

FINDING OUT THE ROUTES TO ESCAPE POVERTY:  
THE RELEVANCE OF DEMOGRAPHIC VS. LABOR MARKET  
EVENTS IN SPAIN

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The knowledge of which events are most effective in pushing households out of deprivation should help in designing poverty-alleviating social policy. Using longitudinal data for Spain, we analyze the nature of events pushing poor households out of poverty, adding an interesting decomposition of transitions: the occurrence of an event and the income change implied by it. We find that, similarly to other developed countries, the events that most help Spanish households in leaving poverty are related to changes in labor status of household members. However, non-labor income changes are significantly more important in Spain than elsewhere.

INTRODUCTION

A large number of questions regarding the persistence of poverty are important to the debate on both the extent of poverty and the public policies needed to alleviate it. Understanding the stability of income flows to households and the reasons for significant stable upward mobility which imply long periods out of poverty will help in designing efficient social policy. In general, researchers are interested in analyzing poverty dynamics because relying on poverty statistics for an in-depth study of the poverty phenomenon may miss much of what is happening to the poor.<sup>1</sup> Bane and Ellwood (1986) underlined the need for an analysis of the flows into and out of poverty to be able to describe the poverty experience. According to Leisering and Voges (1993), “If poverty is seen as a phenomenon in time, i.e. as a situation of individuals with a certain duration—and not as a stable status or even a residual class of society, as is conventionally supposed—then poverty can be fully explained by investigating the causes of the beginning and end of a poverty spell.” Jenkins (2000) indicated that it should be

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<sup>1</sup>In fact, the use of stock data to study processes with a duration component implies incurring in a length bias (Kiefer, 1988). This comes about because in stock data households with a longer poverty spell are more likely to be sampled than those suffering short and intermittent spells. If we are interested in describing poverty, it would be misleading to infer that the significant characteristics of cross-sectional poor describe all those falling into a poverty spell at any time.

a central aim of current research on poverty to try to find out the nature of the characteristics and events that help households in leaving poverty. Is it the labor status of household members or the demographic structure of the household which has a major effect on a household's transition probability? Are labor market related events (i.e. *changes in employment status of household members* such as more hours of work, job gain, unemployment benefit, etc.) more likely to induce transitions out of poverty than demographic events (i.e. *changes in the household composition* such as childbirth, divorce, children leaving home, etc.)?

Previous results in the U.S. using quarterly data report that one quarter of all individuals living in households with incomes below the poverty line in 1984 were not poor a year later (U.S. Bureau of the Census, 1989). One quarter of these exits could be directly linked to increased employment (labor status event) and only one tenth to marriage (demographic event). Bane and Ellwood (1986) find that increased earnings of all household members is the primary route out of poverty for U.S. households. Duncan *et al.* (1993) compared the U.S., Canada and some European countries and found that labor status events are clearly the most important in determining poverty exits in all countries, even if in countries like Canada, Ireland and Sweden, social insurance benefits play significant roles in determining an outflow from poverty. More recently, Jarvis and Jenkins (1996) and Jenkins (1998) found that in the U.K. labor market characteristics and events determine more strongly than demographic ones a household's escape from poverty, while Jenkins and Rigg (2002) confirmed the former, although they showed that the routes out of poverty are particularly varied in this country. Muffels (1999) found that all variables related to changes in employment status of household members appear to be very significant indicators of transitions into and out of poverty in the Netherlands, while it is household formation status more than demographic changes within the household that determine the changes in the poverty situation. Most recently, Van Leeuwen (2002) finds that, even if exits from poverty are a result of many other factors, for Dutch households with non-active heads, finding work by the head accounts for one third of all poverty spell endings and finding a job increases the chance of leaving poverty by 22 percent.

One of the main contributions of this paper is that of determining whether it is mostly *labor status* characteristics and events rather than *demographic* ones that help poor households step out of poverty in Spain, a country where there are important differences in the labor market structure and in household demographic arrangements with respect to European Union countries and most of the OECD countries. Indeed, the Spanish case is particularly interesting because of an unstable labor market structure and an outstandingly low occurrence of important demographic events (e.g. childbirth, remarriage of divorced couples, departure of children from parental home, etc.).

Regarding the labor market structure, Spain was the country in the E.U. with the highest rate of unemployment from 1991 until 1995, reaching levels of nearly 25 percent. Also, the ratio of temporary contracts to the total number of contracts was astonishingly high during the whole period under study. Indeed, 1 out of every 3 contracts was temporary and even if these contracts were mostly held by young people, an increasing number of household heads were likely to hold them as well. The labor market structure in Spain therefore appears to be particularly unstable

compared to other E.U. countries and it is likely to be the case that labor market events happen relatively more often and possibly may imply more significant changes on household incomes.

Regarding demographic events, Spain belongs, together with Italy, to the group of countries in the E.U. with the lowest fertility rate (Eurostat reports that in 2000 Spain registered a fertility rate of 1.22 and Italy of 1.25). Second, the Spanish rate of divorce (and subsequent remarriage) is also among the lowest in Europe. Third, with respect to the departure of children from parental households, Spain, again together with Italy, is an outlier in the European Union: more than 90 percent of young Spanish men aged 20–24 and two thirds of those aged 25–29 still lived with their parents in 1994; these percentages were 57 percent and 21 percent in the U.K. In this context, we expect to obtain a lowest limit of the effect of demographic events on household transitions in Europe.

In order to offer the reader a clear general view of the structure of welfare benefits in Spain we should emphasize that the greatest part of social expenditure goes to the payment of old age pensions and unemployment benefits (41.9 and 12.9 percent of the total social expenditure respectively in 1999) and a negligible share of spending goes to family support (2.1 percent, while the E.U. mean amounted to 8.5 percent in 1999), even if some cash transfers, such as unemployment assistance, include a family dimension.

A second important contribution of the paper is that of considering the decomposition of transitions in two components recently suggested by Jenkins and Schluter (2001). Our first approach here is to define mutually-exclusive events as Bane and Ellwood (1986) and Jenkins (1998) did and compare the correlation of each event with the transition out of poverty in Spain, the U.K. and the U.S. Given that the assumptions of this method are debatable considering the relevance of non-mutually exclusive events and avoiding the use of regression models used by Muffels (1999) or Stevens (1994) which suffer from endogeneity and thus of inconsistency of estimates, we propose a similar approach to Jenkins and Schluter (2001). We allow for a variety of events taking place at a time and in which we are able to decompose our results on transitions into two components: the occurrence of a selected group of events and the effectiveness of each occurrence in bringing households out of poverty.

In fact, this decomposition will help us in discovering the importance of the various factors that could be acting in each transition. More precisely, *labor market institutions and policies* together with *demographic structural dynamics* (fertility and marriage market) will most likely be the factors that influence the occurrence of events while the income changes among those experiencing any particular event are most likely to be related to the *opportunities of individuals to promote* their households out of poverty. Finally the occurrence of events such as the beginning of social assistance and social insurance benefits is largely related to the capacity of the *welfare state* to promote the poor through poverty alleviating cash transfers (see Ravallion, 1996).<sup>2</sup>

<sup>2</sup>This author underlines the importance of distinguishing within poverty-alleviating social policies, those mostly related to the promotion of the poor (pulling households out of poverty), from those mostly related to the protection of the vulnerable (protecting households from a fall into poverty).

Finally, a further interest of the paper is that of analyzing the characteristics and events that either help or deter a household's transition out of poverty using a dataset that has important advantages in detecting the correlation between household income changes and the occurrence of events. With this aim we analyze in detail the differences in the observed correlation of events and household income changes (and thus household exits from poverty) when using annual information with respect to that when exploiting the information on households throughout the year under study.

In the first section, we present the particular characteristics of our dataset and we detail the main methodological choices made in the definition of poverty. Section 2 describes the evolution of poverty in Spain during the period under study, while in Section 3 we detail our approach to the analysis of leaving poverty trigger events and their effects on poverty outflow. Section 4 includes our results on the relevance of trigger events in making households step out of poverty in Spain, making an effort to compare our results with those obtained elsewhere on other developed countries. Also in this section we analyze the differences in the observed correlation of events and household income changes (and thus household exits from poverty) when using annual information to that when exploiting the information on households throughout the year under study. Section 5 concludes.

## 1. THE PARTICULAR STRUCTURE OF THE SPANISH DATASET AND SOME DEFINITIONS

### 1.1. *The Spanish Encuesta Continua de Presupuestos Familiares*

The sample is obtained from the Spanish Household Expenditure Survey (Encuesta Continua de Presupuestos Familiares, ECPF). The ECPF is a rotating panel survey which interviews 3,200 households every quarter and substitutes one eighth of its sample at each wave. Households are kept on the panel for a maximum of two years. The structure of the panel is similar to that of the American Survey of Income and Program Participation (SIPP). A pooled sample of our data consists of 15,264 households, observed at least five times between the first quarter of 1985 and the last quarter of 1995 inclusive.<sup>3</sup>

A clear drawback of a sub-annual interview structure of a panel is that household fatigue of answering the survey various times a year imposes a substantive attrition rate and short household tracing periods (32 months in the SIPP, 24 in the ECPF for those remaining all the time). In this context, and given the importance of attrition in the ECPF (approx. 35 percent of households leave the panel earlier than a year after first interview), we apply longitudinal weights to the data in order to take account of possible bias arising from this unplanned sample attrition. Non-random attrition is a potentially serious problem, which is frequently noted in the literature (Bradbury *et al.*, 2001; Luttmer, 2001) but rarely taken into account. The procedure to obtain the relevant attrition weights consists of a probit

<sup>3</sup>See Cantó (1998) for a thorough description of the ECPF and discussion of its advantages and drawbacks in the study of poverty dynamics.

regression of the probability of staying in the panel for a year (fifth interview) on household characteristics (age, level of education, civil status, sex and labor status of household head together with the number of household members and household residence township). Weights were constructed by predicting the inverse of the probability of being a “stayer.” This strategy of constructing attrition weights is one of the options proposed by Kalton and Brick (2000) who indicate that recent research found similar results on the value of weights using this methodology rather than using any of the other two proposed in the literature. We actually found that households with better economic positions living in urban areas whose head is young and highly educated are more likely to drop out of the sample.<sup>4</sup> Note also that these attrition weights are further combined with representativity weights provided by the Spanish Statistical Office (INE) in order to construct a weighting method that takes into account, at the same time, the probability that a certain household type is selected from the Spanish population to be part of the ECPF sample and the probability that this household type will answer the panel survey four or eight times (see Cantó *et al.* (2002) for a thorough description of the weighting procedure).

### 1.2. Some Important Definitions

The choice of the household as the unit of study is based on the fact that an individual’s well-being is believed to strongly depend on total household welfare (if income is equally distributed within the household). Also, the shortage of demographic and socio-economic information (apart from age and sex) of individuals other than the head of household and the spouse in the data makes this choice advantageous. Following, to some extent, the terminology in Jenkins (2000), a clear way to write our economic measure of well-being is to use the household income-equivalent or *HIE*.  $HIE_q$  is the needs-adjusted household gross income at quarter  $q$ . Thus:

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

where  $j$  indicates the number of individuals in the household ( $j = 1, 2, \dots, n$ ) and  $k$  is each money income source.<sup>5</sup> The denominator is an equivalence scale factor, which depends on household size  $n$  and on a vector of household composition variables  $a$  (ages of individuals, etc.). Our welfare measure *HIE* is therefore the

<sup>4</sup>Winkels and Davies (2000) indicate that in analyzing panel data attrition in a Dutch dataset they found that it is residential mobility, marital separation and the departure of children from the household more than household characteristics that determined an individual’s probability of attrition in the panel. Clearly, the difficulty in collecting information on these transitions leaves us with the only option of using household characteristics at first interview in order to predict the likelihood of non-response and thus obtain attrition weights.

<sup>5</sup>Monetary individual disposable income includes employment and self-employment income, income from regular transfers (including pensions and unemployment benefits), investment income and income from other sources. It excludes social insurance contributions and is net of pay-as-you-earn taxes.

sum of all household members' monetary income before housing costs adjusted by household needs using an OECD equivalence scale.<sup>6</sup>

A household is counted as poor if its  $HIE_q$  is below 60 percent of the median equivalent household income in the corresponding quarter.

## 2. THE EVOLUTION OF POVERTY IN SPAIN: 1985–95

In this paper we construct a sample from which we can obtain comparable results on various aspects of poverty dynamics to those presented by Bane and Ellwood (1986), Ruggles and Williams (1986), Duncan *et al.* (1993), Oxley (1998), Jenkins (1998) and Muffels (1999). To establish the broad patterns of poverty dynamics in Spain, we present headcount poverty rates, poverty exit and entry rates during the period under study. The income distribution in Spain has experienced a substantial improvement towards equalization during the second half of the 1970s, the 1980s and the 1990s (see Oliver *et al.*, 2001). As a result, the number of relatively poor households in Spain between 1980 and 1990 has clearly declined under all methodological choices (see Del Río and Ruiz-Castillo, 2001). However, we find that the first part of the 1990s, which has not yet been analyzed by other authors, appears to register not only a stabilization in the decline of the number of households in poverty but also a change to a slight increase (see Table 1 and Figure 1). This result is particularly visible when we look at the increase in the distance between the incomes of households situated in the tails of the income distribution: the incomes of those in the highest and the lowest part of the income distribution are more distant in 1995 than they were in 1985.

We also find that there is a remarkable degree of longitudinal mobility which coexists with the decrease in cross-sectional poverty in Spain (see Table 2). In this table each household has been classified in one of six income groups, from highest to lowest, according to their income in quarter  $t - 1$  and then classified again in the same way but according to their income the following year at quarter  $t$ . The table shows the outflow rates from each of last year's income group (in percentages of the median income in the corresponding quarter) to the six different income groups this year. We find that there is a lot of mobility. Only 60 percent of households who are poor last year continue to be poor a year later. On the other hand, it is clear that income mobility is of a short range: of those who move out of poverty, 75 percent move to positions below the median income and 87.5 percent move to positions below 125 percent of this median. This last percentage is slightly over that found by Jenkins (1998), where 85 percent of British individuals who leave poverty move to 125 percent of the mean income threshold. These results are consistent with those found for Spain in the 1985–92 period in Cantó (2000), where 79 percent of households in the Spanish income distribution remain in the same or neighboring decile between one year and the next.

<sup>6</sup>The OECD scale weights by 1 the first adult in the household, by 0.7 the second and subsequent adults and by 0.5 all children in the household (children are all individuals below 14 years of age). See Mercader-Prats (1998) for the effects of the choice of equivalence scale on poverty measurement in Spain.

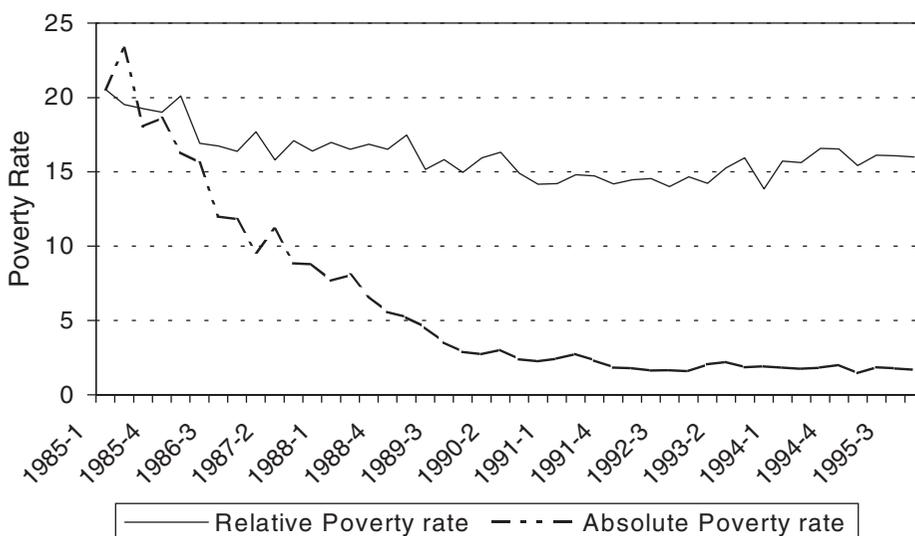


Figure 1. The Evolution of Household Poverty Rates in Spain 1985–95 (household monetary income, OECD scale, 60% median poverty line)

TABLE 1  
TRENDS IN MEAN AND MEDIAN INCOME, INEQUALITY AND LOW INCOME; 1985–95

	1985	1990	1995
Mean income (pesetas per quarter)	193,188	237,782	257,023
Median income (pesetas per quarter)	157,974	202,400	219,550
Gini coefficient	0.364	0.304	0.306
P(90/10)	5.57	3.77	3.90
P(50/10)	2.35	1.89	1.93
Number households (pop. weighted)	10,401,031	11,073,130	11,290,550

Notes: Results refer to the first quarter of each year and income is expressed in pesetas of the first quarter of 1995.

TABLE 2  
MOBILITY RATES FOR DIFFERENT INCOME GROUPS, A YEAR BETWEEN INTERVIEWS; 1985–95

Income Group Wave $t - 1$	Income Group Wave $t$						All	Column (%)
	<0.6	0.6–0.75	0.75–1.0	1.0–1.25	1.25–1.6	>1.6		
<0.6	<b>60.1</b>	17.3	12.9	5.2	2.5	2.1	100	19.1
0.6–0.75	22.0	<b>39.9</b>	24.8	7.6	3.7	2.0	100	12.1
0.75–1.0	7.2	14.4	<b>46.6</b>	18.7	8.7	4.4	100	20.3
1.0–1.25	3.5	4.8	21.3	<b>42.3</b>	20.7	7.3	100	15.4
1.25–1.6	1.9	2.5	7.0	22.4	<b>44.6</b>	21.6	100	13.7
>1.6	1.2	0.9	1.9	4.1	16.3	<b>75.6</b>	100	19.3
All	16.6	12.3	19.6	16.1	15.1	20.2	100	100

Notes: Income is OECD needs-adjusted income. Households are classified in different groups on percentage of median income in the relevant quarter (below 0.6 times the median, between 0.6 and 0.75 times the median, etc.). Transitions rates are the average rates from pooled ECPF data (1985–95) and comparing 1st and 5th household interviews. Results are weighted for attrition.

### 3. DETERMINATION OF THE TRIGGER EVENTS

In order to identify the relevant event that determines a household's departure from poverty, we have initially followed the methodology of Bane and Ellwood (1986) and Jenkins (1998) which classifies events into mutually exclusive categories by a hierarchical classification system. The main family structure change is a change in the identity of the head of household; thus if a head of household change took place we identify the transition trigger event as being *demographic*. If the household has not experienced a change in its household head, we determined whether the change in the income/needs ratio was more influenced by the numerator or the denominator. If the change in income is proportionally larger than the change in needs (using the relevant equivalence scale), we classified the trigger event as an *income* event and detail the income source that increased the most. These income events will be directly linked to either *labor status events* (i.e. change in some members' labor earnings, change in some members' contributory pension earnings) or to *welfare state events* (beginning or increase in quantity of a pension or unemployment benefit, etc.) or even to *other changes in non-labor income* (an increase in capital income for example). If, instead, it is the change in needs which is larger than the change in income, we classified the trigger event as *demographic* (i.e. death of member, child leaving home, partnership split, other members leaving).

The previous approach is clearly too rigid to give us information on the most detailed reasons for moving out of poverty. First, it classifies all headship changes as demographic when, precisely, given the structure of Spanish Household surveys, a headship change may be due to labor market changes of household members. Second, it avoids the consideration of joint events in providing the most significant routes out of poverty. Thus, in order to eliminate much of the rigidity from the previous methodology we present a large list of potentially important events in determining an exit from poverty and analyze their correlation with poverty exits. In doing this we relate the results obtained using the previous more restrictive definition of events to the actual changes that we find taking place in the household.

Further, following Jenkins and Schluter (2001) 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. This is particularly relevant if we expect that the prevalence of events may differ between the poor and the non-poor and in being able to assign the reason for the poverty exit to the realization of a given event or to the implications on income changes of such an event taking place in Spain, differently from other countries. More precisely, suppose that we have a set of mutually exclusive events  $j = 1, \dots, J$ , which trigger exits from poverty. Then, among households at risk of leaving poverty (the poor) between one year and the next, the probability of exit is given by the sum of the probabilities for households that exit by each of these different events:

$$\Pr(\text{exit poverty}) = \sum_{j=1}^J \Pr(\text{exit poverty} | \text{event } j) \times \Pr(\text{event } j)$$

Our method, which avoids the use of a direct approach to measurement followed by Muffels (1999): specifying that a household's  $i$  exit hazard depends on

household characteristics at  $t - 1$  and on the events that occur to household members between  $t - 1$  and  $t$ :

$$P_{it} = F(\alpha + \beta X_{it-1} + \gamma E_{it-1,it})$$

where the subscript  $i$  indexes individuals and  $t$  refers to the particular calendar moment for each  $i$  (quarter and year),  $X_{it-1}$  is a list of labor and demographic status of members evaluated at  $t - 1$  and  $E_{it-1,it}$  are the events that take place in the household between two moments in time ( $t - 1$  and  $t$ ). The problem here is, clearly, that the static characteristics at  $t - 1$  could be determinants not only of the transition out poverty but could be important determinants of the changes in household composition or of the changes in the employment status of household members. This means that static explanatory variables in this model have two different effects on transition rates: a *direct effect* which is picked up by the estimated coefficient associated with each of them and an *indirect effect* which goes through the dynamic explanatory variables or *events*. Estimation problems here would arise if the unexplained part (error) of the transition probability regression is correlated with the unexplained part of a model for the probability of experiencing an event on similar static explanatory variables. This is, if there are unobservables that, for example, may be determining both the household head's likelihood of finding an acceptable job and the household's probability of stepping out of poverty. In this case the model would suffer from endogeneity and the regressors would be contemporaneously correlated with the error term.

Even if we center our discussion in the effects of events on transitions out of poverty we are conscious that in the determination of a household chances to leave poverty, household characteristics at moment  $t$  are most probably within the roots of event occurrence. That is, for example, the level of education of the household head decisively determines the household chances to leave poverty by affecting the chances of experiencing some event. Thus in order to predict the different probabilities of leaving poverty for different types of household, we run multivariate regressions of the probability of experiencing an exit. We use a very simple model of transition probabilities in order to be able to compare our results with those elsewhere. Taking all households who are poor at first interview, moment  $t - 1$ , we estimate the probability that a household moves out of poverty a during the following year, i.e. is not poor at moment  $t$  (fifth household interview). This is a first order Markov chain. We estimate the household's characteristics that most determine a household's probability of leaving poverty by maximizing

$$\log L = \sum_{i=1}^n C_i (\log Z) + D_i (\log(1 - Z))$$

$$P_{it} = F(\alpha_2 + \beta_2 X_{it-1})$$

where  $Z$  is  $P_{it}$ ,  $C_i$  indicates than an exit took place between  $t - 1$  and  $t$  and  $D_i$  indicates no exit at all. Assuming  $F$  follows a logistic distribution, one can estimate the values of  $P_{it}$  for each household type given its characteristics by maximizing this likelihood function.

Interestingly we find that neither labor status household characteristics nor demographic ones at the initial moment are important in determining a

TABLE 3  
 LOGIT REGRESSION FOR THE PROBABILITY OF LEAVING POVERTY

Dependent Variable	Probability of Leaving Poverty	
	Coeff.	t-ratio
Age of hh head × 10	0.351	1.9
Age of hh head <sup>2</sup> × 100	-0.031	-1.9
<i>Sex head and partner situation</i>		
Male head	-0.003	-0.01
<i>Education hh head</i>		
No studies	0.066	0.4
Primary school	0.187	1.2
Secondary (1st cycle)	0.483	2.1
Secondary (2nd cycle)	1.069	3.4
University (3 years)	0.558	1.1
University (5 years)	1.021	1.8
<i>Household dependants, number and age</i>		
Dependency index	0.268	0.9
<i>Size of municipality of residence</i>		
5,000–10,000 inh.	0.055	0.4
10,000–20,000 inh.	0.216	1.5
20,000–50,000 inh.	0.362	2.5
50,000–100,000 inh.	0.511	3.1
100,000–500,000 inh.	0.296	2.2
>500,000 inh.	0.410	2.7
<i>Type of housing</i>		
Subsidized	-0.479	-2.9
Rented	-0.508	-1.2
Rent-free	-0.231	-1.9
<i>Head labor market status</i>		
Employed—less than 13 hrs	-0.25	-0.7
Employed—ft, qualified	0.09	0.4
Employed—ft, non qual, agric	-0.41	-1.5
Employed—self employment	-0.02	-0.1
Unemployed—no UI or IS	-0.27	-1.4
Unemployed—some UI or IS	-1.35	-1.5
Retired—no pension benefit	-0.73	-2.2
Retired—some pension ben.	-0.54	-2.7
Working at home	-0.01	-0.04
Other status	-0.57	-1.5
<i>Spouse labor market status</i>		
No spouse	-0.15	-0.7
Spouse not employed	-0.04	-0.3
<i>Seasonal effects</i>		
2nd quarter/10	-0.14	-1.1
3rd quarter/10	-0.03	-0.2
4th quarter/10	-0.02	-0.2
<i>Yearly effects</i>		
1986	-0.06	-0.3
1987	0.01	0.08
1988	0.09	0.5
1989	-0.02	-0.1
1990	0.30	1.6
1991	-0.31	-1.5
1992	0.13	0.7

TABLE 3 (continued)

Dependent Variable	Probability of Leaving Poverty	
	Coeff.	t-ratio
1993	-0.14	-0.7
1994	-0.28	-1.5
Constant	-1.35	-2.0
Number of obs.	2,910 (weighted)	
Pseudo R <sup>2</sup>	0.03	
Log likelihood	-1,939.18	
Mean predicted prob.	0.472	
Standard dev. prob.	0.142	
Well-classified clases (cut-off P ≥ 0.5)	62.8	

*Notes:* The dependent variables for the exit regression is: household transits out of poverty between 1st and 5th interview conditional on being poor at first interview. The reference household is a male-headed household with an employed spouse, where the head is illiterate, owns housing, is non-qualified employed full-time, observed in 1st quarter 1985.

household's chances to leave poverty. We discover that the level of education of the household head is the most important variable in helping or deterring any household's transition out of poverty: the higher the education level of the head the higher the household's chances to leave poverty. Also, the economic environment where the household lives appears to be important: urban poor households are more likely to leave poverty than rural ones. These results seem to guide us to the reasoning that it is probably the *opportunities to improve the labor market attachment of household members* that education and the economic environment provide, which are key issues pushing a household out of poverty. As indicated previously, it is probably the case that educated urban households are more likely than others to experience certain demographic events (children leave the household, remarriage of the head, etc.) or labor market events (gain a job, more hours of work, etc.) which push them out of poverty.

#### 4. EVENTS THAT DETERMINE SPELL ENDINGS

A clear determinant of a household's probability of escaping from deprivation are the events experienced by household members. These changes are expected to be strongly correlated to the actual transition out of poverty and, in many cases, may be regarded as the most direct reasons for an exit. *Labor market events* could be finding a job or increasing working hours by any household member. *Demographic events* could be a reduction in household members due to the departure of siblings from the parental home or death or remarriage. Other events that could help households in leaving poverty are the starting of a benefit scheme. The latter are intimately connected to the individual's labor status, e.g. UI benefit begins, pension benefit begins; these will thus be considered *labor status events*. Including

both *event* variables and *state* variables (demographic and labor status characteristics of household members) improves the pioneering work on the importance of events on the probability of ending a poverty spell (Bane and Ellwood, 1986).

Using Bane and Ellwood's definition of transition types we find that demographic events occur in approximately 7 percent of households transiting out of poverty while income events occur in the 93 remaining cases. The same calculation for the U.S. in Bane and Ellwood (1986) showed that 13 percent of spell endings took place with a demographic event while 87 percent of spell endings took place with income events. Further, for the U.K. in Jenkins (1998), two out of ten (17.7 percent) transitions out of poverty took place together with demographic events. In sum, demographic events do not appear to be decisive in households' departure from poverty in either of these countries. Moreover, in Spain it appears that demographic events are even less important in helping poor households step out of poverty. This may not come as a surprise if we are conscious that both fertility rates and departure of youth from parents households are largely lower in Spain than in the U.K. or the U.S. Within income events, changes in head's earnings were the main reason for transition both in the U.S. (50.2 percent of total) and in the U.K. (33.6 percent of total) while in Spain, even if head of household labor earnings changes are highly correlated with transitions out of poverty, changes in non-labor income are the main reason for transition out of poverty. In order to check the robustness of these results we also present more restrictive definitions of a movement out of poverty in Table 4, which yield a very similar picture.

We should be conscious of the large heterogeneity present in the previous calculations. In order to eliminate part of the effects of this heterogeneity on our

TABLE 4  
MOVEMENTS OUT OF POVERTY BY TYPE OF EVENT OCCURRED: BANE AND ELLWOOD'S METHODOLOGY

Main Trigger Event (Hierarchical Classification)	Transitions Out Of Poverty	Transitions Out Of Poverty (change income >25%)	Transitions Out Of Poverty (over 70% median)
Demographic event	6.8	6.3	7.0
Income event	93.2	92.7	93.0
<i>Demographic events</i>			
Head of household changes	5.2	5.1	6.1
Changes in household needs	1.6	1.2	0.9
<i>Income events</i>			
Household head labor earnings change	30.9	31.1	30.5
Household spouse labor earnings change	1.9	2.0	1.6
Other member labor earnings change	17.1	18.8	21.1
Non-labor income change	40.8	39.1	37.0
Non-classifiable*	2.5	2.6	2.6
All	100.0	100.0	100.0
Households leaving poverty (weighted)	1,162	1,031	797

*Notes:* An event occurring in one year is classified as demographic if it supposes a change in the household head between 1st and 5th interview or the change in household needs (equivalence scale) is greater in percentage points than the change in household income. The event is an income event otherwise. Within income events those non-classifiable are those situations in which the income change of some two types is identical.

TABLE 5  
MOVEMENTS OUT OF POVERTY BY TYPE OF EVENT OCCURRED AND HOUSEHOLD TYPE:  
BANE AND ELLWOOD'S METHODOLOGY

Main Trigger Event (Hierarchical Classification)	Households with Children	Households without Children	Household Head <45	Household Head ≥45
Demographic event	5.0	8.4	4.6	7.7
Income event	95.0	91.6	95.4	92.3
<i>Demographic events</i>				
Head of household changes	4.3	6.1	4.1	5.7
Changes in household needs	0.7	2.3	0.5	2.0
<i>Income events</i>				
Household head labor earnings change	46.4	16.7	57.2	19.2
Household spouse labor earnings change	3.7	0.3	4.6	0.8
Other member labor earnings change	18.4	15.8	6.5	21.7
Non-labor income change	23.1	57.0	23.8	48.3
Non-classifiable*	3.4	1.7	3.3	2.1
All				
Households leaving poverty (weighted)	607	555	357	805

*Notes:* An event occurring in one year is classified as demographic if it supposes a change in the household head between 1st and 5th interview or the change in household needs (equivalence scale) is greater in percentage points than the change in household income. The event is an income event otherwise. Within income events those non-classifiable are those situations in which the income change of some two types is identical.

results we have considered dividing the sample by various characteristics. Clearly, the number of groups is limited to sample size. We have considered the separation between households with and without children and households with young, middle-aged or old heads (below or over 45 years of age). Results indicate, as recently noted by Cantó *et al.* (2002), that the presence of children in the household determines important differences in the type of events we should expect to be relevant in promoting a household's transition out of poverty. We find here some very important differences between the transition out of poverty trigger events for households with and without children. As would probably be expected, and as found in Cantó *et al.* (2002), households with children are much more stable in their demographic structure: they seldom change household head and there are few departures of members. Income events, instead, are very important for these households, especially if they are related to changes in their household head's labor earnings. In fact, almost half (46 percent) of the transitions experienced by households with children are classified as related to their head of household's labor income change. This result is in line with that obtained by Duncan *et al.* (1993) for a large list of OECD countries, where for households with children employment is by far the most frequent cause of exits.

Households without children have a completely different set of relevant trigger events. These households experience more demographic events than the former, and most significantly their transitions out of poverty are highly correlated with changes in non-labor income. Probably, these non-labor income changes are the beginning of pension benefits, unemployment benefits or other social transfers. All these results continue to underline the strong relation of the life cycle and labor market opportunities of parents to the chances of leaving poverty for house-

holds with children which are likely to result from *labor market institutions and policies* in Spain. In contrast, households without children seem to find in the *welfare state*, mainly represented by a contributory and non-contributory pension system, the most important source of trigger events providing an exit from poverty.

Further, we find that if we divide our sample by age of the household head and define two groups: *young* and *middle-aged or old* households we obtain that even more transitions than in the case of households with children are classified as related to changes in head of household labor earnings (see Table 5). Interestingly, the most outstanding difference between the events related to exits for households with children and for young households is the role of “other member labor earnings” changes. Results show that for households with children, changes in the labor earnings of other household members who cohabit in the household (e.g. eldest siblings) are important in helping households step out of poverty, while for households with a young head these events are not specially relevant. Clearly, the latter group is most unlikely to cohabit with siblings over 16 years of age. This result is in line with results in Cantó and Mercader-Prats (2001a) and Cantó and Mercader-Prats (2001b); the authors claim that around 50 percent of young people living with their parents are employed and contribute to total household income, being a relief for poor households by reducing their risk of poverty.

As noted in Section 3, the previous approach is clearly too rigid to give us information on the most detailed reasons for moving out of poverty, because following Jenkins and Schluter (2001) we are able both to consider not-mutually exclusive events and to decompose the differences in the effects of trigger events on differences in the prevalence of events and differences in the chances of making a transition conditional on experiencing a trigger event. This decomposition of effective transitions will help us in discovering the importance of *labor market institutions and policies* together with *demographic structural dynamics* (fertility and marriage market) in contrast with the relevance of the *opportunities of individuals* in promoting their household out of poverty and the action of the *welfare state*.

In Table 6 we present some results on the importance of our new list of detailed events within the previous Bane and Ellwood classification. Results indicate that head changes are mostly related to the departure or death of an elderly person, the gain of a worker in the household and the beginning of a pension benefit. Needs changes are mostly related to the departure or death of a non-elderly adult (only 9 percent of needs changes in the sample can be identified with separations of couples). Labor income changes are mostly related to labor earnings increases in the case of heads, and to gains in the number of labor income receivers in the cases of spouses and other members and to gains of a full-time job by an unemployed person. Finally, non-labor income changes are mostly related to increases or beginnings of pension benefit schemes.

Calculating the two components of effective transitions for each Bane and Ellwood event (head changes, needs change, etc.) and for all detailed events (see Table 7 and bottom lines in Table 6), we find that the most frequent trigger events occurring in all the sample of households and in poor households in particular are those related to non-labor income changes and head of household labor income

TABLE 6  
MORE DETAIL ON LEAVING POVERTY TRIGGER EVENTS

Event occurred between $t - 1$ and $t$	Head Changes	Needs Change	Head Labor Income Changes	Spouse Labor Income Changes	Other Members Labor Income Changes	Non- Labor Income Changes	Non-clas.
<i>Demographic events</i>							
Stable number members	60.0	2.2	89.9	93.1	84.0	86.6	96.3
Child(ren) born	3.9	0.0	2.8	1.9	3.1	1.7	0.0
Adult(s) arrive	13.0	6.5	1.3	0.5	5.5	2.7	0.0
Elderly arrives	3.3	0.0	0.7	0.0	0.5	1.4	0.0
Child(ren) leaves	2.4	5.3	0.9	0.0	2.3	1.2	3.7
Adult leaves or dies	3.7	63.1	2.6	0.0	3.2	3.0	0.0
Elderly leaves or dies	10.9	6.5	1.0	0.0	0.9	0.5	0.0
Other reduction in members	2.8	16.4	0.5	4.5	0.0	2.1	0.0
Other increase in members	0.0	0.0	0.4	0.0	0.5	0.8	0.0
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Labor market events</i>							
Gain 1+ worker	45.4	11.7	42.5	49.9	85.6	22.1	87.5
Labor earnings increased $\geq 20\%$	15.5	11.5	54.1	46.4	13.4	7.6	12.5
No event	39.1	76.7	3.4	3.6	1.0	70.3	0.0
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Labor status events (head)</i>							
Stable in labor market	59.6	92.8	73.1	73.9	90.5	87.6	83.4
Less hours work ( $f - t$ to $p - t$ )	0.0	0.0	0.0	0.0	0.5	0.5	3.2
Lose job ( $f - t$ to unemployment)	3.1	7.2	0.4	5.1	0.7	2.5	0.0
Retirement ( $f - t$ to retirement)	3.2	0.0	0.6	0.0	1.3	3.3	0.0
Gain job (unemployment to $f - t$ )	7.7	0.0	22.2	20.9	4.3	3.1	13.4
Gain job (retirement to $f - t$ )	17.5	0.0	2.8	0.0	1.2	0.5	0.0
Gain job (retirement to $p - t$ )	0.9	0.0	0.3	0.0	0.9	0.3	0.0
Gain job (housework to $f - t$ )	5.3	0.0	0.6	0.0	0.0	0.6	0.0
Retirement (housework to ret)	2.7	0.0	0.0	0.0	0.6	0.8	0.0
Retirement (other to ret)	0.0	0.0	0.0	0.0	0.0	0.8	0.0
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0
<i>Non-labor income change (<math>\geq 35\%</math>)</i>							
Begin pension benefit	20.9	0.0	1.4	0.0	3.0	20.0	0.0
Begin unemployment benefit	2.4	12.1	1.8	0.0	0.0	4.3	4.4
Begin other regular transfers	3.1	0.0	3.7	0.0	4.3	9.5	3.7
Increase capital income	0.0	0.0	0.0	0.0	0.0	0.7	0.0
Increase pension income	7.9	6.5	1.5	0.0	8.8	22.4	0.0
Increase unemployment income	0.0	0.0	1.0	0.0	3.2	1.6	0.0
Increase regular transfers	2.6	3.0	0.3	0.0	0.0	3.6	0.0
Other non-labor income change	0.0	5.0	4.0	0.0	0.8	1.6	0.0
No change in non-labor income	63.0	73.4	86.2	100.0	79.9	36.3	91.9
All	100.0	100.0	100.0	100.0	100.0	100.0	100.0

TABLE 6 (continued)

Event occurred between $t - 1$ and $t$	Head Changes	Needs Change	Head Labor Income Changes	Spouse Labor Income Changes	Other Members Labor Income Changes	Non- Labor Income Changes	Non-clas.
Probability of event (all sample)	3.2	7.1	25.0	3.2	12.0	41.4	8.2
Probability (event   poor at $t$ )	4.3	3.5	21.4	1.6	10.2	52.9	6.2
Probability (exit poverty   event)	49.0	18.0	57.6	48.8	67.0	30.8	16.1

Notes: (1) Events refer to changes between moment  $t - 1$  and  $t$  (a year later). Demographic transitions refer to changes in the number of household members of the type referred while all other number of members is constant. Other reduction (increase) in members includes those cases in which more than one type of member changes (this may mean only that children transit to adults or adults to elderly). Head labor status events are selected on the basis of an estimation of the effect of each possible event (out of 30) on the probability of a household transiting out of poverty. The events presented are those which have a larger effect on this probability, all other events are considered as “stability in the labor market.” (2) Poverty exits refer to changes in poverty status of the household between  $t - 1$  and  $t$ . Sample is restricted to households observed at  $t - 1$  and  $t$  weighted for attrition between these two moments in time. Total weighted sample of households exiting poverty is 1,162 observations. The total sample of households found poor at  $t - 1$  amounts to 2,910 observations and when we analyze the whole sample of households the sample amounts to 15,264 households. Poverty is defined as household income below 60% median household income each quarter. (3) When labor earnings increase more than 20% the number of workers in the household remains unchanged. (4) Increases in pension, unemployment, regular transfers and non-labor incomes include increases over 35% between  $t - 1$  and  $t$  in order to eliminate all short term unimportant income fluctuations.

changes. However, the income change implied by the occurrence of some event is highest for the second of these events and for two rather infrequent events: “head changes” which take place in 4 percent of poor households and “other members’ labor income changes” which take place in 10.2 percent of poor households.

A first result is that it appears that the routes out of poverty in Spain, as Jenkins and Rigg (2002) found for the U.K., are highly varied given that the share of all exits associated with each of the events considered is rather low. However, if we look in detail at the actual events occurring in poor households, we find that the gain of a worker, a labor earnings or pensions incomes increase and the beginning of pension benefits for any household member are events that are related to the highest number of exits experienced by households under the poverty line. The gain of a worker, in particular, is especially common (22.5 percent of poor households experience this event) and the income change it implies is also quite high. Some other events, such as the beginning of an unemployment benefit or the change in the household head from a full-time worker to a retired individual seldomly happen to poor households. However, if they do take place they imply important increases in household incomes. In sum, Spanish households in deprivation who gain a worker, start to receive some unemployment benefit or increase their incomes from pensions are those most likely to step out of poverty.

As noted earlier, within non-labor income changes *welfare state events* are of particular importance in Spain. In detailing the actual events of this type that occur in poor households we find that events related to the pension system are those most important in terms of occurrence, while even if their effect on house-

TABLE 7

OCCURRENCE OF TRIGGER EVENTS AND THEIR EFFECT ON HOUSEHOLD CHANCES TO LEAVE POVERTY

Event occurred between $t - 1$ and $t$	Probability of Event (all sample)	Probability (event   poor at $t$ )	Probability (exit poverty   event)	Share of all Exits Associated with Event
<i>Demographic events</i>				
Child(ren) leaves	0.8	1.1	46.5	-1.3
Adult leaves or dies	4.9	3.0	41.4	3.2
Elderly leaves or dies	1.4	1.3	37.3	1.2
Other reduction in members	1.1	0.7	59.5	1.1
<i>Labor market events</i>				
Gain 1+ worker	14.3	22.5	72.1	40.7
Labor earnings increased $\geq 20\%$	14.8	14.5	66.7	24.2
<i>Labor status events (head)</i>				
Retirement ( $f - t$ to retirement)	1.6	1.3	74.5	1.7
Gain job (unemployment to $f - t$ )	2.4	6.6	59.8	10.0
<i>Non-labor income change (<math>\geq 35\%</math>)</i>				
Begin pension benefit	5.1	6.5	56.7	9.2
Begin unemployment benefit	1.9	1.8	73.8	3.3
Begin other regular transfers	2.4	4.2	55.4	5.9
Increase capital income	0.4	0.2	70.3	0.3
Increase pension income	4.6	8.3	66.5	13.9
Increase unemployment income	0.6	1.2	47.8	1.4
Increase regular transfers	0.4	0.9	53.8	1.2
Other non-labor income change	1.3	1.9	43.7	2.1
Households (weighted)	15,264	2,910	1,162	1,162

*Notes:* (1) Events refer to changes between moment  $t - 1$  and  $t$  (a year later). Demographic transitions refer to changes in the number of household members of the type referred while all other number of members is constant. Other reduction (increase) in members includes those cases in which more than one type of member changes (this may mean only that children transit to adults or adults to elderly). Head labor status events are selected on the basis of an estimation of the effect of each possible event (out of 30) on the probability of a household transiting out of poverty. The events presented are those which have a larger effect on this probability, all other events are considered as "stability in the labor market." (2) Poverty exits refer to changes in poverty status of the household between  $t - 1$  and  $t$ . Sample is restricted to households observed at  $t - 1$  and  $t$  weighted for attrition between these two moments in time. Poverty is defined as household income below 60% median household income each quarter. (3) When labor earnings increase more than 20% the number of workers in the household remains unchanged. (4) Increases in pension, unemployment, regular transfers and non-labor incomes include increases over 35% between  $t - 1$  and  $t$  in order to eliminate all short term unimportant income fluctuations.

hold income changes is important, a more infrequent event such as the beginning of unemployment benefit of a household member (which occurs in only 1.8 percent of poor households) is most effective in increasing household incomes.<sup>7</sup>

<sup>7</sup>Once having exploited the ECPF data to compare results on trigger events using a similar information structure to what other longitudinal datasets offer for the analysis of transitions, we have also analyzed more deeply the relationship between the event which occurred and the actual change in income observed between two moments in time, exploiting the quarterly information available in the ECPF. We maintain that considering more detailed information on incomes within the year would non-significantly change our general results. If anything it would emphasize the importance of labor market events over demographic events on pushing households out of poverty. We should also note that some of the transitions that would be observed within the year using detailed quarterly information may often be related to the wages and pensions payment structure during the year and thus should be considered as relevant exits from poverty.

## 5. CONCLUSIONS

In this paper we have been able to offer some insights into the dynamics of poverty. Using longitudinal data for Spain for the 1980s and 1990s we detail the events that are most effective in pushing poor households out of poverty and we are able to offer some interesting results on the importance of considering short-term information on household incomes and characteristics in order to best identify the correlation between events and household poverty exits.

Similar to results for other countries, it appears that *labor market* events experienced by household members are the usual reason for escaping poverty for Spanish households. It is not difficult to suspect that stagnation of poverty, especially during periods characterized by increasing unemployment, may be the direct result of the precariousness and other structural deficiencies of the Spanish labor market. As expected, less than 10 percent of the transitions out of poverty are linked to demographic events. Within these events it is the departure of adults from the household which appears to be the most effective in pushing poor households out of poverty in a country where children delay their departure from the parental home. This is an interesting result which may lead us to think that favoring the low income youth departure from the home may imply significant changes in the existing poverty rate in Spain.

The occurrence of events such as the beginning of social assistance and social insurance benefits which is related to the capacity of the Spanish *welfare state* to promote the poor through poverty alleviating cash transfers is important in the case of pensions. In fact, it is pension benefits and other regular transfers from the state that Spanish poor households are more likely to receive and which, generally, seem to have been largely effective in promoting households out of poverty. However, even if the reception of a new unemployment benefit in a poor household takes place infrequently, its effectiveness in pushing the household out of poverty is large. It appears that the main difference between labor market events and welfare state events is that the former take place much more often and are quite effective in the household promotion out of poverty while the latter take place much less frequently, but are significantly more effective. In this sense we could conclude that a reduction of poverty would require an increase in the number of cash transfers available to the poor while the structure of the benefits could be essentially maintained.

Similar to results for many OECD countries, we find that employment of adults is the most frequent cause of exits for households with children. Clearly, this underlines the strong relationship between the life cycle, the labor market opportunities of parents and the chances of leaving poverty for households with children. For these households *labor market institutions and policies* is a key area in determining their chances to leave deprivation. Interestingly, it is for households with children that changes in the labor earnings of other household members other than the head or spouse who cohabit in the household are important in helping them step out of poverty. This underlines the relevance of a *family safety net* promoting children out of deprivation.

Finally, results indicate that considering intra-year information on incomes and household socioeconomic situation emphasizes the importance of labor

market events over demographic ones in pushing households out of poverty. We also conclude that some transitions which would be observed within the year using detailed information may be related to wages and pensions payment structure throughout the year and thus should be considered as relevant exits from poverty.

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