

What helps households with children in leaving poverty?: Evidence from Spain

Olga Cantó
Coral del Río
Carlos Gradín
(Universidade de Vigo, IDRU)

WELLCHI Conference : "The well-being of children: the impact of changing family forms, working conditions of parents, social policy and legislative measures"
Barcelona, 9th of February 2007

The stylized facts that justify our work on Child Poverty Dynamics in Spain

- Higher incidence of poverty in households with children in EU and Spain. Machin (1998), long-term consequences of child poverty (cognitive achievement and economic mobility across generations).
- Cantó and Mercader-Prats (1998) find that during the 70s and 80s no significant improvements occurred in the extent of child economic poverty. The position of children worsened with respect to the elderly, while the poverty rate decreased in the population as a whole.
- According to EUROSTAT in 2000, children in Spain were less likely to leave poverty than adults, 31% higher persistence than average.
- Also Cantó and Mercader-Prats (2002) find a higher persistence of poverty (low exit rates, high entry rates) in Spanish households 3 or more children and lone parents.

What is the context in Spain that may affect poverty dynamics?

- **Labour market**

High incidence of working-age population not at work (specially among young people; in unemployment or inactivity) and in temporary jobs.

- **Welfare institutions and political debate**

Large improvement in the provision of in-kind benefits to children (especially health services but also education) during the 80s and 90s but no improvement in monetary transfers to households with children (in 2003 there is a new 100 euro payment to employed females with child under 3, expected very low impact on poverty).

Low social protection of households with children: Direct expenditure on social protection on these households is low while most of the transfers go to unemployment benefits and pensions

- **Demographic structure**

Low incidence of divorces or breaking-offs. Low fertility rates, gradual decline in the population of youngest age groups. Growing proportion of young people still living with their parents (Nearly 90% of 20-24 and >50% of 25-29 live in the parental home).

Entry or Exit Flows?

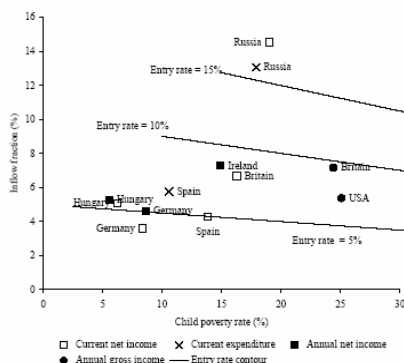
Table 6: *Child poverty entry rates and exit rates*

Country	Entry rate (%)	Exit rate (%)
<i>Current net income</i>		
Russia	17.9	49.5
Britain	8.0	38.0
Spain	5.0	44.8
Hungary	5.3	25.1
Germany	3.9	51.8
West Germany	2.7	43.2
<i>Current expenditure</i>		
Russia	15.9	47.1
Spain	6.4	45.9
<i>Annual net income</i>		
Ireland	7.6	42.9
Germany	5.1	46.0
Hungary	5.6	34.6
West Germany	3.1	46.2
<i>Annual gross income</i>		
USA	7.2	23.1
Britain	9.4	28.8

Source: Bradbury, Jenkins and Micklewright (2001), The dynamics of child poverty in industrialised countries, CUP.

Entry Flows?

Figure 4: Movements into child poverty and the child poverty rate

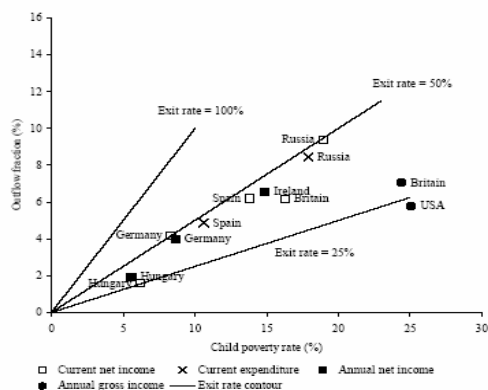


Note: The child poverty rate = number of poor children at $t-1$ divided by the total number of children at $t-1$. The inflow fraction = number of children entering poverty between $t-1$ and t divided by the total number of children at $t-1$ = the entry rate multiplied by one minus the child poverty rate at $t-1$.

Source: Bradbury, Jenkins and Micklewright (2001), The dynamics of child poverty in industrialised countries, CUP.

Exit Flows?

Figure 3: Movements out of child poverty and the child poverty rate



Note: The child poverty rate = number of poor children at $t-1$ divided by the total number of children at $t-1$. The outflow fraction = number of children leaving poverty between $t-1$ and t divided by the total number of children at $t-1$ = the exit rate multiplied by the child poverty rate at $t-1$.

Source: Bradbury, Jenkins and Micklewright (2001), The dynamics of child poverty in industrialised countries, CUP.

Aim of the paper

- To understand the *reasons* that push poor households with children out of poverty in Spain, trying to find out the *nature* of the characteristics and events that help households in leaving poverty [Bane and Ellwood, 1986]
 - labour market related events (*changes in employment status of household members* such as more hours of work, job gain, unemployment benefit begins, etc...),
 - demographic events (*changes in the household composition* such as child birth, marriage, youth departure, etc...).
- Decomposition of the two components of effective transitions: the occurrence of an event and the income changes among those experiencing a particular event. [Jenkins and Schluter, 2003]

Longitudinal data: Encuesta Continua de Presupuestos Familiares

- A rotating panel survey which interviews 3,200 households every quarter and substitutes 1/8 of its sample at each wave. Households are kept in the panel for a maximum of two years (8 quarters).
- A pooled sample of data consists of 27,735 households observed between five and eight times (I/1985 – IV/1995).

Encuesta Continua de Presupuestos Familiares

- An advantage of the survey is the information at short time intervals in order to detect the exact moment at which events take place.
- A clear drawback of this sub-annual interview structure is that household fatigue imposes short household tracing periods (large attrition rates).
- We compare 1st interview (moment $t-1$) and 5th interview (one year later, moment t) using *attrition weights* in order to take into account non-random attrition (45 percent leave the panel).
 - Constructed by predicting the inverse of the probability of being a “stayer”.
 - Households with better economic positions living in urban areas, whose head is young or highly educated are more likely to drop out of the sample.

Encuesta Continua de Presupuestos Familiares

- 3,200 observations each quarter, 1/8 replaced each interview.
- Observation period: between 1 and 8 quarters (2 years)

■ **Structure:**

1990-I	1990-II	1990-III1	1990-IV
1 _____	1 _____	2 _____	3 _____ ...
... 1 _____	2 _____	3 _____	4 _____ ...
... 3 _____	4 _____	5 _____	6 _____ ...
... 7 _____	8 _____	1 _____	2 _____ ...

“Pool” of households interviewed between 1985-I y 1995-IV

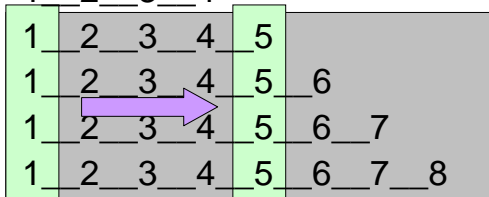
- Households observed at least 5 quarters.

1

1_2

1_2_3

1_2_3_4



Pool
27,735

Poverty and persistence of poverty in Spanish households: 1985-1995

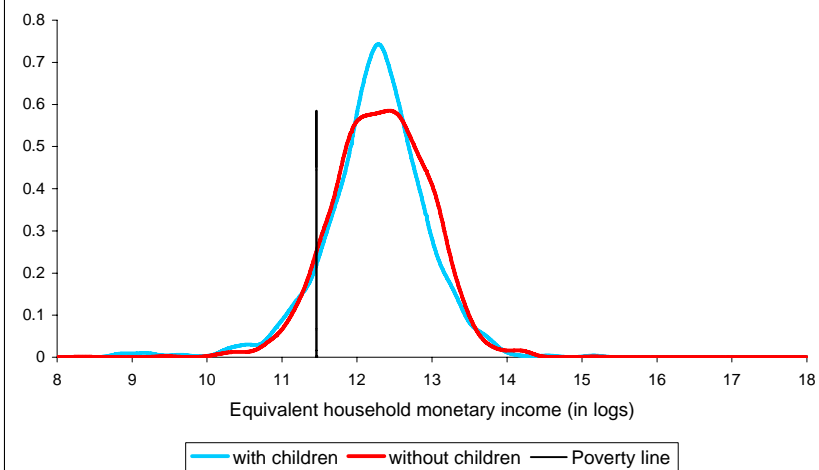
- Poverty:** a household is poor if its equivalent income falls below 60% of the median household income at the corresponding quarter.
- Children:** below 18 year of age (UNICEF).
- Equivalence scale:**
Buhman et al. $s=0.5$; $m=(adults+0.7 \text{ children})^{0.75}$

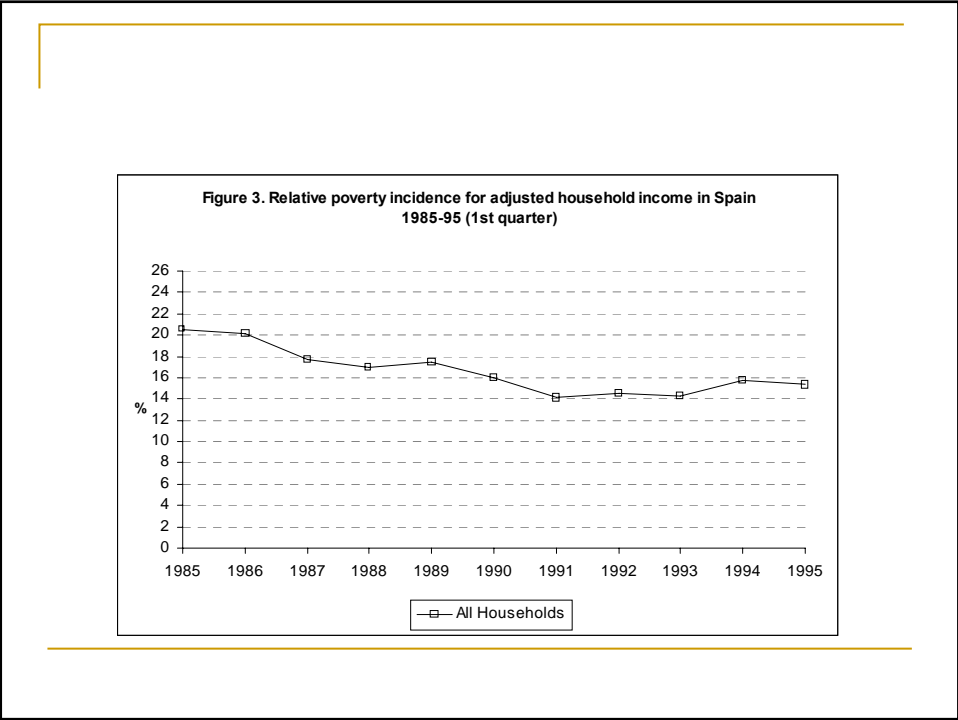
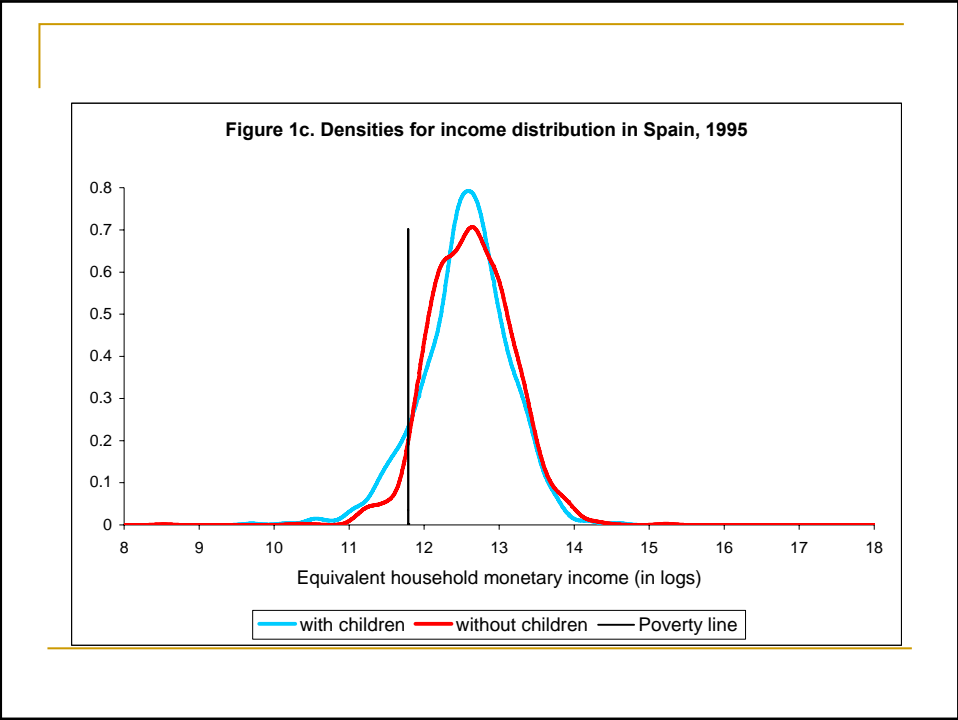
Income Distribution in Spain

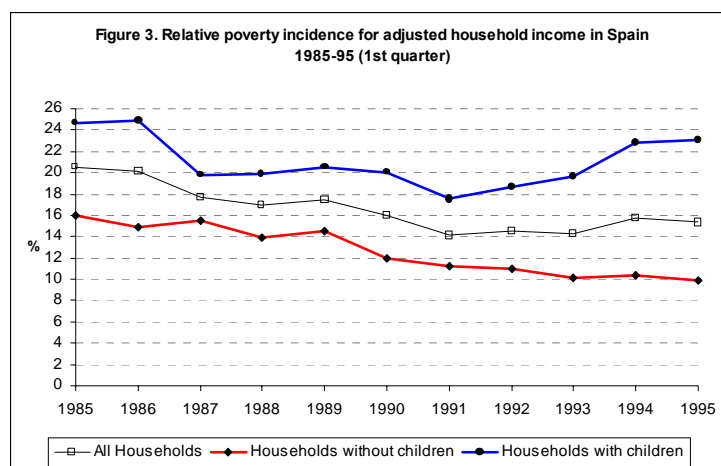
Table 1. Statistics for equivalent households income distribution in Spain, 1985-95

	<i>All</i>			<i>Without children</i>			<i>With children</i>		
	1985	1990	1995	1985	1990	1995	1985	1990	1995
population (%)	100	100	100	46.7	50.3	57.8	53.3	49.7	42.2
average number children	1.08	0.92	0.72	-	-	-	2.03	1.85	1.71
mean (Ptas)	208,037	256,375	274,075	221,210	264,392	287,920	196,479	248,254	255,148
median (Ptas)	171,213	220,080	237,401	183,804	223,989	243,568	163,352	216,314	223,088
Inequality									
Gini	0.357	0.301	0.301	0.350	0.307	0.296	0.361	0.293	0.306
Ratio 90/10	5.189	3.673	3.876	4.910	3.778	3.582	5.368	3.655	4.386
Ratio 75/25	2.217	1.987	1.979	2.284	2.001	1.946	2.161	1.981	2.019
Relative poverty									
H	20.0	15.8	16.6	16.9	14.6	13.6	22.8	17.1	20.6
I	35.7	24.2	26.6	34.1	23.1	21.9	36.8	25.1	30.8
HI	7.2	3.8	4.4	5.8	3.4	3.0	8.4	4.3	6.4
Absolute poverty									
H	20.0	6.6	6.6	16.9	5.6	3.9	22.8	7.6	10.1
I	35.7	28.9	30.6	34.1	29.3	31.6	36.8	28.6	30.1
HI	7.2	1.9	2.0	5.8	1.6	1.2	8.4	2.2	3.1

Figure 1a. Densities for income distribution in Spain, 1985







Poverty statics and dynamics (pool), 2nd eq. scale

Table 2. Cross-sectional poverty risk and poverty outflow rates by household type

Household type	Poverty		Outflow rates		
	Risk	Composition (in percent)	(1)	(2)	(3)
Single, >=65 years	11.1	3.9	35.3	32.2	27.0
Single, <65 years	21.6	4.8	30.2	22.1	21.8
Couple, no children, >=65	21.1	15.7	33.9	32.2	21.7
Couple no children, <65	13.9	16.6	48.3	43.5	36.6
Two or more adults without children	17.1	8.3	47.3	43.8	34.6
All households without children	16.4	49.5	40.7	36.9	29.3
Lone parent	33.4	2.5	46.3	34.0	29.7
Single parent	26.1	3.6	49.6	45.9	34.0
Couple with one child	13.4	13.5	50.7	46.3	38.5
Couple with two children	15.1	15.7	46.2	41.1	30.7
Couple with three or more children	29.3	15.2	33.8	28.9	19.7
All households with children	18.2	50.5	43.9	38.8	29.6
All households	17.3	100	42.3	37.9	29.5

Note: Lone parent households are households with children (individuals below 18 years of age) and only one adult who is the household head. Single parent households are households with children with an adult head, no spouse and some other adult member. Outflow rate (1) is obtained using an unrestricted definition of exit, (2) restricts the definition of exits to those households that experience a change in income larger than 25%, (3) restricts the definition of an exit to cases in which households jump over 70% of the median equivalent household income.

Are the events that determine spell endings similar for hhs with and without children?

- *Bane and Ellwood (1986) methodology, mutually exclusive categories of events by a hierarchical classification system.*
- *Jenkins and Schluter (2003), JHR, decomposition of trigger events*
- *Multivariate regressions of the probability of experiencing an exit to check most relevant descriptive results*

Mutually exclusive categories of events by a hierarchical classification system

- Bane and Ellwood (1986)
- Adjusted income

$$y_t^h = \frac{\sum_{i=1}^{n^h} \sum_{j=1}^{j^h} y_{ijt}^h}{m(n^h, a^h)}$$

The diagram illustrates the formula for adjusted income. The numerator, $\sum_{i=1}^{n^h} \sum_{j=1}^{j^h} y_{ijt}^h$, is enclosed in a light blue box and labeled 'Income sources'. The denominator, $m(n^h, a^h)$, is enclosed in a light green box and labeled 'Needs'. The entire equation is presented as a fraction.

Mutually exclusive categories of events by a hierarchical classification system

Demographic events

Head of household changes
Changes in household needs

Income events

Household head labour earnings change
Household spouse labour earnings change
Other member labour earnings change
Non-labour income change
Non-classifiable

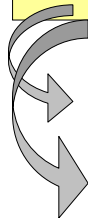
Classification rules: income / needs

Hh head change



demographic

Hh head maintained



$\Delta\text{needs} > \Delta\text{income}$



$\Delta\text{needs} < \Delta\text{income}$



income

Movements out of poverty

Main trigger event (hierarchical classification)	Transitions out of poverty (one year)		
	All households	Households with children	Households without children
Demographic event	7.9	5.4	10.5
Income event	92.1	94.6	89.5
<i>Demographic events</i>			
Head of household changes	5.6	3.9	7.4
Changes in household needs	2.3	1.5	3.1
<i>Income events</i>			
Household head labour earnings change	31.1	45.8	14.96
Household spouse labour earnings change	1.6	2.8	0.28
Other member labour earnings change	19.4	20.5	18.17
Non-labour income change	37.6	22.2	54.44
Non-classifiable*	2.5	3.2	1.61
All	100	100	100
Households leaving poverty	1,160	620	540

Decomposition of trigger events

- Jenkins and Schluter, JHR, (2003)
- Set of (more detailed) mutually exclusive events $j = 1, \dots, J$, which trigger exits from poverty.
- Distinction: Chances of making transitions conditional on experiencing an event vs. Prevalence of event:

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

Events and their effect on household chances to leave poverty.

Event occurred between t-1 and t	Households with children			Households without children		
	Prob. event (all sample)	P(event poor at t)	P(exit poverty event)	Prob. event (all sample)	P(event poor at t)	P(exit poverty event)
<i>Demographic events</i>						
Child born	3.5	3.1	26.2	2.3	1.4	52.4
Child-ren leaves or dies	1.6	2.5	45.3	--	--	--
Adult leaves or dies	3.5	3.9	42.8	6.1	4.1	60.1
Elderly leaves or dies	1.0	1.0	43.0	1.9	1.9	58.3
<i>Labour market events (wages)</i>						
Labour earnings increased >=20%	19.1	23.5	62.7	10.9	8.7	60.4
<i>Labour status events (head)</i>						
More hours work (from p-t to f-t work)	0.7	1.7	41.5	0.4	0.9	43.9
Gain job (enters full time work)	4.7	13.9	57.1	1.9	4.4	77.7
Gain job (enters part time work)	0.3	0.9	20.4	0.4	1.0	19.8
Retirement (full time to retirement)	0.9	0.9	55.7	2.2	1.7	65.3
<i>Labour status events (spouse)</i>						
More hours work (from p-t to f-t work)	1.2	1.3	73.4	0.4	0.2	43.7
Gain job (enters full time work)	3.5	4.0	67.0	0.9	0.8	78.8
Gain job (enters full time work)	2.0	3.5	52.1	0.6	1.3	53.2
Retirement (full time to retirement)	0.1	0.0	--	0.3	0.4	62.3
<i>Labour status events (others)</i>						
Gain job (some start to receive employment income from f-t or p-t work)	8.7	15.8	72.7	7.5	10.8	87.1
<i>Non-labour income change</i>						
Begin pension benefit	3.4	4.9	46.2	6.6	8.7	61.5
Begin unemployment benefit	1.2	1.0	61.1	2.5	2.2	78.0
Begin other regular transfers	2.6	5.1	48.2	2.2	4.0	58.9
Increase pension income >35%	2.1	3.4	62.3	6.8	11.5	74.7
Increase unemployment income >35%	0.9	2.0	46.8	0.4	0.9	48.0
Increase regular transfers >35%	0.1	0.1	100	0.6	1.9	60.3
Samples of households	7,503	1,438	620	7,733	1,336	540

The effect of children on the household's poverty outflow rate

Estimation strategy: Probit with sample selection	Marginal effects on the probability of leaving poverty			
	Basic model	Basic + poverty gap	Basic + events	Basic + events + poverty gap
Presence of children in hh. (0-17)	-0.075** (0.031)	-0.076** (0.029)	-0.070** (0.036)	-0.065** (0.029)
Number of children in hh. (0-17) (only for households with children)	-0.071** (0.026)	-0.059** (0.026)	-0.051** (0.022)	-0.036** (0.017)
<i>By household type</i>				
<i>Households without children</i>				
Single, >=65 years	ref	ref	ref	ref
Single, <65 years	-0.068 (0.069)	-0.056 (0.061)	-0.091 (0.076)	ref
Couple no children, >=65	--	--	--	--
Couple no children, <65	0.055 (0.040)	0.071* (0.038)	-0.008 (0.045)	0.031 (0.036)
Two or more adults without children	0.068 (0.068)	0.065 (0.062)	-0.007 (0.072)	0.021 (0.049)
<i>Households with children</i>				
Lone parent	-0.045 (0.091)	-0.049 (0.076)	-0.111 (0.090)	-0.074 (0.056)
Single parent	-0.050 (0.078)	-0.051 (0.068)	-0.074 (0.090)	-0.031 (0.065)
Couple with one child	-0.003 (0.045)	0.009 (0.042)	-0.065 (0.051)	-0.020 (0.040)
Couple with two children	-0.093** (0.047)	-0.081** (0.041)	-0.130** (0.053)	-0.083** (0.038)
Couple with three or more children	-0.201** (0.060)	-0.173** (0.048)	-0.188** (0.059)	-0.116** (0.042)
Sample size (households)	2,774	2,774	2,774	2,774
Sample size (households with children)	1,438	1,438	1,438	1,438

The effect of events on household's poverty outflow rate

	Marginal effects on the probability of leaving poverty					
	All households		Households with children		Households without children	
	Basic model + events	Basic + events + pov. gap	Basic model + events	Basic + events + pov. gap	Basic model + events	Basic + events + pov. gap
<i>Demographic events</i>						
Child born	-0.128* (0.069)	-0.064 (0.054)	-0.141* (0.080)	-0.098* (0.052)	-0.006 (0.117)	0.072 (0.090)
Child leaves or dies	0.065 (0.094)	0.051 (0.075)	0.053 (0.083)	0.041 (0.064)	--	--
Adult leaves or dies	0.137** (0.056)	0.124** (0.046)	0.0006 (0.061)	0.023 (0.045)	0.287** (0.096)	0.233** (0.087)
Elderly leaves or dies	0.176** (0.085)	0.187** (0.077)	-0.011 (0.137)	-0.031 (0.114)	0.322** (0.123)	0.268** (0.098)
<i>Labour market events (wages)</i>						
Labour earnings increase >=20%	0.351** (0.033)	0.358** (0.042)	0.333** (0.048)	0.324** (0.059)	0.383** (0.059)	0.405** (0.076)
<i>Labour status events (head)</i>						
More hours work (p-t to f-t)	0.361** (0.146)	0.297** (0.117)	0.275 (0.188)	0.264* (0.146)	0.472** (0.233)	0.251 (0.180)
Gain job (enters f-t work)	0.378** (0.057)	0.314** (0.053)	0.319** (0.067)	0.256** (0.061)	0.543** (0.113)	0.424** (0.110)
Gain job (enters p-t work)	-0.197* (0.120)	-0.207** (0.100)	-0.092 (0.127)	-0.101 (0.100)	-0.247 (0.209)	-0.271* (0.168)
Retirement (f-t to retirement)	-0.092 (0.093)	-0.051 (0.076)	-0.030 (0.139)	0.013 (0.097)	-0.108 (0.124)	-0.091 (0.108)
<i>Labour status events (spouse)</i>						
More hours work (p-t to f-t work)	0.263** (0.133)	0.189* (0.109)	0.310** (0.141)	0.230** (0.109)	-0.182 (0.331)	-0.242 (0.284)
Gain job (enters f-t work)	0.347** (0.078)	0.301** (0.067)	0.310** (0.081)	0.254** (0.069)	0.360 (0.225)	0.279 (0.177)
Gain job (enters p-t work)	0.147** (0.071)	0.136** (0.057)	0.174** (0.077)	0.144** (0.061)	0.005 (0.131)	0.024 (0.097)
Retirement (f-t to retirement)	0.133 (0.201)	0.091 (0.157)	--	--	-0.004 (0.223)	-0.039 (0.160)
<i>Labour status events (others)</i>						
Gain job (some start to receive employment income from f-t or p-t work)	0.554** (0.058)	0.472** (0.064)	0.452** (0.074)	0.376** (0.075)	0.746** (0.102)	0.619** (0.136)
Sample sizes (num. of hh.)	2,774	2,774	1,438	1,438	1,336	1,336

The effect of events on household's poverty outflow rate

	Marginal effects on the probability of leaving poverty					
	All households		Households with children		Households without children	
	Basic model + events	Basic + events + pov. gap	Basic model + events	Basic + events + pov. gap	Basic model + events	Basic + events + pov. gap
<i>Non-labour income change</i>						
Begin pension benefit	0.390** (0.060)	0.323** (0.057)	0.170** (0.078)	0.133** (0.061)	0.575** (0.089)	0.478** (0.109)
Begin unemployment benefit	0.455** (0.099)	0.403** (0.091)	0.233* (0.130)	0.154 (0.107)	0.701** (0.140)	0.654** (0.159)
Begin other regular transfers	0.249** (0.055)	0.211** (0.046)	0.205** (0.068)	0.164** (0.053)	0.335** (0.093)	0.268** (0.081)
Increase pension income >35%	0.471** (0.062)	0.413** (0.061)	0.263** (0.088)	0.234** (0.077)	0.603** (0.088)	0.519** (0.115)
Increase unemp. income >35%	0.235** (0.083)	0.215** (0.068)	0.246** (0.099)	0.217** (0.080)	0.176 (0.152)	0.159 (0.124)
Increase regular transfers >35%	0.329** (0.111)	0.286** (0.087)	--	--	0.424** (0.123)	0.375** (0.108)
<i>Poverty Gap</i>						
Income 50-60 % median		ref		ref		ref
Income 40-50 % median		-0.103** (0.019)		-0.095** (0.023)		-0.121** (0.033)
Income 30-40 % median		-0.137** (0.023)		-0.080** (0.025)		-0.194** (0.049)
Income 20-30 % median		-0.161** (0.026)		-0.144** (0.029)		-0.156** (0.044)
Income < 20 % median (not zero)		-0.297** (0.039)		-0.245** (0.049)		-0.342** (0.063)
Sample sizes (num. of hh.)	2,774	2,774	1,438	1,438	1,336	1,336