The Dynamics of Poverty in Spain: The relevance of considering multiple-spells and their accumulation

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Abstract

The analysis of poverty dynamics yields important insights about the nature of poverty and the expected effectiveness of alternative social policies in order to fight against it. The recent literature on poverty dynamics proposes various approaches to the measurement of the effects of poverty spell length and the experience of multiple-spells on poverty exit or re-entry rates. However, none of the proposals in the literature consider the expected effect transition probabilities of the accumulation of poverty spells in an individual’s poverty history. This paper proposes the estimation of the individual probability of leaving poverty using of a methodology that is able to take into account various sources of difference at once: the length of the current poverty spell, the time between various poverty experiences, the occurrence of multiple-spells and the accumulation of poverty spells.

Keywords: poverty dynamics, poverty exits and re-entry, hazard models, multiple spells.

JEL Classification: D1, D31, I32.

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Introduction

The literature centred on the analysis of the lowest part of the income distribution has produced a large amount of work on the dynamics of poverty in recent years. A first interesting result of this research is the proposal of a new dimension in the measurement of poverty which refers to the duration of the poverty spells experienced by the individual. This dimension is to be added to Sen’s three classic dimensions of poverty, often referred to as the three I’s of poverty: Incidence, Intensity and Inequality.

Certainly, it appears quite undeniable that it is of interest to be able to characterise the diverse low income patterns of individuals along time. In particular, the advantage of providing information on the demographic or socio-economic situation of individuals that suffer from persistent poverty in contrast with those that experience low income for a relatively short time, is that different policies may be designed in fighting against each of these phenomena. Surely, fighting against long-term or persistent poverty requires the general use of educational or labour market policies while fighting against transitory poverty may add to these long term policies the use of money transfers as income substitutes during short periods of time. These transfers would be focussed on the reduction of the chances of those transitory poor individuals to experience recurrent poverty spells that would push them into chronic low income as time evolves. In this context, we believe that it becomes particularly important to investigate the relevance of poverty spell recurrence and, most importantly, to what extent the probability of leaving a second or subsequent poverty spell depends on having had a previous experience in poverty and non-poverty with a varied length.

The literature on poverty dynamics has largely focussed on the analysis of spells and the estimation of entry and re-entry hazards after the seminal works of Allison (1982) and Bane and Ellwood (1986) which have recently been fostered by Stevens (1999), Devicienti (2001) or Biewen (2006). These papers study the extent and composition of chronic poverty in a variety of countries using a hazard rate approach that accounts for multiple spells of poverty and incorporates spell duration, individual and household characteristics and unobserved heterogeneity. However, we believe that there are still some interesting issues related to the estimation of transition probabilities and the analysis of the different patterns of poverty along time that need to be
investigated. One of the main areas of research that need to be developed in this field is related to the extent that individual previous experiences in poverty (as long as panel data allows us to know) may have in determining future poverty risks. In particular, the previous hazard rate approaches assume that the consideration of individual unobserved heterogeneity captures the correlation across individual spells and thus identifies four types of individuals in the sample through a joint distribution of individual specific effects with respect to spells of poverty and non-poverty. This assumption imposes the estimation of a single exit and re-entry hazard rate for each individual independent of the number of poverty spells previously experienced. We believe that the individual poverty history may play a relevant role in itself in determining the likelihood of experiencing a new poverty or non-poverty spell. Therefore, predicted exit and re-entry hazards should incorporate the information on both the duration and the accumulation of spells. In fact, it could be the case that the importance of static unobserved characteristics on poverty exit and re-entry hazard rates may, in part, hide a genuine spell accumulation effect that can be distinguished if we allow poverty exit and re-entry hazards to vary as spells accumulate.

This issue is virtually unexplored in the literature on the dynamics of poverty and social exclusion while, in contrast, in the literature on labour economics there is already an important number of papers devoted to the analysis of recurrent unemployment and its effects on the individual’s probability of leaving unemployment in a forthcoming spell i.e. the relevance of unemployment history on a current unemployment spell. Following these we tackle the complete analysis of the influence of poverty history on exit and re-entry hazards by estimating duration data models with multiple spells of poverty and non-poverty that incorporate individual and household characteristics and unobserved heterogeneity. In particular, we take into account the possibility that poverty exits vary not only with personal and household characteristics, but also with the length of the current and past poverty spells, the time between poverty and non-poverty spells, the occurrences of multiple poverty spells and the accumulation of poverty spells.

Thus, this paper contributes to the literature on poverty dynamics in several ways: First, we aim to contribute to the debate on the determinants of the probability of leaving poverty by trying to disaggregate the distinct effects of unobserved heterogeneity and spell accumulation. Secondly, our approach allows for different
poverty exit and re-entry hazards when spells accumulate, challenging previous studies based on poverty persistence that estimate one exit and one re-entry hazard rate independent of the number of individual poverty experiences. Thirdly, our methodology is able to incorporate all relevant available information from the dataset by using time-varying covariates within each spell in the estimation of the exit and re-entry hazards.

The paper is organized as follows. Section 1 presents the most important previous results in the literature on the analysis of poverty dynamics in general and poverty outflow in particular. In Section 2, we describe the ECHP data set, detailing the definition of the variables and undertaking a thorough descriptive analysis of the observed poverty and non-poverty spells in the dataset. Section 4 presents the econometric model while Section 5 discusses the main estimation results. Finally, Section 6 concludes by presenting our main findings.