP for Spain suggest the existence of two time periods: 1993-1996 with slight increase in average income and 1997-2000 with a remarkable increase in average income, Table 1. From 1993, we find that absolute poverty head-count ratio declines slightly, but in 1996 it jumped to a value higher than that of 1993; from 1996 onwards it decreases markedly (Figure 1).

Figure 1. Evolution of household poverty rates in Spain 1993-2000.



Source: Own construction using ECHP (1994-2001)
Note: needs-adjusted (modified OECD scale) household income in real terms of 1996

About relative poverty we observe that head-count ratio slightly decreased during the period. Results confirm the stabilization or even increase in poverty in the early nineties pointed out by Canto et al. (2003), and after 1996 there is no clear pattern of poverty, but 2000 is the turning point, when poverty starts to grow. Consequently, the marked reduction in absolute poverty measured in the second period was due mainly to income growth and also to redistribution policy in the lower tail of the distribution. The Gini inequality measure follows a pattern similar to that of relative poverty. But the incomes of those in

the highest and lowest tails of the income distribution are less distant in 2000 than in 1993.

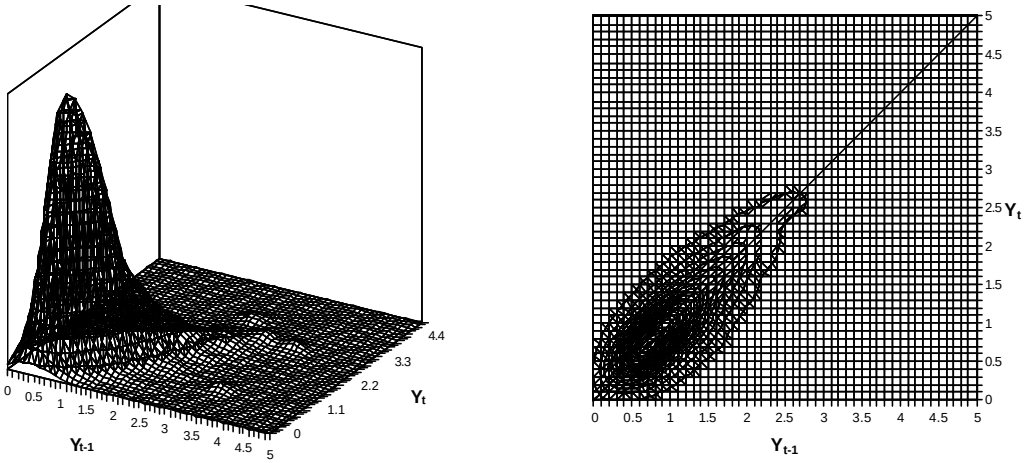
Table 2. Low income sequence patterns.

Number of years in poverty	Percentage
0	55.74%
1	13.50%
2	9.31%
3	4.89%
4	4.71%
5	4.12%
6	2.97%
7	2.22%
8	2.55%

Source: Own construction using ECHP (1994-2001)
Note: Percentages calculated using ECHP longitudinal weights.
Relative poverty based on needs-adjusted income (modified OECD scale)

This picture of stability in relative poverty disappears if one examines year-to-year income mobility instead. The pattern revealed is one of much mobility, but most of it short-range. Income mobility also means that the proportion of population touched by poverty over eight-year period is substantially larger than the proportion of poor in any one year (Table 2).

Figure 2. Non-parametric estimation of the bivariate density function of y_{t-1} and y_t (relative to the median income)



Source: Own construction using ECHP 1994-2001

Figure 2 shows the non-parametric estimation of the bivariate density function of y_{t-1} and y_t (relative to the median income). We can observe that, when considering one year apart income transitions, there are no large movements in observed income values. That is why

the density function is placed near the diagonal. The mobility is appreciated through the dispersion with respect to the diagonal. We have also estimated the bivariate density breaking down by type of household, showing different degrees of mobility, as observed for el tipo de hogar que corresponda (Figure 3 and 4).

Figure 3. Contour plot of the non-parametric estimation of the bivariate density function of y_{t-1} and y_t (relative to the median) for main household income source: wages and salaries earnings.

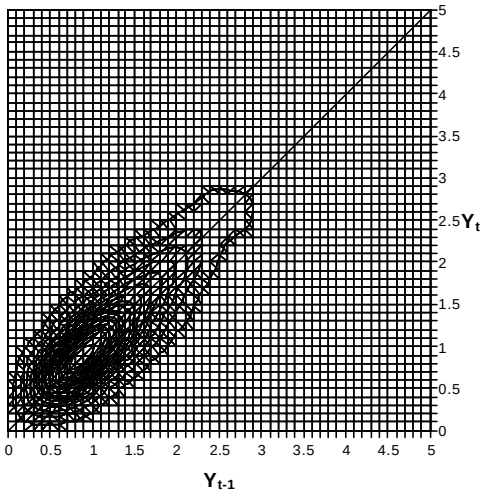
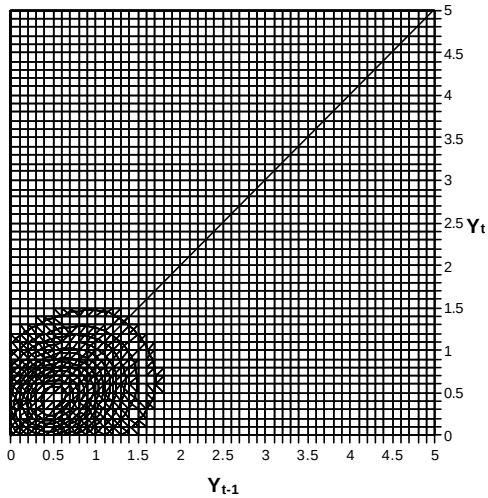


Figure 4. Contour plot of the non-parametric estimation of the bivariate density function of y_{t-1} and y_t (relative to the median) for main household income source: Unemployment benefits.



The study of probability of entering and escaping a poverty spell together with the individual's likelihood of fall back into poverty shortly after exit helps to describe the individual's experience in low income. We find that 39.8% of individuals considered poor in a given year exit this situation one year after. At the same time, 8.1% of non-poor adults fall into poverty. We identified 2 distinct periods: in the

first one, 1993-1996, entry and exit rates are bigger than in the second period, when income grows steadily (Table 3).

Table 3. Poverty entry and exit.

	Entry rate	Exit rate
1993-1996	8.97%	40.77%
1997-2000	7.40%	39.02%
Total	8.07%	39.80%

Source: Own construction using ECHP 1994-2001
Note: Relative poverty based on needs-adjusted income (modified OECD scale)

4. The analytical framework.

Understanding why individuals enter and exit poverty may be useful for effective policy, yet little is known about the events associated with poverty. As poverty is measured in terms of household equivalent income, the chances of an individual to escape or enter poverty are determined by the events experienced by household members: changes in incomes of any household member, or composition of household

We use the decomposition methods pioneered by Bane and Ellwood (1986) to determine the main events associated with poverty spell endings. First we have to derive a mutually exclusive hierarchical categorization of event types for each person experiencing a poverty spell ending (we include left censored spells). The main family structure change is a change in the identity of the head of the household; those with a change in household head are identified as experiencing a demographic trigger event. If the household has not experienced a change in household head, we determine whether the change in the household needs (as summarised by the OECD modified equivalence scale rate) is proportionately greater than the concurrent change in household net money income. If the change in needs is larger than the change in income, we classify the trigger event as demographic (increase in number of children, decrease in number of adults ...). If, instead, it is the change in income, which is

proportionately larger than the change in needs, we classify the trigger as an income event and detail the sourced that change most. These income events will be directly linked to labour status events of the household, non-labour change or even welfare status events. For poverty exits we determine which income component increase the most.

We can specify a mutually exclusive list of event types:

Demographic events associated with poverty exits:

- Changes in household needs
- A fall in needs (same household head)

Income events associated with poverty exits: A rise in

- Wage and salary earnings
- Self-employments earnings
- Capital income
- Property/rental income
- Private transfers received
- Unemployment related benefits
- Old-age/survivor's benefits
- Other social transfers

A major advantage of this approach is that one can associate every poverty transition with one event or another. It is therefore straightforward to asses the importance of different trigger events. But it has a drawback: many events may occur simultaneously; so, it is not feasible to construct an exhaustive list of events, therefore we have to construct a hierarchical algorithm to determine event importance. This inevitably involves assumptions that are potentially debatable.

This approach is too rigid to give us information of the most detailed reasons for moving out of poverty. As Canto (2003) points out, it classifies all headships changes as demographic when, precisely,

given the structure of the Spanish Households Surveys (including the ECHP), a headship change may be due to labour market changes of household members. Second, it avoids the consideration of joint events in providing the most significant routes into or out of poverty.

To complete the analysis we allow the possibility of non-exclusive trigger events. In this case we are interested in two main issues about the association between a set of trigger events and poverty transitions (Jenkins and Rigg, 2001):

1. The share of all poverty exits that was accounted for each of various events. An event is important if it accounted for a high share of all poverty transitions. Called by Jenkins and Rigg (2001) aggregate perspective.

2. The probability of making a poverty exit associated with also having experienced a particular type of event. Called by Jenkins and Rigg (2001) individual perspective.

So we are concerned with four kinds of statistics:

- The prevalence of each trigger event.
- The prevalence of each trigger event among poor (in the exiting poverty).
- The probability of a poverty transition associated with having experienced each event.
- The share of all poverty transitions accounted for each event[6].

These two approaches provide useful and complementary information about the relative importance of trigger events. As Jenkins and Riggs (2001) claim, an event accounts for a relative high share of all poverty exits if the event was relatively common, or if the chances

[6] Share of all exits accounted for each event i= $\frac{pr(event_i)pr(exit\ poverty/event_i)}{pr(exit\ povety)}$

of leaving poverty were relatively high among those who experienced the event, or both.

In the Bane and Ellwood's methodology (exhaustive, mutually exclusive list of event types) we need to impose assumptions regarding the importance of simultaneously occurring events, but on the other hand the poverty transition share statistics add up to 100 per cent, and the assessment of event importance from an aggregate point of view is straight forward. But the non-mutually exclusive classification of events offers useful information about events, specifically when the events that are supposed to be the most important ones do not account for most of the transitions.

Next, poverty dynamics is analysed in an econometric framework, which allows the analysis of events that trigger exits from poverty. We estimate a logit model where the probability of exiting poverty depends on a set of explanatory variables, which includes not only trigger events but also other characteristics of the person or family. So, we can determine the relative importance of multiple events in poverty transitions, something that can not be learned by the descriptive analysis. The logit specification is very tractable and restricts the transition probabilities to lie between zero and one. Several studies of poverty dynamics have used the logit specification: Stevens (1994); Mckernan and Ratcliffe (2002); Van Leeuwen and Pannekoek (2002); Bourreau-Dubois et al (2003); Canto (2003).

To introduce the model used, let y_{it} denote the variable indicating whether individual i has escaped from poverty at time-point t ($y_{it} = 1$) or not ($y_{it} = 0$).The expected value of y_{it} is the exit probability denoted by p_{it}. We believe that a set of demographic factors, changes in income, and others characteristics of the person and family, gathered in a vector x, explain the occurrence or not of an exit from poverty, so that:

$$\text{Prob}(y_{it} = 1) = F(x_i \beta) = p_{it}$$

$$\text{Prob}(y_{it}=0) = 1-F(x_i ß) = 1-p_{it}$$

assuming F follows a logistic distribution. The analytical population is built up of all at risk of exiting poverty.

The assumption that the observations are independent is questionable in this paper since there are repeated observations of the same individuals at different time-points; and also we consider each member of the same household, therefore with similar characteristics, as different observation in each time-point. In a logit regression, maximum likelihood estimator of the coefficients remains consistent in spite of the violation of homoskedasticity assumption. But, the estimator for the standard errors of the coefficients of the regression will be biased and inconsistent. So we can estimate the parameters of the model by maximum likelihood and their standard errors using the robust estimator due to Huber(1967) and White (1980). We estimate different logit regressions depending on the household type.

5. Trigger events associated with poverty exits.

Table 4 summarizes the classification of poverty spell endings by type (it includes all spell endings, whether their start is censored or not). Using Bane and Ellwood's definition of transition types we find that demographics events occur in 16% of household transiting out of poverty, while income events occur in 84 remaining cases. The same calculation for U.S. in Bane and Ellwood (1986) showed that 13% of spell endings take place with demographic events. Jenkins (2000) for the United Kingdom observes that over four-fifths (82%) of exit transitions were associated with favourable income events, and just under one-fifth (18%) with demographics events. Canto (2003) shows that demographics events occur in approximately 7% of household transiting out of poverty in Spain, while income events occur in the 93 remaining cases.

Table 4. Poverty spells endings types: Bane and Ellwood's methodology.

Main trigger event (hierarchical classification)	Transitions out of poverty
Demographic event	15.64%
Change in household head	14.67%
Change in household need	0.97%
Income event	84.36%
Rise in wage and salary earnings	38.82%
Rise in self employment earning	26.97%
Rise in non-labour income	4.25%
Rise in capital income	1.80%
Rise in property/rental income	1.37%
Rise in private transfers received	1.08%
Rise in social transfer receipts	14.32%
Rise in unemployment related benefits	1.75%
Rise in old-age/survivors' benefits	7.86%
Rise in other social transfer receipts	4.71%
Households leaving poverty (weighted)	3,715

Source: Own construction using ECHP 1993-2000.

We conclude that demographic events are not crucial in the transitions out of poverty in neither of these countries. Our figures differ from those of Canto (2003) for Spain. It could be due to the different length of time a household is followed. The longer the same household is observed, the higher the chances of experiencing a demographic event. While Jenkins (2000) follows the same individual up to 6 years (1991-1996) and Bane and Ellwood (1986) follow him up to 12 years (1970-1981), Canto (2003) follow a household up to 21 months, in contrast with the 8 years (1993-2000) we follow the individuals. The different results can also be due to the different definition of household head[7].

Within demographics events, changes in needs maintaining the same household head involve 6% of all demographics events, while in United Kingdom, (Jenkins (2000)) and U.S. (Bane and Ellwood (1986)) changes in needs entail 20%. As it is pointed out by Canto (2003), this

[7] In ECHP, the one designated by family, if it is active, or if it is inactive and there is no other active member in the household. If he is inactive, then the reference person is the spouse/partner if active. If partner is inactive the reference person is the oldest active person. In the ECPF, the one used by Canto, the household head is the one with higher incomes.

may not come as a surprise if we are conscious that the fertility rate is lower than in UK and US and the age of departure of youth from parents' households is largely higher than in U.K. and U.S.

Changes in wage and salary earnings account for 46% of all the income events (39% of all events). And the second reason for transition is a change in self-employment earnings (27% of all endings). On the other hand, a change in non-labour income is the less common event. Within social transfer receipts, changes in old-age/survivors' benefits is the most common event (9% of all changes in income and more than a half of changes in social transfer receipts).

Following Jenkins and Schluter (2001) and Canto (2003) we decompose the differences in the effects of trigger events in differences in the prevalence of events and differences in the chances of making a transition conditional on experiencing a trigger event, shown in table 5. This is a non-exclusive trigger event approach. Table 5 illustrates that, in general, demographic events account for a lower proportion of poverty exits than many labour earnings events (share of all exits associated with event). But, as Jenkins and Rigg (2001) found for the U.K., the routes out of poverty are varied given that the share of exits associated with events is rather low, with the only exception of increments in wage and salary earnings that is associated to the largest share of exits (61%). But there are other events that account for about one third of exits: increment in self-employment earnings, in capital income and in old-age/survivors' benefits.

Table 5. Trigger events and exits from poverty in the whole population: non-mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	7.61%	9.97%	13.36%	14.59%
Change in household need	7.70%	5.68%	6.69%	7.35%
Income event				
Rise in wage and salary earnings	41.19%	42.42%	10.37%	61.28%
Rise in self employment earning	14.08%	21.17%	18.21%	36.81%
Rise in non-labour income				
Rise in capital income	32.87%	31.86%	7.39%	34.91%
Rise in property/rental income	4.16%	2.69%	6.42%	3.86%
Rise in private transfers received	1.87%	3.55%	13.70%	3.64%
Rise in social transfer receipts				
Rise in unemployment related benefits	9.59%	15.06%	12.06%	16.63%
Rise in old-age/survivors' benefits	24.65%	22.06%	7.73%	27.48%
Rise in other social transfer receipts	15.99%	24.35%	11.74%	26.93%
Households (weighted)	53599	9381	8714	8714

Source: Own construction using ECHP 1993-2000.

Relatively high statistics (share of all exits) reflect the combination of a relatively high event prevalence rate in poor individuals and relatively high conditional poverty exit rate. Over one fifth of all poor people experience a rise in wage and salary earnings, self-employment earnings, capital income, old-age/survivors' benefits and other social transfer receipts.

Nearly one fifth of those who experience a rise in self-employment earnings escape poverty. The aggregate importance of this route out of poverty is reinforced by its prevalence in poor people sample (21%). The conditional exit rate associated with a rise in private transfer receipts is around one-eight. However, this route of escaping poverty is limited by its relative low prevalence in poor people sample.

Routes out of poverty by household type.

Table 5 give us information on the different routes out of poverty among population as a whole. But the fact that some types of individuals are more likely to remain poor than others means that the rate at which they escape from poverty is lower than it is for those who are less likely to be persistently poor. Table 6 shows the rate at which people exit or entry poverty during 1993-2000 in Spain depending on the type of household they belong to. It also shows the risk of poverty (percentage of individuals in each household type who were poor) and the composition (percentage of the total number of poor who are in the household type) averaged over the period. The poverty exit rate is the number of persons moving out of poverty between one year and the next, divided by the number of persons who were poor in the base year. The poverty entry rate is the number of persons moving into poverty between one year and the next, divided by the number of persons who were not poor in the base year. Number of observations at risk of exiting poverty was 9,381. Number of observations at risk of entering poverty was 44,218.

Table 6. Poverty risk and composition, and poverty exit and entry rates by household type.

	Poverty		Exit rate	Entry rate
	Risk	Composition		
All persons	17.50%	100%	39.79%	8.07%
One person aged 65 or more	11.04%	1.78%	40.12%	10.55%
One person aged less than 65	18.33%	1.71%	32.50%	7.15%
Single parent with children	14.42%	5.58%	43.98%	5.54%
Couple without children (at least one person aged 65 or more)	24.72%	10.94%	19.59%	8.07%
Couple without children (both persons aged less than 65)	15.45%	4.22%	27.53%	6.74%
Couple with children	18.92%	58.13%	40.38%	8.59%
Other households	13.74%	17.02%	53.66%	7.83%

Source: Own construction using ECHP 1993-2000.

Every year, on average, almost two-fifths of those who are poor one year are no longer poor the next one. And among all non-poor people in one year, less than one in ten become poor the next year.

Individuals in couple without children with at least one person aged 65 or more (in advance, elderly couple households) have the smallest poverty exit rate (19.6%, half of the national average) along with a poverty entry rate equal to the average. This group is the most likely to be poor, thus 25% of childless couples were poor in Spain during 1993-2000.

The poverty risk is the lowest for elderly single households, and poverty exit and entry rates are high for these individuals. So, elderly households differ depending on being singles or couples. Single elderly households have higher transitions rates and less risk to be in poverty.

Individuals in couple with children households are also of interest because they are the largest group and most common type of household among the poor (58%) and they are likely to be in poverty.

The poverty exit rate is the highest for single parent households while the poverty entry rate is the lowest, and therefore this group presents low poverty risk.

Individuals in households with one person aged less than 65 (in advance, non-elderly single households) are the smallest group but with high incidence in poverty (18%). Non-elderly couple without children households show low poverty entry and exit rates and low poverty risk.

The differences in poverty entry and exit rates across households' types indicate that it is likely that events affecting transition in and out of poverty differ across groups.

We have first analysed results based in all persons to get an overall picture but now we complete this analysis with a subgroup breakdown. Firstly, we consider routes out of poverty that are mutually exclusive, following Bane and Ellwood's methodology, and

after that, we complete the analysis by household type with the non-mutually exclusive classification, taking into account prevalence of events and exit rate conditional on event.

Table 7 breaks down the mutually exclusive events according to each person's household type at the interview prior to the poverty transition (last year of poverty spell)[8]. We find some important differences in the trigger events associated to the transitions out of poverty, depending on person's household type. As it probably would be expected, in single elderly households and in elderly couple households, increases in social transfers dominate and at least half of the transitions are classified as related to an increment in old-age/survivors' benefits. Increments in non-labour income are the second highest event for these types of households, being increments in capital income the most relevant one. On the other hand, increases in wage and salary earnings amongst individuals in non-elderly households dominate, especially for individuals in non-elderly childless couple households where 74% of spell endings take place with this kind of event.

[8] We do not comment on "other households" type due to the heterogeneity of it.

Table 7. Poverty spells endings types by household type: Bane and Ellwood's methodology.

Main trigger event (hierarchical classification)	Family type						
	One person aged 65 or more	One person aged less than 65	Single parent with children	Couple without children (at least one person aged 65 or more)	Couple without children (both persons aged less than 65)	Couple with children	Other house-holds
Demographic event							
Change in household head	0.00%	0.00%	17.70%	3.85%	2.19%	12.67%	26.76%
Change in household need	0.00%	0.00%	2.21%	1.92%	0.00%	0.54%	1.76%
Income event							
Rise in wage and salary earnings	3.17%	29.79%	36.73%	4.81%	74.09%	47.12%	20.19%
Rise in self employment earning	0.00%	21.28%	19.47%	9.62%	8.03%	29.37%	35.80%
Rise in non-labour income	15.87%	17.02%	3.98%	24.52%	5.11%	1.82%	3.29%
Rise in capital income	7.94%	2.13%	0.44%	14.90%	1.46%	0.94%	0.70%
Rise in property/rental income	4.76%	8.51%	2.21%	8.65%	2.92%	0.59%	0.00%
Rise in private transfers received	3.17%	6.38%	1.33%	0.96%	0.73%	0.30%	2.58%
Rise in social transfer receipts	80.95%	31.91%	19.91%	55.29%	10.58%	8.48%	12.21%
Rise in unemployment related benefits	0.00%	2.13%	0.00%	0.00%	1.09%	2.07%	2.23%
Rise in old-age/survivors' benefits	79.37%	25.53%	9.73%	50.00%	6.93%	2.02%	5.05%
Rise in other social transfer receipts	1.59%	4.26%	10.18%	5.29%	2.55%	4.39%	4.93%
Households leaving poverty (weighted)	63	47	226	208	274	2,029	852

Source: Own construction using ECHP 1993-2000.

Amongst persons in couple with children households, even though that the main event is an increase in wage and salary earnings for 47% of all endings, for almost one third (29.4%) it is increases in self-employment earnings. Something similar happens in single non-elderly households and single parent households.

Single non-elderly households present three events with similar importance: increment in wage and salary earnings, in self-employment earnings and in old-age/survivors' benefits. We think that this group contains different types of single non-elderly, that is, it may be a heterogeneous group, but because of cell constrains we can not analyse it in depth.

The incidence of demographics events is above the average (0.97%) amongst persons in single parent households and couple with children households.

A striking case is that of single parent households where demographics events account for 20% of the ending spells, most of them due to a change in household head. This change is due to marriage only in 1% of the single parent households. Therefore, the changes in household head are among siblings or step/adopted/foster siblings[9]. This type of households have a more diverse source of income events than couple with children households, where most of trigger events come from a rise in wage and salary earnings. Results referring to changes in household head are different from previous research in Spanish data, maybe due to the different definition of household head and to the longer period of time considered, as explained before.

We can conclude that for elderly households the most important event in ending a poverty spell is an increment in old-age/survivors' benefits while in non-elderly households, increases in wage and salary earnings is the main event. An important trigger event in non-elderly single, single parent and couple with children households is self-employment earnings increases.

We now analyse transitions out of poverty from the non-mutually-exclusive point of view.

Elderly households (singles and couples)

Tables 8 and 9 show separate breakdowns for elderly single and elderly couple households. An increment in old-age/survivors' benefits is the most common route out of poverty among the elderly. This event

[9] One year after the change in household head the head of the household is not married. In 18% it is still widow, and in 70% is still never married.

accounts for almost 95% of poverty exits of elderly single and 78% of elderly couples, a statistic much higher than the corresponding to the population as a whole. These results are not a surprise as old-age/survivors' benefits are particularly important for elderly compared to other groups.

Table 8. Trigger events and exits from poverty among persons in elderly single households: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	0.37%	0.00%	0.00%	0.00%
Change in household need	0.00%	0.00%	0.00%	0.00%
Income event				
Rise in wage and salary earnings	0.86%	1.43%	15.31%	2.35%
Rise in self employment earning	0.95%	1.03%	6.93%	1.52%
Rise in non-labour income				
Rise in capital income	22.00%	19.89%	5.71%	27.62%
Rise in property/rental income	2.46%	2.19%	8.07%	4.82%
Rise in private transfers received	2.17%	4.33%	15.23%	8.51%
Rise in social transfer receipts				
Rise in unemployment related benefits	0.25%	0.00%	0.00%	0.00%
Rise in old-age/survivors' benefits	52.02%	75.96%	7.88%	94.27%
Rise in other social transfer receipts	2.37%	3.86%	8.38%	4.35%

Source: Own construction using ECHP 1993-2000.

Increases in capital income have also an important share of all exits in both types of households but the exit rate conditional on this event is rather low, despite of this, it is the second most common event among poor individuals.

Elderly relation with labour market is low and it is reflected in the low prevalence of rise in wage and salary earnings and unemployment related benefits. But, once a person in an elderly single household experiences a rise in wage and salary earnings, he has a chance of 15% of leaving poverty. This route, together with a rise in private transfers received, are the most effective ones in this type of households. On the other hand, in elderly couple households, the most effective routes out of poverty are a rise in self employment earnings and in private transfers received. However, very few

individuals in elderly households experience these events, and so, the aggregate effect in terms of share of all poverty exits is low.

Table 9. Trigger events and exits from poverty among persons in elderly couple households: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	2.10%	1.48%	9.20%	3.90%
Change in household need	1.56%	0.90%	6.20%	1.95%
Income event				
Rise in wage and salary earnings	2.26%	1.51%	12.82%	6.26%
Rise in self employment earning	2.31%	3.01%	27.10%	12.88%
Rise in non-labour income				
Rise in capital income	25.27%	25.28%	8.01%	41.44%
Rise in property/rental income	5.31%	4.78%	15.42%	17.45%
Rise in private transfers received	0.55%	0.81%	26.33%	2.67%
Rise in social transfer receipts				
Rise in unemployment related benefits	0.48%	0.44%	10.02%	0.93%
Rise in old-age/survivors' benefits	51.60%	46.69%	7.38%	78.13%
Rise in other social transfer receipts	4.62%	3.78%	8.86%	8.21%

Source: Own construction using ECHP 1993-2000.

Demographics events in elderly couples households are not common. Most of the elderly couple households with a change in household head are single elderly households (partner possibly died) or are “other type of household” next year, what could mean that elderly people go to live with family. In single elderly households there are no demographic events.

The results suggest that, as increments in old-age/survivors' benefits are common events among poor and among those who escape poverty, but there is a low exit rate conditional on this event, if old-age/survivors' benefits are increased in higher rates there will be a marked reduction in low income individuals among pensioner.

Couples with children households

This group has a high poverty exit rate and a poverty entry rate over the average. It is the biggest group in poverty and the second one in risk of poverty.

Table 10. Trigger events and exits from poverty among persons in couple with children households: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	6.93%	8.53%	12.86%	11.64%
Change in household need	6.96%	4.67%	6.23%	5.70%
Income event				
Rise in wage and salary earnings	49.45%	54.99%	11.32%	73.21%
Rise in self employment earning	13.88%	22.40%	19.79%	36.01%
Rise in non-labour income				
Rise in capital income	33.49%	31.85%	7.76%	34.07%
Rise in property/rental income	3.96%	1.97%	4.65%	2.37%
Rise in private transfers received	1.79%	2.83%	9.86%	2.30%
Rise in social transfer receipts				
Rise in unemployment related benefits	11.26%	19.12%	12.38%	18.22%
Rise in old-age/survivors' benefits	12.60%	8.01%	7.02%	11.64%
Rise in other social transfer receipts	16.62%	26.25%	11.36%	24.66%

Source: Own construction using ECHP 1993-2000.

Table 10 shows that in general terms, the importance of different events for this group is similar to that of the poor population as a whole. The share statistic for increment in wage and salary earnings is the highest and higher than the corresponding statistics for the population as a whole. This is not because this event has the largest impact at the individual level (conditional exit rate) but because this is the more prevalent event for this type of households.

Just over one third of poverty exits are associated with an increase in self-employment earnings or capital income. The former income event has the highest exit rate conditional on event, but as it is not as common as wages and salary earnings increments this event only accounts for 36% of all exits.

Increment in unemployment benefits is the second event with higher conditional exit rate, but as it is not so common in poor individuals (19%) the share statistic is smaller than the previous one.

The results suggest that the importance of increases in unemployment related benefits as a route out of poverty is held back by a relatively low event prevalence rate (19%).

About demographic events, once a change in household head takes place, the exit rate is one of the highest, but this is not a common event among poor households.

Single parent households

Individuals in single parent with children households have a high poverty exit rate and a low poverty entry rate. Table 11 illustrates that in this group demographic changes, especially changes in household head, have particular importance. It is the only type of household with a share of all exits associated to changes in household head (17%) over the average. As we pointed before, changes in household head are among siblings.

Table 11. Trigger events and exits from poverty among persons in single parent households: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	15.11%	18.18%	7.30%	17.49%
Change in household need	7.13%	5.51%	5.80%	6.17%
Income event				
Rise in wage and salary earnings	39.44%	39.94%	9.44%	58.97%
Rise in self employment earning	12.12%	18.05%	12.28%	23.42%
Rise in non-labour income				
Rise in capital income	34.14%	39.78%	8.64%	46.39%
Rise in property/rental income	4.62%	3.30%	8.36%	6.16%
Rise in private transfers received	3.74%	5.68%	11.79%	6.46%
Rise in social transfer receipts				
Rise in unemployment related benefits	8.40%	5.52%	5.91%	8.12%
Rise in old-age/survivors' benefits	44.99%	44.55%	6.01%	42.74%
Rise in other social transfer receipts	16.43%	16.67%	9.73%	24.98%

Source: Own construction using ECHP 1993-2000.

As we expect, the share statistic for increases in wage and salary earnings is the highest in this type of household. As we discuss in the case of couple with children households, it is not a matter of a larger impact, but a matter of prevalence of this event among poor individuals in this kind of households.

Increments in capital income together with increments in old-age/survivors' benefits are also present in a high share of all exits. Increases in self-employment income have the highest conditional exit rate, but as it is not a common event among poor individuals the share statistic is not important.

The results show that household income of poor single parent households experiences increments in old-age/survivors' benefits[10] in 45% of the times, and that 43% of all exits are related to an increment in this income source, 15 points more than the whole population and

[10] Old-age and survivors' pensions cover pensions or benefits relating to old-age or retirement from the following schemes: basic (first pillar), supplementary (second pillar), personal (third pillar), means tested welfare, early retirement and other old-age related schemes. It also includes widow's pension from the three pillars and from the means tested welfare scheme, and other widow's benefits, and orphan's pensions or allowances.

31 points more than couple with children households. But this income event has not a high conditional exit rate.

Non-elderly childless households.

Tables 12 and 13 show separate breakdowns for individuals aged less than 65 living alone and couple without children (both persons aged less than 65) households. An increment in wage and salary earnings is the most common route out of poverty for this type of households. This event accounts for 33% of poverty exits of individuals aged less than 65 living alone and for 47% of poverty exits of couple without children (both persons aged less than 65) households. Other common route out of poverty is a rise in self employment earnings. In both households, a rise in self-employment earnings has a high exit rate conditional on event, but in the case of non-elderly individual leaving alone, it is particularly high.

We can observe that there are no demographic events for individuals aged less than 65 living alone, while for couple without children (both persons aged less than 65) households there are no exits associated to a change in household need but to a change in household head.

Table 12. Trigger events and exits from poverty among individuals aged less than 65 living alone: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	0.17%	0.30%	0.00%	0.00%
Change in household need	0.00%	0.00%	0.00%	0.00%
Income event				
Rise in wage and salary earnings	29.77%	19.41%	6.54%	33.48%
Rise in self employment earning	5.40%	11.94%	31.80%	29.24%
Rise in non-labour income				
Rise in capital income	25.36%	25.12%	6.32%	28.31%
Rise in property/rental income	5.03%	5.65%	13.65%	10.58%
Rise in private transfers received	3.43%	12.41%	13.37%	8.99%
Rise in social transfer receipts				
Rise in unemployment related benefits	3.57%	4.61%	9.62%	7.45%
Rise in old-age/survivors' benefits	15.33%	20.90%	11.21%	31.29%
Rise in other social transfer receipts	9.85%	16.98%	5.82%	10.12%

Source: Own construction using ECHP 1993-2000.

In sum, the most common routes out of poverty are so because they are the more prevalent events for this type of households, with the only exception of rise in self-employment, which is so because this event has a large impact at the individual level (conditional exit rate)

Table 13. Trigger events and exits from poverty among individuals in couple without children (both persons aged less than 65) households: non- mutually exclusive events.

	Probability of event (all sample)	Probability of event (poor sample)	Exit rate, conditional on event	Share of all exits associated with event
Demographic event				
Change in household head	4.11%	5.56%	5.69%	5.83%
Change in household need	0.54%	0.64%	0.00%	0.00%
Income event				
Rise in wage and salary earnings	32.23%	21.73%	6.42%	47.42%
Rise in self employment earning	12.49%	14.00%	10.00%	28.78%
Rise in non-labour income				
Rise in capital income	26.59%	24.18%	3.96%	24.93%
Rise in property/rental income	3.89%	3.64%	8.02%	7.38%
Rise in private transfers received	2.71%	3.81%	10.07%	6.42%
Rise in social transfer receipts				
Rise in unemployment related benefits	10.94%	17.65%	6.42%	16.86%
Rise in old-age/survivors' benefits	15.29%	24.00%	6.63%	25.09%
Rise in other social transfer receipts	11.72%	20.55%	7.99%	21.91%

Source: Own construction using ECHP 1993-2000.

Therefore, we obtain similar results for the decomposition method based on a mutually exclusive hierarchical categorization of event types for each person experiencing a poverty spell ending and for the non-mutually exclusive classification. So, the conclusions seem to be robust.

Results on the logit regression.

From the previous analysis we know the frequency of events associated to exits, but we do not know whether an individual experiencing an event is more likely to exit poverty. Estimates of the probability of exit when an event occurs, capture such information. We consider demographic events that can be present concurrently with changes in income. So, previous results must be interpreted carefully, because a proportion of exits from poverty, given that a trigger event takes place, do not imply that this event is the cause of the exit from poverty. That is why we consider that the multivariate

analysis, specifically, the logit analysis, allows to determine more accurately the effect of transition events from t-1 to t, and household characteristics at time t-1, on the prospects of getting out of poverty at t. So, the key feature of the logit estimates is that, considering all events at the same time, it is possible to separate simultaneous events and to identify those having the strongest impact on the probability to transit when all others are held constant.

In this section, poverty exits are analysed in a logit framework where the probability of exiting poverty is taken to be a function of individual characteristics, household characteristics, geographical situation of the household, calendar year effects and transition events.

The estimated coefficient associated with an event measures its impact on the log of the odds-ratio, everything else held constant. The greater the value of the coefficient, the greater is the effect of the event on the log of the odds-ratio and thus the probability of transiting relative to the reference case. Therefore, the relative impact of the events can be seen by comparing the size of the coefficient.

The models are estimated separately for household types in order to allow the structure of the model to vary along this dimension.

The variables introduced in the models are:

1. There exist demographic factors that influence exit from poverty probability. These factors are grouped into two categories: changes in household head, and changes in household composition (increments or decrement in number of member, or changes in the age of members), also called changes in household need.

2. Chances of exiting poverty depend on the number of income receivers' household members and on the number of potentially income receivers' household members. The

higher the number of both, the higher the probability of escaping from poverty. Labour income receiver are fundamental, because they can increase income easily, by working longer hours or by promotion (Van Leeuwen and Pannekoek, 2002). At the same time, active people, i.e. people with opportunities to incorporate to labour market, even if they are not working, have higher probability of escaping poverty.

3. Rise in household income is an event that has a clear effect on exit probability. But an income increase can have different effects on the exit probability depending on the source of income (as deduced from the previous analysis). That is the reason why we differentiate among labour income, capital income and transfers.

4. Household characteristics as main household income source influence the probability of exiting poverty.

5. Age of the individual.

6. Changes in income or needs will be more successful the shorter is the distance to poverty line. Therefore, one of the variables of the model must be the gap to the poverty line (defined with negative values).

7. We can determine two periods in the evolution of poverty from 1993 to 2000: 1993-1996, with stabilization or even increment in poverty; and 1997-2000, with no clear pattern, but an increment in poverty for 2000.

8. There are factors apart from household ones that also affect exit probability, as geographic situation.

9. Finally, changes in household type as a way of escaping poverty.

The logistic regression has been carried out on: number of equivalent members at t-1, number of household members with earnings from employment at t-1, number of economically active household members at t-1, age of the individual and income gap, considered as continuous variables. There are dummies for several events: changes in household head, rise in income classified by type of income, main income source, period of time, region where the household is situated (NUTS, level 1) and change in household type.

The results of the logistic regression are shown in Table 8[11].

[11] The inclusion of some of the variables as regressors might be problematic as dependent variable might affect future values of the explanatory variables. But the assumption of no feedback from the dependent variable on future values of the explanatory variables seems less problematic in cases when the explanatory variables are individual characteristics (age, geographic situation of the household,...) that will not be altered by past outcomes of poverty transition status. There are some approaches that incorporate feedbacks effects on past poverty status (not our case, poverty transition status) on future poverty, employment behaviour and household composition, Biewen (2004).

Table 8. Logit regression for the probability of escaping poverty by household type.

exit	Elderly	Couples with children	Single parent	Non-elderly childless
chhead	-1.021	1.189 **	0.669 *	-0.786
equiv	-2.171 **	-1.185 **	-2.456 **	-1.200 *
work	-0.008 **	0.372 **	0.478 **	0.817 *
activ	--	0.309 **	0.662 **	-0.986**
wage	4.498 **	2.126 **	3.356 **	2.571**
self	3.365 **	2.472 **	1.991 **	2.777**
cap	1.164 **	0.318 **	0.537 *	0.191
prope	2.978 **	0.225	2.827 **	2.315**
prtr	2.385 **	-0.205	1.098 **	-0.260
unemp	0.840	0.329 **	1.009 **	1.541**
oldag	2.647 **	2.153 **	0.706 **	3.346**
other	1.627 **	0.280 **	2.341 **	1.866**
income2	1.338	0.433 **	1.404 **	0.348
income3	0.096	-1.873 **	-0.568	-3.369**
income4	--	-1.845 **	-2.497	-2.237**
income5	0.485	-0.344 *	-0.667	-3.234**
income6	1.618	1.307 **	2.267 **	-0.592
age	0.108	-0.141 **	-0.003	-0.334**
age2	-0.001	0.001 **	0.000	0.004**
gap	-0.154	2.146 **	4.678 **	2.288**
t93-96	0.899 **	0.409 **	0.118	0.743**
nut4	-0.932 **	-0.440 **	0.275	-0.191
nut6	-0.606 **	-0.262 **	-0.799	-0.073
nut7	-2.339 **	-0.734 **	0.126	-0.645
change household type	1.111	0.491	2.898 **	-0.278
constant	-4.721	3.267 **	0.118	7.098
Number observations	1665	4881	601	618
Pseudo R2	0.338	0.311	0.451	0.406
Well-classified classes	0.634	0.768	0.736	0.689
Mean predicted probability	0.256	0.361	0.296	0.282

**Significant at the 5% level *Significant at the 10% level. Coefficients that are suppressed to alleviate convergence problems are indicated by "--"

The reference individual belongs to a household situated in nut 1,2,3 or 5 (North or East or Madrid), and wages and salaries is the main household income, there is no change in household type or head, no changes in any type of household income, and it is period 1997-2000.

Notes:

chhead: 1 if change in household head, 0 otherwise

equiv: number of equivalent members in household, modified-OCDE scale

work: number of household members at work

activ: number of household members economically active

wage: 1 if rise in wage and salaries earning, 0 otherwise

self: 1 if rise in self-employment or farming, 0 otherwise

cap: 1 if rise in capital income, 0 otherwise

prope: 1 if rise in property/rental income, 0 otherwise

prtr: 1 if rise in private transfers, 0 otherwise

unemp: 1 if rise in unemployment related benefits, 0 otherwise

oldage: 1 if rise in old-age/survivors' benefits, 0 otherwise

other: 1 if rise in any other benefit, 0 otherwise

income 2: main household income is self-employment or farming

income 3: main household income is pensions

income 4: main household income is unemployment

income 5: main household income is other social benefits or grants.

income 6: main household income is private income.

age: age of head of household

age2: age*age

gap

t93-96: 1 from year 1993 to 1996, 0 otherwise

nut4: Centre of Spain: Castilla y Leon, Castilla la Mancha, Extremadura.

nut6: South Spain: Andalucia, Murcia, Ceuta and Melilla

nut7: Canary Islands

change household type

Changes in household head have a positive effect for single parents and couples with children, but a negative one for elderly and non-elderly childless households, but only for the former this variable is statistically significant. This household type difference is also encountered when we analyse the effect of a change in household type. We conclude that this event is statistically significant and positive for single parents and couples with children households.

The departure of an individual from the household has a positive impact on the likelihood of getting out of poverty, for all household types. This positive effect may be due to the drop of the number of units of consumption, which largely offset the eventual negative impact of the loss of incomes connected to the departure of individuals.

Increasing the number of household members at work has positive consequence for all household types, except for elderly ones, because it means additional worker who brings supplementary incomes to the household. The negative impact for elderly household is probably connected to the existence of minimum old-age benefits which permit recipients to live above the poverty line. The access to employment in a poor elderly household can reduce the household

standard of living, due to that the contribution of this person in the household income does not offset the reduction in old-age benefits.

The number of economically active people in the household has a positive impact on the probability of exiting for couple with children and single parents, but unexpectedly, it has a negative effect on non-elderly childless households.

Not surprisingly the increment in any source of income constitutes a route out of poverty for all household types, except for an increase in private transfer for non-elderly childless household and couples with children. This negative impact of an increase in private transfer can be connected to the start of receiving transfer from relatives due to the loss of other kind of incomes. But the income increase with the strongest effect differs for each household type. For elderly household and couples with children, a rise in wages or self-employment earnings has the higher impact on exiting poverty, as was pointed out in the previous section. Ojo, para los mayores, el que una persona se incorporara al trabajo era perjudicial, y ahora el aumento de salario es lo mas efectivo, puede que una vez en el mercado de trabajo lo mejor es un aumento de salario. For single parent, a rise in wage and in property and rental income, and for non-elderly childless household a rise in old-age benefits, in wages and in self-employment, are the income events with higher effects. Therefore, a rise in wages and salary earnings is one of the most effective routes out of poverty for all households.

Self employment as main household income has the most positive influence on exiting poverty for all household types but for elderly households, where private income is the most effective one. The main household income for elderly households does not have a statistically significant effect on the probability of exiting poverty.

The age of the individual has not a linear relationship with exit from poverty. In households where age is statistically significant,

couples with children and non-elderly childless households, as age increases, the probability of exiting poverty decreases until the age of around 45, and from this age on the probability increase.

The distance to the poverty line has an expected negative effect for all household types, (as distance increase, the probability of exit decrease; gap is defined in negative values), except for elderly households.

The calendar year effects point to a negative trend over the period, indicating that probability of exit is higher in the period 1993-1996 for all types of households. The greatest deterioration is for elderly households, (couples or singles). This could be due to old-age benefits not being increased in the period of high rate of growth.

The geographic effect is statistically significant for elderly and couples with children households, in which living in centre or south of Spain has a negative impact on the transiting probability. Living in Canary Islands has the strongest negative effect. For single parent households, living in Andalucia, Murcia, Ceuta or Melilla has the strongest and statistically significant effect.

7. Conclusions.

Understanding why individuals exit poverty is useful for effective policy. Using longitudinal data for Spain from 1993 to 2000 we determine the events experienced by household members that influence the chances of escaping poverty.

We use decomposition methods pioneered by Bane and Ellwood (1986) to determine the main events associated with poverty spell endings and a second method not considering mutually exclusive events. We analyse trigger events in escaping poverty separately by household type.

The results indicate that different types of households have different routes of escaping poverty. The clearest example is that of elderly single and couple households for whom changes in old-age/survivors' benefits clearly accounted for by far the greatest number of poverty transition.

On the other hand, changes in wage and salary earnings account for the higher share of all poverty exits in couple with children households, single parent households and non-elderly childless households. Clearly this underlines the strong relationship between the life cycle, the labour earnings opportunities of parents and the chances of leaving poverty for households with children.

In the population as a whole, wage and salary earnings events take place more often and are quite effective in the promotion of households out of poverty, while the welfare state events are less frequent but can be more effective.

Multivariate analysis disentangles the relationship between one event and the poverty transition from other events or household characteristics. Multivariate results corroborate that there are factors that increase chances to escape poverty for all household types: departure of an individual from household, increment of household members at work, an increment in wage and salary earnings or self-employment, self-employment as main household income, smaller gaps, and not living in the south of Spain.

Therefore, the analysis suggests some ideas. There appears to be no single path out of poverty, consequently multiple policies can be considered to help alleviate poverty depending on household type. But special attention requires people in the south of Spain, and households whose main income source is pensions and unemployment.

Results draw attention to the relative importance of the labour income as a route out of poverty especially for young households with children. In these groups exit and entry rates from poverty are more frequent than those for other type of households. For these families, as Cantó et al. (2002) show, labour market constitutes the main route out of poverty. Spanish labour market has high unemployment and temporary work rates, and, therefore, it is highly influenced by the economic cycle. Thus, the instability of income from employment for young people and the large number of employment transitions of various types during the early stages of participation in the labour market mean that this is one of the most volatile groups. So, government's policy for individuals in working age must be directed to labour markets and earnings.

But as not all the families are equal, this recommendation is not useful for elderly households, mostly retired, where the main focus of government's policy must be on benefits. A large part of the income of people aged over 65 comes from social transfer receipts, which experience almost no variations in real terms. In Spain social transfer receipts do not cause entries into poverty, because they are stables, and have high effectiveness, but they do not take place frequently. However in cases where they are not enough to promote people out of poverty, there exist not adequate mechanisms to do so. So, a reduction of poverty would require an increase in the number of cash social transfers to the poor while the structure of the benefits could be essentially maintained.

References

Bane, M. J., and Ellwood, D. T. (1986), Slipping in and out of poverty: The dynamics of spells, Journal of Human Resources, Vol. 21, no 1, 1-23.

Bárcena Martín, E. Fernández Morales, A., Lacomba Arias, B. Martín Reyes, G. (2004) Dinámica de la pobreza a corto plazo en España y Reino Unido a través de los datos del Panel de Hogares Europeo. Estadística Española, 157, 489-510.

Bárcena, E. and Cowell, F. A. (2005) Static and Dynamic Poverty in Spain, 1993-2000 Distributional Analysis Discussion Paper, 77, STICERD, LSE, Houghton St., London, WC2A 2AE.

Biewen, M. (2004) Measuring state dependence in individual poverty status: are there feedbacks effects to employment decisions and household composition? IZA discussion paper series, 1138

Bourreau-Dubois, C., Jeandidier, B. and Berger, F. (2003) Poverty dynamics, family events, labour market events in Europe: are there any differences between women and men? Conference of the European Panel Users Network, 3-5 July 2003 Colchester, UK.

Buhmann, B., Rainwater, L., Schmaus, G. y Smeeding, T. (1988): "Equivalence scales, Well-Being, Inequality and Poverty: Sensitive Estimates across ten countries using the Luxembourg Income Study (LIS) database", Review of Income and Wealth, 34, págs. 115-142.

Cantó, O. (2003) Finding out the routes to escape poverty: the relevance of demographics vs. Labour market events in Spain, Review of income and Wealth, Vol. 49, no 4, 569-588.

Cantó, O., Del Río, C. and Gradín, C. (2002) What helps households with children in leaving poverty? Evidence from Spain in contrast with other EU countries. Documentos de Traballo núm. 0201, febrero, Departamento de Economía Aplicada, Universidade de Vigo.

Cantó, O., Del Río, C. and Gradín, C. (2003) La evolución de la pobreza estática y dinámica en España en el periodo 1985-1995, Hacienda Publica Española/ Revista de Economía Aplicada, Vol. 167, no 4, 87-119.

Del Río, C. and Ruiz-Castillo, J., (1999), El enfoque de la dominancia en el análisis de la pobreza, in "Dimensiones de la desigualdad, III Simposio sobre Igualdad y Distribución de la Renta y la Riqueza. Volumen I", Colección Igualdad, 13, 429-460, Fundación Argentaria, Madrid.

Duclos, J. Y. and Mercader-Prats, (1999), Household Needs and Poverty: With Application to Spain and the UK, Review of Income and Wealth, Vol. 45, no 1, 77-98.

EUROSTAT (2000): Income, poverty and social exclusion. European social statistics, Oficina de Publicaciones Oficiales de las Comunidades Europeas. Luxemburgo.

Eurostat, European Community Household Survey (the ECHP) waves 1-8.

Finnie, R. and Sweetman, A. (2002) Poverty Dynamics. Empirical evidence for Canada. School of Policy Studies Queen's University Working Paper, 29

Foster, J., Greer, J. and Thorbecke, E. (1984) A class of decomposable poverty measures, Econometrica, Vol. 52, no 3, 761-766.

Gardiner, K and Hills, J (1999), Policy Implication of New Data on Income Mobility, Economic Journal, 109: 109-11

Huber, P. J. (1967) The behaviour of maximum likelihood Estimates under non-standard conditions. Proceedings of the fifth Berkeley Symposium on Mathematical Statistics and probability, 221-33.

INE, (1996), Encuesta de Presupuestos Familiares. Desigualdad y Pobreza en España. Estudio basado en las Encuestas de Presupuestos Familiares 1973-74, 1980-81 y 1990-91, Instituto Nacional de Estadística y Universidad Autónoma de Madrid, Madrid.

Jenkins, S. P. (2000), Modelling household income dynamics, Journal of population economics, 13, 529-567.

Jenkins, S. P. and Rigg, A. with the assistance of Devicienti, F. (2001), The dynamics of poverty in Britain, Department of work and pensions, Research Report 157, Leeds, corporate Document Services.

Jenkins, S. P. and Schluter, C. (2001) Why are child poverty rates higher in Britain than in Germany? A longitudinal perspective. Working paper 2001-16, Colchester: Institute for Social and Economic Research, University of Essex.

Mckernan S. and Ratcliffe, C. (2002) Events that Trigger Poverty Entries and Exits. The Urban Institute, Washington, DC. December.

Oliver, J., Ramos, X. and Raymond, J. L., (2001), Anatomía de la distribución de la renta en España, 1985-1996: la continuidad de la mejora, Papeles de Economía Española, 88, 67-88.

Silverman, B. W (1986) Density Estimation. Chapman and Hall. London

Stevens, A.H. (1994) The dynamics of poverty spells: updating Bane and Ellwood. AEA Papers and Proceedings, vol 84, 34-37

Van Leeuwen, J. and Pannekoek, J. (2002) To work oneself out of poverty: the Dutch experience 1989-96. Review of Income and Wealth, 48, n. 1 127-140

White, H. (1980) A heteroskedasticity-consistent covariance matrix estimator and a direct test for heteroskedasticity. *Econometrica*, 48, 817-30.