Child Poverty in Spain from the 70's to the 90's: A Static and a Dynamic Approach

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Abstract

This paper examines the extent and persistence of relative child poverty in Spain making use of the available cross-sectional and longitudinal microdata on households. The cross-sectional evidence analyzed covers the period from the end of the Franco era to the beginning of the 1990s. The longitudinal analysis focuses only on the more recent 1985–95 period. The analysis shows that despite the fact that a major socioeconomic transformation took place in Spain and the population poverty rate significantly decreased in the period, the extent of child poverty over the period *did not experience any significant change*. Children living in households with 3 or more children with other dependent adults face one of the highest poverty risks, the highest rate of inflow into poverty and the lowest rate of outflow from poverty. The risk of poverty and of persistent poverty for a child in lone and single parent families is also higher than that of households headed by couples. It seems that young unemployed parents or elderly retired grandparents with a low level of education impose onto children a higher risk of poverty and of persistent poverty. In contrast, children in single parent households have a higher risk of suffering income instability. However, all child poverty risks are substantially reduced with the presence of other non dependent adults. Their role is one of *protection* against poverty risks for households out of poverty. Thus, the presence in the household of some employed adults is acting as a *safety net* for low income families.

JEL Classification: D 31, I 32, J 13

1. Introduction

The emergence of new forms of poverty in industrialized countries is no longer a matter for surprise. The rise in unemployment, particularly long-term unemployment, as well as the rise in new types of short-term or temporary employment, is the most visible cause of these new forms of poverty.

Children are a particularly vulnerable group among the poor. In most cases, the economic welfare of children depends on the earnings of their parents, and children themselves can do little to change their own economic status. According to recent evidence offered by Machin (1998), the conse-

quences of the experience of poverty in childhood are likely to persist longer since the earnings of parents also play an important role in the determination of both the cognitive achievement of children and economic mobility across generations. Child poverty estimates based on household microdata suggest that children are generally over-represented among the poor. At the European level, for instance, an Eurostat study estimates the proportion of children living in poor households in Europe in 1993 at 20 percent, three percentage points above the corresponding proportion for all individuals (Eurostat 1997). Both the levels and the trends over time of child poverty show a considerably diverging pattern among countries.

A recent study by Bradbury and Jäntti (2001) finds that Northern European countries have fairly low child poverty rates while Italy, Ireland and the UK are those highest up in the European child poverty ranking.[1] In 1991, Spain, together with France and Germany, falls in the middle of these two groups. At the OECD level, according to Rainwater and Smeeding (1995), child poverty in the US has not only persisted at a relatively high level, but it also dramatically increased from the 1970s to the 90s. Bradbury and Jäntti (2001) show that in 1994–1995 the US and Russia register the highest child poverty rates out of a group of twenty-five OECD countries. In contrast, the level of child poverty is markedly lower in Spain and other European countries and shows a more stable pattern over the same period. Across time, the dominant trend from the end of the eighties to the nineties is one of increasing child poverty. Examples of this are Russia, Hungary, Italy and the UK.

What changes have occurred in terms of child poverty in Spain over the last three decades? Since Franco's death in 1975 Spain has undergone a major political and socioeconomic transformation that has obviously affected the welfare of children. Average welfare levels as measured by real per capita household income showed a net increase of 35 percent between 1973 and 1989, a growth which took place in parallel with a rise in unemployment (the highest levels in the European Union in the period). Public expenditure on social protection also rose, from 12.3 percent of GDP in 1973 to 24.8 percent in 1992, reflecting the consolidation of the Spanish welfare state.[2] How have these changes affected children's welfare? Have they worsened the relative position of children with respect to other needy groups such as the elderly? How have different groups of children been affected by them? Some evidence on these matters have very recently appeared in Bradbury and

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[1] See also various chapters in Vleminckx, K. and Smeeding T. (2001) for a good review of these matters.

[2] These figures are slightly above those provided in Eurostat (1993) and are based on Sistema Europeo de Estadisticas Integradas de Proteccion Social (SEEPROS) accounts (see Table 1).

Jäntti (2001). These authors report that, measuring welfare through income, relative child poverty in Spain registers a *very slight decrease* in the 1980–1990 period. In our work we are interested first in extending the study of child poverty in Spain back a decade (including the seventies). Secondly, the slight decrease in child poverty rates reported by Bradbury and Jantti (2001) may not be robust to other measurement choices; we will check the robustness of this trend for Spain using other welfare measures and compare this trend with that of other demographic groups. Further, we will characterize child poverty in Spain in detail.

Other important questions are: Do children remain poor longer than other groups? In terms of the characteristics of the parents and other household members, in what types of households are children experiencing long-term poverty? Bradbury *et al.* (2001) offer some results on the dynamics of poverty in Spain for the period 1985–1992: Spain shows poverty flows that lie between those of the UK and Germany and the percentage of children touched by poverty is rather high. As in other countries, lone-parent households register higher entry and lower exit rates from poverty. In our work we are interested in extending the study of poverty dynamics to 1995 using the same longitudinal survey as in Bradbury *et al.* (2001) and to analyse more deeply the evolution of the stock of poverty for families with children by looking at poverty inflow and outflow rates over time. Also, we will compare the dynamics of child poverty with that of other population subgroups in Spain in the period in order to find out the key determinants of child poverty persistence.

This paper aims to provide most detailed evidence on child poverty in Spain from the early 1970s to the early 90s. It analyses the available cross-sectional and longitudinal microdata in order to determine *what can be said* about the extent and persistence of child poverty in Spain over this period. It also studies the determinants of both child poverty as well as the probability of a child falling into and moving out of a poverty situation. Following the approach adopted in most poverty studies in the context of industrialized countries, the paper focuses on relative economic poverty, that is, the poverty line adopted is not fixed in real terms over the period analyzed, but is taken to be a function of the median welfare level as measured by (adjusted) income or expenditure during the period. Since all household members are presumed to share the household's total income, a household's poverty status is applied to each member, including the children. A child is taken to be poor if his or her economic welfare falls below half the median welfare for the population as a whole.

This study is obviously a restrictive one since, because it focuses on an *economic* and a *relative* poverty approach, it misses the other dimensions of

child welfare that certainly changed substantially over the period, as well as changes in the absolute dimension of the economic welfare of children. It should be kept in mind that in Spain over recent decades there has been a substantial improvement in child welfare indicators based on non-income measures such as infant mortality rates or school enrolment ratios.[3]

The paper is organized as follows. Section 2 presents some background on the socioeconomic situation in Spain in the period under study. Section 3 includes a description of the data sources used, both cross-sectional and longitudinal, and details the methodological choices made. Cross-sectional evidence comes from the large 1973–74, 1980–81 and 1990–91 household budget surveys, Encuestas de Presupuestos Familiares, and is the basis for the analysis of poverty incidence offered in Section 4. Section 4 analyses the incidence of poverty among children and the poverty trends among children over time, compares them to those among other major population groups, mainly the elderly, and investigates the correlations of child poverty with particular population characteristics, especially household size and composition and parental socioeconomic status. The outstanding determinants of child poverty are also analyzed through a multivariate approach to child poverty. To examine the persistence of child poverty over time or the length of time a child can be expected to remain poor, the paper explores the longitudinal evidence from the Spanish Household Panel Survey, Encuesta Continua de Presupuestos Familiares, which covers the period 1985–95. The results based on this source are presented in Section 5, where the dynamics of child poverty are studied using estimates of the speed at which children move in and out of poverty relative to other population groups, as well as the exit and entry (from and into poverty) probabilities among children in different types of households. A multivariate approach to poverty dynamics is also presented. Finally, Section 6 summarizes the main findings.

2. The context: A changing socioeconomic environment

Any investigation of child poverty needs to recognize that the demographic and economic structure of Spanish society changed during the period analyzed. Regarding, first the *structure of the population,* from the 1960s to the 90s there was a gradual decline of almost 30 percent in the population of children under 14 and a particularly large decline (almost 50 percent) in the youngest age group (children under 5). Children accounted for about 19

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[3] The infant (under 1 year) and the toddler (under –5 years) mortality rates have shown a gradual decline since the 1960s -they fell by 80 percent from 1960 to 1992. The primary and secondary school net enrolment ratios increased over the same period reaching a ratio of 100 percent and 90 percent in 1992. See Table 1 and Cantó and Mercader-Prats (1998) for more details.

percent of the entire population in 1991. This decrease in the number of children occurred in line with a drop in the fertility rate, which reached 1.18 children per fertile woman in 1995, one of the lowest rates in Europe (following Italy, with a rate of 1.17). In contrast, the share of the elderly in the population jumped by more than 60 percent during the same period and accounted in 1991 for 13.8 percent of the population.

Regarding changes in economic variables, real household per capita disposable income increased by 35 percent over the period (Table 1, column 8), implying that average economic welfare levels were improving in absolute terms. At the beginning of the 1970s, the last years of Franco's dictatorship, growth was significant and the unemployment rate was kept exceptionally low. From 1974 onwards, the growth rate started to decrease and the general unemployment rate started to climb. The economic crisis reached a peak in 1981. However, the unemployment rate continued to grow until 1985, when it peaked at 21–22 percent of the total labour force. Since then and until 1995 the unemployment rate was never below 15 percent, no matter how quickly the Spanish economy was growing. This is a striking level of unemployment in comparison with that in other European countries, except Ireland, during the period. Also in comparison with other European countries Spain shows the highest unemployment rates among the young and among women, but a low rate among breadwinners (42.5 percent among 16-to-19-year-olds, 36.2 percent among 20-to-24-year-olds, 26.8 percent among 25-to-29-year-olds, 27 percent among women and 10.3 percent among breadwinners in 1992; see Table 1).[4] The rigidly segmented Spanish labour market has meant that employment is more evenly distributed among households in Spain than it is in other countries, despite the discrimination against the young and females (Gregg and Wadsworth 1996). Spain also registers the lowest labour market participation rates in Europe for both males and females. The levels of female participation and the related trends show a very different pattern depending on the age group (Moreno, Rodriguez and Vera 1996). Female labour force participation has recently (1991) exhibited a very different pattern for women below 40 years of age (around 55 percent[5]) and those over 40 years of age (only about 30 percent).

Finally, child poverty and the trends in child poverty in relation to poverty among other population subgroups, especially the elderly, cannot be properly understood without taking into account the impact of the Spanish wel-

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[4] Recent trends indicate that some youth unemployment rates have risen, while others have fallen. For example, 49.8 percent of 16-to-19-year-olds, 34.6 percent of 20-to-24-year-olds and 26 percent of 25-to-29-year-olds were unemployed in 1997.

[5] This rate peaks at 65 percent for women between the ages of 25 and 29 in 1991 (see Moreno, Rodriguez and Vera 1996, Graph II.1, page 32). These data are taken from the results of the Spanish Labour Force Survey (Encuesta de Poblacion Activa, 1991)

Table 1
Socioeconomic indicators of welfare, 1971 – 93

	Real rate of GDP change	Unemployment rate (all individuals)	Unemployment rates by group					Real household per capita income (in 1992 ptas)	Expenditure on social protection (% GDP)	Family support[A]
			Age							
			16 – 19	20 – 24	25 – 29	Heads	Females			
1969									9.7	
1970									10.3	
1971	4.3	1.5							11.6	
1972	2.0								11.9	
1973	2.2							794,549	12.3	
1974	4.7	2.7							12.2	
1975		4.3						821,414	13.4	
1976		4.7	13.3	8.5	5.6	2.8	4.9		13.4	
1977		5.7	17.0	11.2	6.2	3.2	6.2	827,542	15.1	
1978		7.6	23.7	16.0	7.8	4.1	8.8		16.6	
1979		9.4	28.2	19.4	10.1	5.2	10.7	857,997	17.8	
1980		12.4	38.1	26.4	13.6	6.6	14.1		19.0	2.7
1981	0.3	15.1	45.1	31.0	18.1	7.8	17.7	871,001	20.5	2.1
1982	1.2	16.8	49.3	34.5	20.0	8.6	19.9		20.5	2.0
1983	2.2	18.0	51.1	37.4	21.1	9.4	20.9	881,116	20.9	1.7
1984	2.2	21.3	56.3	43.2	25.3	11.6	24.5		20.7	1.5

| | Real rate of GDP change | Unemployment rate (all individuals) | Unemployment rates by group | | | | | Real household per capita income (in 1992 ptas) | Expenditure on social protection (% GDP) | Family support[A] |
| | | | Age | | | Heads | Females | | | |
			16–19	20–24	25–29					
1985	2.3	21.7	54.4	44.7	27.5	11.8	25.4	882,133	21.5	1.2
1986	3.3	20.9	51.6	43.2	25.3	10.9	25.6		21.2	1.0
1987	5.5	20.0	49.0	38.4	25.2	9.2	27.8	981,310	21.1	0.8
1988	5.3	18.5	42.8	35.5	24.2	8.2	26.9		21.3	0.7
1989	4.7	16.9	36.6	32.3	22.5	7.8	24.7	1,070,848	21.7	0.7
1990	3.7	16.1	35.0	30.3	21.2	7.3	23.8		22.3	0.6
1991	2.3	16.9	35.0	30.5	22.9	8.1	24.4		23.6	0.5
1992	1.0	20.2	42.5	36.2	26.8	10.3	26.9		24.8	
1993		23.9	52.2	42.0	31.5	12.8	30.4		26.2	

Note: "Family support" is a percentage of Government Social Protection Benefits which consist of 95 percent of all government expenditures on Social Protection.

Sources: Column 1: Banco de España (1975) (1992). Columns 2–7: OECD Total unemployment rates (4th quarter each year), OECD *(1997)*, INE (1998). Column 8: BBV (1981). (1989). Column 9: Barrada and Gonzalo (1997), Table II.1. page 160. Column 10: Eurostat (various) (1993).

fare state. The greater part of social expenditure in 1991 went to the payment of old age pensions (31.2 percent of the total). The 1985 pension reform established a higher eligibility requirement (15 instead of 10 years of contributions to the system), but also a relatively more generous pension level, particularly the minimum pension.[6] In 1990 a noncontributory pension system was created to assist elderly and disabled people in need who were not entitled to a contributory pension.[7]

Table 1 also shows the negligible share of spending going to family support (0.5 percent of all social spending in 1991 while the EU mean amounts to 5.0 percent[8]), even if some cash transfers, like unemployment assistance, include a family dimension. Family policies in Spain were largely developed during the authoritarian period (1939–75) due to the prominent place assigned by the regime to the role of the family in society. Family allowances (subsidio familiar) and bonuses for families with children (plus de cargas familiares) were introduced in 1938 and 1945, respectively, and at the time constituted an important increase in head-of-household wages.[9] Payments were automatically indexed to prices, though none of the benefits were linked to the level of the worker household's income. There were several reforms,[10] and then these family policies were inherited by the new democracy and maintained on paper, but never reviewed or enhanced in real terms. The payments were almost negligible: in 1985 transfers to households for each dependant child could reach, at most, 2.8 percent of the minimum wage.[11] In 1990 means-tested child (under 18) income support for families in need was introduced for both working and non-working families.[12] In order to qualify for the benefit, household income had to be below around 1.5 times

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[6] The ratio of the minimum pension to the minimum wage was 0.78 in 1985 and 0.94 in 1992 (Seguridad Social. Madrid. Ministry of Labour and Social Security (1992)).

[7] Noncontributory pensions are means-tested by households. In 1991 the level of the benefit (the amount paid to an individual) was around half the minimum wage.

[8] Countries like France, UK, Ireland, Germany or Luxembourg spend over the EU mean.

[9] See Valiente (1996) for a good review of family policies in Spain.

[10] In 1954 all benefits were unified into the "ayuda familiar" benefit that was paid each month to households with dependent spouses or dependent children. Other programs for families with four or more dependent children (officially defined as "large families") included preferential treatment in the payment of taxes, public transport, loans, public housing and school fees. In 1966 family allowances were replaced by contributory benefits through the creation of the General Social Security System (Sistema General de la Seguridad Social). The new system involved a reorganization of benefits, but little was changed in terms of the effective beneficiaries of cash benefits.

[11] This figure has been calculated using the amounts set in Law 26/1985 and Royal Decree 2364/1985.

[12] This child support may be seen as a compensation for poor families who do not benefit from family tax credits in the payment of income taxes.

the minimum wage that year, adding 15 percent to the cutoff for each dependant child. The level of the benefit per child is relatively low, around 5.6 percent of the minimum wage in 1991. Eligibility requirements were not indexed to prices from 1991 to 1995 even if they experienced a slight nominal increase. Benefit levels for dependants were constant in nominal terms over the period.

3. Data sources and methodological issues

3.1 Data sources

The microdata used in the following sections come from two main household budget surveys: the "Encuesta de Presupuestos Familiares" (EPF) and the "Encuesta Continua de Presupuestos Familiares" (ECPF). The EPF is a large yearly cross-sectional survey that has been conducted about once every ten years: 1973 – 74, 1980 – 81 and 1990 – 91. The first EPF analyzed here is the one carried out in 1973 – 74, right at the end of the Franco era. Hence, the cross-sections cover (albeit not continuously) the period from the end of the dictatorship to the present. The ECPF is a quarterly rotating longitudinal survey conducted since 1985.

The primary purpose of both surveys is the collection of the expenditure information necessary to determine the weights for the retail price index, but they also involve the collection of income data and other information on the socioeconomic characteristics of households. The surveys are conducted by the Instituto Nacional de Estadística, and they possess a similar interview structure. The sample for each of these surveys reflects the total household population in Spain in the respective years or quarters. The representativeness of the sample is guaranteed by a "grossing-up" factor provided by the statistical office. For the 1980 survey, for instance, the grossing-up factor added up to 99 percent of the total household population registered in census data. It has to be remembered that these surveys exclude the homeless and people living in institutions, who in 1980 were estimated to be 0.7 percent of the total population. In terms of sample size the EPF is large, containing more than 20,000 households each. The sample of children in 1990 amounts to 18,000 observations.

The ECPF panel is much smaller, containing data on 3,200 households each quarter. Information is collected on each household's income during the previous three months. To overcome the small size of the sample, we pool the data from 1985 – 95. We use information collected from each household at a pair of interviews one year apart, i.e. at each household's first and fifth quarters of participation in the survey. In principle each household is

surveyed for eight consecutive quarters before being dropped from the survey and replaced with a freshly selected household. However, many households drop out earlier (see Cantó, 1998) and 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 that is always noted (see Bradbury *et al.*, 2001 or Luttmer, 2000) but rarely taken into account. We find 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.[13] By pooling the data across the years and eliminating households for inconsistent answers we arrive at a sample of 12,419 households observed at both the first and fifth interviews in the panel of which 5,721 are households with children, 10,573 are households with adults between 18 and 65 years of age and 4,172 are households with elderly individuals (individuals over 65 years of age).[14] These households contain a total of 10,802 children.

3.2 Some methodological issues

This paper is concerned with relative economic poverty. In line with the Eurostat approach, the analysis aims to shed light on whether households in which children live have sufficient resources to share in the level of well-being of society as a whole. A poverty line is used that is equal to half the median household equivalent income, a poverty line that is around 40 percent of the average income for all years. The unit of analysis adopted is the household. Household income is adjusted for household needs according to household size; the number of equivalent adults in the household corresponds to the square root of household size.[15] An individual (child, adult or elderly person) is considered poor if the household in which the individual lives is classified as poor. Poverty rates and all other calculations in the paper are then computed using weights for each household in the sample equal

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[13] To obtain these longitudinal attrition weights we estimated a probit regression of the probability that a household stays in the panel for a year (until the fifth interview) using as explanatory variables household characteristics observed at the first interview (age, level of education, civil status, sex, and labour status of the household head, together with the number of household members and household residence township). Weights were constructed by taking the inverse of the predicted probability of staying in the sample, constraining the sum of the weights to be the total number of households in the sample at the first interview.

[14] Clearly, even if a household is sampled at two points in time, some household members arrive (are born, return to the household or enter an age group), while others leave (move out of the home or exit an age group). In all calculations, only those households whose individuals have been observed in the household at both interviews are included.

[15] This is an equivalence scale often used in distributional analysis, see for instance Atkinson et al (1995).

to the number of household members. We present results for income and expenditure poverty even if we most generally use income as our welfare indicator.[16] The definition of income includes employment and self-employment income, income from regular transfers (including pensions and unemployment benefits), investment income and nonmonetary income, that is, wages in kind, home production and self-consumption.[17] It excludes social insurance contributions, and it is net of pay-as-you-earn taxes. It should be noted that, while for the cross-sectional evidence poverty is defined on a yearly income basis, in the longitudinal study poverty is defined on a quarterly basis. Finally, the focus is only on poverty as measured by the headcount, thereby yielding a good picture of the extent of child poverty, but no thorough analysis of the depth or severity of this poverty.

Recent empirical work on poverty measurement has emphasized the practical relevance that such methodological choices can have on poverty estimates. For this reason, the income distribution of children, adults under 65

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[16] The income data reported both in the EPF and the ECPF surveys have been recognised to underestimate total household income in Spain. Sanz (1996) reports that EPF income data underestimate capital income, self-employed incomes and social protection transfers except old age pensions. In fact, Ruiz-Castillo (1987) and Cantó (1998) report that in the EPF and ECPF 60 per cent of sample households report higher expenditures than incomes. In any case, this difference may be partly justified by the current definition of expenditure and the yearly total definition of income. Also, we should be concious that the measurement of expenditure in microdata is not without problems given that many parts of total expenditure are obtained assuming a similar consumption all along the year of goods purchased in just one particular week or month. If we decide to use income the only way to be able to take into account the income underreporting problem is to use imputation methods which, in our view, may be useful in some cases but may largely contaminate the data in others. In fact, the reason for presenting results on poverty using both types of indicators is that of contrasting that our main results hold whatever the variable used to define poverty. The choice of income in order to estimate the probability of being poor or leaving or entering poverty in our multivariate models stems from the fact that expenditure poverty is highly influenced by the evolution of consumption patterns along the life-cycle (the elderly turn out to be the poorest using this variable whereas they are significantly over the poverty line using income) and also the fact that the instability of expenditure along the year will largely influence poverty dynamics in an undesirable way (people leaving poverty because, for example, they decide to buy more winter clothes that year).

[17] In nonmonetary income we do not include the owner-occupied household's estimation of the market value of their home. This way of measuring welfare will put households living in owner-occupied housing in a relatively worse position than families living in rented housing. One could argue that if it is child's welfare what we are interested in measuring, the market value of the home is to be included given that children are directly affected by the type and quality of the home the household lives in and, presumably, owner-occupied housing will have a better quality than rented or subsidised housing. We should note that households in owner-occupied housing may still be buying their home through a mortgage (these are most likely to be households with children) and we are placing them in a similar position relative to those who actually own it while their welfare situation is recognized to be significantly worse. In any case, this is unavoidable as long as we do not have information on the household's mortgage payments.

and the elderly is examined, not only those living below half the median income, but also those in the different quintiles of the distribution (see next section). For a more robust picture looking at the distribution of expenditure and also the sensitivity of the results to changes in the equivalence scale see Cantó and Mercader-Prats, 1998.

The original intention was to use the definition of children adopted by UNICEF, whereby the word "children" includes all individuals under 18. Unfortunately, due to the limitations of the 1973–74 survey this has not been possible.[18] Thus, most of the calculations for the 1980s and 90s are performed using two definitions of children: individuals under 14 and individuals under 18. Meanwhile, "non-elderly adults" are all those individuals in the sample whose age is above that of children, but under 65 (the -compulsory retirement age). The elderly are those individuals who have already reached 65. The calculations for 1973 only distinguish between individuals under 14 and the rest. An important classification is that of demographic household type, the reader should note that the expression "one income receiver at least" indicates if there is at least one income receiver among 'other adults' *different from the head and spouse* in the household.

Finally, given the particular focus on child poverty and the fundamental changes in the demographic structure of the population over the period, the population structure by age group in the cross-sectional samples have been checked with that arising from the census. We have noticed, however, that the child population tends to be slightly underestimated in the samples (by one or two percentage points). This is not the case for the elderly in 1980 and 1990.

4. Changing child poverty

This section is devoted to the study of the changes in child poverty during the period covered by the cross-sectional evidence, as well as to the understanding of the determinants of children's poverty status.

4.1 Poverty analysis

Table 2 shows the distribution of the poor and the poverty rate among children, non elderly adults and the elderly, and in the population as a whole for the three years studied: 1973, 1980 and 1990. Poverty estimates provided are based on two alternative poverty lines: one set in relative terms

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[18] The age variable is not available at an individual level in the 1973–74 survey. For that survey only the number of individuals under the age of 14 in the household is available.

(50 per cent of the median equivalent disposable income-expenditure) and another based on an absolute standard taken to be the relative poverty line in 1973, increased by the inflation rate between years 1980 and 1990. Poverty rates for years 1980 and 1990 are computed for two definitions of children: those aged below 14 and those aged below 18.

In terms of relative poverty, trends for the entire population based on income suggest that there was a decline in poverty over the period 1973 – 90 – estimates fell substantially over the 1980s. However, in terms of expenditure any reduction was only very slight and non-significant according to our estimates.[19] Regarding relative child poverty, any change does not appear to have been very significant, despite the major socioeconomic transformation that took place in Spain during the period. The income measure suggests that there was a slight increase in the child poverty rate, but again statistically non-significant. Expenditure data in turn show a decrease in the child poverty rate in the 1970s, followed by a slight increase in the 80s, resulting in a statistically non-significant fall in child poverty over the whole period. Poverty among the elderly over the 1980's, in turn, tended to drop, although the amount of this drop depends on the welfare index used; income poverty fell by 36 percent (from 18.1 to 11.5), while changes according to expenditure are not statistically significant. These trends in poverty among the elderly suggest that the reforms of the public pension system were effective in reducing income poverty among the elderly, but that they did not translate into falls in expenditure poverty among this group.

As a result of these developments in poverty among children and the elderly, the relative difference in the incidence of poverty between these two groups did not decline over the 1980s.[20] In fact, according to income, relative poverty differences between these two groups rose substantially over this decade.

Overall, the results discussed tend to hold when the OECD scale, relatively more generous to large households, is used. However, within a given year, the composition of the poor changes substantially according to the poverty criteria used. For instance, in 1990, the poor population consisted of two times more elderly people than children according to expenditure data and

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[19] In fact, our estimates of trends over this period do not always conform to those obtained in previous work based on different assumptions. Using a different methodology based on expenditure, Bosch, Escribano and Sánchez (1989) and INE (1996) suggest that there was a decrease in the headcount over the 70s (except in the case of a poverty line equal to 25 percent of the mean). According to the estimates here, this trend in the 1970s is non-significant. Existing evidence for the 1980s suggests a reduction in relative poverty (See Ruiz-Huerta and Martínez (1994) and INE (1996)) that is only significant here in the case of income.

[20] The child poverty estimates here are slightly below those in Eurostat (1992, Table 4.2) for 1980.

Table 2

Children, adults and the elderly in households below the poverty line

	Distribution of poor			Poverty rate			% change	
	1973	1980	1990	1973	1980	1990	1973–80	1980–90
Relative Poverty								
Income								
Children < 14 (< 18)	27.2	26.7	23.7	11.9 [0.30]	12.2 (12.2) [0.31]	13.1 (12.2) [0.38]	2.5 [3.68]	7.4 [4.15]
Adults (18–65)		55.5	60.3		10.0 (9.7) [0.20]	8.7 (8.6) [0.21]		-13.0 [2.77]
Elderly		17.6	16.0		18.1 [0.449]	11.5 [0.37]		-36.5 [2.60]
Total population	100	100	100	11.6 [0.19]	11.4 [0.20]	9.9 [0.20]	-1.7 [2.51]	-13.2 [2.39]
Expenditure								
Children (< 18)	26.6	21.7	17.2	12.4 [0.30]	10.5 (10.3) [0.29]	11.5 (10.3) [0.36]	-15.3 [3.152]	9.5 [4.58]
Adults (18–65)		51.6	49.7		9.8 (9.9) [0.20]	8.7 (8.9) [0.21]		-11.2 [2.84]
Elderly		26.7	33.1		29.3 [0.53]	28.7 [0.53]		-2.0 [2.53]
Total population	100	100	100	12.3 [0.21]	12.2 [0.21]	12.0 [0.22]	-0.8 [2.44]	-1.6 [2.51]

	Distribution of poor			Poverty rate			% change	
	1973	1980	1990	1973	1980	1990	1973–80	1980–90
Absolute poverty								
Income								
Children < 14 (< 18)	27.2	26.7	23.7	11.9 [0.30]	10.3 (10.3) [0.28]	6.8 (6.3) [0.284]	-13.4 [3.275]	-34.0 [3.32]
Adults (18–65)		55.5	60.3		8.5 (8.2) [0.19]	4.2 (4.1) [0.150]		-50.6 [2.09]
Elderly		17.6	16.0		15.6 [0.42]	3.2 [0.207]		-79.5 [1.43]
Total population	100	100	100	11.6 [0.19]	9.7 [0.19]	4.6 [0.145]	-16.4 [2.240]	-52.6 [1.76]
Expenditure								
Children (< 18)	26.6	21.7	17.2	12.4 [0.30]	14.6 (14.2) [0.33]	7.8 (7.1) [0.30]	17.7 [3.98]	-46.6 [2.41]
Adults (18–65)		51.6	49.7		13.2 (13.2) [0.23]	6.2 (6.3) [0.18]		-53.0 [1.60]
Elderly		26.7	33.1		34.8 [0.55]	23.3 [0.49]		-33.0 [1.78]
Total population	100	100	100	12.3 [0.21]	15.9 [0.23]	8.8 [0.19]	29.3 [2.96]	-44.7 [1.48]

Note: A household is considered to be in relative poverty if it has an income-expenditure below 50 percent of the median equivalent household disposable income-expenditure. The absolute poverty line is taken to be the relative poverty line in 1973, increased by the inflation rate in years 1980 and 1990. The distributions are adjusted according to the square root of household size. The unit of analysis is the household. Sample weights are used to adjust for the number of children, adults, elderly or population totals. Sampling errors based on an assumption of random sampling are provided in *brackets []*.
Source: Calculations of the authors based on the Encuesta de Presupuestos Familiares (EPF).

the scale equal to the square root of household size, while more than three times more children than elderly people were among the poor according to income data and the OECD scale. The sensitivity of estimates to methodological choices was less substantial in 1980.[21]

Trends in absolute poverty all through the period under study (also shown in Table 2) present a much clearer pattern of child poverty reduction and of a reduction of poverty for all age groups. More precisely, in the income scale there is a reduction of a 43 per-cent while in the expenditure scale the reduction is of a 37.1 per-cent.

4.2 Child poverty by population sub-groups

The fact that the overall relative poverty among children did not change much along the period studied does not mean that the major transformation experienced by Spanish society affected all children in the same way. An examination of selected population subgroups offers some indication of how this transformation altered the nature of child poverty.[22]

Two characteristics of households are explored here: the demographic profile of the household and the socioeconomic status of the parents. Among the demographic variables, the focus is on the number of household members and the composition of the household, mainly households consisting of couples or lone or single parents with children (under-18-year-olds). A lone-parent household is defined to be a household in which there is one parent and at least one child under 18. The main difference between lone and single-parent households is that the latter, so defined, excludes couples, but includes other adults or elderly people living with the one parent, whereas the former does not. Among the socioeconomic characteristics, the focus is on households in which the head is employed, unemployed or retired or in which both parents are employed.

Table 3 presents poverty estimates based on income for these population subgroups in three different years. The poverty rate is relatively high among children living in large (more than four members) households or in households made up of an adult and a child. Between 1973 and 1990, despite the net drop in the share of the population living in large households, the poverty rate among children in large households increased: in five-member households from 10.3 to 16.4 percent, and in households with six or more

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[21] See Cantó and Mercader-Prats (1998) for details.

[22] For a detailed examination of poverty by population subgroups in Spain, see Bosch, Escribano and Sánchez (1989) for 1973–80, Ruiz-Huerta and Martínez (1994) for 1980–90 and for a good summary of previous work see CES (1996) and INE (1996) covering 1973–90.

Table 3

Children living in households below the poverty line

	Share, poor children			Child poverty rate			Population share		
	1973	1980	1990	1973	1980	1990	1973	1980	1990
Household size (members)									
Two	0.6	0.8	1.2	29.7 [8.635]	32.5 [8.280]	31.7 [7.451]	10.9	11.4	13.1
Three	4.2	4.8	7.6	6.4 [0.818]	7.2 [0.861]	8.0 [0.867]	15.6	15.1	18.3
Four	19.0	18.6	26.5	8.8 [0.520]	7.8 [0.473]	8.9 [0.516]	23.9	25.2	29.3
Five	21.7	25.5	32.5	10.3 [0.566]	12.0 [0.607]	16.4 [0.822]	20.0	20.1	19.4
Six or more	54.6	50.2	32.1	15.7 [0.527]	16.8 [0.590]	18.9 [0.938]	27.5	25.8	17.0
Household composition									
Couple, one child		6.2	8.6		7.5 [0.684]	6.1 [0.633]		16.9	20.6
Couple, two children		21.5	28.3		7.7 [0.434]	8.3 [0.466]		19.7	23.6
Couple, three children		25.5	30.0		12.2 [0.623]	18.5 [0.953]		9.7	9.3
Couple, four or more children		39.7	21.9		20.0 [0.774]	27.0 [1.541]		12.1	4.2
Single parents		4.0	4.4		15.7 [1.964]	18.4 [2.481]		3.4	2.8
Lone parents		2.9	6.9		25.4 [3.508]	43.8 [3.910]		0.8	0.9

(Continue Table 2):

Socioeconomic status, parents	Share, poor children			Child poverty rate			Population share		
	1973	1980	1990	1973	1980	1990	1973	1980	1990
Head employed	85.2	60.4	55.2	10.8 [0.298]	9.5 [0.318]	11.3 [0.448]	85.6	67.4	52.7
Head unemployed	4.7	21.1	24.8	44.1 [4.123]	36.9 [1.740]	44.1 [2.069]	1.0	5.6	5.5
Head retired	6.9	11.7	9.5	26.2 [2.311]	10.1 [1.976]	24.6 [2.167]	11.2	16.6	21.5
Couple, both working	–	3.6	5.14	–	4.5 [0.629]	3.1 [0.423]	–	8.6	14.9

Note: A household is considered to be in relative poverty if it has an income below 50 percent of the median equivalent household disposable income-expenditure. The distributions are adjusted according to the square root of household size. The unit of analysis is the household. Sample weights are used to adjust for the number of children. Sampling errors based on an assumption of random sampling are provided in brackets.
Source: Calculations of the authors based on the Encuesta de Presupuestos Familiares (EPF).

members, from 15.7 to 18.9 percent. These two types of households accounted for more than 64 percent of all poor children. This contrasted with the situation among children in households with three or four members (mainly couples with one or two children), where the level of poverty was generally more stable (below that for the population as a whole) during the period. The share of the population living in these types of households actually climbed (from around 39 percent to over 47 percent) during these years. The most noticeable change was the growth in poverty among children living in lone-parent households, where the child poverty rate almost doubled during the 1980s (from 25.4 to 43.8), although the share of the population in lone-parent households was low (about 1 percent). The presence of other adults in single-parent families appears to be, at least to some extent, effective in preventing poverty. Particularly in 1990, the risk of poverty among children was substantially lower in single-parent households than it was in lone-parent households.

The highest income poverty rate is obtained for children in households in which the head was unemployed. The probability that a child in such a household would be poor was between 0.36 and 0.44 even if it decreased over the 1970s and then rose back up again over the 80s. The percentage of individuals living in this type of household is relatively low and did not increase over the 1980s in Spain. At the other extreme were households headed by employed couples; such households showed the lowest child poverty rate (only about 3 percent in 1990). The evolution of child poverty in households headed by retirees followed the trend found for households headed by unemployed people (though at a much lower level). Poverty among the children in such households fell substantially over the 1970s and then experienced a significant increase over the 80s.

The poverty levels and trends in poverty revealed by expenditure data for population subgroups are not the same as the ones revealed by income data. The child poverty rates shown using expenditure data for large households and households headed by unemployed individuals are substantially lower than those found using income estimates. However, expenditure estimates confirm that child poverty rates increased in the 1980s among large households (those with three or more children), households with unemployed heads and single-parent and, especially, lone-parent households.[23]

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[23] See Table 7 in Cantó and Mercader-Prats, 1998.

4.3 A multivariate approach to child poverty

Our interest now is to explore more deeply the interaction between different household characteristics and child poverty at the beginning of the 1990's. This can be done by estimating an econometric model in which we can predict the effect of both demographic profile of the household (e.g. single or lone parenthood) and socioeconomic status of parents (e.g. unemployment) on a child's probability of being poor while controlling for other relevant household characteristics.

We estimate a probit regression (see Appendix for estimation details) on a sample of 17,983 children from 9,720 households. The independent variables included in the regression take into account characteristics of the head of the household (age, sex, educational attainment and employment status) as well as the socio-demographic structure of the household, housing tenure and location variables (town size and region). Results of the estimation are presented in Table 4.

Children living in households with either a young or elderly head, female, having a low level of education face a higher risk of poverty than those living with middle aged head, male with middle or high level of education. A high risk for poverty at early ages is also important when the head is unemployed or a person classified as 'other inactive'. The employment status of the head appears to be critical to reduce the risk of child poverty while the poverty risk is strongly reduced for children living in a household with a couple in which both members are at work. Child poverty risk is also greater for children living in small rather than in large municipalities and for children living in rented and subsidized housing rather than for those whose parents are home-owners.

The socio-demographic variable is a composite variable that takes account of the demographic structure of the household (existence of couple, number of children and presence of 'other adults') as well as the situation of dependency of the group of 'other adults' in the household. Òther adults' are considered to be dependent if there is no income receiver among them. In the regression, a distinction is made between [Couple + Children + Others* (at least one income receiver)] and households [Couple + Children + Others* all Òther adults' dependent].[24] Estimates in Table 4 show that the child's risk of poverty increases with the number of children in the household: children living in families made by couples with three or more children are exposed to a particularly high poverty risk. However, there is an important variation on children's poverty risk depending of the structure of the household. For couples with a given number of children, the risk of child

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[24] 13.9 percent out of the total population are 'Other adults income receivers'.

Table 4

Child probability of poverty, 1990–91

Covariates	Estimate	Std Err
Intercept	0.901	0.642
Characteristics of Head of Household		
Age of hh. Head	-0.060	0.026
Age of hh. Head squared	0.000	0.000
Sex of hh. Head: male	-0.284	0.231
Level of education head:		
Illiterate or without education	Ref.	
Basic or low (up to 8 years)	-0.396	0.111
Middle (up to 12 years)	-0.707	0.173
High (15 years)	-1.333	0.369
Upper High (18 years)	-1.097	0.330
Labour status head:		
Head working (spouse out of work)	Ref.	
Couple, both working	-0.468	0.151
Unemployed	0.817	0.128
Retired	0.490	0.322
Other	0.762	0.146
Characteristics of Household		
Demographic group:		
(0) Couple one child	Ref.	
(1) Couple two children	0.193	0.143
(2) Couple three children	0.544	0.156
(3) Couple > three children	0.739	0.194
(4) Couple one child + other adults	0.267	0.260
(5) Couple two children + others adults	0.595	0.253
(6) Couple three children + other adults	0.883	0.335
(7) Couple > 3 children + other adults	1.127	0.444
(8) Lone parent	0.573	0.293
(9) Single parent	0.574	0.413
(5) * one income receiver at least[1]	-0.940	0.329
(6)** one income receiver at least	-1.259	0.323
(7) * one income receiver at least	-1.001	0.411
(8) * one income receiver at least	-1.226	0.541
(10) *one income receiver at least	-1.111	0.413
Type of municipality hh. Lives:		
< 10,000 inh.	Ref.	
> 10,001 – < 100,000 inh.	-0.098	0.660
> 100,001 inh.	-0.295	0.115
Housing Ownership:		
Rent	0.296	0.114
Subsidised	0.265	0.127
Log – likelihood		-580.55
Predicted probability (means)		0.1216
Number observations		9,720
Number observations weighted sample	9,642,490	

Notes: (1) (one income receiver at least) is a dummy equal to 1 if there is at least one income receiver among 'other adults' (excluding the household head and the spouse) in the household and 0 otherwise. (2) *** indicates coefficient significantly different from 0 at 5%. ** indicates coefficient significantly different from 0 at 10%. * indicates coefficient significantly different from 0 at 15%. (3) Estimates control for regional heterogeneity.

poverty notably increases when the household contains 'other adults' who are all dependent. In contrast, the presence of other non-dependent adults in the household has the opposite effect, reducing substantially the risk of child poverty with respect to identical households with no other adults. A particularly high risk of poverty is observed for children in large households that include three or more children and other dependent adults. The risk is also high for children in lone parent families and single parent families with other dependents. Additional adults may be siblings or elderly. Out of the total number of 'Other adults' which receive some type of income, 59.0 percent are youth aged 18 to 30, 20.9 percent are elderly adults, while the remaining 20.1 are adults aged 31 to 64. 'Other adults' income receivers would be acting as a *safety net* for some low income families. We should notice here, however, that the assumption on equal sharing of resources within the household on which these estimates are based, may be more difficult to assume for the group of households with employed youths than for those including older adults. Young people who are not able to leave their parents home due to insecure jobs (note the high unemployment rate for youths and the importance of temporary contracts out of total labour contracts for this demographic group) or who do not have enough income because they are students, might have other impacts on the welfare level of household members than that of elder relatives.[25]

5. The dynamics of child poverty

The study of the dynamics of child poverty is not only a natural extension of the study of the "stock" of children living below the poverty line, but a key issue in itself in the effort to discover the nature of child deprivation. While the study of the stock of poor children provides information on the incidence of the poverty phenomenon, the study of the flows into and out of poverty over time offers a view on the persistence of poverty.[26] The dynamic analysis will complement our knowledge on static child poverty by providing us with the reasons for the evolution in their poverty rates over time (e.g. was there an increase in the inflow, or was there a decrease in the outflow, or both? etc.). As Ravallion (1996) notes, a dynamic analysis of poverty helps us to distinguish between an increase in a poverty rate due to a *worse pro-*

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[25] For an analysis of the youth employment status on child poverty see Cantó and Mercader-Prats (2001).

[26] See Cantó (1998) for an exploration of the dynamics of poverty among households in Spain through an investigation of the characteristics that affect the rates of transition of households into and out of poverty. Important issues in the study of poverty transitions appear in Walker (1995). Recent evidence on child poverty dynamics can be found in Bradbury *et al.* (2001). On the dynamics of poverty in the UK see Jarvis and Jenkins (1995) and for the US see Stevens (1999).

tection of the current social policy of those vulnerable to poverty (increase in the inflow rate) and a *worse performance* of this policy at *promoting* those in poverty (decrease in the outflow rate). The social policy directions recommended in each case should be essentially different.

The dynamics of low living standards of any population subgroup should be a concern but there are particular social policy related interests in studying the dynamics of poverty in the case of children. First, public action is needed in order to improve the living standards of a group of individuals who cannot *work their way out* of poverty but whose situation directly depends on adults' decisions. Secondly, experience of poverty in childhood may decisively influence life as an adult, the persistence of deprivation may be more important than the nature of poverty in general. In fact, there is evidence that sustained low income has greater adverse effects than transition poverty (Blau, 1999). A short-term poverty spell may have little impact on a child's future life, whereas a long-term experience of poverty can have serious implications for future health, schooling and social relationships. However, we should be conscious that even if transitory poverty in childhood may be seen as "better" than persistent or chronic poverty, the former may have a lasting impact on children's development if it becomes recurrent. In fact, Huston (1991) indicates that large fluctuations in family income may force households to change neighborhood or school and a reduction on recreational expenditures (holidays or short trips) that may affect children most directly. Also, this author stresses that income volatility (recurrent transitory poverty), is likely to create emotional stress for parents who seem to become more punitive to their children in such circumstances. Thus, we are now not only interested in differentiating chronic from short-term poverty but also in detecting what characteristics promote household income instability.

A first concern in the study of poverty dynamics is the determination, at a given moment, of the number of children who have left the ranks of the poor and the number of children who have fallen into poverty. In other words, what is the *turnover* in the segment of the child population that is poor? Clearly, the dynamics of child poverty should be discussed in perspective, that is, the "poverty turnover" among children should be compared to that among other groups like working-age adults and the elderly. Does the poverty turnover among children differ from that among the rest of the population?

Finally, the study of the flows into and out of poverty among various population subgroups and the multivariate approach to measuring transition probabilities can provide valuable information on the household characteristics which most directly affect a child's probability of entering or leaving

the ranks of the poor and thereby help explain the reasons for the persistence, transitory movements and recurrency of poverty among children. The key questions are: Which household characteristics promote the persistence of child poverty (low exit rates)? Which household characteristics tend to reduce the persistence of child poverty (high exit rates)? Do any characteristics imply high entry and exit rates (the promotion of recurrent transitory child poverty)?

5.1 Poverty turnover: entry and exit rates

The dynamics of poverty among children can be fruitfully compared to the dynamics of poverty among other population groups such as adults and the elderly. Here, poverty turnover is analyzed by comparing an individual's situation in a given quarter in the year "t" with the situation of the same individual in the same quarter in the year "$t + 1$".[27] The sample contains 5,721 households and 10,802 children.[28]

Of those children who were not among the poor at a given moment, 4.0 percent were found to be living below the poverty line one year later. This entry probability is above the mean individual entry rate (3.5 percent, see Table 5). However, exit rates for children are similar to that of the mean

Table 5

Poverty turnover: exit and entry rates among households with children, adults and elderly

	Entry rate	Exit rate	Population share
Households with children ($<$ 18)	4.0 (0.2)	44.1 (2.0)	46.0
Households with adults (18 – 65)	3.0 (0.1)	47.4 (1.5)	85.1
Households with elderly ($>$ 65)	4.4 (0.3)	35.3 (2.4)	33.6
Total	3.5 (0.1)	44.7 (1.4)	100

Notes: (1) A household is considered poor if its income is below 50 percent of the median equivalent household disposable income. Distributions are adjusted according to the square root of household size. Turnover is measured using only those households and individuals observed at the first interview and the fifth interview (one year later) in the ECPF panel. (2) Standard errors assuming a random sample appear in parenthesis. (3) Results are obtained using samples of households with children, with adults and with elderly in each case and weighting to adjust for the number of children, adults or elderly respectively and for attrition.
Source: Calculations of the authors based on the Encuesta Continua de Presupuestos Familiares (ECPF).

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[27] Thus, only those households who were observed over a year are used in the panel (that is, households which completed from the first to the fifth interview in the panel). However, observations are weighted for attrition.

[28] Note that the sample of households not weighted for attrition contains 12,419 observations of which 5,721 are households with children.

individual. In relative terms, the elderly are found to have a slightly higher entry rate (4.4 percent) to that found among children, but a generally lower poverty exit rate (35.3 percent versus 44.1 percent for children). Thus, even if the relative poverty differences found in a static approach between children and the elderly have increased in favor of the latter, poverty is significantly more persistent among the elderly than it is among children. In contrast, non-elderly adults (18-to-65-year-olds) are the least likely ever to become poor (3.0 percent), and, when they do fall below the poverty line, they are the least likely to remain there (47.4 percent have left poverty a year later).

5.2 Poverty dynamics among children by population subgroup

The risk factors tending to affect a child's likelihood of entering or exiting poverty, similar to those considered in the static approach, are largely determined by the profile of the child's parents and, to some extent, by the presence or absence of other members in the household.

Table 6 summarizes the poverty turnover among children in households with different demographic and socioeconomic characteristics. Lone parenthood, single parenthood and large household size (especially households with three or more children) are characteristics of the households in which the children are more likely to fall into poverty at any time and remain there for long. For children living in single-parent households, high entry and high exit rates coexist, especially if other adults who are potential income earners are present. This is in clear contrast with the situation among children in lone-parent households; these children are likely to fall into poverty, but unlikely to leave poverty in the short run. Recalling the results obtained in the static approach for these two groups, one sees that the presence of other adults in a household reduces the risk not only of poverty, but also of its persistence. However, children in single-parent households are likely to have unstable incomes (high income volatility) and therefore recurrent short-term poverty spells.

Among the possible socioeconomic situations of parents, unemployment stands out as the labour status that imposes the highest probability of a child transiting into poverty and the lowest probability of a child leaving poverty in the short run (a socioeconomic characteristic that promotes poverty persistence among children). In contrast, the risk of entering poverty among children whose parents are employed full time is three times lower, while the chance of exiting poverty among these children is greater. Unemployment of parents is more important than the household demographic structure in determining a child's poverty inflow rate. This is precisely the

Table 6

**Poverty turnover: entry and exit rates among households
with children by subgroup**

	Entry rate	Exit rate	Population share
Household composition			
Couple, one child	4.1 *(0.8)*	54.3 *(8.2)*	10.4
Couple, two children	3.2 *(0.4)*	49.6 *(4.3)*	33.8
Couple, three children	6.0 *(0.8)*	37.5 *(4.3)*	17.4
Couple, > 3 children	7.8 *(1.4)*	33.0 *(4.3)*	8.3
Couple, one child plus others no income	1.9 *(0.9)*	49.4 *(12.1)*	3.7
Couple, two children plus others no income	1.7 *(0.9)*	59.1 *(10.2)*	3.3
Couple, three children plus others no income	2.3 *(1.8)*	63.3 *(10.7)*	1.5
Couple, > 3 children plus others no income	8.3 *(4.0)*	53.4 *(11.4)*	1.2
Lone parents	6.8 *(2.5)*	37.0 *(7.1)*	2.6
Single parents, others no income	4.2 *(3.8)*	63.7 *(15.2)*	0.7
Couple, one child plus others with income	1.9 *(0.8)*	77.9 *(16.9)*	4.8
Couple, two children plus others with income	2.3 *(0.8)*	25.2 *(13.7)*	5.5
Couple, three children plus others with income	2.9 *(1.4)*	42.5 *(12.7)*	2.7
Couple, > 3 children plus others with income	3.3 *(2.2)*	44.7 *(13.3)*	1.4
Single parents, others with income	5.9 *(2.0)*	53.7 *(13.8)*	2.5
Socioeconomic status, parents			
Head employed	3.8 *(0.3)*	48.5 *(3.0)*	64.8
Head unemployed	12.6 *(2.1)*	37.4 *(3.5)*	7.9
Head retired	6.5 *(1.3)*	38.0 *(5.3)*	7.4
Couple, both working	2.1 *(0.4)*	52.6 *(9.3)*	18.6
Other	4.6 *(3.2)*	55.0 *(9.1)*	1.3
Total	4.0 *(0.2)*	44.1 *(2.0)*	100

Notes: (1) A household is considered poor if its income is below 50 percent of the median equivalent household disposable income. Distributions are adjusted according to the square root of household size. Turnover is measured using only those households and individuals observed at the first interview and the fifth interview (one year later) in the ECPF panel. (2) Standard errors assuming a random sample appear in parenthesis. (3) Results are obtained for individuals by using samples of households with children, with adults and with elderly in each case and weighting to adjust for the number of children, adults or elderly respectively and for attrition.
Source: Calculations of the authors are based on the Encuesta Continua de Presupuestos Familiares (ECPF).

reverse for the outflow rate. Consequently, unemployment of the head is likely to *push* households with children into poverty but what *keeps them below* the poverty line is their specific demographic structure: namely lone parenthood or a large number of dependants.

5.3 A multivariate approach to poverty dynamics

Our interest in this section is to confirm the results obtained using inflow and outflow percentages by subgroups of population and to search for the relative importance of each of these characteristics in determining a child's experience in poverty while, at the same time, we control for other relevant characteristics of the household the child lives in. In particular, we are very interested in comparing our results in dynamics with those obtained in the static approach in order to discover whether household characteristics determining incidence of poverty and poverty persistence are similar or not. In this sense, we will specially look at the effects of single / lone parenthood and unemployment of the household head on the chances that a child transits both into and out of poverty.[29]

Taking all children in their first interview in the ECPF panel the probability a poor child has to move out of the group of the poor (escaping poverty) within a year's time (we compare first (t) and fifth ($t + 1$) household interview in the panel) is:

$$(1) \qquad P_{it} = \Pr\ (i\ not\ poor\ at\ t + 1 | i\ poor\ at\ t;\ X_{it}, \underline{\delta}) = F(X_{it}, \underline{\delta})$$

Similarly, a non-poor child's probability of moving into the lowest income group (falls in poverty) is:

$$(2) \qquad P_{it} = \Pr\left(i\ poor\ at\ t + 1 | i\ not\ poor\ at\ t;\ X_{it},\ \underline{\beta}\right) = F\left(X_{it}, \underline{\beta}\right)$$

Where P_{it} is the probability that an individual i who is poor (not poor) at t (first household interview) experiences a transition out of (into) poverty between t and $t + 1$ (fifth household interview), X_{it} is a vector of household socio-economic and demographic characteristics at time t and $\underline{\delta}$ and $\underline{\beta}$ are vectors of parameters to estimate. These type of models are referred to in the literature as first-order Markov Chains – see Amemiya (1985) – and are

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[29] Note that these inflow and outflow rates may be affected by the evolution of economic variables over time such as regional unemployment rates or job stability that we are not including in the regression. We resume these in a pure time effect and we estimate their influence by including time dummies in the regression.

memoryless transition processes. The log likelihood function to be maximised can be expressed as

$$(3) \qquad \log L = \sum_{i=1}^{n} C_i(\log P_{it}) + D_i(\log (1 - P_{it}))$$

Where C_i indicates an exit from poverty between t and $t + 1$ and D_i, instead, indicates staying in poverty. Assuming that the error term of our regression follows a Normal distribution (see Appendix), we can predict the values of P_{it} by plugging equation (1) or (2) into (3) and maximising the resulting likelihood function with respect to the unknown parameter vectors $\underline{\delta}$ and β. This is the estimation procedure for the regression reported in Table 7.

Table 7

Household with children probability of falling in poverty and escaping from it

Covariates	Falling in poverty		Escaping Poverty	
	Coef	Std Err	Coef	Std Err
Characteristics of Head of Household				
Age of hh. Head	-0.009	0.021	-0.044	0.036
Age of hh. Head squared	0.00006	0.0002	0.0006**	0.0004
Sex of hh. Head: male	-0.021	0.251	0.089	0.317
Level of education head:				
Illiterate or without education	Ref		Ref	
Basic or Low (8 years or less)	-0.726***	0.239	0.718***	0.231
Middle (10 – 12 years)	-1.044***	0.252	1.081***	0.280
High (15 – 18 years)	-1.498***	0.303	–	–
Labour status head:				
Head employed (spouse out of work)	Ref		Ref	
Couple, both working	-0.213***	0.108	0.090	0.252
Unemployed	0.685***	0.119	-0.348***	0.131
Retired	0.405***	0.168	-0.671***	0.215
Other	0.263	0.348	0.247***	0.268
Characteristics of Household				
Demographic group:				
(0) Couple one child	Ref		Ref	
(1) Couple two children	-0.040	0.124	-0.101	0.241
(2) Couple three children	0.242**	0.132	-0.382*	0.247
(3) Couple > three children	0.394***	0.155	-0.623***	0.259
(4) Couple one child + other adults	-0.254	0.256	-0.186	0.392
(5) Couple two children + others adults	-0.278	0.276	0.099	0.360
(6) Couple three children + other adults	-0.091	0.375	0.114	0.378
(7) Couple > 3 children + other adults	0.391*	0.295	0.182	0.400
(8) Lone parent	0.172	0.333	-0.321	0.409
(9) Single parent	-0.077	0.500	0.685	0.543

(Continue Table 7):

Covariates	Falling in poverty		Escaping Poverty	
	Coef	Std Err	Coef	Std Err
(5) * one income receiver at least[1]	-0.574***	0.232	0.661	0.634
(6) * one income receiver at least	-0.443***	0.206	-0.790*	0.537
(7) * one income receiver at least	-0.459**	0.260	-0.487	0.411
(8) * one income receiver at least	-0.563	0.419	-0.133	0.409
(10) *one income receiver at least	-0.306	0.313	0.170	0.508
Type of municipality hh. Lives:				
< 10,000 inh.	Ref		Ref	
> 10,000 – < 100,000 inh.	-0.303***	0.082	0.193*	0.134
> 100,000 inh.	-0.562***	0.093	0.146	0.097
Housing Ownership:				
Owned	Ref		Ref	
Rent	0.122	0.116	-0.206	0.166
Subsidised	0.573***	0.086	-0.500***	0.129
Time dummies				
Before 1991 (but 1985 or 1986)	Ref		Ref	
After 1990	0.083	0.084	-0.386***	0.135
Years 1985 – 86	-0.045	0.088	-0.063	0.140
Quarter:				
First	Ref		Ref	
Second	-0.195***	0.100	-0.084	0.157
Third	-0.163**	0.100	0.118	0.148
Fourth	-0.051	0.092	0.171	0.164
Log -likelihood		-745.17		-372.46
Pseudo R-squared		0.13		0.10
Predicted probability (means)		0.023		0.43
Number observations (weighted for attrition)		16,760		2,310

Notes: (1) Leaving poverty: Dependent variable = 1 if individual (poor at interview 1) leaves poverty from interview 1 to interview 5. Entering poverty: Dependent variable = 1 if the individual (non-poor at interview 1) enters poverty from interview 1 to interview 5. (2) The reference child is an only child living with a couple in a township of < 10,000 inh., in owner-occupied housing whose head of household is an employed non-educated female and the household is interviewed during the first quarter of the year. (4) (one income receiver at least) is a dummy equal 1 to if there is at least one income receiver among 'other adults' (excluding the household head and the spouse) in the household and 0 otherwise. (3) *** indicates coefficients significantly different from 0 at 5%. ** indicates coefficients significantly different from 0 at 10%. * indicates coefficient significantly different from 0 at 15%.

A first interesting result is the evolution of the inflow and outflow rates over time for the different groups. All individuals in the sample have maintained their inflow rates to poverty but children and adults have significantly reduced their poverty outflow rates between the late eighties and the early nineties.[30] Thus, the *capability* of individuals below 65 years of age to step out of poverty has generally decreased. However, we should note that the reduction in children outflow rates in the nineties has been larger than

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[30] These results emerge from Table 8 and similar regressions run for adults and the elderly.

that of adults. Namely children have reduced a 34.4 per-cent their probability of leaving poverty (a predicted outflow rate of 43.3 percent for the period 87 – 90 and a predicted outflow rate of 28.4 percent for the period 1991 – 1995) while adults' reduction was of a 23 percent and the elderly kept it constant.

In contrast with univariate results, we find that lone parenthood loses significance in determining poverty transition rates when other characteristics of the household are taken into account. Namely, the parents' level of education and the size of the municipality the household lives in, turn out to be more important determinants of child poverty dynamics. A higher level of education of parents *protects* children from falling into poverty and *promotes* children in poverty in stepping out of deprivation. Similarly, large municipalities *protect* households with children from ever falling into poverty while in middle-sized cities we should expect slightly shorter, even if more repeated, poverty spells.

Unemployment of parents at the first interview is the labour status that increases the chances of falling into poverty the most within the following year for children as we expected from the descriptive analysis of dynamic poverty. Indeed, parents' unemployment triplates the inflow rate with respect to employment. Poverty persistence is higher for children living in households whose head (their parents or grandparents) are either unemployed or retired. As expected, a child's risk of falling into poverty is also significantly different when only one spouse is employed as compared to when both spouses are at work. We find that the employment of both parents mainly *protects* children against poverty.[31]

Children in large households (with two or more other siblings) are confirmed to be in one of the most disadvantageous positions. Their probability of entering poverty is higher than that of any other demographic group. However, confirming the results obtained in the static approach to child poverty the presence of other employed adults in the household (different from parents) alleviates the problem by reducing the inflow rate, i.e. *protecting* them from falling into deprivation. In any case, if these other employed adults were already employed when the household is found in pov-

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[31] We should note that 18.6 percent of children cohabit with couples where both spouses work. The literature in Spain emphasized the existence of an added worker effect in the Spanish labour market during the eighties where females participated when the household was in economic need. During the early nineties the female labour market experienced a deep change and young educated women started to register high labour market participation rates. Both events are consistent with our results given that we are considering the characteristics that help in leaving poverty once the household is found in poverty at first interview. If we were to look at actual transitions which help children in leaving poverty we would most probably find that the entry to employment of the spouse *promotes* children out of poverty.

erty, they become a further burden and reduce the household's chances to leave poverty.

6. Conclusions

The analysis is aimed at exploring the available static and dynamic microeconomic evidence in order to answer the question, *what can be said* about the extent (and the associated trends over time) and the persistence of *relative* poverty among children in Spain since the beginning of the 1970s.

The paper shows that during the 1970s and 80s, a period in which Spanish society experienced a major socioeconomic and political transformation and total population poverty rates clearly decreased, *no significant changes* occurred in the extent of child poverty. Moreover, the relative position of children worsened with respect to the elderly over the 1980s even if poverty was less persistent among children than it was among the elderly. However, in comparison with other individuals (18-to-65-year-olds), children were more likely to fall into poverty and less likely to leave it over the short run.

However, the socioeconomic transformation during the period did not affect all children in the same manner. Household composition and the employment status of parents and other adults seem to have played a crucial role in the determination of the risk of poverty among children, as well as the persistence of poverty among children over time. During the 1980s poverty increased markedly among children in large households (particularly those with three or more children), in households with unemployed heads and in lone or single-parent households. This increase could be mainly driven by a reduction of poverty outflow rates that we have detected to be particularly low for children in the early 1990s.

Our analysis has also thrown some light on some of the key determinants of child poverty and child poverty persistence. Children living in households with 3 or more children with other dependent adults face one of the highest poverty risks, the highest rate of inflow into poverty and the lowest rate of outflow from poverty. The risk of poverty and of persistent poverty for a child in lone and single parent families is also higher than that of households headed by couples. It seems that it is the young unemployed parents or elderly retired grandparents with a low level of education (who are household heads) who impose upon children a higher probability to be poor and persistently poor. In contrast, children in single parent household have a higher risk of suffering income instability. We should expect that they will have short-term but recurrent poverty spells.

However, all child poverty risks are substantially reduced with the presence of other non dependent adults. Their role is one of *protection* against

poverty risks for households out of poverty. Indeed, if these adults are employed while the household is out of poverty children's chances to ever fall in poverty are reduced. Thus, the presence in the household of some employed adults (mainly youths) is acting as a *safety net* for low income families.

Acknowledgements

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Appendix

The econometric model uses the indicator D as if we did not observe household incomes. D takes the value 1 if the individual is poor and the value 0 otherwise. That is:

$$Y_i^t = \beta' X_i^t + u_i^t$$
$$D_i^t = 1 \quad if \quad Y_i^t < Z_t$$
$$D_i^t = 0 \quad if \quad Y_i^t \geq Z_t$$

where $(i = 1, \ldots n)$ and n is the total number of interviewed individuals and t is the year of the interview (constant for each regression). Y is total equivalent household income and Z is the poverty line that year. The probability of being poor is:

$$\Pr(D_i^t = 1) = \Pr(Y_i^t < Z_t) = 1 - F(-\beta' X_i^t)$$

where F is the cumulative distribution function of the error term u. Hence, the likelihood function is:

$$L = \prod_{D_i^t=0} F(-\beta' X_i^t) \prod_{D_i^t=1} \left[1 - F(-\beta' X_i^t)\right]$$

The functional form of F will depend on the assumptions made about u. Assuming a Normal distribution of the error term we estimate the so-called probit model.