Abstract

Latin America has traditionally registered very high levels of absolute poverty due in part to a very unequal income distribution and to scarce growth and high macroeconomic instability. However, the response of poverty to changes in those variables differs between countries. For that reason, and given the high occupational and income instability, it is particularly interesting to study the dynamics of poverty in the region. The main objective of this project is to study poverty dynamics in different Latin American countries, emphasizing a comparative point of view. In particular, the study aims at analyzing to what extent countries with different or similar poverty incidences may show exit and entry rates to poverty of different intensity, identifying the importance of diverse events associated to poverty transitions and analyzing the effect of these events on households of different structures and characteristics. This will also be useful for suggesting general policy recommendations aimed at reducing the high poverty levels prevailing in the region. To attain this objective, a dynamic analysis of panel data from regular household surveys will be used in order to assess the importance of poverty entry and exit rates in changes in poverty incidence. The focus will be set on the identification of factors associated to poverty mobility, especially those related to labor market instability, demographic changes and public policy.

We are very thankful to Mr. Cockburn and anonymous referees of PEP for their thoughtful remarks, which were of great help for the formulation of the final proposal. We expect to have reflected them in a satisfactory way.
Contents

1. Main research questions and core research objectives ..............................................3
2. Scientific contribution of the research including a short list of key references in the literature and knowledge gaps.................................................................5
3. Policy relevance........................................................................................................6
4. Methodology ..........................................................................................................8
5. Data requirements and sources ..............................................................................22
6. Dissemination strategy...........................................................................................24
7. Short list of key references.....................................................................................26
8. List of team members’ prior training and experience in the issues and techniques involved. ..............................................................................................................29
9. Expected capacity building ...................................................................................35
10. Any ethical, social, gender or environmental issues or risks which should be noted..............................................................................................................36
11. List of past, current or pending projects in related areas involving team members..............................................................................................................36
1. Main research questions and core research objectives

Latin America has traditionally registered very high levels of absolute poverty due in part to a very unequal income distribution and to unsatisfactory behavior of the macroeconomic variables. The dynamics of poverty in response to changes in such variables differs between countries.

The analysis of the determinants of the level and evolution of poverty in individual countries has been the subject of an extended literature. There are also several studies that compare employment, inequality and poverty and their evolution in different Latin American countries\(^1\). However, there are few researches that concentrate in poverty dynamics in individual countries of the region, especially those focusing on the determinants of poverty movements. Furthermore, it was not possible to identify any study that compares poverty dynamics among countries.

Perhaps, the lack of adequate and complete statistical dynamic data in the region has been one of the reasons explaining the still reduced literature on poverty movements. However, during the last years there has been an increasing supply of information that, if not strictly of a longitudinal type, may be used to build panel data, which is useful for analyzing income mobility and their associated factors.

This knowledge gap on poverty dynamics appears as particularly worrisome in the region given the high level of income mobility that characterizes Latin American countries. The latter is, to a large extent, one of the consequences of labor markets with a sizeable share of precarious employment\(^2\) –that led to large occupational instability\(^3\) and reduced coverage of occupational risks (basically, of unemployment insurance or subsidies). Also, labor instability is particularly acute in these economies given their more unstable macroeconomic situation.

The analysis of the characteristics of poverty dynamics might be of great importance for policy design, as even when the level of aggregate incidence is relatively low and/or does not change, the size of the flows of households exiting and entering poverty may be large. Furthermore, the study of poverty transitions may offer evidence on the factors directly associated to them. Specifically, such analysis makes it possible to identify whether the events that trigger entries and exits involve the labor market, are of demographic character or respond to specific public policies (i.e. a monetary subsidy). For this, it is necessary to identify an exhaustive typology of events experienced by individuals that might lead their households into or out of poverty.

It is also important to take into account that the incidence of poverty and its evolution along time do not have a random behavior among households with different characteristics. On the contrary, the households’ composition and the occupational situation of their members are the apparently among the most important observable factors that are associated to the situation of poverty and its dynamics. In this sense, the characteristics of the household head (especially gender) and the presence or absence of

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2. For the Argentine case, see for instance Beccaria, Esquivel and Maurizio (2007).
3. See, for example, Beccaria and Maurizio (2003).
children are dimensions that might have a strong impact on the specific poverty rates and its dynamics.

The general objective of the project is to study poverty dynamics in several Latin American countries, emphasizing a comparative point of view. In particular, the study aims at:

- Analyzing to what extent countries with different or similar poverty incidences may show exit and entry rates to poverty of different intensity;

- Identifying the importance of different events associated to poverty movements. The objective will be to assess the relative relevance of movements due to labor market events, to demographic changes and to the effects of public policies. The study aims at assessing, for example, if in a situation of employment growth, obtaining a job is a more important factor associated to the exits of poverty than the growth of wages or the increase of worked hours. The research also intends to evaluate the performance of public policy in terms of enhancement of welfare conditions of the population.

- Tackling the question of whether households stay poor (or stay out of poverty) because they do not go through any positive (or negative) event or because the events do not have enough impact in order to generate a transition out or into poverty.

- Given the occurrence of positive or negative events, evaluating their relative success in taking households out or into poverty as a result of their intensity and of the characteristics of the households that are subject to them. This means, to study the probability of occurrence of different events and the conditional probability of those events of changing the households’ poverty status.

- Analyzing the changes of the effect of these events across households of diverse structures and characteristics. The presence/absence of children and the gender of the household head will be two of the most important dimensions to be analyzed. This will be helpful in order to evaluate, for example, whether households with children have less chances of experiencing a positive event in comparison to others and/or if those episodes are less effective in providing the means for taking the household out of poverty. This is particularly relevant in a context of high prevalence of child poverty as is the case in Latin America.

- Suggesting general policy recommendations aimed at reducing the incidence and/or impact of events leading to poverty entries or increasing poverty exits, in order to reduce the still high poverty levels prevailing in the region.

The analysis will concentrate on the following countries: Argentina, Brazil, Costa Rica, Chile, Guatemala and Peru, and will refer—mainly— to the second half of the nineties and to years of the present decade. For the case of Argentina, data availability allows to extend the analysis to the 1990-1995 period.
2. Scientific contribution of the research including a short list of key references in the literature and knowledge gaps

As mentioned, even though there is considerable literature on the evolution of poverty for different countries of the region, many of them make use of static data while there is little experience regarding dynamic analyses. In this sense, there is scarce knowledge about the effect that different macroeconomic and labor market regimes, as well as diverse policies based on monetary transfers, have on the rates of exits and entries out of and into poverty and, as a consequence, on poverty incidence.

This project aims at contributing to this literature by studying the dynamics of poverty associated to occupational and income instability, as well as to other factors (i.e. demographic changes and the effect of public policies).

In particular, this project will show novel evidence in terms of:

- The dynamics of poverty in different Latin American countries, which have shown divergent evolutions of poverty incidence, associated to different macroeconomic regimes, occupational structure and income inequality.

- The evolution of the incidence of poverty entries and exits in each of the countries under study associated to changes in their labor markets conditions. Specifically, we will analyze the probability of occurrence of positive (negative) events as well as their capacity of bringing households out of (into) poverty. Additionally, we will differentiate the effect of changes in the number of employed members, in the amount of worked hours and in the level of labor incomes.

- The role played by public monetary transfers to households on poverty dynamics as, for example, the Plan Jefes y Jefas de Hogares Desocupados in Argentina since 2002.

- The importance of other non-labor incomes (including pensions) on the households’ transits in and out of poverty.

- The relevance of demographic factors associated to poverty transitions.

- The incidence of inflation inducing entries to, or preventing exits from, poverty, a dimension that is particularly relevant to some Latin American countries.

- Assesing how the above mentioned aspects differ among households with different sizes, structures and characteristics. Special attention will be paid to the specific features of households with children and those with women as main income providers.

This will be the first attempt to analyze poverty dynamics using panel data through a cross-national comparative approach for Latin America.

\[4\] See point 7 for key references.
3. Policy relevance

In spite of the economic growth experienced by Latin American countries in the last years, which has been accompanied by employment creation and reduction of poverty, poverty rates are still very high and diverse. As shown in the graph below, poverty rates for each country are lower in most recent years in comparison with the first years of the nineties. Some countries, like Costa Rica, Guatemala and especially Chile, show a sustained downward trend, while in others poverty rates show phases of growth and reduction. During the present decade most countries show a decrease of poverty incidence, although Costa Rica does not show important changes and in Argentina poverty dramatically increased during 2002, falling in the subsequent years of economic recovery. Argentina differentiates from the other countries due to its sharper and stronger changes in the poverty rate. Another country that stands out is Brazil, which went through a reduction of more than 27% during the period under observation.

The changes of the poverty rate in the selected countries have been very marked. For this reason the study of the entry and exit rates appears as an interesting feature in order to determine factors that are associated to them. This information results very important for the design of social policy.

Source: ECLAC and National Institutes of Statistics.

This study will have relevance for policy design and implementation based on three important aspects.

3.1. Poverty dynamics

First, the study of poverty dynamics is especially relevant for policy design, since it gives important tools to inform policies aimed at taking households out of poverty or
preventing them from falling into that situation. This approach is clearly better than a cross-section perspective because it differentiates poverty exit and entry rates and thus allows detecting, for example, if high poverty incidence is associated to high entry rates or low exit rates. It is also useful for identifying which characteristics of households tend to strengthen poverty by reinforcing entries, preventing exits or both. Policy suggestions will be different in each case, that is, this study will help making policy recommendations that should focus either in preventing entries to or helping exits out of poverty, or both.

3.2. Relationship between poverty dynamics and associated events

Poverty transitions could be triggered by changes in the demographic composition of the households, changes in occupational status, worked hours and labor earnings of their members as well as benefits accrued through social policy. Each household has different probabilities of being subject to that kind of positive or negative events, and these events have, once they occurred, different impacts on the probability of poverty transitions. In particular, the differentiation of the effects of each kind of events (occupational, demographic and direct social policy) is clearly relevant for improving policy design tending to reduce poverty entry rates and increase exit rates. The dynamic approach allows, additionally, identifying differences in the factors associated to entries and, alternatively, to exits of poverty situations.

3.3. Cross-national comparison of poverty dynamics

The comparative dynamic analysis will be useful for evaluating the main factors associated to poverty, especially in relation to the labor market’s and public policies’ characteristics and evolution. The possibility of comparing various countries with different poverty dynamics, divergent macroeconomic evolutions and dissimilar policies will allow us to evaluate the effects on poverty dynamics of the identified variables.

It will be particularly useful to evaluate the effects that different labor market events may have on households’ poverty condition, since this will reveal the importance of economic regimes that facilitate employment creation—and especially occupations of high quality—as well as of different types of social policies. Regarding the latter, it will allow us to evaluate the effects of policies such as changes in unemployment insurance and subsidies or cash transfers for the poorer households. For instance, the period of economic growth since 2003 in Argentina is an interesting case for the study of the relationship between poverty reduction, improvement of the labor market and cash transfer policies applied by the government.

On the basis of such a diagnosis of poverty dynamics, recommendations for the design and implementation of policies aimed at reducing poverty will be proposed. The comparative approach will help us arriving to more robust results, as well as will be helpful for informing policies for reducing poverty in other countries of the region. Following Jenkins and Schluter (2001), we will be able to find relationships between poverty dynamics and different labor markets, social policy designs and demographic dynamics. The proposed methodology, as these authors explain, can be applied to cross-national analyses, studies of trends within countries and for the study of different groups of population.
4. Methodology

A. The absolute poverty line approach to poverty identification

First of all, it is important to mention that in all the selected countries, poverty is measured through the method of the absolute poverty line, based on the valorization of basic food (for indigence or extreme poverty) and non-food (for poverty) consumption baskets. Specifically, following this method, a household is classed as poor if its total monetary income—as measured in the household survey—is less than an absolute poverty line that accounts for the household’s size and composition. The absolute poverty line approach was generalized to Latin America by ECLAC-5, and in the case of each of the selected countries, official poverty incidence measures are based on this methodology. This assures the possibility of comparison based on poverty lines which are calculated with the same criteria, although achieving different values. The importance of using the official poverty line resides in the necessity of maintaining consistency with the poverty rates informed by each country and the associated entry and exit rates.

Furthermore, the proposed methodology can be applied to the analysis of poverty transitions according to any absolute poverty measure. The same exercise can be made based on alternative poverty lines as, for example, those calculated by ECLAC. This will, in turn, provide more comparability of the poverty level in different countries. Another possibility that will be explored is the two dollar a day poverty line.

Finally, the main purpose of this study is the analysis of poverty dynamics and for this goal the determination of comparable poverty lines is not necessary, as long as the methodology is similar for each country.

B. Source of information

B.1. Surveys

In order to identify possible causes of the transits in and out of poverty, the required databases need to identify the poverty status of each household and individual, but also to provide other socio-economic and demographic information measured at different points in time, such as individuals’ age, gender, education, economic activity and income, and also households’ size, composition or income.

There are no longitudinal surveys for Latin American countries that would allow following the households during long periods of time6. However, some of them have household surveys whose samples have a rotating scheme that allows the construction of panels of households that are interviewed in at least two successive moments. In some cases, those schemes make it possible to trace the evolution of households in more than two periods (for example, in four successive observations).

The countries that have been selected for this analysis are those for which the available information allows the analysis of poverty dynamics based on panel data from household surveys: Argentina, Brazil, Costa Rica, Chile, Guatemala and Peru.

6 The only exception is Chile.
Using the panel structure of the sample of the chosen surveys, by comparing the situation of a given household in two or more successive observations, it is possible to evaluate changes experienced by such households regarding different variables, including its poverty status.

In order to obtain a comparable data-set of the different sources, transitions will be defined for a similar interval between observations (i.e. yearly). In all cases, panels will be pooled in order to work with higher amount of observations. Except for the case of Chile, all surveys allow the construction of yearly panels, this means, that it is possible to identify two observations of the same sample of households with a time span of one year between each observation.

**B.2. Possible shortcomings**

**Sensibility to the length of the observation window**

The observed intensity of transitions might be associated to the time elapsed between observations. Thus, in order to evaluate sensibility to the observation window on the obtained results, we will estimate the probability of occurrence of different positive/negative events and the conditional probability of exiting/entering poverty for observation windows of different lengths. Following Jenkins and Schluter (2001), the poverty transits associated to demographic changes will probably gain importance as the observation window enlarges.

In all countries, except Chile, it is possible to make the analysis of transitions between two points in time separated by one year between observations. The surveys of Argentina and Guatemala also allow observing the situation of households each quarter, i.e. a shorter time span between observations. On the other hand, given that the observation window is larger, the information provided by the Chilean survey (which interviewed the households in 1996, 2001 and 2006) will allow the analysis of larger term processes that might be affecting poverty dynamics, although these results are not strictly comparable with those obtained for the other analyzed countries.

**Reference period**

Another problem that might arise in analyses that compare information provided by different sources, is that the household’s incomes might have been informed for reference periods of different lengths (i.e. a month, a quarter or a year). This might, in turn, affect the measurement of poverty: as an example, households whose income might be under the poverty line for some quarters might appear as non-poor if their yearly incomes are higher than the average poverty line. This problem also arises in static analysis, but few authors have studied the way in which results might be affected. Böheim and Jenkins (2000), for example, find no important differences in the case of the UK, and explain this because of the tendency of people to answer about their usual income even if they are asked about their income in a given month. They found that the differences are more important in households that have demographic events (for this group of households, they find the opposite result than for the population as a whole, being their annual poverty

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7 See Cantó et al. (2006)
higher than poverty measured in comparison with their current income). This could be reflecting differences in the reference period for the measurement of incomes and of demographic characteristics. For the case of the United States, Ruggles and Williams (1986 and 1989) and Ruggles (1990), find more substantial differences between poverty measured in terms of annual or current incomes. They find that an important proportion of poverty entries and exits that are identified with monthly data become invisible with the use of annual data. They also find that the amount of people who are poor at least once in a year is four times the people who are poor during the whole year. For the case of Spain, Cantó et al. (2006) find that, although poverty rates are similar using quarterly or annual incomes, poverty measures that are more sensitive to the situation of households in the extremes of the distribution show important differences. They also find changes in the characteristics of households that are identified as poor by each method.

For the dynamic analysis, Cantó et al. (2006) compare results on income mobility obtained by comparing quarterly information with those obtained of the comparison of annual data (being annual income calculated as the sum of quarterly incomes). They found that income mobility is higher for current (quarterly) than for annual incomes, and that the bias introduced by the change in the income definition differs for households of dissimilar characteristics and in diverse income deciles. For the case of poverty mobility, the differences are higher for the case of entries than exits.

For this study, we will use monthly incomes, which are asked for a recent reference period, in order to determine poverty status. In this sense, the information is comparable, although it allows arriving at results that might be different if they had been drawn from annual data.

**Consistency of the data**

In terms of quality of the data, panel information provides the possibility of checking for the consistency of many of the informed variables. This will be taken into account in order to reduce the possibility of spurious changes in some variables. The fact that the above mentioned surveys follow international recommendations in their design and implementation (and some of them had direct funding of the MECOVI Program –IADB, WB and ECLAC), assures an adequate comparability level. Nevertheless, the differences in design and implementation of each survey will be detailed and taken into account during the analysis.

**Attrition**

Panel information may face some specific limitations. One of the most important for our purposes is that the proportion of households that are actually interviewed in two successive moments is smaller than the proportion of households and individuals that should be re-interviewed according to the sample rotation scheme. This is due to the fact that there is a loss of cases (“attrition”) resulting from different motives (as, for example, people who decide to abandon the panel of the survey or due to difficulties in data collecting). This could introduce bias in the sample if the loss of cases is not random. Thus, in order to prepare the dataset for the dynamic analysis, a correction for attrition will be made through a method based on the re-weighting of observations. Such method uses a probit regression of the probability of staying in the panel in two successive observations, considering the household’s head’s attributes and households’
characteristics as explanatory variables. The new weights will be estimated adjusting the original weights by the inverse of the predicted probability of being a “stayer”. The sum of the new weights will be constrained to the total number of households in the first wave.8

**Underestimation of transitions**

Another difficulty arises from the fact that not every transition can be captured when matching two successive waves. Since a transition is identified by comparing two observations, two or more symmetrical changes between poverty and non-poverty would not be identified. However, this underestimation of transitions is probably of little importance due to the fact that a high proportion of households remain in or out of poverty during long periods of time.

**Income underestimation and non-response**

Furthermore, the measurement of income in household surveys faces known errors derived from the overall non-response to the survey, the specific non-response to the income question and the errors in income reporting (generally, leading to underreporting). These difficulties give rise, usually, to an underestimation of average income. Some countries impute incomes (using different multivariate methods) trying to give an answer to specific non-response but the other two sources of errors are not always addressed.9 Errors in income reporting are particularly worrisome for measuring income changes as they tend to overestimate them.10 For this project, we will use information on incomes and poverty status as provided by official statistics institutes and ECLAC. This last source of information provides harmonized income definitions and treatment.

**C. General Approach**

The proposed analysis of poverty dynamics implies the study of changes in the poverty status of each household during a certain period of time. For this it is necessary to have information of the same households and individuals in at least two successive moments in time. The dynamic approach allows not only analyzing the incidence of poverty in two successive moments, but also to draw some conclusions about the factors associated to those transitions. Also, it is possible to identify households and individuals that change their poverty status (transiting in or out of poverty) and those who stayed in the same situation.

Different methods and models have been employed when analyzing poverty dynamics. We can distinguish at least three different approaches. Some of them model income mobility and poverty dynamics; this is the case, for instance, of the covariance structure model developed by Lillard and Willis (1978) which studies individual income mobility

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8 For a detailed description of this methodology, see Cantó et al (2006). For an application to the household survey of Argentina see Beccaria, L. and R. Maurizio (2006). See also Bendezú et al. (2007) for an analysis of attrition in the Chilean panel survey.

9 For example ECLAC, following previous experiences carried out in India (see for example Deaton, 2004), adjusts income data of the Latin American household surveys (after correcting by specific non-response) in order to contemplate these sources of errors taking into account the discrepancy between the averages incomes coming from the survey and the national accounts.

10 See, for example, Gottschalk (2004).
in the United States, allowing predicting the incidence of poverty in a given population. Stevens (1999) and Devicienti (2001) have also used this methodology in order to study poverty in the United States and in the United Kingdom respectively.

Another approach is that of Markov models, with the pioneer work of Jenkins and Capellari (2002), who propose an extension of the first order Markov matrix for the analysis of transitions between situations of low income in the United Kingdom. In this study, it is of particular interest the proposed method of obtaining unbiased estimates of transitions between poverty and non-poverty by jointly modeling entry and exit probabilities, initial poverty status and non-random attrition. In particular, they used a trivariate probit model in order to account for both sources of endogeneity (the initial status in t and panel retention between t and t+1) in addition to the modeling of poverty transitions between t and t+1. Stewart and Swaffield (1999) modeled transitions into and out of low pay using a bivariate probit model with endogenous selection. Cantó et al. (2002) applied a bivariate probit model with selection equation.

A third kind of model appears in the work of Bane and Ellwood (1986), who make use of duration models in order to estimate the conditional probability of transits in and out of poverty. One aspect of particular relevance is that this is the first research that explicitly incorporates labor market and demographic events to the study of poverty dynamics. Other studies followed this line of analysis. Jenkins and Schluter (2001) compared child poverty in the United Kingdom and in Germany incorporating these events. In doing this they part from the definition of a group of events and make a decomposition of the probability of exiting poverty in two factors: the probability of a household of experiencing a given episode of the above mentioned type and the probability of the household of transiting out of poverty, conditional to the actual happening of that event. Cantó et al. (2002) apply this methodology to the study of children poverty in Spain. Other studies which also focus on the importance of different kinds of events in poverty transitions, like Ruggles and Williams (1987), Duncan 1984, Duncan and Rodgers (1988), McKernan and Ratcliffe (2002), Ballantyne et al. (2004).

As Capellari and Jenkins (2002) mentioned, each of these approaches has advantages and limitations. For instance, studies based on covariance structures have the advantage of allowing the decomposition of changes in household incomes in permanent and transitory components, which is highly valuable for the prediction of structural poverty. Furthermore, analyzing directly the characteristics of income, without classifying households into poor and not poor make the whole set of information useful, which allows knowing if households stay near the poverty line after a transit or, on the contrary, if the distance is sufficiently large in order to expect more permanent changes in their status. However, a disadvantage of this methodology is that these models assume the same income dynamics for all households, poor and non poor, a hardly probable situation. On the other hand, in these models it is not possible to explicitly consider demographic and income episodes households are subject to. As mentioned in Jenkins (1999), these models fit better dynamics of individual income in homogeneous groups, a reason why they are not completely appropriated for the study of poverty, which is determined at household level. Additionally, Stevens (1999) and Devicienti (2001) conclude that models of components of variance perform worse than duration models in studies on poverty patterns in the United States and the United Kingdom, respectively.

Hazard models, which have the advantage of regarding not only the influence of
households’ (and their members’) characteristics, but also accumulated duration of the poverty spell and introduce non-linearities by distinguishing poor and non-poor, have typically ignored the types of endogeneity above mentioned. Finally, trivariate and bivariate models may face identification problems because of the difficulties for finding adequate instruments. For example, for modeling the initial conditions, the instrument should be a variable that affects the probability of being poor at t but does not affect the probability of transition in and out of poverty between t and t+1; for modeling attrition, a variable that affects the probability of retention between t and t+1, but does not affect the probability of transition, is needed.

All these studies part from reduced models in order to directly or indirectly estimate poverty transitions. However, other studies have based on structural models for analyzing this dynamics. Some examples of this approach are Burgess and Propper (1998), Burgess et al. (2002) and Aassve et al. (2004 and 2005). In these studies poverty transitions are modeled as a result of changes in economic and demographic variables of the households. What they try to model are the behavioral decisions that underlie poverty dynamics, focusing on those associated to the labor market (where they model the decision of working and they present an income equation), fertility and marriage, emphasizing the interrelations of these dimensions. With this purpose, different correlated equations are simultaneously estimated. All these studies point out the importance of simultaneously modeling demographic and labor processes that underlie results in terms of poverty status.11

The most important inconvenient of this type of model might be their complexity, that derives in an important quantity of equations and parameters which are necessary for estimations, which implies the need to make assumptions that not always can be verified, as well as the kind of information required.

Our research project aims at estimating unbiased poverty entry and exit rates associated to different events. A trivariate model that takes into account both attrition and endogeneity of initial conditions is not possible to employ given the difficulties for identifying valid instruments among the variables measured in the household surveys to be considered. The effects of attrition will be corrected, as mentioned, using a method based on the re-weighting of the observations. Given that there are not longitudinal surveys available for the region, it is not possible to use duration models, due to the fact that it is not possible to know for how long households stay poor or not poor. For these reasons, in view of the objectives of this project and the available information, the main methodological approach will be based on Jenkins and Schluter (2001), which allows a decomposition of poverty exit and entry rates associated to different kinds of events in a cross-national comparative way, as is presented in detail in the next section.

D. Detailed Methodology

The proposed methodology for this study has seven parts, as will be detailed in the following sections:

11 For example, Aassve et al. (2004) model employment, marriage and fertility decisions and derive the poverty status as a function of those variables. However, they do not model possible effects of past decisions or past income on future income, which could help identifying some direct or indirect status dependence Biewen (2004) advances in this sense, incorporating the effect of poverty status on future employment and household composition.
D.1. “Aggregate” decomposition of changes in poverty incidence

Before starting the analysis of the factors associated to the dynamics of poverty, and in order to give a general framework to the main objective of the project, a decomposition exercise will be performed, aimed at identifying the relative importance of the variation of mean household income and its distribution in the evolution of extreme poverty (or indigence) and poverty. In particular, variations in poverty levels are decomposed in two effects: on one hand, changes occurred as a consequence of variations in mean total real income of the households, maintaining its distribution –“growth effect”- and, on the other, as a consequence of changes in income distribution maintaining mean income constant –“distribution effect”-. Growth effect can be decomposed, also, in an “inflation effect” and a “nominal income effect”. Inflation effect shows what would be the change in poverty incidence if nominal income and its distribution remained constant, while the nominal income effect quantifies the impact of changes in income under the assumption of constant distribution and prices. Alternative methodologies such as proposed by Mahmoudi (1998), Datt and Ravallion (1992) and Shapley (see Araar, 2003, Kakwani, 1997 or Shorrocks, 1999) will be explored.

This part of the methodology will be applied to the original sample (i.e. the static or cross – sectional bases) as well as to the panel sample, in order to compare both results and to identify the effect of the panel.

D.2. Poverty transition matrix

Starting with the dynamic approach, entry and exit poverty rates will be measured and analyzed in order to assess the importance of these movements on poverty incidence change.

The entry rates are calculated as the proportion of non-poor households in “t” that become poor in “t+1”. The exit and the permanency rates are computed similarly.

These transition rates between poverty and non-poverty may be interpreted as the conditional probability that a household in a stationary population will experience a transition, given its initial situation. In this sense, the poverty status of households describes a first-order Markov process.12

D.3. Poverty paths

When possible, and using all available observations for each household, paths in poverty status will be constructed in order to identify households that are persistently poor along the observation window (which is not necessarily indicating chronic poverty), households that stay always out of poverty, and households that experience changes across both status. In characterizing the households that are persistently poor, we will be able to identify if this happened to households who did not face any demographic, occupational or policy event, or if the events were not strong enough in order to change their situation,

12 The characteristics of the samples allow associating a multinomial distribution to the quantities of ‘entries to’ and ‘exits from’ poverty. Therefore, consistent estimation of the probabilities of entering or exiting poverty (pij) are reached by optimization of the likelihood function, which results in the relative frequencies of the transitions.
given the distance between their income and the poverty line. It might be the case for households, whose income is far below the poverty line, that positive events (such as more employed members or a cash transfer) must be very strong in order to take them out of poverty, thus being their probability of leaving poverty status very low. The same analysis will be carried among household always out of poverty.

D.4. Factors associated to poverty dynamics

As mentioned, one of the main objectives of this project will be to link results obtained in section D.2 to labor market dynamics, public policies (mainly, cash transfers) and demographic factors that could be associated to entries to and exits out of poverty.

Two points should be stressed here. As mentioned above, part of the literature that analyzes poverty dynamics is based on a structural model that relates different economic and demographic decisions (Burgess and Propper, 1998; Aassve et al., 2005 among others). In this project, following Bane and Ellwood’s approach, only the observed episodes directly associated to poverty entries and exits are considered and no attempt is made of analyzing those family arrangements and/or strategies that could have led to such episodes (about which no information can be drawn from the household surveys of the selected countries). Also, there is the possibility that some of the identified events could be the result of another event associated to the analyzed transition.

Consequently, as events may be endogenous, they are not interpreted as factors of transitions—exogenous events— but only as events associated to transitions. However, as a household become poor when its income per adult equivalent (ipae) does not reach the poverty line per equivalent adult, it is necessary that either the numerator or the denominator change for a unit to enter or exit poverty. This would happen when the household undergoes at least one of the episodes here identified. Precisely, the analysis of the importance of those episodes is one of the objectives of this project, and no attempt is made of exploring other possible factors causing such events. The short window of observation—even when following a household during the total observations it remains in the survey—is an important limitation for attempting to estimate a more structural model.

On the other hand, it should be mentioned that only those episodes associated to poverty entries and exits will be considered, but not those that prevent a transition. For example, if a member of a household that exited (entered) poverty also underwent an event that tended to reduce (increase) the ipae, such event is not considered as the household could escape (fall into) poverty despite it.

However, there is some difficulty in identifying the situations households go through, associated to poverty transits. This is due to the fact that individuals can experiment multiple events simultaneously. For this reason, it is necessary to make some methodological definitions. The first refers to the mutually exclusive character of the

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13 For example, we will not take into account the effect of certain facilities that influence the decision to enter the labor market, such as child care facilities. Similarly, no consideration will be made of certain previous household decisions that made it possible that one of its members began to work. Only the event that a member becomes employed is here identified.

14 For example, an event leading to a rise in the ipae could give rise to another episode also causing an ipae rise. In our analysis, both factors will be considered as happening simultaneously.

15 Total household income / the number of equivalent adults in the household
considered events or if, on the contrary, different events can occur simultaneously. One clear difference between both approaches is that in the first (proposed by Bane and Ellwood, 1986) poverty entry and exit rates can be decomposed as the sum of all identified events, while this is not possible following the second approach (used by Jenkins and Schluter, 2001, among others).\footnote{This approach is also used in Antolín \textit{et al.} (1999) and Cantó \textit{et al.} (2002, 2007).}

The second decision has to do with the classification of episodes. Bane and Ellwood (1986), for example, considered that a demographic event occurred when an episode has a larger effect in the household’s needs (the number of adult equivalents) than in total household income. All other events are classified as affecting household income. Jenkins and Schluter (2001) only identify a set of the most important factors grouped according to their nature, regardless of the impact they have on incomes. In this project, a third approach is chosen that is a result of a combination of the above mentioned, similar as that used in Beccaria and Maurizio (2006, 2007) for the study of poverty dynamics in Argentina during the nineties. Specifically, as was mentioned, an exhaustive list of mutually exclusive events classified according to its nature is defined. However, we still need to consider categories indicating the combination of two or more events in order to cover all (i.e. 100\% of) cases. Hence the difference with Jenkins and Schluter (2001) is that we explicitly consider the existence of multiple events experienced by households by separately identifying those resulting from the combination of simple episodes.

In order to illustrate the classification of events, we can consider the situation of a household leaving poverty. Such transition occurs if its total nominal income rises, if the households’ size falls, or due to a combination of both episodes leading to an increase in the ipae. These movements are the consequence of different events experienced by the members of the households. The rise in a household’s total nominal income can be the result of one member getting a job or facing a wage increase while, for example, the death of one of them leads to a smaller household size. Therefore, we first distinguish between the latter type of events –of demographic character– and the others. Among other events, we consider in the first place those exclusively related to labor market events (e.g. changes in the number of employed members, changes in the number of working hours, changes in hourly earnings) or to non-labor income events (e.g. changes in pensions or in transfers, specially those related to social policies). We also take into account those episodes affecting simultaneously labor and non-labor incomes. However, some events lead to an exit from poverty by affecting both, the nominal income \textit{and} the size of the household –e.g. the arrival of an adult-employed person to the household that increases the nominal ipae; hence, this type of events are considered as demographic events leading to labor or non-labor income changes. The procedure is similar for entries to poverty.

The possible events that could trigger exits or entries from or to poverty are the following:

\textbf{I. Exclusively labour income events}

1. Growth/ reduction in the number of employed persons not linked to an entry/ exit of labour income earners to the household, maintaining the total number of household members.
   1.1. Growth/ reduction in the number of non wage earners members.
   1.2. Growth/ reduction in the number of registered wage earners members.
1.3. Growth/ reduction in the number of non-registered wage earners members.
2. Growth/ reduction in total hourly wage of members employed in both observations, maintaining the total number of household members and worked hours;
3. Growth/ reduction in the number of worked hours of members employed in both observations, maintaining the total number of household members and hourly wage.
4. Growth/ reduction in the number of worked hours and in the total hourly wage of members employed in both observations, maintaining the total number of household members.
5. Growth/ reduction in the total monthly wage of members employed in both observations and in the number of persons employed, not linked to an entry/ exit of labour income earners to/ of the household, maintaining the total number of household members.

II. Exclusively non-labour income events
6. Growth/ reduction in the income from pensions not caused by the entry/ exit of pension recipients to/ of the household. The total number of household members remains constant.
7. Growth/ reduction in public monetary transfers (social policy) not linked to an entry/ exit of recipients to/ of the household. The total number of household members remains constant.
8. Growth/ reduction in other non-labour incomes not linked to an entry/ exit of non-labour income earners to/ of the household. The total number of household members remains constant.

III. Labour and non-labour income events
9. Growth/ reduction in labour and non-labour incomes not linked to an entry/ exit of labour or non-labour income earners to/ of the household, maintaining the total number of household members.

IV. Exclusively demographic events
10. Reduction/ growth in the total number of household members; total nominal income remains constant.

V. Combination of demographic and income events
11. Growth/ reduction in total nominal income (irrespective of the source of income change) and reduction/ growth in the number of household members.

VI. Demographic events leading to income changes
12. Growth/ reduction in the number of labour or non-labour income earners due to the fact that some members enter the household.

VII. Events not classified

I, II and III are non-demographic events since the number of members in the household remains constant and there are no entries of labour and non-labour earners to the household. On the contrary, the rest of the events are exclusively demographic, a combination of demographic and non-demographic factors o demographic events leading to income changes.
From the construction of mutually exclusive events it is possible to estimate the distribution of poverty transitions associated to given events (or a combination of events). For this, entry ($S_1$) and exit ($S_2$) rates are defined as the probabilities of moving from state $i/j$ in period “t” to state $j/i$ in “t+1”, where the states are “poor” and “non–poor”. In order to quantify the impact of different events on the probability of the transition, we use the partition and additivity properties of the sample space of mutually exclusive events. Assuming that the space is partitioned in $R$ mutually exclusive events, the probability of moving from the state “i” to the state “j”, ($S_{ij}$) is equal to the sum of probabilities of transition associated to each event that comprise the sample space. That is to say,

$$P(S_{ij}) = \sum_{r=1}^{R} P(S_{ij}, E_r)$$  \[1\]

where:

$S_{ij}$ indicates the transition from state “i” in “t” to state “j” in “t + 1”.

$E_r$ indicates the occurrence of event “i”.

$r: 1,2,\ldots,R$

$i \neq j$

Following Jenkins and Schluter (2001), such distribution can be decomposed into two factors: on the one hand, the probability of the population at risk -e.g. non-poor households when analyzing transitions to poverty– of experiencing such an event. The second factor consists of the conditional probability of the event triggering poverty entries or exits, given that the event has occurred. Therefore, this probability can be also formulated as follows:

$$P(S_{ij}) = \sum_{r=1}^{R} P(S_{ij} | E_r) P(E_r)$$  \[2\]

This decomposition of the probabilities of transitions allows assessing if the importance of a given event derives from its high probability of occurrence or from its strong impact on the household’s income.

One aspect that is especially relevant in countries like Argentina and others in the region is related to the inflation processes that these economies have experienced in certain periods. Thus, this project will incorporate to the analysis a novel dimension, as is the influence of price growth on poverty dynamics. In these countries it is necessary to consider inflation as a factor leading to poverty transitions, since rising prices may affect real incomes pushing the households into poverty, or preventing them from exiting poverty. Consequently, the probability of transition ($S_{ij}$) will be calculated taking this factor into account.

In order to evaluate the impact of inflation on poverty transitions, an additional decomposition of the households who entered poverty is proposed: on the one hand, those households which became poor without going through any event that could lead to a reduction in the ipae; i.e. those households that fell into poverty only due to the effect of inflation. On the other hand, the second group comprises households that have not only been affected by inflation but also by at least one event. Hence, the entry probability can be expressed as follows:
\[ P(S_y) = P(S_y \mid \Pi) + \sum_{r=1}^{R} P(S_y \mid E_r \cap \Pi)P(E_r \cap \Pi) \]  \[  \text{[3]}  \]

where:

i, j : non-poor, poor

\( \Pi \) indicates inflation

\( \cap \) links two phenomena occurring (or not occurring) simultaneously

Given that those households experiencing events that lead to reductions in ipae are also affected by inflation (second group), it is worthwhile to quantify the importance of each factor. The only possible way of doing this is through counterfactual estimations because only the jointly effect of both factors is observed. In particular, this requires counterfactual estimations that consider one of these factors as fixed. This can be addressed by disaggregating the probability of entering poverty for those experiencing an event into three probabilities:

- The probability of a household entering poverty when it is affected to a greater extent by the impact of the event than by inflation −i.e. the household would have entered poverty even if the nominal poverty line had remained constant−. This can be estimated by computing the counterfactual probability of becoming poor replacing the poverty line of the second observation with the poverty line of the first observation.
- The probability of a household entering poverty even if no reduction in its ipae had occurred −households that would have entered poverty even if their nominal ipae would have been constant−. Again, a counterfactual probability is computed by replacing total ipae of the second observation with that of the first one.
- The probability of a household entering poverty due to both factors: a diminishing ipae and inflation. The magnitude of this probability is derived as a residual.

Consequently, the second term of [3] can be expressed as follows:

\[ \sum_{r=1}^{R} P(S_y \mid E_r \cap \Pi)P(E_r \cap \Pi) = \sum_{r=1}^{R} P(S_y \mid E_r > \Pi)P(E_r > \Pi) + P(S_y \mid E_r < \Pi)P(E_r < \Pi) + \text{residual} \]  \[  \text{[4]}  \]

where the sign > or < indicates that the importance of the event is greater or less than the importance of inflation.

Therefore, the effective entry and exit rates can be decomposed in two factors as expressed in equation 2. Besides, with the aim of evaluating the impact of inflation, an alternative decomposition is possible, distinguishing between households that have only been exposed to this phenomenon and those that have also experienced an event. Exclusively for this last subgroup, an additional decomposition is shown in equation 4.

While inflation may by itself lead to poverty entrance, it may also prevent an exit from occurring. In order to assess how each event affects the exit probabilities when inflation is considered, it is necessary to follow a similar procedure as in the case of entries.
However, an important difference is that in the case of exits the first term of equation 3 equals zero given that no household can exit from poverty if no event raises its ipae. In the same way, the second term in the right hand of equation 4 is zero.

Thus, in the case of exits from poverty, only two different groups of households can be identified: those who exit poverty even in presence of inflation – this is, because the increase in their ipae that results from the occurrence of an event is higher than the increase in prices (first term of the right hand of equation 4) - and those who would have experienced the transition only in case of constant prices. In this last case, it is necessary to estimate a “counterfactual” exit probability ($P^*_{ij}$). This probability takes into account not only those households actually leaving poverty but also those that, despite experiencing events that increased ipae, were not able to exit poverty because such increase was lower than inflation. This counterfactual probability can be computed by maintaining the value of the consumption basket of first observation in the second observation. Contrary to the case of entries, the observed exit probability is lower than the counterfactual exit probability, being the difference between them explained by those households who experienced events that increased their ipae but did not leave poverty because of the presence of inflation.

Hence, this counterfactual probability could be expressed as follows:

$$P^* (S_{ji}) = \sum_{r=1}^{\infty} P(S_{ji} | E_r, \Pi_r) P(E_r, \Pi_r)$$  \[5\]

where:

- $\Pi_r$ indicates a situation of no inflation.

As mentioned, this probability comprises both, the probability of exiting poverty even when inflation occurred –i.e. the probability of households experiencing an increase in their incomes that is higher than the increase in their poverty lines– and the probability of leaving poverty had the poverty line remained constant. Conversely, the effective probability of exiting poverty may be expressed as the counterfactual probability minus the probability of exiting poverty only in absence of inflation (this last probability is obtained as a residual).

$$P(S_{ji}) = P^* (S_{ji}) - \text{residual}$$  \[6\]

Furthermore, based on the methodology applied by Jalan and Ravallion (1998) to the case of China, we will characterize transient and chronic poverty in the countries under study and will take previous results (Cruces and Wodon, 2003), focusing in the study of the changes undergone by different households. Apart from demographic events, we will concentrate on the study of the effects of events directly associated to public policy (for example cash transfers) and to the labor market. This will allow us to check, through the proposed methodology, some of the existing hypotheses about the factors associated to transient and chronic poverty, which are based on the identification of the characteristics of households on one given moment. Given the fact that we will use the same kind of information as in these studies, it will be possible to test to which extent the results about factors that are more associated to chronic and transient poverty are consistent with those coming from the analysis of events.
As an example, Cruces and Wodon find that transient poverty is associated to households whose head is independent worker, and they explain it as a result of the higher risks faced by that kind of workers. With our methodology, analyzing the events through which the households went, and the effects they had in their poverty status, we will be able to identify if Cruces and Wodon’s results are due to changes in poverty status driven by changes in occupational status or in labor income (which might occur to workers who do not change occupations, especially in the case of independent workers).

D. 5. Poverty dynamics and household composition

Following Jenkins and Rigg (2001) and Cantó et al. (2002), it is of great relevance to analyze the events associated to poverty entry and exit rates separately for different types of households. For this reason, in this project we will advance in the separate analysis of households with or without children and with different gender and educational characteristics of the household head. It is to expect that household with different sizes and compositions are exposed to different demographic and labor market events. For example, households composed mainly by adults who are near retirement age, labor market events might be less frequent than in households composed by members in active ages. Additionally, in developed countries it is found that demographic events are more important for households without children, which might be indicating that households with children have a more stable structure.17

Furthermore, the type of social policy (i.e. public monetary transfers) implemented might have a differential effect on different types of households. For example, cash transfers depending on the amount of children in the household (Plan Familias in Argentina, for example) will have more impact on households with children. The evaluation of the impact of these programs in poverty exits is of great importance for the design and implementation of social programs in the region, especially those aimed at reducing child poverty.

Finally, an important aspect that should be pointed out is that from the decomposition of poverty entry and exit rates it is possible to determine if the conditional probabilities associated to each type of event are distinct for different type of households, which might explain an important part of the differences in poverty entry and exits rates among these groups. For the case of Argentina, for example, the most important differences between households with and without children are in the conditional probability of transiting in or out of poverty more than in the probability of occurrence of some event. This is could be indicating that higher poverty rates in households with children cannot be explained based in the lower (higher) frequency of occurrence of positive (negative) events, but because their incomes are far below (or close above) the poverty line, so that the positive (negative) events have less (more) impact on transitions.18

D.6. Analysis of sensibility to the poverty line

In order to test the sensibility of the results obtained in previous sections to poverty line definitions, we will consider a poverty range of 10% below and above the poverty line.

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17 See Cantó et al. (2007) for Spain as an example.
18 See Maurizio et al. (2007).
Besides, we will make the exercise considering only transitions generated by changes in family income exceeding 10%. In this way it will be possible to identify, for example, households that are not poor, but are still very vulnerable to any negative event. This will also help to determine if the relative importance of different events associated to entries and exits changes or not, in order to give the conclusions more robustness.

D.7. Econometric analysis

Finally, the relevance of the different events associated to transitions can also be analyzed using regression models. In particular, the aim of these models is to evaluate the magnitude of the impact of the events on transitions and to test if the relative importance is still observed even if controlling by the poverty gap and other observed heterogeneity. Therefore, in these models, the key covariates are the events that might be associated to changes in the poverty status of the households under study.

Specifically, logit models for transitions between poverty and non-poverty status which consider the identified events as covariates will be estimated. Certain attributes of the households will also be included in the set of covariates for controlling their influence beyond the presence of the events. In particular, it seems interesting to analyze whether the higher/lower conditional probability associated to certain episodes to take households in or out of poverty comes from the strong decrease/increase of incomes they generate in non poor/poor households and/or from the smaller distance of the household to the line’s value before the events take place. It is because of this, that a variable that will be considered in these models –and usually turns to be relevant – is the distance between households’ incomes and the poverty line.

The different events might turn out to be important in bringing households in or out of poverty because of their strength or because they occur more often to households whose incomes are near the poverty line. Specifically, this analysis adds to policy decisions an important dimension, which is the interaction between conditional poverty transition probability and the poverty gap, turning the obtained results about the effects of social policy more robust19.

These models can, in turn, suffer from a bias –the effects of this will not be considered here because of lack of necessary information– derived from a certain endogeneity of the covariables, since a change in poverty condition may influence some of them. In particular, including the events as covariates may cause endogeneity problems since they can simultaneously be a cause and a consequence of the exits from poverty. Nevertheless, baring these limitations in mind, through these regressions we aim at corroborating if the results regarding the conditional probabilities hold valid even when considering the characteristics of the households and its members.

5. Data requirements and sources

Data to be used in this project come from the regular household surveys of the selected countries. In general, they have been collected continuously for several years mainly focused on labor market variables, but they also investigate other social and demographic characteristics of the households.

19 See Cantó et al. (2002) for a similar approach.
In almost all cases, the possibility of obtaining panel information arises from the rotating scheme of their sampling design. Effectively, they are neither longitudinal surveys nor do they include retrospective questions but its rotating panel sample allows drawing flow data from the survey, i.e. a selected household is interviewed in several successive moments or waves. Therefore, the samples are comprised by several panels. In each wave, one panel of households enters the sample while other leaves. Consequently, it is possible to compare a given proportion of the sample between two successive waves, a proportion that differs among countries. By comparing the situation of a household (or individual) in a given wave to that of the same household in the following one, it is possible to assess if the household has experienced changes in diverse variables, including occupational and demographic variables.

It is also possible to trace the situation of a given household along all the periods during which it is interviewed. For example, for a given unit that was poor in the initial period it is possible to know whether it remained in poverty or left such condition in the following “n” periods in which it remains in the sample. Each household may also be characterized by a series of demographic and socioeconomic attributes. In particular, the households’ members can be classified according to labor market variables, thus making it possible to link changes in this dimension to modifications in the households’ living conditions.

For Argentina, the main data-source will be the Encuesta Permanente de Hogares (EPH) carried out by the Instituto Nacional de Estadística y Censos (INDEC). Micro-data are available for the Greater Buenos Aires (Argentina’s capital city and its surroundings) for the period that extends from 1991 to 200620, while data for all major urban areas are available from the year 1995 on. Up to May 2003, households were interviewed in May and October of each year (25% of the total sample being replaced in each wave). After the methodological change, the survey was re-designed in order to provide quarterly results. Households are now interviewed in two successive quarters, and can also be followed in two observations during the same quarter of two successive years. The transitions that can be analysed are those that occur between two yearly observations (May or October, or the same quarter of two successive years) or between May and October or October and May or two successive quarters.

For Brazil we will use data of the Pesquisa Mensual de Emprego, whose sample structure also allows the construction of panels.

For Costa Rica, the Encuesta de Hogares de Propósitos Múltiples (EHPM) that is carried out by the Instituto Nacional de Estadística y Censos (INEC) interviews households representative of the whole country every month of July since 1987. After a methodological reformulation, a comparable sample with rotating panels of households is available for the period 2000-2007. This survey allows us to analyze the yearly transitions undergone by 75% of the households that remain in the sample in two successive years.

A strictly longitudinal survey is only available for the case of Chile. The panel of the Encuesta de Caracterización Socioeconómica (CASEN) of the Fundación para la Superación de la Pobreza (FSP), the Ministry of Planification (MIDEPLAN) and the Observatorio Social of the Universidad Alberto Hurtado (OSUAH), interviewed the same

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20 In the year 2003, the EPH of Argentina underwent major methodological changes that turn comparability of results difficult. Therefore, data for the period 1991-2003 and those for more recent years will be treated separately.
panel of households of four regions (including the capital city) in the years 1996, 2001 and 2006.

In Guatemala, panel data of the quarterly Encuesta Nacional de Empleo e Ingresos (ENAE) of the Instituto Nacional de Estadística (INE) are available for the years 2002 and 2003. The sample is representative of the whole country, and each quarter 20% of the total sample is replaced, making the analysis of transitions as well as the construction of poverty paths possible.

Also for Peru there is a panel survey attached to the regular household survey, the Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza (ENAHo), of the Instituto Nacional de Estadística e Informática (INEI). Panel data are available for the whole country, during the periods 1996-1998 and 2003-2005.

6. Dissemination strategy

The results of past research have been published in specialized refereed magazines in the country and abroad (for example: El Trimestre Económico, Desarrollo Económico, CEPAL Review, Estudios del Trabajo, Serie Financiamiento del Desarrollo-CEPAL, Employment Paper-ILO, Problemas del Desarrollo). A book has also been published, and a second is in process of edition, both referred to occupational mobility and income distribution in Argentina. The results of researches have also been presented in different academic meetings in the country and abroad (for example congresses of the Asociación Argentina de Especialistas en Estudios del Trabajo, the annual meetings of the Asociación Argentina de Economía Política, meetings of the Asociación Argentina de Políticas Sociales, LACEA, Network of Social Economics Centres, ECLAC-Chile, ILO-Chile, Ministry of Labor, Employment and Social Security, Ideas-China, ECINEQ, discussion meetings at the Universidad de Vigo, etc.).

The research team -as part of the Economics Area of the Instituto de Ciencias (Science Institute) of the Universidad Nacional de General Sarmiento (National University of General Sarmiento)- organizes an Annual Meeting on Labor Market and Equity (“Jornadas sobre Mercado de Trabajo y Equidad”) since 2002, which in past year has been partially financed by Agencia de Promoción Científica y Tecnológica (ANPCyT) – the National Agency for Promotion of Science and Technology of Argentina - and Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) – the National Council for Science and Technology of Argentina. This meeting is, principally, a forum for the research activities of the team, where other researchers from Universities of Argentina and other countries, and officials from different agencies of the Argentine Government are invited to attend these meetings, take part of discussions and participate in special panels.

The team also has a website (http://www.ungs.edu.ar/Ici/area/economia/) where activities and research results are usually published.

Future results obtained for this project will be disseminated through similar means, as detailed in the following:
A. Meetings, congresses and workshops

The final or partial results of the research will be presented at the Annual Meeting on Labor Market and Equity organized by the team. In the same way, the results will be presented at other national and international specialized Meetings, Workshops and Congresses, such as the annual meetings of the Asociación Argentina de Economía Política, the Asociación Argentina de Políticas Sociales and the Network of Social Economics Centres, ECLAC, ILO, the Ministry of Labor of Argentina, IDEAs and ECINEQ.

We are also planning to organize a special meeting oriented to policy makers (technical staff of different agencies) in order discuss the policy recommendations at which we arrive in our research. Additionally, this year our team will take part of the organization of an international meeting on income distribution together with the Ministry of Labor of Argentina and the International Development Economics Associates (IDEAs).

B. Publications

Papers with advanced results will be sent to specialized publications, such as Revista de la CEPAL (Comisión Económica para América Latina y el Caribe – Economic Commission for Latin America and the Caribbean, ECLAC), Revista Desarrollo Económico or Revista de Estudios del Trabajo, among national journals, and Journal of Income Distribution, El Trimestre Económico, Journal of the Latin American and Caribbean Economic Association (LACEA), among international.

The team is also planning the publication of a book, as part of a greater research project on Poverty Mobility and Inequality. Therefore, part of the results may also be included in a chapter of this book.

C. Websites

Partial, advanced and final results will be published as working papers and placed at the team’s web site http://www.ungs.edu.ar/ici/area/economia/. These documents will be also sent to other related web sites, such as ECINEQ (Society for the Study of Economic Inequality), IZA (Institute for the Study of Labor) or IDEAS-REPEC (Research Papers in Economics).

D. Other strategies

Given our direct nexus with policy makers, we will arrange one to one meetings with authorities of different government agencies in order to inform them and discuss our results. Discussion meetings will be carried out with the technical staff of the Ministry of Economy and the Ministry of Labor of Argentina and ECLAC.

Furthermore, members of our team are usually consulted by specialized journalists in order to inform, especially through articles in newspapers and magazines, about the current Argentine economic and social situation, and to give the team’s opinion on several subjects related to public policy and population’s welfare.
The results of this project will also be informed through policy briefs sent to the media, government and international agencies, other national and international research centers and universities, as well as published in the above mentioned websites.

7. Short list of key references


28
8. List of team members’ prior training and experience in the issues and techniques involved.

This project will be carried out by the team of researchers of the Economics Area (Área de Economía) of the Instituto de Ciencias of the Universidad Nacional de General Sarmiento. This team has been contributing to the study of the labor market, its link with the macroeconomic regime, income distribution and poverty in Argentina since 1997, directed by Ph.D. Luis Beccaria and has been working in several projects funded by national and international agencies, as it will be specified in section 11. In particular, the team has been involved in studies of the dynamics of employment, incomes and poverty since the last nineties. Most of them have been related to Argentina. Recently, the team has been studying the inequality and polarization of labor incomes in many countries of Latin America through a comparative analysis.

Luis Beccaria (male, 57) has vast experience in research on the labor market, poverty and income distribution. He has been Director of the Statistics Institute of Argentina, has acted as consultant for several government institutions and national and international agencies, and is professor at different universities. The team is also composed by Roxana Maurizio (female, 36) senior economist with research experience in macroeconomics, labor economics, poverty and income distribution. She is professor at different national universities and consultant at the Ministry of Labor of the Argentine government. Fernando Groisman (male, 40) is senior sociologist with vast research experience in poverty and income distribution, he is professor at different national universities and president of the Asociación de Especialistas en Estudios del Trabajo (ASET). Mariana González (female, 31) is a semi-senior economist with research experience in
macroeconomics, labor economics, poverty and income distribution, is professor at the Universidad de Buenos Aires and was consultant at the Ministries of Labor and Education. Ana Laura Fernandez (female, 30) is junior economist with research experience in labor market and poverty. She is professor at different universities and consultant at the Instituto Nacional de Estadística y Censos (INDEC) of Argentina. Luis Lima Soria (male, 29) is junior economist with research experience in income distribution and poverty. He is professor at the Universidad Nacional de General Sarmiento and has been consultant at the Instituto Nacional de Estadística of Bolivia. In the next months, the team will incorporate two junior members (recently graduated economists), financed by the University and by the National Scientific and Technological Agency of Argentina.

As mentioned in point 6, the results of past research have been published in a book, in specialized magazines in the country and abroad and at the team’s website. The team members systematically work as technical consultants in national public institutions and in international organizations (such as the Ministry of Economics and Production, the Ministry of Labor, Employment and Social Security, Ministry of Education, the National Institute of Statistics, ILO, ECLAC).

The results of research have also been presented in different academic meetings in the country and abroad (for example congresses of the Asociación Argentina de Especialistas en Estudios del Trabajo, the annual meetings of the Asociación Argentina de Economía Políti ca, meetings of the Asociación Argentina de Políticas Sociales, LACEA, Network of Social Economics Centres, CEPAL-Chile, OIT-Chile, Ministry of Labor, Employment and Social Security, Ideas-China, ECINEQ, IARIW, discussion meetings at the Universidad de Vigo, etc.). The team also organizes, since 2002, the “Jornadas sobre Mercado de Trabajo y Equidad” (Annual Meeting on Labor Market and Equity) at the Universidad Nacional de General Sarmiento, where results of current researches are presented.

As a consequence, the team has acquired vast experience in dynamic studies applied to Argentina, and has considerable knowledge of the techniques involved in them. At the same time, its members have some knowledge about the evolution of the macro economy, the labor market and the income distribution in Latin America.

The main studies and results related to these topics are:

A. Macroeconomic regimen, labor market and social conditions

Beccaria and Maurizio, eds., (2005a) analyze the economic program implemented in Argentina at the beginnings of the nineties, consisting in a wide range of structural reforms including the change of the monetary and exchange rate regimes. Although this program was successful in controlling inflation and attaining high growth rates during the first years of implementation, it produced an important deterioration of labor market variables and intensified distributional worsening. The cited book contains documents that aim at contributing to the analysis the deterioration of income distribution that characterized that decade based from the study of different aspects of the behavior of the urban labor market.

Beccaria, Esquivel and Maurizio (2007) analyze the features and reasons behind employment recovery and wage dynamic during the expansionary phase and their impacts
on income distribution and poverty in Argentina after the convertibility collapse and the change in macroeconomic regime. By explaining the factors behind the high urban GDP-employment elasticity, a discussion about possible future paths is possible, mainly, regarding its eventual medium term sustainability.

Maurizio (2007) analyzes the Argentine experience focusing on the interactions among macroeconomic regime, labor performance, income distribution and poverty incidence. A discussion about different theoretical perspectives is presented and analysed, taking into account diverse labor and social indicators. Also, poverty decomposition exercises are included in order to evaluate the impact of factors associated with distributional failure and poverty growth. Empirical evidence show that along the last three decades Argentina experienced very dramatic changes in its social composition, labor structure and income distribution as a result of the macroeconomic performance and changes in the productive structure. Being a country characterized in the region by a very low level of inequality, widespread labor protection and reduced poverty incidence, the country has been experiencing a systematic worsening of its social conditions. In this sense, it seems that a pattern has emerged where the successive crises acted to worsen the income distribution as long as the recovery cycles founded borders for the complete reversion of these trends. Therefore, this “distributive catastrophe”, shows a transformation of the “social contract” where the intergenerational transmission of inequality and poverty became a structural characteristic in a country less and less integrated.

B. Occupational mobility and unemployment duration

Beccaria and Maurizio (2003) analyze occupational instability during the nineties in Argentina and how changes underwent by the functioning of the labor market, and labor regulations, could have been associated to modifications in mobility. They use information coming from the Permanent Household Survey between 1988 and 1999 that allow them to build panels of two successive observations. The study focuses on the estimation of the exit rates from an occupation and the identification of trajectories for different groups of workers. They analyze exit rates for different sub-groups of population, according to personal attributes and characteristics of the jobs. They also estimate hazard functions in order to explore the presence of a negative relation between the duration in a job and the probability of exit to unemployment, inactivity or another occupation. The econometric tool that has been used is duration models, that allow estimating the probability of leaving a job, given the accumulated duration.

Beccaria and Maurizio (2005b) estimate relatively high exit rates from occupations and a rise in the average rate of low tenure jobs during the nineties. It is shown that the occupational structure partially explains the large average mobility. The share of precarious jobs in overall employment –those with the highest exit rates– was high: for the 1988-1999 period, 22% correspond to non–registered wage earners and 29% to non–professional self–employed. Moreover, changes in such structure also explain part of the increase in occupational mobility registered in the nineties. Between the first and second half of the nineties there was a rise in the exit rates of some groups of workers, but also in the share of precarious employment. In order to evaluate the impact of both factors on overall mobility of low-tenure workers a decomposition of the observed change in the average exit rate between both periods is made. Two components were considered: the “structure effect” and the “pure instability effect”. The latter captures the impact of variations on the exit rate of each group, and explains 73% of the rise in the average exit
rate of all workers. The changes in the employment structure accounts for the rest and is mainly derived from the increase in the participation of non-registered employees that could not be offset by a reduction of independent workers.

A similar analysis focused on young workers can be found in Fernandez, Maurizio y Monsalvo (2006). The main aim of this paper is to analyze the labor turnover of young workers in the Argentine labor market. In particular, to investigate if younger people face higher risks of leaving a given occupation and, in that case, the possible reasons for this phenomenon. The econometric approach is based on duration models and has two parts: on the one hand, the analysis of the probabilities of leaving a job; on the other hand, the modeling of the different destinations of those who leave an occupation. A semi-parametric specification from a complementary log-log model (considering the duration as interval-censored) was applied. Young people, as a whole, present greater instability and, therefore, a smaller survival rate in the occupation. Also, when young workers are dismissed or quit to a certain job, they face higher probabilities of going to economic inactivity or unemployment than of going to another occupation, in comparison to adults. In general terms, the high degree of labor instability that face the young workers cannot be understood as a sign of efficient resource allocation in the labor market but rather as a consequence of the reduced overall availability of jobs that affects this group strongly. On one side, there is evidence of the involuntary character of the job separations in at least a sub-group of young workers who belong to poor households and that, in many cases, deserted from school; on the other side, the analysis of the paths these workers follow after leaving an occupation shows that most of them go to unemployment or to other jobs not covered by social security. Non-registration in social security frequently implies that the workers have no coverage against negative shocks, which amplifies the income instability. Interesting, among the youngest –those between 15 and 19 years old– who participate in the labor market, an important proportion does not attend an educational institution and lives in poor households, indicating the need of looking for an occupation in order to help to increase the low household earnings. This constitutes an extremely critical situation because the very low educational level of the young who belong to lower income households, together with the higher rotation that difficult obtaining sufficient experience on the job, allows concluding that this situation will not be transitory but will prevail in the future. Thus, it might be expected that the present situation of low income faced by the parents will be reproduced by their children, constituting another dimension of intergenerational transmission of disadvantages and inequity.

Maurizio and Monsalvo (2007 and 2008) analyze the duration of unemployment and its relation with the macroeconomic regime during the nineties applying Censored Quantile Regression models to survival data. The empirical evidence suggests that both the productive reconstruction process during the first year of the convertibility plan and the macroeconomic instability during the second part of that decade implied an increase in unemployment duration, especially for individuals with more difficulties to get a job even in the positive business cycle subperiod. In particular, the reduction of the labor opportunities and the probability of getting a job were greater for individuals in the top extreme in the unemployment duration. Most of them, coming mainly from the manufacture sectors, had no access to training programs in order to facilitate their re-insertion to the new productive structure. Therefore, the long unemployment spells became longer. From a methodological point of view, the proportionality assumption is not empirically supported not only in the case of the effect of the business cycle but also in the impact of the other covariates on the hazard rate. Therefore, it is possible to
conclude, similar to other analyses of unemployment duration, that the proportional hazard rate assumption is not justified in empirical application.

C. Income mobility

Another paper by members of the team is focused on individual and familiar incomes fluctuations (Beccaria and Groisman, 2006). It carries out simulations with the purpose of linking these fluctuations with inflation and with events of the labor market. Their results show that individuals’ and households’ income fluctuations during the nineties were ample. The indicator used is the coefficient of variation of incomes received by each person –or by the household– during the four waves they are interviewed as part of the EPH panel. The degree of instability is associated to diverse individual and household attributes and it is shown that, in particular, is inversely related to the worker’s (or head of the household’s) level of education. A revealing fact is that there were no significant changes in the coefficient of variation of individuals’ labor incomes during four phases (high inflation 1988-1990, stabilization 1991-1993, recovery 1995-1997 and recession 1998-2001). This result is, to some extent, unexpected because the sharp drop in inflation that occurred after the first of those periods (covering the years before the Convertibility Act) was not accompanied by a reduction of the average variability of current incomes. This does not mean that more stable prices have not had the expected effects in terms of stabilizing the purchasing power of remunerations, but they were counteracted by events in the labor market that increased job instability. Precisely when the effects of job instability are isolated, the variability of individuals’ income falls in the second period compared to the first, and again in the next one. At the same time, however, fluctuations associated with job instability increased, as can be deduced from the increase in the coefficient of variation of incomes, controlling for changes in remuneration. In the case of the variability of households’ income, the intensity corresponding to the last phase was lower than that registered during the period of high inflation. However, the same evolution just described for the fluctuations of individual incomes can be identified, as labor mobility led to more instability, partially offsetting the stabilizing effect of lowering inflation. In particular, the reduction in the instability of family incomes between the first and last phases was only significant for households headed by persons with medium or high levels of schooling, whereas no change was registered in the other group. Hence, towards the end of the 1990s, a difference had emerged in the levels of household income instability, which was even greater than that recorded at the start of the decade. Consequently, a high and increasing labor instability seems to be the main reason explaining ample fluctuations of households’ income and poverty mobility, even after inflation was controlled.

D. Poverty dynamics

Beccaria and Maurizio (2006, 2007) analyzed the factors associated to poverty mobility in Greater Buenos Aires between 1991 and 2003. They identified and analyzed the impact of different events that are associated to poverty entries and exits, paying special attention to the effect of inflation on real income change. They used data of the Argentine household survey and a methodology that includes a correction for attrition. The results reached reinforce the view of sizeable entries and exit rates associated to the high

21 It corresponds to the coefficient of variation of positive labor earnings only; those observations corresponding to situations in which the person was not employed are excluded.
incidence of poverty. Episodes related to the labor market proved to be the most important as they were more frequent and had an important impact on incomes. Those events of demographic character, however, were found to be scarcely relevant.

The document by Maurizio, Perrot, Villafañe (2007 and 2008) studies to which extent the reduction of poverty levels is related to labor market developments and with phenomena of different nature (demographic events, for example). In order to do that, the authors relate the transitions between poverty and non poverty of the households with the multiplicity of events faced by individuals, who belong to those households.

E. Cross-national comparison of income inequality

Finally, the recent paper of Beccaria, González and Maurizio (2007) makes a comparative analysis of the inequality and polarization trends in six Latin American countries since 1990. In order to that, it analyzes the compared tendencies of the relevant variables referred to the macroeconomics and the labor market, and it links these tendencies with the changes in the coefficients of Gini and polarization indexes (ER, EGR, EGR by groups).

As it was mentioned, all team members presently work, or did in the past, as consultants in government and international agencies. Consequently, we usually work in close contact and collaboration with policy makers and are aware of the policy issues that are priority for the different agencies. This close contact also ensures that policy makers are usually informed about our research. Also, the results of our projects are discussed in a specially organized annual meeting, of which government officials always take part not only as attendants, but also as expositors of working papers and participants of discussions. The research proposal has also been a result of our knowledge about the need for independent research that is necessary for policy makers in order to design, implement and evaluate social policy.

Different government agencies (National Ministry of Labor, National Ministry of Economy and National Ministry of Social Development) are especially worried about the still high levels of poverty in our country, and see the labor market as the main mean to enhance the welfare of the population. In order to continue the process of economic recovery, policy makers are interested in understanding the effects of the labor market and the social policy on poverty reduction. We want to point out that some of the members of our team are presently consultants at the Ministry of Labor and the Ministry of Social Development on themes associated to poverty, labor market and social policy, and discussed with their authorities the importance of this comparative research. An example of close collaboration and interest in our research is a project pursued by a member our team together with technicians of the Ministry of Labor, (see Maurizio et al. 2007), which will continue with a project that explicitly incorporates the gender dimension.

Given our contact with international agencies -as for example ECLAC (Economic Commission for Latin America and the Caribbean), ILO, PNUD and Unicef – we will also be able to reach policy makers of other Latin American countries through publications and meetings organized by these agencies.
9. Expected capacity building

This Project will contribute to the enhancement of the research activities of the Economics Area of the Instituto de Ciencias of the Universidad Nacional de General Sarmiento, since it is directly linked to the activities that the team has been developing. In particular, this project will help consolidating the working line that concentrates in the dynamic aspects of the labor market, income instability and poverty mobility, incorporating knowledge about other countries of the region and a comparative approach.

It is expected that working in this project, taking active part in every step, will enforce the integration of junior researchers to a multidisciplinary team, giving them the possibility to integrate theoretic and applied knowledge. The junior members of the team will deepen their knowledge of the theories associated to the analysis of households’ welfare and its interaction with the macroeconomic regime, as well as the recent economic evolution of the countries involved in the study. They will also enhance their analytic and writing capacity and learn to use statistical software and the econometric and statistical methodology required for the dynamic analysis, as well as the use of panel micro-data of different sources. Multidisciplinarity will also be fomented by means of the integration of approaches from Economics and Sociology.

The study of the effects of the macroeconomic regime and public policies on households’ welfare will also enrich the interrelation between the University and the Ministries of Economy and Labor.

During the project, it is expected that the members of the team enhance their capacity for the analysis of dynamic processes affecting the households’ welfare, as well as the way in which these processes are related to the macroeconomic evolution of different countries as well as the effect of diverse public policies. It will also allow the team to deepen their knowledge of the relative situation of Argentina in Latin America, and to gain a broader vision of the dynamics of households’ welfare in the region. The application of the methodologies to different set of data will also help to gain practice and flexibility in the adaptation of techniques to information of diverse characteristics and quality.

The junior members of the team will deepen their knowledge of the theories associated to the analysis of households’ welfare and its interaction with the macroeconomic regime, as well as the recent economic evolution of the countries involved in the study. They will also enhance their analytic capacity and their practice with the econometric and statistical techniques that will be applied and the processing of micro-data of different sources.

Finally, in March 2008 the National Agency for Promotion of Science and Technology of Argentina (ANPCyT) approved the funding of a scholarship that will imply the incorporation of a recently graduated economist to the team. The University has will also incorporate another junior economist this year, who will join our team and take part of this project.

Tasks that will be carried out by each member:

All team members will be involved in each of the necessary steps that will be developed in order to attain the project’s objectives. In order to organize the team’s work, however,
each researcher will focus on different topics and activities, always in close interaction with each other.

Luis Beccaria will coordinate the research activities of the team, as well as all activities involving integration with other academic or government institutions. A close integration of all members of the team will be pursued, especially of the junior researchers.

Fernando Groisman and Roxana Maurizio will concentrate in the review of methodological and econometric literature (see item 7), and the application of the econometric methodology to the available data corresponding to the selected countries.

Ana Laura Fernandez, Mariana González, Luis Lima Soria and the two scholars that will join the team will review the theoretic and empirical literature about the selected countries. Ana Laura Fernandez and Mariana González will focus on the study of the macroeconomic regimes, the labor market and the evolution of poverty in the countries under study. Together with Luis Lima Soria they will be in charge of the descriptive analysis that will serve as frame for the econometric study. Luis Lima Soria and the new members of the team will concentrate on the compilation of the necessary micro-data of the household surveys and the data processing for the construction of panels for the dynamic analysis.

10. Any ethical, social, gender or environmental issues or risks which should be noted.

This item does not apply to this project.

11. List of past, current or pending projects in related areas involving team members

The working program that has been carried out by the team has developed in the frame of three main research projects credited by the University at the Ministry of Education. The first of them “Reformas económicas de los noventa y su influencia sobre el mercado de trabajo y la distribución del ingreso” (“Economic reform during the nineties and its influence on the labor market and the income distribution”) for the period that goes from July 1997 to December 2000. The second, “El mercado de trabajo y la distribución del ingreso en el nuevo régimen económico en Argentina” (“Labor market and income distribution in the new economic regime in Argentina”) during the period 2001-2003. The third one, “Inestabilidad, desempleo y precarización laboral: características y efectos sobre el bienestar de los hogares” (“Instability, unemployment and precariousness: characteristics and household welfare effects”) during the period 2004–2007. All of them have been directed by Ph.D. Luis Beccaria.

Other projects with funding by national and international agencies have been carried out:

“Empleo, movilidad y distribución del ingreso en la Argentina durante la década del 90” (“Employment, mobility and income distribution in Argentina during the decade of 1990”) funded by the Agencia Nacional de Promoción Científica y Tecnológica (ANPCyT).
“Dinámica de la informalidad laboral en Argentina. Efectos sobre la inestabilidad ocupacional y la desigualdad de los ingresos” (“Dynamics of labor informality in Argentina. Effects on occupational mobility and income inequality”) funded by the (ANPCyT).

Presently, the team is working in two main projects:

“Movilidad ocupacional y de ingresos en Argentina. Características y consecuencias” (“Occupational and income mobility in Argentina. Characteristics and consequences”) funded by the (ANPCyT).

“La polarización social como efecto del ajuste estructural en Argentina” (“Social polarization as an effect of structural adjustment in Argentina”) funded by the Agencia Española de Cooperación Internacional (AECI). This Project is carried out in collaboration with the Facultad de Ciencias Económicas y Empresariales of the Universidad de Vigo.