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DESENVOLVIMENTO SOCIAL EM DEBATE

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Ministry for Social Development and Fight against Hunger

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This is a technical publication of the Secretariat for Evaluation and Information Management.

PREFACE

The expansion of the scope and scale of social policy since the promulgation of the Brazilian Constitution of 1988, and particularly over the last 12 years, has led to a process of strengthening of the National System of Statistics and to the structuring of monitoring and evaluation units of policies and programs in the ministries, states and local governments. The activities of formulation, following and analysis of social policies and programs have been improved, requiring more reliable statistics, indicators and studies in new areas, more regular updates, with more geographic details and consideration to specific population segments and target groups that are already attended or to be attended. The methodological improvement and expansion of the thematic scope that the Brazilian Institute of Geography and Statistics (IBGE) has led, as well as the investigative details and granularity of educational surveys of the National Institute of Educational Studies and Research (INEP), and the analytical depth and diversity of studies of the Institute of Applied Economic Research (IPEA), along with the regularity of the availability of the formal labor market statistics are concrete cases of this data production efforts and studies to support the public administration in the last decade.

In its ten years of existence, the Ministry of Social Development and Fight against Hunger (MDS) is also a protagonist of this process, with increasingly investments in the development of evaluative studies, as well as the conduction of researches that gather primary data, and the structuring databases and indicators to support the management and the design of policies and programs. Thus, the Secretariat for Evaluation and Information Management (SAGI) plays a central role, though not exclusively, in these activities with nationally and internationally recognized merit. During this period, to answer to increasingly sophisticated and specific demands of the Ministry, SAGI has conducted innovative researches in terms of operational complexity, methodological design, scale and analytical depth, as can be seen, among its quantitative surveys, in the two editions of the impact assessment of the Bolsa Família Program, the annual Unified Social Assistance System Census, the National Research with Homeless Population, the Food Security Survey with Quilombolas Communities, the longitudinal studies based on the integration of the Unified Registry for Social Programs, as well as in the various supplements of the National Household Sample Survey and the Survey of Basic Municipal Information, amongst other administrative records.

The proposition of the Social Programs Access and Occupational Mobility Panel Study (PPP) is another initiative in this objective of providing a scope of more comprehensive information while beeing more specific in terms of issues of poverty and social vulnerability for improvement of the MDS programs. The recent achievement of overcoming extreme poverty in the country has put into focus the need for a even

deeper understanding of these questions, such as in the case of the profile of the population in chronic poverty, of social determinants that can be a drawback in the access and full enjoyment of social policies, of the transitions in terms of labor market / unemployment / inactivity, of the volatility in receiving and generating income for the poorest families.

Thus, the PPP can bring crucial and unprecedented inputs to face the challenges of the resilience of inequality and social exclusion of the target groups of the Ministry's social development policies, both because of the possibilities of understanding different aspects of living conditions and access to social programs, and for its original methodological design for social research in the country - in terms of its scale and intended duration of the longitudinal follow-up of low-income families - and due to the contexts focused of the empirical research – with accentuated structural poverty in the semi-arid region and supposedly more cyclical poverty in the Metropolitan Southeast. The continuity of the transformative potential of these policies in the social reality of the most vulnerable families in the country comes, of course, the introduction of programmatic innovations that PPP can point from the analysis and discussion of its results in the coming years.

It is therefore in good time that the SAGI's Evaluation Department organized this issue of "Cadernos de Estudos − Desenvolvimento Social em Debate",[1] dedicated to present the PPP, the experience of related surveys in other countries and to map the developments in this field of research into poverty in an international level. This publication is the result of the dialogue established in the technical workshop for the discussion of international experiences on the development of longitudinal panels for

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[1] Studies Notebooks - Social Development in Debate

poverty studies, organized by the Ministry of Social Development and Fight Against Hunger – MDS -, in partnership with the European Union Programme for Social Cohesion in Latin America – Eurosocial, in October 2013. The meeting promoted the debate between European and Latin America countries about the new trends in longitudinal surveys and measurement of poverty and enabled the opening of a channel for dialogue between researchers and institutions, strengthening international cooperation in the area. Besides the workshop, the partnership enabled the technical assistance and the exchange of experience between Brazil's MDS and other countries (Argentina, Colombia, France, Hungary, Mexico, Poland, United Kingdom and Uruguay) and international institutions (EU, World Bank) with extensive experience in longitudinal surveys.

The Eurosocial's support aims to improve the development of the sampling technique, the approach to examining families in poverty or social vulnerability and to improve the technical calculation of ranges of variance and confidence. These improvements will allow more accurate calculations and correlations that will enrich the resulting policies recommendations. The support of the PPP is a priority for Eurosocial due to the innovation potential of an experiment of this size and quality. The PPP took lessons from the European experience from the workshop and subsequent visits organized by SAGI and Eurosocial. However, the first steps of the study also suggest that Europe can learn from this innovative Brazilian experience.

The established partnerships as well as the articles in this publication prove to be a substantive and opportune contribution to the debate on challenges ahead for social policy makers and the research community in the coming years.

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PRESENTATION

In the last decade, Brazil has promoted a significant reduction in the proportion of the population in poverty and extreme poverty. This reduction has been considered the result of economic growth and political decisions, including important dimensions such as employment increase and its formalization, the real appreciation of the minimum wage, credit expansion and consolidation of income transfer programs, such as Bolsa Família Program (PBF)[1] or the Continuous Welfare Benefit for the Elderly and Disabled (BPC)[2].

However, in 2011, 16.2 million people remained in extreme poverty, earning a household income per capita below R$70 monthly[3]. This situation encouraged the federal government to launch in June 2011 the "Brazil Without Extreme Poverty" Plan (BSM)[4], combining various actions in the areas of social assistance, generation of jobs and income and agricultural development, food security and nutrition, health, education, housing, among others, aiming to promote the social and productive inclusion of the extremely poor, being executed by the Federal Government, coordinated by the Ministry of Social Development and Fight Against Hunger (MDS), in cooperation with states, Federal District and municipalities. To attain these objectives, the BSM sought to strategically integrate three main lines of action: income security, access to public services and productive inclusion, either in urban or rural areas. In summary, the various actions of the BSM aimed at raising the income of families, increasing access to quality public services, citizenship actions and social welfare and increasing access to employment opportunities and income through productive inclusion actions in urban and rural areas.

As one of BSM's pillars is increasing the income of poor and extremely poor families through productive inclusion and access to the labor market, it was essential to better understand the insertion strategies in the labor market, the dynamics of inactivity, unemployment and occupational mobility in the labor market, volatility and sources of income, and the inclusion of productive potential of the population living in poverty to guide one of the main BSM strategies.

In order to subsidize the actions of BSM, and assess their effectiveness, obtaining data to enable the characterization of the population in poverty and to guide the development of initiatives aimed at social and productive inclusion proves to be essential. A central dimension in this characterization refers to volatile or structural nature of poverty:

> draws attention the importance of not creating fixed representations of the population groups. There is a group of extremely poor, there are people entering and coming out of this situation, and the same goes for the other groups. Obviously, part of the extremely

poor live that situation chronically and remained so from 2004 to 2009. However, the best estimates of the population in chronic poverty in Brazil are still very rough because of the lack of panel data with national coverage and complete information on income. This lack hinders the identification and study of successful strategies for overcoming poverty. (IPEA, 2011, p. 19[5])

So to gather information to analyze the eradication goal of extreme poverty in the country, it is essential to understand the survival strategies and occupational mobility and assess the structural and volatile nature of the income of this population, considering not only those who are below the line extreme poverty - currently set at R$ 77 per capita monthly - but also those who are below the poverty line, considering the cut of income for receiving PBF - households with monthly per capita income lower than R$ 140.00 .

Longitudinal studies focusing on the income dimension show high volatility in input and output of monetary poverty, noting that the so-called "residue", that is, the amount of people who remain in poverty, can be explained by several factors: social programs coverage errors, exclusion errors, problems of access, demographic changes in families, refusals, change in the sources of household income, among other dimensions. However, it is clear that poverty is a multidimensional phenomenon that goes beyond the lack of income:

> Income is certainly an excellent welfare indicator, and one reason for this is the fact that is correlated with deprivation in other dimensions or often is its cause. However, it is not possible to know the composition and intensity of other privations only from the income data, its existence is only assumed. This poverty multidimensionality is better understood by the development of a poverty profile, a set of indicators of various dimensions of well-being calculated for people in different income brackets, than by a multidimensional indicator that flattens the diversity of situations in a single number. (IPEA, 2011, p. 8).

Therefore, it is essential to characterize the multiple dimensions of poverty, trying to capture its manifestations in different contexts, rural and urban, subject to different conditions of dynamism and economic stagnation. It is noteworthy that many of the issues raised can only be answered by a longitudinal survey, following the changes in the lives of those families in poverty over a period of time.

In this sense, it was proposed a study called "Social Program Access and Occupational Mobility Panel Study (PPP)" to characterize over time the general living conditions of the poor, considering also their access to public goods and services through actions, programs and policies as well as the fluctuation of income that these families face and its various forms of insertion in the labor or income-generating market. The PPP is a longitudinal panel based on a sample household survey of quarterly basis, whose target audience is households with per capita income of up to R$ 140.00. The

[5] Osório, R. et. al., 2011. *Texto para discussão* nº 1647. Brasília, IPEA, agosto de 2011.

research aims, beyond a wide sociodemographic characterization of this population, to monitor the evolution of factors linked to poverty and their overcoming, focusing on aspects related to the volatility of income, access to social programs and the qualification and inclusion in the productive sector. The focuses are in line with current federal government strategy for confronting the problem (Brazil Without Extreme Poverty) and therefore seek to evaluate in greater depth the effectiveness of the actions put in place to achieve its goals. Thus, the PPP is a highly complex operating research, especially regarding the monitoring of families and its members, which demands different techniques and attention in analyzing its data, considering its objective to correlate diverse variables relevant to understanding the poverty phenomenon in dynamic and multi-dimensional ways.

Two geographical contexts were defined for the research, the Brazilian semiarid[6] and the metropolitan Southeast regions[7]. These contexts were determined by contrasting conditions of dynamism and economic stagnation, as well as ways of organizing special conditions of labor markets and access to public services. These contexts seek to delimit, on the one hand, situations of economic stagnation, featuring a more structural nature of poverty and less access to public services and goods, and on the other hand, economically dynamic environments and with wider availability to public equipment and services, which would allow greater socio-economic insertion opportunities for the population in poverty.

The definition of these research contexts was based on the results of previous studies that subsidized the development of BSM. From the PNADs data analysis conducted between 2004 and 2009[8], Census 2010 preliminary data as well as reinterpretations of research contracted by the Secretariat for Evaluation and Information Management (SAGI/MDS), rose a discussion about the structural or volatile nature of poverty in the country, especially regarding the composition of the household income. In general, despite the improvements observed in terms of access to services, political and social programs recorded in recent years, these exploratory studies indicate other elements associated with poverty, both with respect to its economic dimension and in relation to aspects traditionally associated with it, such as illiteracy, precarious access to basic sanitation, among others. These elements not only contribute to the setting of certain "clusters" of poverty, as they reinforce the relevance of the rural / urban cleavage and the differentiation between the major regions of the country.

These studies stimulated the previous selection of the two contexts with different characteristics for conducting a panel survey: at one extreme, the semi-arid region, characterized by a more structural nature of poverty associated with less economically dynamic areas, with smaller potential to an inclusive production and worse general conditions of access to services and policies; and, at the other extreme, a context with better living conditions and access to public services and greater economic dynamism and labor market, related to the metropolitan areas of the Southeast, which stand

[6] The Brazilian semiarid region consists of 1,134 municipalities in 9 states (Piaui, Ceara, Rio Grande do Norte, Paraiba, Pernambuco, Alagoas, Sergipe, Bahia and northern Minas Gerais), covering a total area of 982,563.3 square kilometers. It is characterized by the absence, shortage or irregularity in the distribution of rainfall and high water evaporation rates that impose limitations on the sustainability of life in the region.

[6] Will be covered by the survey the following metropolitan areas in the Southeast: the state of São Paulo, the Greater São Paulo; in Minas Gerais, the metropolitan region of Belo Horizonte; in Rio de Janeiro, the metropolitan area of Rio de Janeiro and Espirito Santo the Great Victory.

[8] From a set of variables in the PNAD, this exploratory study sought to capture summarizes the changes in the profile of the Brazilian population in extreme poverty (the poorest 5%) between 2004 and 2009. The analysis considered the following dimensions: macro region of the country, education, labor market, housing, among others. In general, the study showed that extreme poverty in Brazil is reproduced in a structural way, since, according to the National Household Survey data, the poorest 5% present a set of socioeconomic characteristics that have not been stable over the last decade.

on the one hand, a high concentration of extreme poverty in certain areas - such peripheries, slums and hives - and, secondly, by including greater opportunities for production, especially when compared with stagnant areas economically.

This publication is the result of the dialogue established in the *Technical Workshop for the Discussion of International Experiences on Longitudinal Panels Development for the Study of Poverty*, organized by the Ministry of Social Development and Fight Against Hunger (MDS), in partnership with the Program for Social Cohesion Latin America - EUROsociAL, from 22nd to 24th October, 2013. The meeting brought together several international experts, in order to support the PPP with theoretical and methodological contributions arising from the best international experiences in the area and promote debate between European and Latin American countries about the new trends in longitudinal surveys and measurement of poverty. The workshop offered a privileged locus for sharing experiences from similar problems and learning with research processes already established. Even after its completion, these partnerships continue to generate positive effects by opening a channel of dialogue between researchers and institutions, as well as strengthening international technical cooperation in the area.

The first article of this publication, written by Gabrielle Cavalcante, Marta Battaglia and Marco Natalino, brings a critical review of international experiences in conducting longitudinal studies on the understanding of poverty and associated phenomena, pointing out challenges and theoretical potential of this type of research and proposing recommendations for the successful development of longitudinal surveys. The article is based on three sources: books, articles and relevant technical documents; the experience of the Department of Evaluation of the Secretariat of Evaluation and Information Management (DA/SAGI) in the development of the PPP; and the presentations and discussions held during the *Technical Workshop for the Discussion of International Experiences on Longitudinal Panels Development for the Study of Poverty*, which the text also aims to synthesize.

Following, Leonardo Athias brings his contribution to the implementation of the Integrated Household Surveys System project in IBGE, presenting some reflections on the social mobility theme that has become more important especially in recent years, when it developed as the most important political matter of public concern in the social area. The author also discusses the phenomenon of poverty from a review of its main references without, however, claiming to exhaust the different aspects related to longitudinal surveys and its implementation in the Brazilian context.

Marco Natalino, from the Department of Evaluation of SAGI/MDS, presents the theoretical and methodological elements underlying the PPP, analyzing the context of transformation of Brazilian social policies as a backdrop to the new demands for research and periodic information regarding living conditions of the national population, and discusses the role of state institutions dedicated to collecting and analyzing data in order

to respond those demands. Then he discusses the dynamics of poverty, presenting the debate as to their understanding and measurement that conforms the information demands arising from state actors, academics and civil society, lining the limits of the data currently available for the evaluation of interactive effects and dynamic between material deprivation and social vulnerability. Finally, the article presents the Social Program Access and Occupational Mobility Panel Study (PPP), describing its methodological design and analyzing the contributions that it could bring to the comprehension of poverty in Brazil.

Sabina Alkire and Joanne Tomkinson contribute to the publication developing a broader framework of the recent innovations in poverty measurement in Latin America, with particular reference to the Alkire Foster method of multidimensional measurement, developed in the Oxford Poverty and Human Development Initiative - OPHI. After explaining the properties and advantages of measuring poverty by Alkire Foster method, the article presents detailed case studies on recent innovations related to this area in Colombia and Mexico.

The contribution of Luis F. Lopez-Calva, Samantha Lach and Anna Fruttero, from the World Bank, focuses on the presentation of two methodological proposals for the measurement of chronic poverty in Brazil. The first is constructing synthetic panels to be used in estimating chronic poverty using monetary measurements and following stages of approach. The second strategy uses a multidimensional approach, where no monetary measurements are crossed with the persistence aspect of the concept of ultra-poverty to approximate measurement of chronic poverty. Both methodological proposals are empirically applied in the analysis of poverty in Brazil.

Then Claudio Comari, from the National Institute of Statistics and Census (INDEC) of Argentina, presents part of the available statistical evidence supporting a marked and steady downward trend in the incidence of poverty and inequality in most countries of Latin America and the Caribbean, both at regional and national level. He analyses the contributions to the reduction of poverty and inequality of the major public policies related to job creation and improvement of distributive equality, as well as the impact of enlargement of the social security system. The article also addresses the problem of the usefulness and limitations in semi-longitudinals studies on living conditions, with the presentation of two examples of relevant studies from rotating panels that make up the sampling frame of the Permanent Household Survey of Argentina.

Finally, Anna Bieńkuńska and Karol Sobestjański, from the Central Statistical office of Poland (CSO), present an overview of the measurement and analysis methods adopted by this institution on the phenomenon of poverty, subject of systematic methodology works, as well as of studies and analysis performed by Poland's CSO over the last 20 years. The analysis presented is based on the results of representative surveys of households conducted by the CSO.

SUMÁRIO

NOTES ON THE DEVELOPMENT OF LONGITUDINAL PANELS FOR THE STUDY OF POVERTY: ANALYSIS OF THE LATIN AMERICAN AND EUROPEAN EXPERIENCE

Gabrielle Palermo Cavalcante
Marta Battaglia Custódio
Marco Antonio Carvalho Natalino

PRESENTATION

The intent of this text is a critical review of the international experience in the conduction of longitudinal studies for the analysis of poverty and correlated phenomena, pointing out challenges and theoretical potential challenges of this type of survey and with recommendations for the proper development of longitudinal studies. In this sense, the article will be based on three sources: (i) books, articles and relevant technical documents, produced both within academic scope and also national statistical agencies; (ii) the experience of the team of the Secretariat for Evaluation and Information Management (DA/SAGI) in the elaboration of the Social Programs Access and Occupational Mobility Panel Study; (iii) the presentations and discussions that occurred during the *technical workshop for the discussion of international experiences on the development of longitudinal panels for the study of poverty*, organized by the Ministry of Social Development and Fight against Hunger (MDS), in partnership with the program for Social Cohesion in Latin America (EUROsociAL) on October 22 to 24, 2014 is summarized in this text.

The experiences of the countries in the conduction of longitudinal panels, rotating panels and pseudo-panels will render methodological and practical contributions that are worth mentioning, since they can assist in the outline of the future survey parameters that have the same ambition to enable a better understanding of the social, economic and demographic dynamics of a population throughout the course of time, in order to enhance social policy programs, public projects and actions. This is the case of the Social Programs Access and Occupational Mobility Panel Study (PPP), presented in an article in this Study.

The PPP is a survey sampling of household longitudinal Panel, with quarterly frequency, whose target audience are the households with per capita income of up to R$140.00[1]. The sample of the PPP aims to represent two distinct and significant particular contexts of poverty in Brazil: the Southeast Metropolitan area and the semi-arid region. The intent of this study surpasses the general sociodemographic characterization of this population, monitoring of the evolution of factors related to poverty and the overcoming of the same based on income instability, access to social programs and inclusion in

[1] According to the data on income collected in the 2010 Demographic Census

the productive sector. The focus of the study is related to the strategy of the current federal Government for the confrontation of the (Brasil Sem Miséria (Brazil Without Extreme Poverty) and therefore should assess the effectiveness of the actions put into practice to achieve these goals in depth. With this, the PPP is a highly complex research, especially regarding the monitoring of families and their members, which requires different techniques and attention to the analysis of the information, considering the goals that will be used to correlate several variables relevant to the understanding of the phenomenon of poverty, dynamically and multi-dimensionally.

As a result of the implementation of the PPP, SAGI Evaluation Department performed a systematic survey on the pages and electronic portals of entities that are producers of socioeconomic information and area also responsible for longitudinal studies in several countries. For this step, several main criteria were employed as established by the DA/SAGI/MDS, the approach to traditional and consolidated longitudinal research and the observation of research conducted in Latin America, in countries in which the socioeconomic realities are very similar to the Brazilian context. Additionally, the survey included specific surveys focused on several technical subjects which ranged from the interest to the accomplishment of the survey and the analysis of the Poverty Panel Research (PPP). The materials collected were standardized and cataloged, according to the year of publication and per subjects in a metadata spreadsheet with information regarding the date of collection and the electronic addresses of the source of the files. In addition to articles and technical documents, the survey included the collection of other information that were provided to electronic portals, in the format of several research databases. Such data enable the analysis on the effectiveness of certain questions, which will be used as models and sources for the performance of tests and gathering of empirical knowledge on the analysis and the treatment of information.

This systematization has resulted in the organization of a meeting with several international experts in a workshop in Brasilia, with the intent of subsidizing the Brazilian panel research with theoretical and methodological contributions from the best international experts in the area, as well as to promote the debate between European and Latin American countries about the new trends in longitudinal surveys and assessment of poverty. In fact, the workshop offered a privileged *locus* for the sharing of experiences of similar problems and learning based on processes that were already consolidated. After the completion of the workshop, it continues to produce positive effects through the opening of a dialog channel between researchers and institutions, strengthening the international technical cooperation in the area.

This text is the result of the characterization of researches and debates arising from the presentations made during the workshop. The presentations were conducted in order to select the most relevant information for the promotion of a critical analysis. We would like to thank all participants for the exhibitions and the debates that were created, and without this material, this compendium would have never been accomplished.

The first part will present a discussion about the multidimensionality of poverty and possible assessments. After that, we will present the experiences with longitudinal research that were discussed throughout the Meeting. We will conclude with considerations on the experiences that were achieved and a discussion on possibilities for longitudinal panels to study poverty.

THEORETICAL AND METHODOLOGICAL CONTRIBUTIONS ON THE MULTIDIMENSIONALITY OF POVERTY AND ITS ASSESSMENT

This study will be based on the article prepared by the OPHI about the assessment of poverty beyond its monetary dimension, presenting the methodology used and the results obtained with its implementation in several countries in Latin America. Still, in an article prepared by World Bank team, also attached to this study, the same methodology will be applicable to the Brazilian case, discussing its viability for the the assessment of chronic and transient poverty in the absence of longitudinal panels in comparison to the methodology of the creation of synthetic panels. Finally, it should be brought to mind that the Study Analysis No. 15 presented contributions that were rendered by Juan Carlos Feres about the challenges for the assessment of poverty and how to overcome this condition. Nevertheless, the following elements presented by the representatives of the OPHI and Juan Carlos Feres in their presentations during the workshop were provided, as well as by the delegations of Mexico and Colombia based on the official indicators of multidimensional poverty for the outline and targeting of social policies.

According to Feres (2013), poverty is a phenomenon: poverty is multidimensional in its manifestations since it reveals dissatisfaction of human needs, limited development capability and the narrow performance of social rights; multi factorial in inherent causes, since it presents fragile human, social and physical capital, as well as major vulnerability, incurring the social exclusion of people in this condition; multiple cultural expressions, affects several productive identities, such as social, territorial identity, ethnic origin, age and gender.

In fact, poverty is an experience that involves various aspects of the human existence – have, be, do, and to be - and is expressed in several sub-systems either the community or the person's family. Thus, it manifests itself in specific forms during each stage of the life cycle in each of the subsystems, and cannot be properly treated as a homogeneous phenomenon. Regarding the overcoming of this condition, Feres (2013, p. 8) indicates that:

> overcoming poverty can be accomplished exclusively by circumstantial changes of "situations". This type of overcoming can to be understood as a change in social relations that are at the base of this generation and persistence over time ..., which surpasses incremental improvements in certain objective conditions of life. In this context, the discussion on the scope of "peaceful coexistence agreements", should be brought to

mind since it contains all fundamental rights; and it involves the change required in the context of relationships that support those affected with the rest of society [...] and this, on the other hand, undertakes a transformation in the ultimate part of the relationship.

Considering, therefore, that poverty can be observed according to the comprehensiveness (or incidence), depth (or intensity) and duration, the most suitable survey outline for the assessment of the phenomenon of poverty is the longitudinal Panel, since it enables the analysis of the dynamics of poverty and its determinants, the monitoring and evaluation of public policies. However, there is a question that deserves to be highlighted: how to improve the quality of information and monetary income of goods acquired without increasing exponentially the survey costs?

The income obtained by declaration of the informant is not always accurate, and can vary up or down in regards to the income effectively received by the inhabitants of the domicile at that time. In the case of households in a situation of major vulnerability, in a general sense, households tend to decrease their income to ensure the maintenance of social benefits, such as the Bolsa Família Program, in Brazil, or the Family Allowances Program, in Uruguay. On the other hand, some families may tend to overestimate their income to conceal their situation of greater vulnerability and demonstrate good living conditions.

A solution to better assess monetary income is to use administrative records, in addition to the Declaration of the informants. However, in the case of Brazil, this is still not fully possible, due to the lack of an identification variable that enables the connection to different administrative databases, even if the efforts of SAGI to enable the pairing of the research data with administrative records of the Ministry of Labor and the CadÚnico were understood, for example. However, not all participants in the survey have administrative registries bases and vice-versa. The high level of informality in the economy, especially in the poorest levels, may replace the statements for administrative data. Furthermore, it is necessary to think about the ethical issues comprised in this action, especially since the interviewee should be informed about this probability at the time of the collection of the information.

In short, even the longitudinal research with panel data are more over-reaching that the cross-sectional since they have limitations and depict a limited characterization of the reality. Therefore, to effect changes in public policies, they should be considered with other evaluative measures. It is not appropriate to use the same criteria to select people for different social programs, which generally is based on the family monetary income level *per capita*. Based on this consideration, the selection of beneficiaries for each program could consider the multidimensional poverty scope, in additional to the income, which can be correlated from the dissatisfaction of human needs, the limited development of intellectual and artistic abilities, the narrow performance of social rights up to social exclusion.

One of the ways to measure the multidimensional poverty is through synthetic indicators. According to Hammock (2013), for the preparation of the same, some factors should be established, such as:

- The analysis unit (individual, family or household);

- The dimensions of analysis;

- The variables or indicators of the established dimensions;

- The weights of each dimension;

- The weights of the indicators in each dimension;

- The poverty lines for each dimension;

- Who is poor in multidimensional perspective;

- Which methods of aggregation will be used, intra and inter dimensions.

One of the indicators most commonly used by researchers is currently the Multidimensional poverty index- *Multidimensional Poverty Index* (MPI) – calculated according to the Alkire-Foster method, developed by Sabina Alkire and James Foster at the OPHI. The Alkire-Foster method identifies people or families in poverty, considering the variety of deprivations suffered by them. The information are added to reflect the poverty of society by means of a synthetic indicator, which can be easily broken down, either by size, geographical area, ethnicity, sex or another variable (OPHI/ODID, 2013). The method uses the percentage of people who are poor, in addition to considerations regarding the multidimensionality and, in some cases, the intensity of poverty. The flexibility in order to enable the incorporation of various dimensions, indicators, divisions and weights.

The most common uses of this method include: the assessment of poverty and well-being, elaborating national, regional measures or equivalent measures between different countries, according to context-specific indicators; identifying poor regions or minority groups; monitoring programs to track their effectiveness over time; and targeting conditional transfers or monetary services to user the method to guide the people in poverty to the public service appropriate to the family in that situation (OPHI/ODID, 2013).

The MPI is considered an adjusted incidence rate, in other words, the percentage of persons or families in poverty, considering a division in the total count, corrected by the average of total deprivation. The first step to calculate this rate is the identification of the privations for each unit under analysis, in the case of individuals, families or households, with the subsequent counting of the number of deprivations, according to the example Chart 1.

CHART 1 - IDENTIFICATION AND COUNTING OF THE NUMBER OF INDIVIDUAL DEPRIVATIONSS

Indicators[2]	Health	Education	Properties	Work	Household	Security	Total
Person 1	NP	P	NP	P	P	P	4
Person 2	NP	NP	P	NP	P	NP	2
Person 3	P	P	P	NP	NP	NP	3
Person 4	P	P	P	P	P	P	6

P: Poor / NP: Not Poor
Source: HAMMOCK, 2013

After this, it is necessary to establish a cut-off point, according to the number of minimum deprivations that must be faced for that person or family to be considered as individuals in poverty. In the example, the cutoff point was of 4 or more deprivations, as seen in Chart 2.

CHART 2 - THE CUT-OFF POINT AND IDENTIFICATION OF PERSONS IN CONDITION OF POVERTY

Indicadores	Health	Education	Properties	Work	Household	Security	Total
Poor Person 1	NP	P	NP	P	P	P	4
Person 2	NP	NP	P	NP	P	NP	2
Person 3	P	P	P	NP	NP	NP	3
Poor Person 4	P	P	P	P	P	P	6

P: Poor / NP: Not Poor
Source: HAMMOCK, 2013

After that, the calculation shall be focused on poor individuals (Chart 8), and the calculated percentage (called *headcount ratio* or incidence – represented by H). In the example, two of the four people were considered to be in poverty, so the value of the *headcount ratio* is 50%.

[2] The indicators can be calculated per person, family or household

CHART 3 - FOCUS ON PEOPLE IN POVERTY

Indicators	Health	Education	Properties	Work	Household	Security	Total
Poor Person 1	NP	P	NP	P	P	P	4
Not poor Person 2							
Not poor Person 3							
Poor Person 4	P	P	P	P	P	P	6

P: Poor / NP: Not Poor
Source: HAMMOCK, 2013

The next stage will be the calculation of the average number of deprivation (called average deprivation or intensity -symbolized by A), which in the example is represented by:

$$A = \frac{\dfrac{\sum_{i=0}^{n} \text{Total Deprivations}_{\text{person i}}}{n^{\circ}\ \text{possible deprivations}}}{\text{number of people with deprivations}} = \frac{\dfrac{4+6}{6}}{2} = \frac{10/6}{2} = \frac{5}{6}$$

Finally, the MPI level is calculated by the multiplication of the percentage of poverty-stricken people by the average of their deprivations, according to the equation:

$$MPI = H \cdot A = \frac{2}{4} \cdot \frac{5}{6} = 0{,}4167 = 41{,}7\%$$

CHART 4 – THE SUMMARY CHART OF THE CALCULATION OF THE MULTIDIMENSIONAL POVERTY INDEX (MPI)

Indicators	Health	Education	Properties	Work	Household	Security	Total Deprivation Total Possible
Poor Person 1	NP	P	NP	P	P	P	4/6
Not poor Person 2							
Not poor Person 3							
Not poor Person 4	P	P	P	P	P	P	6/6

P: Poor / NP: Not Poor
Source: HAMMOCK, 2013

A real example is the calculation for Colombia, in 1997, 2003 and 2008. Figure 16 shows the level of deprivation selected per dimension. The cutting point (symbolized by K) was of five, in other words, if the person had five or more deprivations, of a total of fifteen possible cases, this person would be considered as poor. If the Figure 17 displays the gross incidence (H) and corrected (MPI) for the Colombian population, at household level, for the three years under consideration. It should be noted that after the correction, the percentages were less intense. The last figure also exposes that the incidence and intensity of people in poverty decreased over the years.

FIGURE 1 – DIMENSIONS AND PRIVATIONS CONSIDERED TO ESTIMATE POVERTY IN COLOMBIA
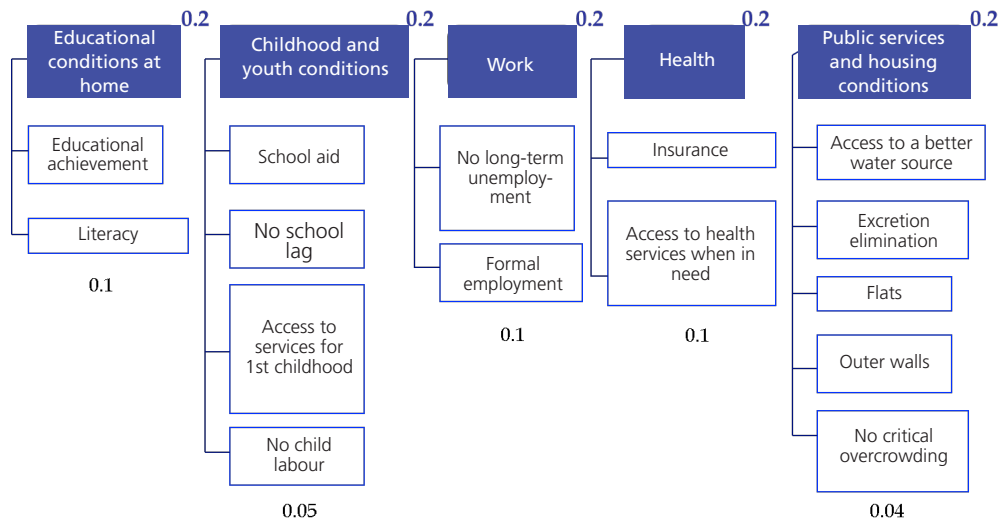
Source: HAMMOCK, 2013

FIGURE 2 – INCIDENCE (H) AND ADJUSTED INCIDENCE (MPI) FOR K=5/15 – COLOMBIA - 1997, 2003 AND 2008
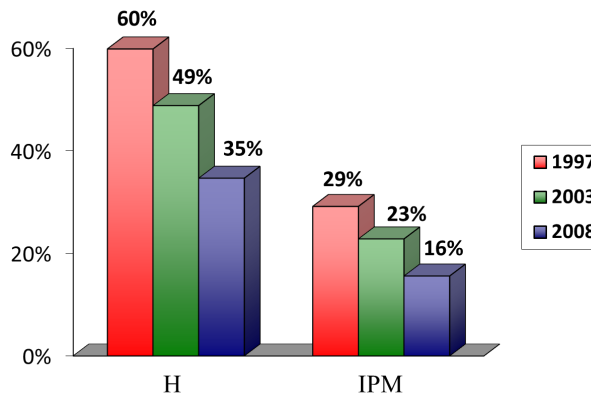
Source: Adapted from HAMMOCK, 2013

Another example of multidimensional analysis is the Mexican reality. In this case, at least three deprivations were counted to consider people in poverty. The cutoff point for extreme poverty rating is six or more deprivations (Figure 18), considering only families with income lower than the minimum welfare line (LBM).[3] All the remaining families that are below the line of economic well-being (LBE) are in moderate poverty.

FIGURE 3: CLASSIFICATION OF AREAS OF POVERTY AND EXTREME POVERTY IN MEXICO, ACCORDING TO THE CRITERIA OF INCOME AND LACK OF ACCESS TO SOCIAL RIGHTS
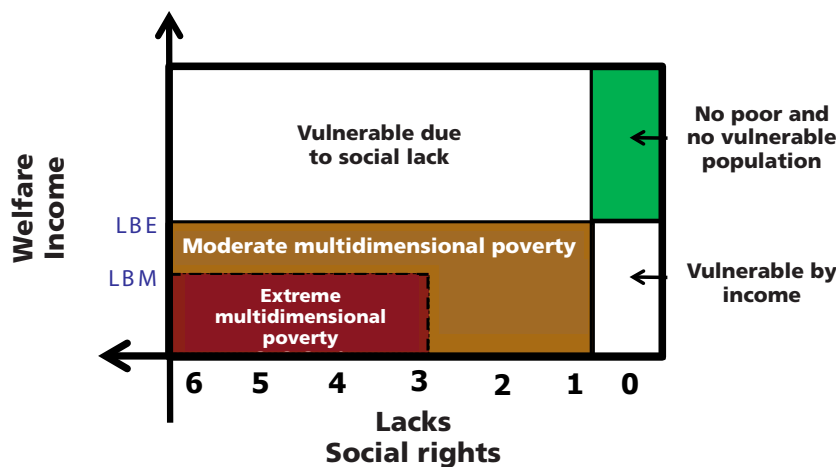
Source: APARICIO, 2013

CHARACTERIZATION OF LONGITUDINAL RESEARCH

Longitudinal surveys are used in different analytical forms. These data can be analyzed cross-sectionally, depicting a situation found at a specific point in time, or throughout the same, allowing the monitoring of the evolution of families and individuals over time. One of the qualities is to enable the creation of more accurate indicators, which will indicate the impact of policies and allow their forecast estimates for certain pre-designed templates in the outline of the survey questionnaire.

The national statistical systems of the European continent incorporated for some time now, the outline of longitudinal surveys to their household surveys, which add up to more recent efforts of compatibility methods to enable comparability within the European Union (EU). In countries that were recently admitted in the EU, renewed attention given to the data production due to the boosting of the national statistics production movement which gained momentum in Eastern Europe in the early 1990s. On the other hand, in countries with longitudinal surveys, such as the United Kingdom, it is possible to attest the renewal of the panels with the incorpora-

[3] More information on the welfare lines and calculations on the methodology for Multidimensional Measurement of Poverty in Mexico in Coneval (2010, 2012).

tion of several new thematic and methodological changes, reflecting both scientific progressions as well as the metamorphosis of the social issues in the period.

Many Latin American countries have extensive experience in cross-sectional social research that enable the assessment of static traits and the analysis of the evolution of general rates for the entire population. However, unlike longitudinal panels, these do not enable the monitoring of changes over time, establishment of causal relationships or even isolation of the effects of social policies and programs. Official statistical bodies of several Latin American countries are accomplishing pseudo-panels which enable a limited longitudinal analysis, among these, we can mention Brazil, Argentina and Mexico. Some "real" panels were accomplished and we can specifically mention Colombia and Uruguay.

Attention should be rendered to the recent regional trend of the complementation of the monetary approach to the assessment of poverty with other measures, building several definitions of multidimensional poverty. Colombia and Mexico have adopted versions of the method proposed by the Oxford Poverty and Human Development Initiative (OPHI)[4] as official poverty classification measures. Therefore, there is less emphasis on absolute values and more space is rendered to the analysis of indicators of relative poverty.

THE SURVEY STUDY IN HOUSEHOLDS OF UNITED KINGDOM (UNDERSTANDING SOCIETY)

The British Household Panel Survey (BHPS) was the first British longitudinal survey that was carried out with the intent of collecting socioeconomic data on families and individuals. One of the longest household surveys that was accomplished in the world. the BHPS had its first round in 1991, with annual collections that were performed until 2008, totaling 18 waves. It was outlined and maintained by the Institute for Social and Economic Research (ISER),[5] headquartered at the University of Essex, England.

According to Laurie (2010), long surveys tend to be conservative in terms of changes in the content searched, with the purpose to preserve the longitudinal comparability in issues and measures collected. Therefore, with the appearance of new research agendas and the need to increase and include new areas in the sampling plan, a new longitudinal survey, the Understanding Society, also called the UK Household Longitudinal Study (UKHLS) replaced the BHPS in 2009. Like its predecessor, the rounds are annual, and its main objective is to analyze the social and economic development, at individual and family level, in the United Kingdom.

In all, during the 18 BHPS waves (from 1991 to 2008), comprised 5,500 households, totaling 10 thousand individuals with more than 15 years of age. The last wave comprised 8 thousand participants. Of these, 6,700 have agreed to participate in the new longitudinal survey, and were incorporated from the second wave in the UKHLS.

[4] *A more detailed version* about the usefulness of the proposal to the countries of the region is presented in chapter 4 of this study.

[5] Additional information about the Institute for Social and Economic Research can be found at: <https://www.iser.essex.ac.uk/>. And to the BHPS and Understanding Society, please consult: <https://www.iser.essex.ac.uk/bhps> and <https://www.understandingsociety.ac.uk/>.

The initial sample of Understanding Society surveyed 40 thousand households, totaling 100 thousand individuals. This research counts on the support of the Economic and Social Research Council (ESRC),[6] which with ISER, is responsible for the management of the research and took care of the planning. The unit of analysis is the household survey, which surveyed all residents with 16 years of age or older. Research modules encompass essentially income and consumption behaviors, analyzed from the intra-household division and the family demographic changes. Therefore, considering the continuous character of the research, it is possible to study the context in which certain decisions or family changes occur, monitor generations and intergenerational behavioral dynamics, analyzing comparatively the trajectories of brothers and have the opportunity to explore the relationship between the family changes with exogenous factors to the home environment.

In 2013, the fourth and fifth waves took place. The strategy for employment of two different companies for the accomplishment of the survey waves with the purpose of preventing addictions of companies in certain fields of action, ranging from training of researchers to the field and logistics data processing (UHRIG, 2013) is worth mentioning.

UKHLS sample is representative for the entire United Kingdom and have a sampling outline stratified by postal codes in two stages (except in Northern Ireland, where it was carried out only at one stage, for random sampling), as shown below:

a. 2,640 postal codes (primary selection unit), selected with equal probability;

b. 18 randomly selected addresses within each primary unit.

Data collection of each wave is made in two years, therefore, on average, 110 primary units are opened by month, corresponding to approximately 2,000 households that are used for the conduction of monthly interviews. This enables the achievement of sampling representativeness for the entire United Kingdom on a three months basis. Therefore the sample size must have a minimum response rate of 60% (LAURIE, 2010).

Regarding the sample, the Understanding Society differs from the BHPS, since it encompasses an "Innovation Panel" that consists of a set of 1,500 households[7] surveyed a year before the main sample, to test new experiments and methodologies, with the purpose of opening fields for new analytical areas provided by internal and external researchers to the work group.[8] Beside that, the experimental sample is used to test new operational procedures, such as types of incentives given to interviewees, response cards, new writing approaches to existing questions, and enables the testing of the sensitivity regarding some issues (LAURIE, 2010). The sample design of the survey considered yet a sample to represent ethnic minorities. Therefore, for each group - Indians, Pakistanis, Caribbeans, Africans and Bengalis – 1,000 households are visited during each round,[9] counting on a sample of 500 households for the control group (LAURIE, 2010).

[6] Additional information about Economic and Social Research Council can be found at: <http://www.esrc.ac.uk/>.

[7] The Innovation Panel sample is applicable only to United Kingdom, in other words, Northern Ireland was not included, consisting of 120 randomly selected primary units, containing 23 households each.

[8] For more information on the Innovation Panel, please consult: <https://www.understandingsociety.ac.uk/about/innovation-panel>.

[9] Selected after a survey of the selected areas for the identification of the eligible households.

Within the scope of the UKHLS, new survey groups formed by the ISER technicians were created with the intent of improvement of the data collected through the criticism of the information reviewed and the dissemination of the results to the public. The aforesaid groups can be mentioned among those with the intention to investigate ethnic minorities, biomedical data (psychology and genetics, health background, etc.), those responsible for making the connection between observational databases and data from administrative records, in addition to those in charge of the conduction of quantitative and qualitative analyses of data. It is worth noting that the qualitative researches occur parallel to quantitative data collection, by means of the innovation survey with open interviews, biographies, and statements in audio and video format.

Questionnaire

UKHLS questionnaire is divided into two major sections: the household the individual questionnaire. The first lists the members of the household and the correlation between them, in addition to addressing features and costs of household, as well as its pattern of expenditure and consumption of durable and non-durable goods. Individual data collection in addition to the application of the direct questions by the interviewer, is achieved through auto-applicable questionnaires with specific questions to those with 16 years or more, and another set of questions for the residents with 10 to 15 years. Beside that, permission is requested for the survey data supplementation with administrative information.

The subjects used for the individual questionnaire are: work, income, education, migration, fertility, health and use of health services. Values and attitudes of the interviewees are also surveyed. Regarding the frequency of the survey modules, some of the subjects or sections are surveyed only once, as well as the initial *status,* the academic and employment background of the interviewees. In the first wave, the academic and the employment background, the international migration, fertility and marital status of the interviewees were also surveyed. Other topics are surveyed annually, such as demographic characteristics and from home, health,[10] work,[11] income, life satisfaction, party affiliation, transport and access to communication, educational expectations, consumption, expenditure and assets acquired. On the other hand, consultations on family relationships, ethnic identity, religion, environmental attitudes and behavior, height and weight, mental health, welfare and health conditions are rotating, with intervals ranging from 2 to 6 years. The rotation standard depends on the seasonal behavior of the subjects or issues surveyed. New questions can be added to each phase to assist in the study of new surveys or to subsidize demands of political agendas (UHRIG, 2013).

Regarding the application time, the initial approach for the listing of individuals in the household will require approximately 5 minutes. After this step, the household questionnaire lasts on average 10 minutes, and the individual interview with each adult

[10] Since 2010, a sample of 20 thousand participants with more than 16 years of age received the visit of a nurse during the visits to draw a blood sample and basic physical assessments: height, weight, blood pressure, hand grip strength.

[11] As one of the central subjects of the PPP is related to work, we can highlight here that this questionnaire module in the Understanding Society will encompass: status or current position, activities developed, the pursuit for a job, hours of paid work and other jobs.

in the House is of 32 minutes. If the resident is absent or prevented from answering the questionnaire due to any reason, a shorter questionnaire that is answered by another adult will last on average around 10 minutes. Auto-applied questionnaires usually take around 7 minutes between adults and 10 minutes between young people from 10 to 15 years.

Field strategy

The collection of the data in each set of 110 primary units of selection (which is the number of zip codes introduced in the survey per month, corresponds to approximately 2 thousand households) is held throughout 18 weeks, with a break after 3/4 of the fieldwork so this initial work will last for 12 weeks, after which there is an interval of 2 weeks and a collection period of 4 weeks. It is important to note that the household will be active during the entire period and may be visited as often as required by the researcher. Therefore, the UKHLS provides up to six visits to the household to interview all eligible residents (UHRIG, 2013).

During the interval between the collections, telephone contacts will be made with the families or residents who refused to take part of the research, in order to convince them about the importance of the research and of their participation. If the refusal is upheld, the possibility of at least applying a small part of the questionnaire will be suggested. When the resident of the home accepts such a condition, the remaining interviews are made during the final four weeks, *in loco.* In the latter case, the surveys are made by phone. Emphasis should be stressed on the importance of at least completing one part of the questionnaire - main questions important for the calculation of sampling assessments.

Another factor that must be highlighted is the sending of letters before the beginning of each wave, to tell the family about the data and research information, motivating them to get together during the period of data collection. With the letter, an invitation letter can be sent, in the case of the first wave, or a brief informative bulletin with the survey results of the previous waves. A *voucher* and a return postage envelope with the stamp is sent with the confirmation to the sampled address. If the letter is returned with the address confirmation, they will receive 5 pounds unconditionally. Throughout the accomplishment of the waves, the family receives from 5 to 10 pounds per interviewee, depending on the group to which they belong.

The provision of the monetary incentive only at the beginning of the research did not have the expected effect of stimulating the responses of the families. It was noticed that it was necessary to add a leaflet with additional information about the survey to the items that were sent, informing what was expected of the interviewees, the purposes and the allocation of the data collected. Based on this, the reply rate, in other words, the return of the letters with the address confirmation, increased significantly (BOREHAM, 2011).

During the first face-to-face approach with the family, the interviewers delivered a kit to each household that was taking part of the survey, containing a fridge magnet (with the month of interviews at this household, reminder with the biennial frequency), two pens with the logo of the study, participants' manual with more detailed information about importance of the UKHLS and also the contact information of the organizations involved in the management of the research. A folder was delivered to each participant, to sore the material that was received, such as carbon paper copy of the consent form signed by the participants, as well as the informative brochure on this term, with explanation about the confidentiality of information.

Another interesting point was related to the limitation of the households surveyed per address. When more than three households were found at the same address sampled, such as a household that was converted into four homes, for example, a draw was usually made for the random selection of three of them, in order to optimize the interviewer workload. On the other hand, it more than three families were residing in a household sampled, three of them were randomly selected (LYNN, 2009, p. 6).

Sample monitoring

The Understanding Society, as a continuation of the BHPS, has 22 years of existence and a proposal for the continuous monitoring of the families surveyed, generation after generation. Individuals are usually analysis units in the survey panel, since they are observed in the household context. Based on this, for their monitoring of the same, there must be some clarity on the rules that establish which individuals should be or continue to be interviewed especially in the case of migration or relocation of one or more family members (UHRIG, 2013).

In the British case, it is considered that from an individual, the family constitution can be established. A group of people is characterized as household members when they share the same home or share at least one meal per day. However, if any member is temporarily absent, he/she is still considered a member of the home, in other words, a resident of the primary residence. The cases referred to are:

- People on extended vacation, at a boarding school or in the hospital;

- Students who live temporarily in university housing or shared apartments;

- Prison Inmates who have the an established date to be released to their home;

- People with a long term work, such as nannies (*au pairs*), individuals who live in rented housing;

- Adults who work away from the place of residence, but maintain their addressed at their main home.

This definition enables the monitoring to absent individuals to be interviewed. Beside them, the new household members will also be interviewed, either at the same original home (people who were not from the original sampling but are now living in the same home) or at another home (to which people from the original sampling have moved). As a consequence, there are clear monitoring rules to determine who is eligible, in each round, to be interviewed.

The rules used to monitor individuals over time are based on the household composition at home. In addition to the people found at the selected households in the first wave, the children that may be born of a mother belonging to that same wave are also designated as members of the original sample – *original sample members* (OSM). People who are residing with any member of the OSM after the first wave are classified as temporary members of the sample- *temporary sample members* (TSM). The temporary members who have children with any person of the OSM shall become permanent members of the sample - *sample permanent members* (PSM). The PSMs are treated just as the OSMs. On the other hand, the TSMs are monitored to be interviewed only for the duration of their relationship with the person of the OSM or the PSM (ISER, 2012).

The following example illustrates a possible case of the volatility of the TSM and the OSMs at the domicile throughout the wave of the survey. The family interviewed in the first wave, consisting of a couple and a child, were members of the original sample. In the following wave, the daughter will be enrolled in the University and goes to live in a student housing with three colleagues (Figure 4). These are interviewed temporarily while she live with them. In the fifth wave, the daughter returns to the parent's home with a boyfriend (Figure 5), the three colleagues who lived with her previously are no longer surveyed, but the boyfriend will be in the condition of a TSM. In the sixth wave, the original couple's daughter will have a son with him, therefore the child is considered as a OSM and the father of the child will be migrated from the status of a TSM to a PSM (Figure 6).

FIGURE 4: MEMBERS OF THE ORIGINAL SAMPLE, LIVING IN A WAVE 1 HOUSEHOLD
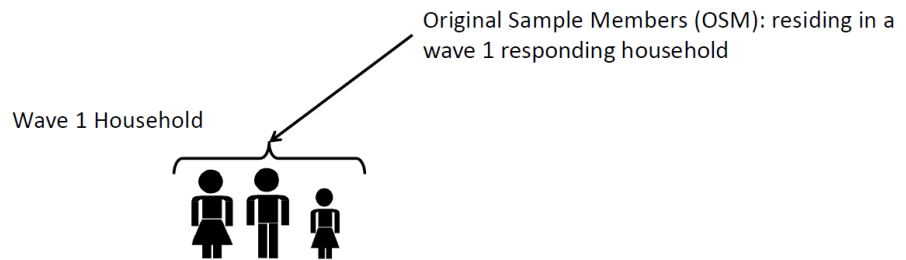
Source: ISER, 2012

FIGURE 5: TEMPORARY MEMBERS OF THE SAMPLE: LIVING WITH A MEMBER OF THE ORIGINAL SAMPLE IN A HOUSEHOLD POST WAVE 1
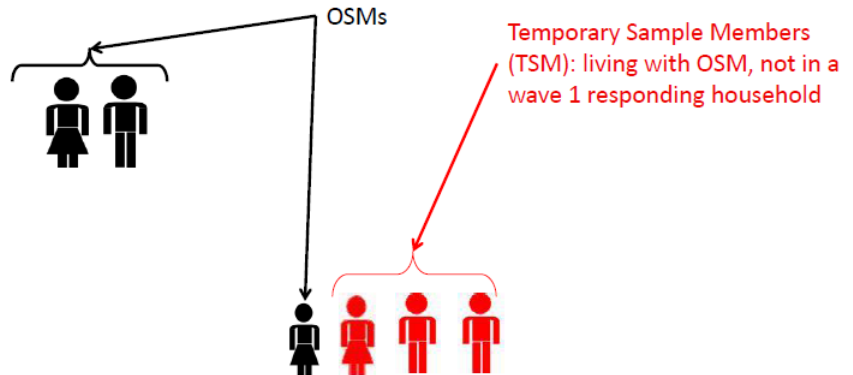
Source: ISER, 2012

FIGURE 6: WAVE 5 – THE DAUGHTER RETURNS TO THE HOME OF THE PARENTS WITH THE BOYFRIEND: THE ROOM MATES ARE NO LONGER SURVEYED OR MONITORED

Wave 5 – daughter moves back home with boyfriend

OSMs

TSMs

daughter's room-mates were TSMs and so are not followed
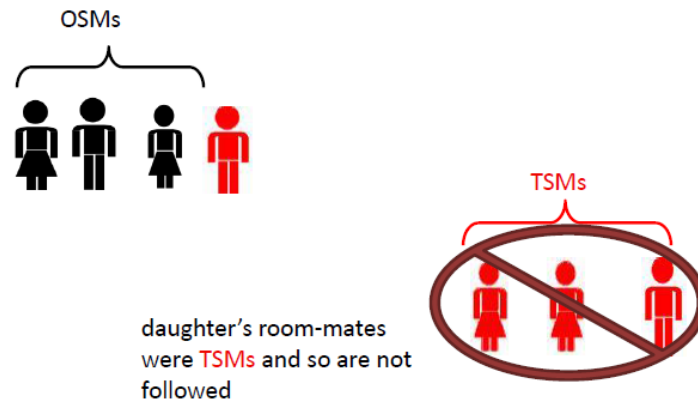
Source: ISER, 2012

FIGURE 7 - WAVE 6 – THE DAUGHTER AND HER BOYFRIEND HAVE A SON: THE SON OF A MOTHER FROM THE OSM IS ALSO CLASSIFIED AS A MEMBER OF THE MAIN SAMPLE, AND, WITH HIS BIRTH, HIS FATHER WILL MIGRATE FROM THE TSM CONDITION AND BECOMES A PSM

Wave 6 – daughter and boyfriend have a child

OSMs

The child of an OSM mother is also an OSM

TSMs who is the father of an OSM child is a Permanent Sample Member (PSM)

Source: ISER, 2012

In this sense, the original sample is increased with new births and with the spouses of members of the original family. On the other hand, the sample undergoes losses with refusals and the loss of contact, besides the people who die or move out of the United Kingdom.

The representative sample of ethnic minority groups is an exception. The people included in the first wave who live in the same household, but do not belong to the ethnic group investigated were classified as TSM and will continue to be interviewed while they are living in the OSM household (ISER, 2012).

The intent of the monitoring is to maintain the representativeness of the original sample, with their respective descendants, obtaining contextual information of the original family. These members can be monitored anywhere in the United Kingdom. However, if they are living out of this region, there will be major difficulties in the conduction of an interview with them since they will be living in specific circumstances – as in prison or hospital – or in cases of mentally handicapped, who will not be interviewed.

The steps for the monitoring of the British survey are presented in Figure 5. It is interesting to note that the monitoring of the residents who move from one place to another is well articulated and, based on this, is capable of retrieving around 4 thousand people per wave.

FIGURE 8: FLOWCHART FOR THE MONITORING AND TRACKING OF THE SAMPLES.

Source: ISER, 2012

Beside the refusal, the friction can be caused by interviewees who were not located from the second wave or due to the reduction of the number of people in the data-base. Since the survey will not last a lifetime, there is no sample replacement in the Understanding Society.

The friction rate of the first round of the Understanding Society was high - 41.2% in England; 35.9% in Wales; 42% in Scotland and 38.7% in Northern Ireland – but this rate was improved in the following waves, so therefore a consolidated survey rend to have lower rates of friction over time.

INCOME AND LIFE CONDITIONS STATISTICS IN THE EUROPEAN UNION (EU-SILC)

The European Union's Statistics Office (Eurostat), created in 1953, promotes the harmonization of national statistics from Member States and associates to the EU. It integrates the European Statistical System (ESS), which represents a partnership between the Eurostat, the national statistical institutes and other national authorities that are in charge. Each country collects its statistics for national purposes and for the EU. The ESS works as a network, in which the role of Eurostat is to consolidate data achieved from statistics and to ensure that they are comparable, in close cooperation with the national statistical authorities,[12] aiming at the processing and publication of information enabling the comparisons between countries and regions of the European Community, in addition to the rendering of subsidies to the countries on the accomplishment and analysis of its policies.[13]

Through a regulatory framework signed between the Member States and Eurostat, the European Union Statistics on Income and Living Conditions (EU-SILC) was created.[14] The survey began in 2003 with the intent of collecting data on the annual, longitudinal, cross-sectional and comparative surveys between the participating countries. Currently, this survey counts on approximately 300 thousand households throughout Europe. The EU-SILC sample[15] outlines all private households in the participating countries. However, each country uses a sampling design of its own, with longitudinal and cross-sectional analytic representation, and precision for the calculation of key indicators. The surveyed household modules will investigate social exclusion, living conditions and material deprivation and it will also address the basic characteristics of the residents such as work, education and health which should be answered by persons of 16 years of age or older (DUPRÉ, 2013). Other topics of particular interest are dealt with by several countries within the framework of the EU-SILC through additional modules.

It is interesting to note that, since each Member is responsible for the development and implementation of the EU-SILC in his country, information on income may be achieved from the administrative records or from a question included in the

[12] More information about the ESS can be found at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/ess_eurostat/introduction>.

[13] More information on Eurostat and the European Community can be found at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction>.

[14] Beside countries who are members of the European Union, other countries are also part of the EU-SILC, such as Turkey, Norway and Switzerland. More information on the countries that integrate the I-SILC and their years of membership are stated in the European Commission (2013).

[15] More information on the EU-SILC can be found at: <http://epp.eurostat.ec.europa.eu/portal/page/portal/microdata/eu_silc>.

questionnaire of the survey. Beside that, the definition of household may vary but in a general sense, it represents people who live together and share a common income. These gradations between the European survey should be observed in comparative analyses between the countries, or in general analysis, since they may represent different analytical interpretations.

Since 2010, to render support the Europe 2020 - a strategy that aims to reduce by 20 million the number of people who are at risk of poverty and social exclusion in the European Union by 2020 - the EU-SILC data are being used for the monitoring of poverty and social inclusion in the EU. The concept used for the monitoring of poverty is based on Poverty or Social Exclusion Risk (AROPE),[16] assessed from three indicators:

1. *People at risk of poverty after social transfers*: individuals whose disposable income (after social transfers) is less than 60% of the average national income;

2. *Severe material shortages*: individuals who are residents of households lacking at least four of the nine of the following items: 1) No delays in rental payments, mortgage, utility bills and long term purchases; 2) keep their home adequately warm during the cold months; 3) cope with unexpected expenses; 4) consumption of meat or protein regularly; 5) vacations; 6) have a television set; 7) washing machine; 8) a car; 9) a phone;

3. *Low work intensity*: people from 0 to 59 years living in households in which people in active age (18 to 59 years) worked less than 20% of their total potential work in the reference year. The intensity is calculated by the ratio between the total number of months that people worked from home and the sum of the months that these same people might have worked.

In short, the synthetic AROPE indicator consists of the combination of traditional indicator of relative poverty measured by earned income, with an indicator of material deprivation, assessed by the inability of the enjoyment of goods, services and basic rights, and an indicator of labor intensity, assessed through the activity rate of adults living at home. The basic combination is quite simple: who is poor in any of the three dimensions is a person at risk of poverty or social exclusion, generating a global poverty rate.

Regarding the income poverty indicator, the fact that the *national* average is used for the calculation instead of the European average is noteworthy. The concept of relative poverty, from which all calculations of deprivation based on the distance of

[16] More information on the risk of poverty or Social exclusion (AROPE) can be found at the following email addresses <http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/People_at_risk_of_poverty_or_social_exclusion> e <http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Glossary:At_risk_of_poverty_or_social_exclusion_%28AROPE%29>.

particular individual of average or median is achieved is based on a relational perspective in which the definition is related to the resources available on a specific time to members of a specific society or various societies (TOWNSEND, 1962). Indeed, it is usual in the social sciences to operationalize the concept of society through the use of the political borders of national states. Nevertheless, considering the fluidity of the concept of society and its implicit application to the European Union space, it would be interesting to calculate this concept using the European average. This discussion is particularly relevant in the case of the PPP, since the sampling plan foresees the assessment of poverty in two quite distinct regional contexts. In case of the assessment of relative poverty by means of the PPP, it would be interesting to evaluate the same both with the average national and regional parameter.

The indicator of material deprivation, in turn, approaches conceptually "absolute" poverty, even though it was already widely discussed in the literature, this type of assessment always face difficulties to define what encompasses "absolute" elements of poverty or the "basic needs" of people. Even when these are defined, there are problems related to the definition of what would be the adequate levels of nutrition, housing etc, for which an individual is considered above the poverty line, returning inevitably (although not always explicitly) the criteria based on patterns of life socially recognized as "worthy", "decent" etc.[17] in this sense, the AROPE proposal is quite consistent, selecting rates of deprivation connected to the current European context (e.g. heating against the cold, vacation, food rich in protein, possession of washing machine) which allows a multidimensional measurement of the phenomenon of poverty without recourse to national income averages. Additionally, this type of indicator is less volatile than the monetary income with the possibility of collection situations of chronic poverty.

In this way, the most interesting analytical possibilities arising from breakdown of the items included in the synthetic indicator and/or the longitudinal analysis, observing the trends and variations of each dimension over time from regional considerations, age, etc., One of the most relevant indicators calculated by the EU-SILC, which demonstrates the achievement of knowledge on the poverty phenomenon generated by the longitudinal panels is the Rate of Permanent Risk of Poverty. Assessed throughout four consecutive years, this rate represents the percentage of people at risk of poverty in the current year and at least two of the previous three years (DUPRÉ, 2013; BERGER, 2013). The Permanent Risk of Poverty rate, considering the 28 member countries of the European Union, was of 9.8% in 2012. Chart 1 presents the indicator by sex and age group in which the higher rates of permanent poverty are observed among women and young people (18 to 24 years). (DUPRÉ, 2013).

[17] This obviously does not mean that type of criteria that is socially constructed cannot be, as they often are, based on actual human biological needs; It just means that the contents and the limits of these criteria varies from society and society throughout the course of time, being unsuccessful in the achievement of the universally valid criteria.

CHART 5: PERMANENT RISK OF POVERTY PER AGE AND GENDER (2012)

Age/Gender	Women	Men	Total
0 - 17 years	11.8%	11.4%	11.6%
18 - 24 years	13.5%	11.9%	12.7%
25 - 49 years	9.0%	7.8%	8.4%
50 - 64 years	9.5%	8.4%	9.0%
65 years or more	11.8%	8.8%	10.5%
Total	10.5%	9.1%	9.8%

Source: Eurostat, 2014

EU-SILC panels are based on rotating studies, so a new panel begins every year, with four years of duration and annual waves (see Figure 9). It is necessary to take into account the level of superimposition of the households to monitor significant changes of indicators throughout the course of time.

FIGURE 9 - EU-SILC –SILC CROSS-SECTIONAL AND LONGITUDINAL COMPONENTS – FOUR YEARS OF ROTATING PANEL
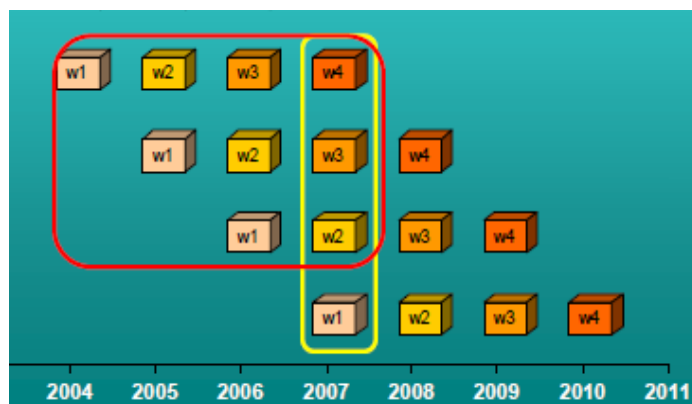
Source: DUPRÉ, 2013

Figure 10 demonstrates how to use the sample drawing from the EU-SILC to calculate the AROPE.

FIGURE 10: EU-SILC – MONITORING OF THE CHANGES OF THE INDICATORS AND SUPERIMPOSITION OF THE STUDY.
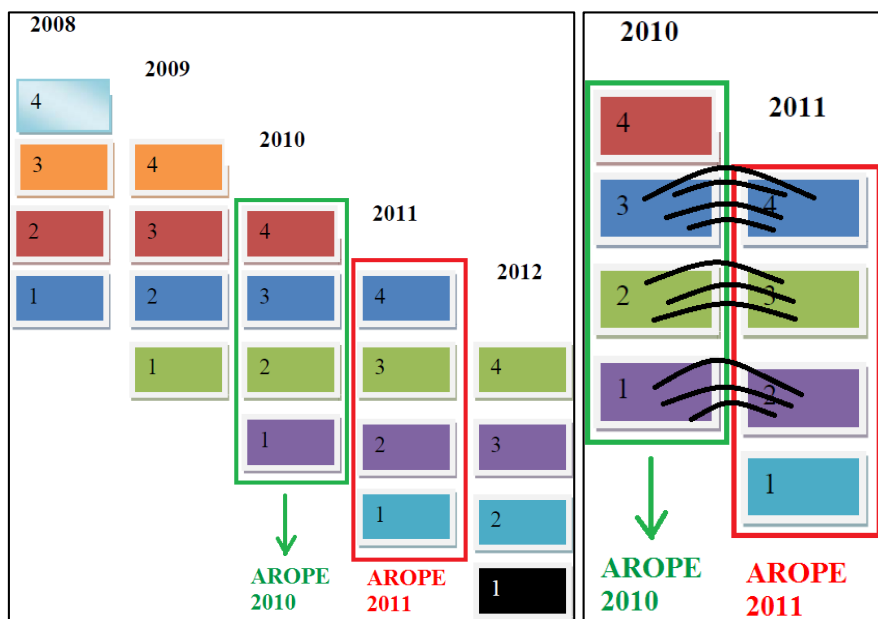
Source: BERGER, 2013

A very specific concern regarding the collection of decentralized data is the manner that is used to calculate the reliability intervals for the indicators from the EU-SILC data, therefore, it would be needed to take into account the design, sampling weights and imputation techniques used by each country (BERGER, 2013). However, for data reliability purposes, other countries usually provide partial information regarding this, depending on their internal policies. In cases that are not included in the information on the sampling weights, the technicians in charge for the calculations of indicators and analysis of the evolution will use the economic territorial areas of the subdivision I, NUTS 2, according to the stratification of the sample.[18]

LONGITUDINAL STUDIES IN EASTERN EUROPE (POLAND AND HUNGARY)

Democratic transitions in Eastern European countries had important effects in the national statistics area. From the beginning of 1990, in conjunction with major social transformations that marked the period in the region, the entire process was reorganized, with strong support from international bodies, the entities responsible for the production of official population data as well as independent research institutes. During the workshop held in Brasilia, the Polish and Hungarian experiences were presented and are summarized below. It should be notes that the studies relied on an in-depth analysis of the Polish case, as written by Anna Bieńkuńska. Nevertheless, we can see here some data regarding the EU-SILC in Poland that were deemed as particularly relevant.

[18] More information about the NUTS 2 can be found at: <http://epp.eurostat. ec.europa.eu/portal/page/portal/nuts_ nomenclature/introduction>.

From mid 1990s, the the Central Statistical Office of Poland,[20] publishes data on poverty on a regular basis. This country officially adopts different definitions about this matter which is related to relative poverty, another related to extreme poverty and a third that establishes the eligibility criterion for the payment of monetary benefits by means of social assistance. Considering the period comprised between 2005-2012, relative poverty dropped from 18,1% to 16,3%, while the absolute poverty rate dropped from 12,3% to 6,8%.

Nevertheless, the EU-SILC started in Poland only in 2005. Considering the period between 2008 and 2011, the Polish study observed a sample loss of 30.8% in the first year, when a friction rate of 10.4% was added in 2009, 7.3 percent in 2010 and 5.7 percent in 2011. The intensity of the sample showed less wear during each wave, even if the sample did not present negligible loss[21], resulting in a cumulative wear in four waves of 54.2%. Therefore, the research began with a sample that was carried out in 6,219 households and ended with 2,975 households. Even though the loss in the first wave was high, it is one of the lowest regarding other countries that also applied the EU-SILC (BIEŃKUŃSKA, 2013). Regarding the results during the period, 69.5% of the polish population were never at risk of monetary poverty according to the AROPE criteria, 6.8% were "at risk of poverty" during all four years. In 2011, 17.7% of the people were below the relative poverty line employed by the EU-SILC, of which 57.1% (10.1% of the total population) were in permanent risk of poverty.

FIGURE 11: OVERLAP OF DIFFERENT POVERTY SCENARIOS IN HUNGARY: PERCENTAGE OF HOUSEHOLDS IN 2011

Income: 17.7%
Material deprivation: 36.7%
Low WI: 19.2%
Total (at least one risk): 46.6%
Total (all combined): 8.1%

Source: SZIVÓS, 2013
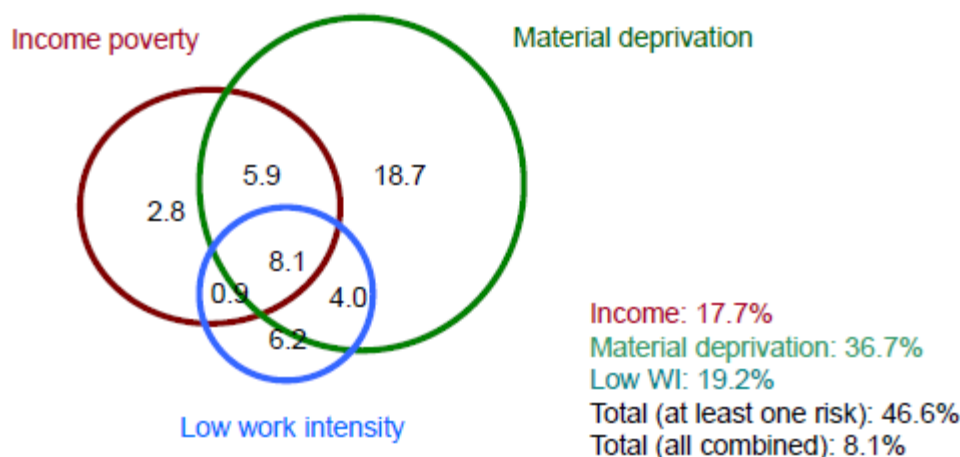
[19] For more information about the Central Statistical Office of Poland, please see: < http://www.stat.gov.pl/gus/index_ENG_HTML.htm>.

[20] If the friction was calculated from the N reduced by the losses incurred in the previous rounds, and not from the original N, the friction rates in the last two rounds would bypass 10%.

In 2011, Poland conducted a Social Cohesion Poll. This research stressed the importance of the combination of approaches for the understanding of poverty multidimensionality. In the case of this study, major levels of material deprivation and lack of budget balance were investigate, distinguishing these concepts that are analyzed collectively in the calculation of the AROPE. In this sense, three dimensions were established: income poverty, life style conditions poverty and poverty in terms of lack of domestic budgetary balance. The indicator of income poverty is the same as used by EU-SILC, and resulted in a rate of 15.1%; life style conditions were assessed by an aggregate indicator that includes housing conditions, ownership of durable goods, material deprivation and non material deprivation, resulting in a national index of 13.5%; the budget imbalance indicator included both subjective and objective assessments that indicated difficulties in the payment of bills, resulting in a rate of 15.9%. Multidimensional poverty condition was characterized for the purposes of this poll, as the simultaneous occurrence of three forms of poverty, resulting in a rate of 4.6% (BIEŃKUŃSKA, 2013).

In Hungary, the EU-SILC was instated in 2005, under the responsibility of the Central Statistical Office of Hungary.[21] In 2011, 17.7% of the people were living in relative income poverty, 36.7% lived with severe material deprivation and 19.2% in households with low work intensity. The overlap of these three dimensions of poverty impacted 8.1% of individuals in 2011 and 46.6% of Hungarians were poor in at least one dimension, as seen in Figure 8. Constant poverty risk in 2011 was of 9%.

Beside the EU-SILC, Hungary has other relevant longitudinal surveys that are conducted by the TÁRKI institute. [22] The Hungarian Household Study is a longitudinal survey study with six rounds held annually between 1992 and 1997 in 2,600 households. The intent of this research is the collection of data achieved in the labor market, income, consumption, savings, social mobility and education. The household questionnaire had an average duration of 40 minutes, and the individual lasted for 30 minutes. The data collection for each wave lasted for nine weeks, and the work was conducted by 240 interviewers and 16 supervisors. The incentives rendered to the participants was an invitation letter to take part of the survey, a calendar, a lottery ticket and a letter of thanks per wave (SZIVÓS, 2013).

The Life Course poll was conducted with students of the last year of elementary school from 2006, with the intent to analyze the correlation between the low level of employment and the low educational level of young people. Therefore, in this sense, the students were subjected to language and mathematics tests. After this, the annual rounds, accomplished for six years included modules on family, personal attributes, information on elementary education and development during high school, truancy and proactive attitudes of young people as well as specific modules for each year (drug, alcohol, tobacco, crime etc.). The sample started with 10,023 individuals and ended with 7,092 young people, and a final friction of 29.2%.

[21] Hungarian Central Statistical Officehttp://www.ksh.hu/?lang=en

[22] Hungarian Institute for Social Research established in 1985, addresses topics such as poverty, income distribution, social policies, gypsy issues, values and attitudes and migration. They usually provide services to the government, collecting and analyzing data from household, longitudinal and cross-sectional surveys. More information can be found at: <www.tarki.hu/en/>.

Finally, SHARE is a research on the aging process, conducted with people over 50 years. It is available in several countries in Europe since 2004 and in Hungary since 2010, and the objective of this survey is to study the impacts on the living conditions of the elderly and their families and the influence of government policies on their living conditions. With this, the survey seeks information on income (from all sources: employment, autonomous employees, first and second employment, temporary employment, benefits, retirement pensions etc.), wealth, property, inheritance, housing and consumption. The research have annual waves and an ongoing proposal.

The research conducted by TÁRKI reckoned on some care to reduce sample loss, especially in the first data collection, since usually refusals to participate in surveys are not scarce. The experience achieved was presented in the form of recommendations during the workshop and is summarized in Chart 6.

CHART 6 - RECOMMENDATIONS FOR THE CONDUCTION OF LONGITUDINAL SURVEY

RECOMMENDATIONS
Presence of a dedicated team;
Maintain an updated communication network with the respondents;
Present clear rules for eligibility screening of individuals or families;
Provide adequate training to the interviewers;
Monitor the utilization rates of the interviewers (refusal rates usually depend on the interviewers);
Use experienced interviewers to contact those who refuse to participate;
Send a letter prior to the personal contact;
Offer alternative schedules for the conduction of the interviews;
Emphasize the importance of the study;
Explain the random selection of the sample;
Stress emphasis on data confidentiality and respondents are free to choose answers for each question;
Send a letter of appreciation with simple results, after the study publication results.

Source: Elaborated by the authors

PLURALITY OF SOURCES AND METHODS: THE FRENCH CASE

France has short, medium and long term survey, some of specifically addresses poverty measurement and the correlated phenomena. Part of them are conducted by organization and harmonization of administrative records from various sources, while others resort to field research. As in other countries, France has made significant advances in statistical and qualitative observation of poverty in the past 15 years,

with more attention given to the measurement by a variety of indicators related to income, consumption restrictions, living conditions, labor instability, social exclusion etc and its interpretation via multidimensional, longitudinal analysis, focused on priority groups and regions and the availability of various methods and sampling plans (MULLER, 2013).

Among longitudinal surveys based on household collections, Statistical Research Resources and Living Conditions (SRCV)[23] are one of the main sources of the French EU-SILC since 2004. This is a rotating study with the duration of nine years interviewing all adults (16 years or more) in the sampled households. Each year, 12,000 households are surveyed, and 2 thousand are used for the first wave of a new panel (MULLER, 2013). On a yearly basis, the demographic characteristics of households are researched in the SRCV. Since 2008, the details of the income collection data achieved in the previous working year are assessed by the pairing of the survey data with tax and social security administrative sources, in addition to the financial situation of households and living conditions (indicators of deprivation, housing, environment and health). On the other hand, modules on health, social life, professional relationships and social participation are surveyed every three years (CNIS, 2013). Taking into account the AROPE indicator, in 2011 the rate of permanent poverty risk in the French scenario was of 7.8%. Nevertheless, considering the previous five years, about a third of the French population experienced at least one episode of poverty, 41% of the situation was transient and was durable for 27%, in other words, they were in this condition for at least four years.

A specifically interesting survey is the Panel Politique de la Ville (PPV), which investigates priority areas, urban areas with high numbers of immigrants, low quality of public, violence and stigmatization services. The PPV was recommended by the National Observatory on Critical Urban Areas (ONZUS) to objectively observe the living conditions and residential mobility of the inhabitants of these areas. Regarding the evaluation of public policies, these studies will not evaluate only their effects in a more traditional sense, but also notes the perception of respondents on such evaluation, approaching pluralistic evaluation models and programs focused on participants (WORTHEN; SANDERS; FITZPATRICK, 2004, p. 110, 223-243). Another interesting aspect is the focus on cross-sectional subjects addressed by several different aspects of people's daily lives. Their sample, that is representative for 40 priority areas, prior to the accomplishment of 3.100 household interviews yearly between 2011 and 2013 with an initial questionnaire with the duration of an hour and follow-up questionnaires which lasted for 20 minutes. However, the non-response rate of 60% in the first collection forced the strengthening of the sample in the second collection, when the friction rate was of 28%. The lessons achieved from this experience reported the importance of enhancing the training of the interviewers, the arguments used for the justification of the research and invitation letter as well as the support of local associations for the dissemination of information.

As pointed out by Barbanchon and Sédillot (2011), administrative databases are useful and relatively rich sources of detailed information on a specific population of that is a source of interest, and particularly suited to the creation of low cost surveys, avoiding problems related to friction and memory deviations inherent to the polls. However, the administrative files tend to provide a limited amount of information. A solution to this limitation is the pairing of administrative databases, which will be used to increase the amount of information and/or temporal scope available to the researcher.

Therefore, the FH-DADS base, composed by the DADS survey can be indicated: Grand Format - organized by the National Institute for Statistics and Economic Studies (INSEE) which is also made up by the background of the workers of private companies obtained by means of the annual review of companies since 1976, with the addition of civil servants in 1988 - and the requirements of the National Employment Agency (ANPE) or the FH. This survey is fully equipped with data for the period of January 1, 1999 to December 31, 2004 (CNIS, 2013) and aims to analyze the career plans and salaries, the transition between work and unemployment, in addition to studying the relationship between the payment and the job quality (MULLER, 2013).

Other longitudinal data base achieved through administrative records research is called ENIAMS-DADS Survey. This intent is the monitoring of the trajectories of the beneficiaries of social programs, with information on the benefits received and their duration, family structure, access to employment, health and housing. Beside that, the information about each beneficiary is connected to their data on unemployment insurance (CNIS, 2013). Currently the base has a sample of 100,000 individuals, with 16 to 64 years old, and their spouses, in the case any benefit received is related to the both individuals. The ENIAMS interconnects different administrative data on benefits of various administrative bodies. The main benefits of the French surveys are: Active Solidarity Income (RSA); Specific Solidarity Allowance (ASS) and Allowance for Disabled Adults (AAH) (CNIS, 2013; MULLER, 2013). The body responsible for the ENIAMS-DADS Survey is the Directorate for Research, Studies, Evaluation, and Statistics (DREES)[24] headquartered at the Ministry of Social Affairs and Health (MASA).[25]

THE SOCIAL SURVEY OF SOCIAL PROTECTION (ELPS): COLOMBIA AND URUGUAY

The National Planning Department (DNP)[26] of Colombia identified the need to conduct an official survey of a longitudinal household study, for social data in 2008. At that time, there were two surveys: the *Social Longitudinal Development Survey and the Longitudinal Survey of the Universidad de los Andes* (ELCA). The first survey had no results at national or regional levels, since it was not always performed in the same cities, and sample loss was great: 25% per year. On the other hand, the main problem faced by the ELCA was the lack of monitoring of all family members, instead of the head of the family and children under 10 years (MATEUS, 2013).

Based on this, in 2010, the *Longitudinal Survey of Social Protection* (ELPS) in Colombia started with the cooperation of the Inter-American Development Bank (IDB) and the Bank for Reconstruction and Development (IBRD), under the responsibility of two departments: National Administrative Statistic Department (DANE) and the DNP. The first was responsible for the design of probabilistic sample, by means of the collection of data and monitoring strategy of the interviewees to update their contacts and address in the case of a change of domicile. The DNP was in charge of establishing and developing the thematic blocks of the survey beside being responsible for the analysis of the data collected (MATEUS, 2013). The DNP and DANE also count on the technical assistance of the Microdata Center of the University of Chile, in terms of design and thematic components related to the research.

The periodicity foreseen for each of the ELPS waves is biennial. The idea is to study the dynamic behavior of the labor market, income and household spending, risk factors and vulnerability, the purpose of social protection system, conditions of the quality of life of the population and actions taken by the family when they are affected by different types of shocks. More specifically, through the analysis of the survey data, the intention is to redesign policies or create new actions and programs. In addition to these specific objectives, the survey data will enable a better understanding of the transition process of the families from poverty to non-poverty and not vice versa, as well as the dynamics of intergenerational mobility (MATEUS, 2013).

From October to December 2012, the baseline survey was performed as shown in Figure 12. Before the collection of baseline data, ELPS presentation brochure was sent to the households as can be seen in Figure 13, which explains briefly the proposed research, the frequency, sample, respondents eligible within each household, average duration of interview and the obligatory law for the participation in the research.

FIGURE 12: DRAWING, DATA COLLECTION AND DISSEMINATION OF BASELINE SURVEY (2012-2013)
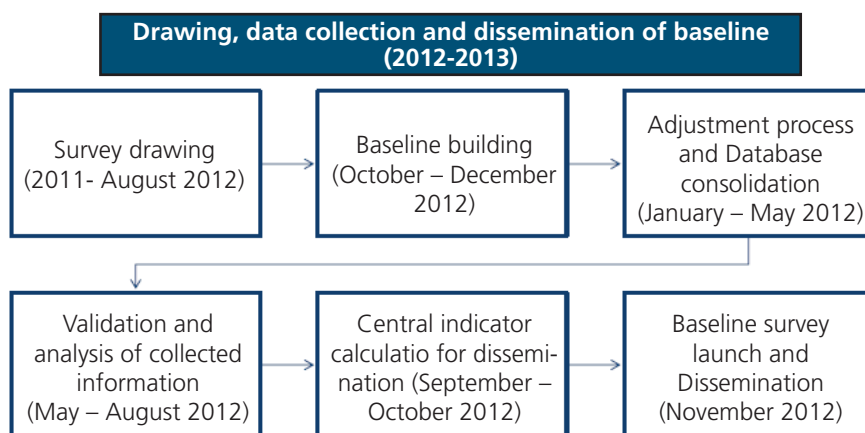
Source: MATEUS, 2013

FIGURE 13: ELPS PRESENTATION BROCHURE, COLOMBIA 2012

Source: National Administrative Department of Statistics (DANE)

At the end of 2013, the DANE started to confirm and update the registration data pertaining to the households of the individuals interviewed at baseline, through phone contacts. They were told that individuals that were not found in the first phase should be sought personally, in the field (Figure 14). The application of the first round after the schedule for the baseline survey is foreseen for February 2015 and, according to the General Schedule (Figure 15),the update of the addresses should be accomplished in the interval between each round, one of the items that comprises the "follow-up strategy" (MATEUS, 2013).

FIGURA 14: ESTRATÉGIA DE SEGUIMENTO: ATUALIZAÇÃO DOS DADOS DE CONTATOS (2013 – 2014)
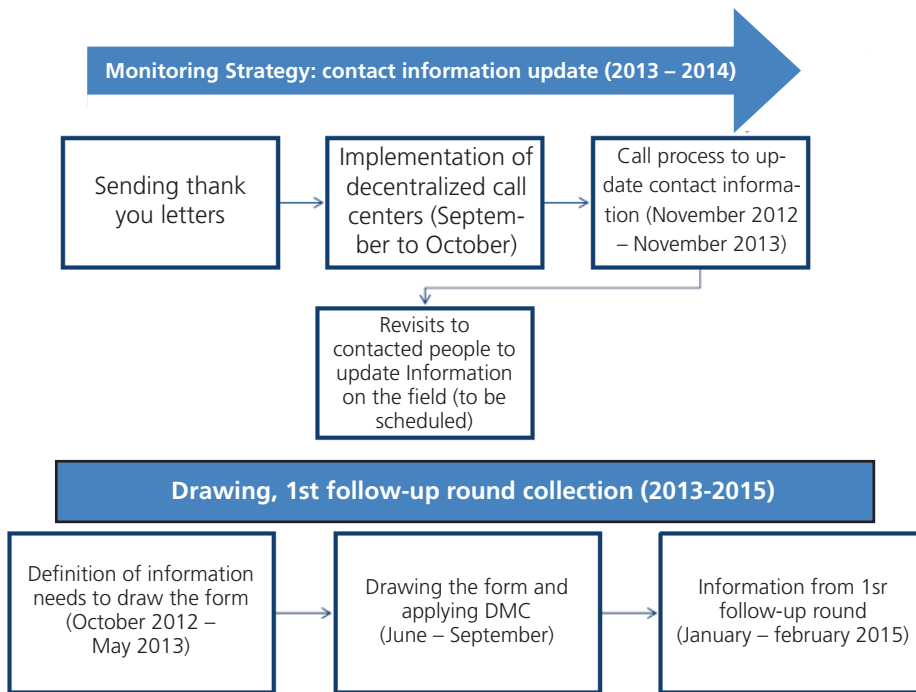
Source: MATEUS, 2013

FIGURA 15: CRONOGRAMA GERAL DA ELPS
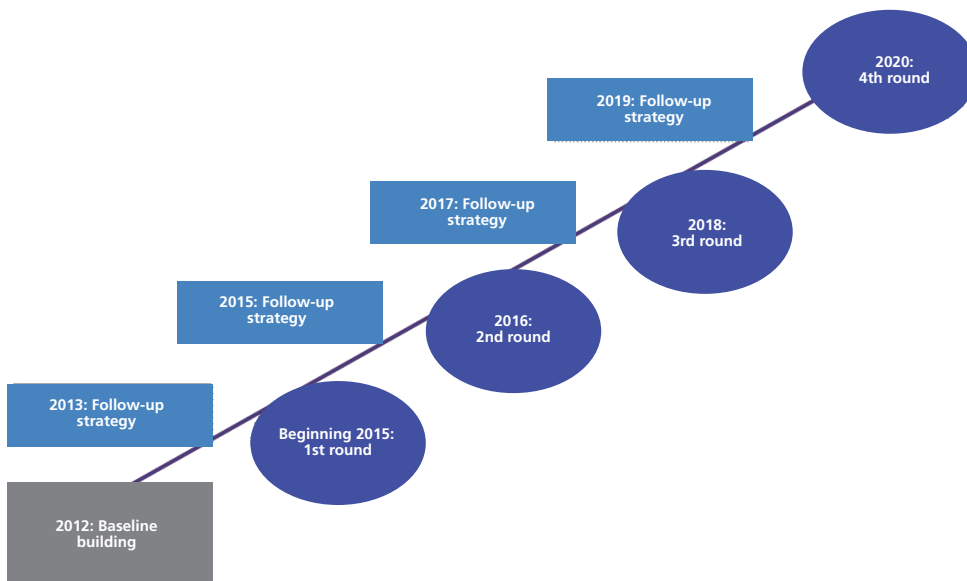
Source: MATEUS, 2013

The initial sample reckoned on the participation of 15 thousand households and, of these, 14,407 were interviewed at baseline, totaling 49,707 people. The relevance of the sample at domestic level, for urban and rural areas and in the following regions: Atlantic, Central, Eastern and Pacific Bogota (MATEUS, 2013). Since the first round of ELPS is scheduled to begin in 2015, the collection is still in the planning and development phase and the definition of the persons to be surveyed in each household in the sample may not be fully completed in 2014. At first, the idea is to interview:

- The person in charge of the home;

- The spouse of the person in charge of the home;

- A person with 10 years or more, randomly selected, different from the boss and spouse, for each age group and sex;[27]

- All children from 0 to 9 years.

It is worth noting that individuals without ties of kinship with the domicile, such as domestic workers, nannies, pensioners and aggregates are not surveyed. Temporary homes, such as those consisting of two or more persons without relation, which temporarily share expenses and food, without any intention of staying together in the future, according to the shared student houses are not included in the survey (MATEUS, 2013).

It is interesting to note that in the initial phase of "follow-up strategy", between the baseline and the first wave, changes occur in relation to individuals who are eligible to be surveyed in each household. Not all adults from the household with 18 years or older and who responded to baseline took part in the following rounds and people who were not interviewed in 2012 were included. As we have already seen, the interview only one of the residents with 10 years or more that are not responsible for the domicile or his/her spouse may be carried out. Beside that, for the elaboration of the baseline, it was not compulsory to interview the person in charge and the respective spouse, only one option was supposed to be carried out. Beside that, all residents with 12 to 17 years old that were working or studying in high, technical or a higher level school took part of the baseline. Finally, young people from 12 to 17 years who are not eligible for any of these categories and those under 12 years had their information collected through questionnaires that were applied to the respective persons in charge.

The Uruguayan case, the ELPS acts both as a general source for the study of poverty and as a tool to define the eligibility criteria of the main social program. In 1943, in Uruguay, the Family Allowances (AFAM)[28] was created, a program of labor allowances for families that was funded by the union, especially from the emerging industry. The evolution of the program's coverage was gradual over the years, incorporating

[27] The established monitoring rule responds to the need for information of household members of different age groups, as well as comprising the target audience of the major strategies and political actions in the age groups.

[28] For more information about the program, please access: <http://www.bps.gub.uy/innovaportal/file/1728/1/evolucion_historica_del_regimen_de_asignaciones_familiares_en_el_uruguay_1943_-_1980._s._santos.pdf >.

retirements, death, marriage and birth licenses, the presence of schoolchildren in the household etc. From 1967 the financing of this social security fund was no longer homogeneous and started to receive public funds from taxes.

In 2008, The Family Allowance Program (AFAM-PE) was created in replacement to the Social Emergency National Attention Plan (PANES)[29], under responsibility of the Ministry of Social Development (MIDES) in Uruguay.[30] The beneficiaries of the program are residents of homes with children and teenagers in socioeconomic vulnerability condition or those who are granted full time care in establishments or institutions of the National Institute of the Child and Teenager in Uruguay (INAU). The benefit is a monthly allowance value that is paid to individuals or legal entities that are legal guardians of the minors. At the beginning, the program reckoned on 180 thousand families (16% of the total of the families in Uruguay), which on the other hand had 400 thousand children and teenagers (44% of the total).

The main instrument used for the selection of the beneficiaries entitled to the payment granted by the AFAM-PE is the Critical Necessity Rate (ICC), elaborated by the Institute of Economy (IECON), of the Economy and Administration University of the Country, based on information achieved from the Social Protection Longitudinal Survey (ELPS) [Social Protection Longitudinal Survey].[31] The intent of this index is the identification of families in extreme socioeconomic condition. In this sense, this index was calculated according to a *probit* statistical model that varies from 0 to 1, in which '1 represents the identification of a home in extreme vulnerability conditions. Therefore, this statistical model will be used to estimate the probability of inclusion in the group of 20% individuals that are poorer, based on well-being structural variables, should as housing, education level and number of persons in the household environment (MIDES, 2012; MORENO, 2013). Families with a monthly income that is lower than 250 dollars can also be selected for the payment of the benefit paid by the AFAM-PE, regardless of the ICC.

At the beginning of the program, in 2008, a household survey was conducted with the selected beneficiaries and was used as the baseline for the assessment of impact of AFAM-PE three years later, in 2011, coordinated by the National Examination and Assessment Directorate (DINEM/MIDES). The first step to find households that would participate in the first collection was achieved through georeferencing, which allowed the assessment of 60% of homes. For the households that were not located, the monitoring was accomplished by telephone contact and additional information were perused using administrative database of other public institutions other than the database of the MIDES. After that, a screening (screening) was carried out in the micro-territories as established by the Uruguayan Demographic Census for the identification of the three priority population groups to be surveys: families less vulnerable, more vulnerable families and families with intermediate vulnerability level, with the ICC of 0.6 to 0.7 (Figure 16 and Figure 17).

[29] For more information on the PANES, please access: <http://www.mides.gub.uy/innovaportal/v/2512/3/innova.front/objetivos_y_acceso_al_panes>.

[30] On the Ministry of Social Development of Uruguay, consult: <http://www.mides.gub.uy/>.

[31] For more information on the ELPS, please access: <http://elps.org.uy/>.

FIGURE 16: FIELDWORK FOR THE CONDUCTION AND MANAGEMENT OF THE AFAM-PE DINEM/MIDES PROGRAM -URUGUAY-2008-2011
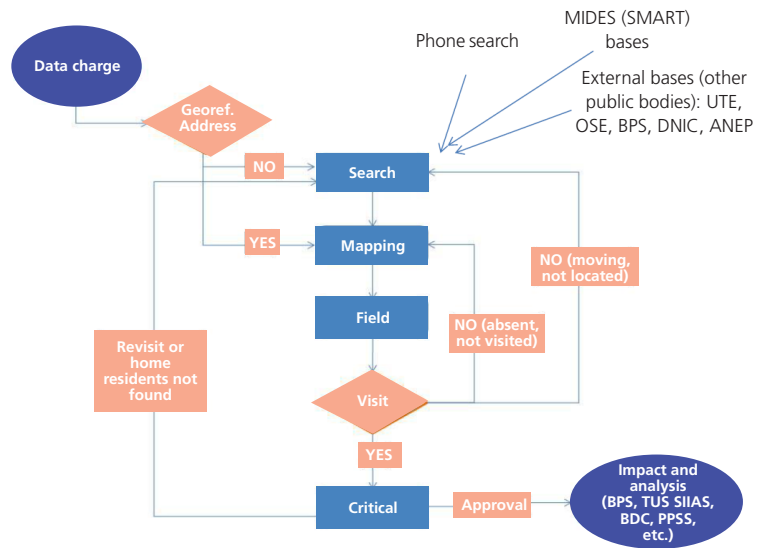
Source: MORENO, 2013

FIGURE 17: FIELDWORK FOR THE CONDUCTION AND MANAGEMENT OF THE AFAM-PE DINEM/MIDES PROGRAM -URUGUAY-2008-2011

Source: MORENO, 2013

According to the MIDE, the most vulnerable families are more difficult to be located, however, they are the ones that support the field work, hence increasing the level of response from the research. In the first round of the survey, around 200 thousand families who have declared monthly income below a certain limit and 180 thousand which were selected through the ICC criterion, 125,257 households were sampled. Of these, 89,567 were located according to the Chart 3. In 2011, only 24 thousand families were visited (MORENO, 2013).

CHART 7: FIRST ROUND FOR THE ACCOMPLISHMENT AND MANAGEMENT OF THE AFAM-PE PROGRAM - PERCENTAGE OF SURVEYS PERFORMED AND NOT PERFORMED BY THE DINEM/MIDES - URUGUAY - 2008

Visit state	Total	%
Made	89567	71.5
Absent	17741	14.2
Moving	13233	10.6
Not located	4579	3.7
Rejection	137	0.1
Total	125257	100.0

Source: MORENO, 2013

The results of the impact assessment of 2011 showed that the AFAM-PE program impact poverty reduction at 10% and 64% of extreme poverty.

CROSS-SECTIONAL SURVEY AND PSEUDO-PANELS IN BRAZIL AND IN ARGENTINA

Cross-sectional household surveys typically present a less complex sampling outline at a lower cost in relation to the Survey Panel in strict sense, being widely used throughout the world. When they are performed on a regular basis, however, they are comparable to population level (macro) throughout the course of time, but they do not enable the monitoring of the families (micro) since there are changes in every phase of the research and analysis, represented by the households. However, certain household surveys are very valuable to cross-sectional longitudinal surveys with the replacement of the samples throughout the course of time after the return to the same households.

In the case of Argentina, the main household survey is the Permanent household survey [32] conducted by the National Institute of Statistics and Censuses (Indec), research with longitudinal rotation of 2-2-2, therefore each household is interviewed

[32] The EPH is the responsibility of the National Institute of Statistics and Censuses of Argentina. More information on the EPH at: <http://www.indec.gov.ar/principal.asp?id_tema=9556> e <http://estadistica.cba.gov.ar/Encuestas/EncuestaPermanentedeHogares/Metodolog%C3%ADaEPH/tabid/405/language/es-AR/Default.aspx>.

for two consecutive quarters, is not included in the sample for two quarters and is once more interviewed for two additional quarters and it removed permanently from the sample summing four interviews for each household. Based on this, the same quarters of subsequent years have 50% of households in common, while in the comparison between the first and third semester, there is no household in common among the sample surveyed (COMARI, 2013).

In Brazil, the National Household Sample Survey (Continuous PNAD) has continuous methodology similar to the PDC. This research began in October 2011 and was a result of the methodological changes carried out by the Brazilian Institute of geography and statistics (IBGE) on the main household surveys, that comprises the Integrated System of Household Surveys[33] (SIPD). The frequency of the Continuous PNAD is quarterly, with rotation scheme of 1-2 (5), in other words, the household is interviewed for five consecutive quarters, with an interval of two months between the visits, as shown in Figure 18.

FIGURE 18: CONTINUOUS PNAD SAMPLE ROTATION
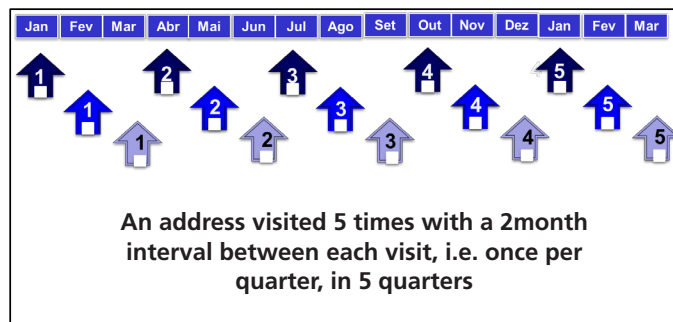
Source: AZEREDO, 2013

In Brazil, the Monthly Employment Survey (PME) is another false study that publishes data on the employment situation in the country[34] According to the IBGE (2007, p. 32),

in the PME, the Survey household unit samples is distributed during the four reference weeks of the month. Therefore, the result of the month is achieved by all the information from these four reference weeks. Data collection follows a methodology in which each household selected will be kept for four consecutive months in the survey, eight months without any survey and after this period, it is surveyed again for four additional months after which it will be finally removed from the sample. It is noteworthy that, during the period (12 months) in which the household remains in the sample, if the

<hr>

[33] More information on the IBGE's Integrated System of Household Surveys at: <http://www.ibge.gov.br/home/estatistica/indicadores/sipd/>.

[34] More information on the PME methodology can be obtained at: <ftp://ftp.ibge.gov.br/Trabalho_e_Rendimento/Pesquisa_Mensal_de_Emprego/Metodologia_da_Pesquisa/srmpme_2ed.pdf>.

family relocates and another family occupies the home, the information will be obtained with the new family for the remaining period.

The monthly PME sample is subdivided into eight rotating groups. Every month 25% of the sample of households is replaced according to a rotating group and study. Each study corresponds to a set of households and the rotating groups are sets of areas. In this sense, for the same month, in pairs of consecutive years, 50% of the common part of the sample will be ensured.

Regarding the level of superimposition of the households, the EPH rotating scheme enables more annual, even if the quarterly overlap is lower in comparison with the Continuous PNAD. The percentage of households that take part in two consecutive quarters in the Continuous PNAD, with its rotation 1-2 (5) is of 80%, while in the PDC, with the 2-2-2 scheme, this percentage decreases to 50%. On the other hand, the percentage of households that are in the first and fifth quarter of the research is of 20% in the case of the Brazilian research, while regarding the research in Argentina, this number is of 50% (Chart 8).

CHART 8 - ROTATION SCHEMES: PROS AND CONS

1-2(4)	1-2(5)	2-2-2
• Reasonable quarterly overlapping • Without annual overlapping	• High quarterly overlapping • Low annual overlapping	• Low quarterly overlapping • High annual overlapping

Sample overlapping	1-2(4)	1-2(5)	2-2-2
Quarter t / Quarter (t-1)	75%	80%	50%
Quarter t / Quarter (t-4)	0%	20%	50%

Source: AZEREDO, 2013

It is important to keep in mind that the selection unit in the Continuous PNAD sample and in the EPH is the household, since the families are not monitored or tracked if they move from this address. The new family that moved into the home is surveyed, not using necessarily the same identifiers of the previous family (AZEREDO, 2013). The percentage of families that move from one quarter to another in the case of Continuous PNAD varies between 4 and 5 percent, which is considered relatively low. Chart 9 depicts some results for the Continuous PNAD between the 2nd quarter of 2012 and the 1st quarter of 2013.

CHART 9: PNAD RESULTS: 2ND QUARTER OF 2012 TO THE 1ST QUARTER OF 2013 QUARTERLY OVERLAY

Paired quarters	Quarters			
	2nd in 2013			
	1st in 2013	4th in 2012	3rd in 2012	2nd in 2012
% sample overlapping	80%	60%	40%	20%
% people paired between quarters	More than 92%	More than 86%	More than 81%	More than 76%
Addresses where the all the family moves	Approx. 4.5%	Approx. 8.5%	Approx. 11,8%	Approx. 15,5%
Addresses with the best pairing of all the residents	Approx. 83,7%	Approx. 73,5%	Approx. 65.5%	Approx. 58%
Addresses with varying residents (residents enter or leave the family)	Approx. 7,5%	Approx. 12%	Approx. 16%	Approx. 19,5%

Source: AZEREDO, 2013

In this study, more detailed information provided from the IBGE and Indec researchers are provided, in which methodological issues and practical applications of the rotating panels are discussed in greater depth. For this discussion, only relevant points were considered as relevant. In summary, this type of sampling design ensures the regular production of key information, enabling short term longitudinal analysis and the rapid inclusion of new investigation subjects in comparison with the annual surveys. However, as outlined in the above chart, the logistic option of the use of the household instead of persons as unit for the elaboration of the study, imposes limits on the analysis.

DISCUSSION AND FINAL REMARKS

In order to carry out surveys on experiences from different countries in the implementation of longitudinal studies that emphasize the socioeconomic data collection, and with the intent of promoting dialogs on international experiences and possible longitudinal study for the assessment of poverty, the work consisted basically in two major lines of action. The first was the attainment of institutional material - technical and methodological documents, databases and publications with the presentation of results – of the achieved from entities and departments responsible for the main longitudinal research with panel data in the world, cataloging the relevant documents; and secondly, the systematization and documentation of the activities of the event entitled *technical workshop for the discussion of international experiences on the development*

of longitudinal panels for the study of poverty, which counted on the presence of experts, technicians, representatives and leaders of socioeconomic information institutions of several countries of Latin America and Europe.

The experiments studied throughout this text indicates valuable contributions, which can be used for the conduction of future surveys in the Brazilian context. It is important to note that all the survey presented in this report presents rounds with minimum interval of a year, therefore, some recommendations deserve detailed attention, considering surveys with quarterly frequency for the collection of information.

One of the first factors to be avoided is the rapid sample loss of the survey. The refusal of the interviewee in the continuation of the survey should be , therefore minimized. Some facts may be considered to decrease this evasion, how to avoid the fatigue of residents, either in relationship to the interview duration or the frequency of the same, since some people lose interest due to the repetition of the modules. Clarity on the importance of family participation in the study and the empathy between interviewer and interviewee, in this sense, is also very important.

We must pay special attention to the first round of the survey since this is when the major part of refusals usually occur, either in the European panels or longitudinal surveys in Latin America. Throughout the survey rounds, the likelihood that a resident will refuse to take part of the survey will decrease, in other words, consolidated panels have less friction. In some cases, the first round provides the inclusion a priori census sectors selected to minimize sample loss due to the difficulty of finding the sample households.

Regarding the monitoring of the respondents, it is necessary to establish clearly which people are critical and must be followed on every round, which may have the information partially collected, only with the purpose of improving the statistical accuracy of the Panel and which can be removed without compromising the quality of the survey. The majority of the research observed in the surveys in this document reckons on the individuals as analysis units in the family and household environments. There is a problem in the understanding between the concepts of longitudinal and panel survey, which has caused the lack of clarity in the rules that determine which individuals should be interviewed, especially when there is migration of some family members. In this respect, one can establish monitoring criteria that is more focused on the remaining members of the families and less on the criterion used to monitor a certain type of person. One of the possibilities is to follow the British procedure in future rounds, to limit and ensure the quality of the work of the researcher and, at the same time, have a means of comparison between the residences of a same address.

According to this surveys included in this study, the following measures are suggested to mitigate the non-response rate of the survey:

Send letters or the survey presentation brochure, before the beginning of the first round containing the following information: summary explanation of the proposal the research and the frequency of the same; the sampling design; eligible respondents within each residence; the average duration of the interview; and the confidentiality law and mandatory participation in the survey;

Count on the support of associations of local residents for the dissemination of survey and location of households sampled, as well as a network of contacts that will be used to locate the respondents;

Translate letters and brochures into a proper language, considering the profile of respondents in different territories;

Use appropriate questionnaire, without topics that the interviewee could identify as "useless" or long, avoid converting the interview into a boring process;

Submit field interviewers to a proper training process to maintain the interest of the interviewee throughout the interview stressing emphasis that the most sensitive issues should be treat carefully;

In the case of potential refusals, using experienced researchers to make a new contact on the spot with people who refuse to participate in the survey;

Encourage respondents to update their address in the case of a change, and offer research reminders, such as pens, magnets and calendars with the research logo to bring to mind the frequency of the interviews;

Give a feedback to the interviewees, sending letters before the beginning of each round;

Plan the field work in beforehand and accomplish the questionnaires pre-test;

If necessary, stress emphasis only to the main questions, to ensure at least the calculations of longitudinal and cross-sectional sampling weights;

Be specific in the monitoring rules;

Maintain a database with information about the field interviewers (such as social security number, gender, age and education level) and monitor their productivity rates, since the refusals may vary significantly from one professional to another, indicating the need of new parameters.

Therefore, the control of friction is of paramount importance to maintain the cross-sectional and longitudinal representativeness.

The contributions of these studies, especially regarding the characterization of poverty in various situations and realities, will bring some reflections to mind. The monitoring of "poverty" should be carefully established, considering several approaches for the assessment of the phenomenon. After the establishment of the approaches, the indicators that will be used to assess the degree of deprivation of the life style of these families should be carefully outlined. To calculate acceptable indicators, it is important to pay attention to the criteria and terms used to identify situations of poverty, these can represent the social well-being, the monetary income, or even be measured in relation to the ability of consumption (indirect method), or to the real consumption (direct method) of these families.

In addition, we must ensure the accuracy of the interest parameters. Cross-sectional surveys produce estimates of poverty indicators that are more limited, while longitudinal surveys enables you to monitor changes over time, establish causal relations and isolate the effect of social policies and programs, hence, increasing the analytical capacity on the phenomenon.

The duration of the study is directly associated to the frequency of the waves, the size of the sample and the percentage of each round friction, which in turn are influenced directly by the amount of budgetary resources available for their implementation, monitoring and tracking of participants of the survey.

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REFLECTIONS ON LONGITUDINAL SURVEYS: A CONTRIBUTION TO THE IMPLEMENTATION OF THE INTEGRATED SYSTEM OF HOUSEHOLD SURVEYS

Leonardo Athias

INTRODUCTION[1]

Longitudinal research is ideal for studies on poverty and social mobility. On the other hand, there are limited studies of this nature in developing countries, which are applicable to small regions (Azevedo and Bouillon 2009: 8).[2] Furthermore, this type of research is essential to perceive the "persistence of poverty". The results available[3] attest that there is a "transient poverty" but there is also a group of individuals that are "chronically" poor. These types of poverty may have varying origins and require specific actions.[4]

The use of well-being static indicators presented by the government to direct actions to groups considered as "poor" is open to criticism since it is prone to error due to short-term effects (Baulch and Hoddinott, 2000). To outline policies and promote more equitable growth, it is important to surpass the "image" and attempt to understand, on a longer period of time, how some individuals increase their well-being compared to others (relative economic mobility).

When there is a percentage of "poor individuals" that varies year to year compared to several cross-sectional (*cross-sectional*) research, the study may be referring to different people. For example, based on the information achieved from (1995) PME (Monthly Employment Research),[5] Barros et al. six metropolitan areas demonstrated that an average of 15% of the population was crossing the line of a minimum salary, more or less, per month. Recently, Ribas and Machado (2008) did a similar drill, also with the PME (Monthly Employment Research) Month per month, between 2002 and 2006, an average of 13% crossed the established line of poverty (World Bank) and "by means of [the transition rate][6] around 45% of the poor individuals were not included in the poverty rate in the subsequent year" (Ribas and Axe 2008: 21). Such results questions the mobility analyses that are based only on cross-sectional information.

Longitudinal data can de of a different nature: retrospective information, studies and related records (*record linkage*).[7] It is widely disseminated that research with this type of data, especially in the study format, is ideal to study individual changes. The variability in time and between individuals will grant more dynamism to the analysis, which will eliminate deviations to cross-sectional research and will enhance causal diagrams (Diggle et al., 1994). On the other hand, these are expensive processes, since

[1] Ana Lúcia Saboia and Barbara Cobo from IBGE took part of this study.

[2] Yaqueb (apud Contreras et al., 2004) reported in 1999 that 5 of 44 countries with low human development index (HDI) and 7 of 66 average HDI presented this type of study. Baulch and Hoddinott (2000) outlined studies focusing on economic mobility and poverty in 18 countries, with differences just as Chile and Pakistan. Dercon and Shapiro (2007) compiled studies in 19 countries with medium or low HDI (such rates were calculated for this study based on the information achieved from the paper and 2009 HDI).

[3] As reported in some countries by Baulch and Hoddinott (2000) and Dercon and Shapiro (2007).

[4] Ravaillon and Jalan presents the differentiation between the types of poverty in a study on the countryside of China (in Baulch and Hoddinott). Transient poverty would be more related to shocks.

[5] The PME (Monthly Employment Research) exists since 1980. In addition to partial revisions, the methodological reformulation took place in 2002. It encompasses the urban area of six metropolitan regions: Recife, Salvador, Belo Horizonte, Rio de Janeiro, São Paulo and Porto Alegre

[6] The rate calculated according to the number of individuals that move from one state (poverty or non-poverty) to another in comparison with the total number of individuals.

[7] An example of "correlated registries" is the longitudinal census file (Longitudinal Census File) in Finland, which corresponds to a longitudinal survey with an interval of 5 years (Buck et al., 1995: i).

they have their own methodological difficulties (See Diggle et al., 1994; UNSTATS, 2005a; UNSTATS, 2005b; Groves et al., 2009).

The Integrated System of Household Surveys (SIPD), within the scope of the reformulation of the household surveys established by the IBGE, was conceived to comply with two types of pressing circumstances: high level of requirements for information by users and imperative cost control.[8] Among the points that encompass the model developed, "longitudinal studies are in the implementation process".[9] Furthermore, the Continuous PNAD,[10] similar to what takes place to the PME (according to another frequency),[11] will visit the same home for 5 quarters before the completion of the sample. This is a rotating study.[12] Two documents produced in 2007 within the scope of the SIPD project renders clarifications on the visits.

> The number of visits established for the study was of 5 visits, therefore the regime used will be of 1-2(5). It is noteworthy that the decision to use the 1-2 (5) regime was used after extensive consultation with users comprised in the study who attested the need to compare information achieved from the same person successive years. (FREITAS et al., 2007: 23)

> The 1-2 (5) rotation regime, from one quarter to another next quarter, there is overlap of the sample of 80 percent. In the 1-2 (5) regime, 20% from the quarter of a year to the same quarter of the following year. (Source: http://www.ibge.gov.br/home/estatistica/indicadores/sipd/primeiro_forum/primeiro_relatorio.shtm. Access in May 2011.)

In addition to the inclusion in the subjects requested by the IBGE within the scope of the SIPD,[13] social mobility was addressed in some supplementary sections in household surveys based on retrospective information on the person of reference (and the spouse, in some editions) and parents (in terms of education and occupation). Mobility modules were introduced in the PNAD in 1973, 1973, 1976, 1982, 1988, 1996, in the PME in April 1996 and in the PCERP[14] in 2008.

The PNAD data was used in classic surveys that already depicted the effects of the structural changes (urbanization and industrialization) that took place in Brazil during the second half of the 20th century. Strong social mobility can be evidenced among generations and also[15] compared to other countries (Pastore, 1979; Pastore and Silva, 2000), this fact is directly related to high levels of social inequality.

Mobility is related to rectitude and may be one of the activators of social cohesion, especially in a context such as the Brazilian, in which historical are widespread. Literature presents studies that addresses the differences among the mobility in regional aspects (Pastore, 1979; Silva, 1993), per gender (Caillaux, 1994; Scalon, 1999) and color or ethnicity (Hasenbalg, 1989; Caillaux, 1994; Telles, 1994; Oliveira and Machado, 2000).

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[8] The first meeting of the SIPD in November 2006 that was reported on "IBGE's samples of the Integrated System of Household Surveys". Available at http://www.ibge.gov.br/home/estatistica/indicadores/sipd/default.shtm. Access in May 2011.

[9] Ibidem.

[10] The SIPD/Continuous PNAD comprises: a) the PNAD (National Household Sample Survey), existing since 1967, with annual frequency, with the exception of the years of the conduction of the census. Historically, the coverage was increased and encompassed the entire Brazilian territory from 2004; b) the PME (Monthly Employment Research). The integrated system will provide quarterly deliveries, rendering on the other hand, employment measures for each state. The POF (Family Budget Survey) is also included in the SIPD (sample structure sharing, among others) and the simplified form will be applicable on an annual basis for 4 years followed by the full version (every 5 years).

[11] "The collection methodology used in the PME is comprised of a survey that is accomplished for 4 consecutive months, after this period the home will still continue in the investigation and will be surveyed after this period for four additional months, after which it will be removed permanently from the sample." Lila and Freitas, 2007: 8.

[12] It is worth stating in the POF, in the complete and simplified versions that this is strictly a cross-sectional study.

[13] "... the demand for the extension of the subject, with diversity, regularity or expansion is considered as sufficient motivation for the elaboration of a new system. In this sense, one of the most important aspects to be defined is the delimitation of the thematic content of the SIPD... One of the eventual direction to be taken is based on the pragmatic definition, according to the demand for information, such as the investigation of the following subjects: color/ethnicity and origin, social mobility, social protection, information technology, food and nutritional security, education, environment, health, child labor, youth, gender, housing, victimization, use of time, volunteer work, among others "IBGE, 2007: 13, emphasis added.

[14] PCERP - Survey of the Ethno-Racial Characteristics of the Population was a study that was applied in six different states: Amazonas, Paraíba, São Paulo, Rio Grande do Sul, Mato Grosso and Distrito Federal. It was implemented during the second quarter of 2008

[15] Developed especially for occupational mobility, but also take advantage of educational and income mobility.

The "eradication of poverty" is an essential subject in the federal political agenda in 2011 and resulted in the release of the recent program "Brasil sem Miséria (Brazil Without Extreme Porverty)"[16] and encourages the elaboration of mobility measures to assess whether groups in need are benefiting from these policies.[17] The mobility subject is also related with the "productive inclusion", which is also the reason of specific policies, which require promotion and assessment.

Firstly, poverty is aligned with the political priorities. Secondly, the mobility (in the retrospective module) was summarized in the recent research (PCERP), which led to reflections. Thirdly, IBHE's household surveys are aligned in a context of changes, within the scope of the SIPD. All of these elements motivated this study.

In this sense, a review on longitudinal studies and/or focused on social mobility was developed with the pertinent application and relevance in the Brazilian context. The text outlines an "issue" and also the points for discussion (sections) with the respective "conclusions and recommendations", whenever the steps required for the future implementation of such research are emphasized.

ISSUE

Besides the implementation in the new household survey structure, the decision to invest in longitudinal surveys, directed to the study of poverty and mobility, within the scope of the SIPD/Continuous PNAD, POF of any other specific survey, is related to the additional gain (more accuracy and reliability, best causal diagrams, etc.) that such surveys may grant to cross-sectional surveys. This can be added to the concern in terms of adaptation to the government priority. In this sense, two methodological and contextual convoluted sides can be discussed.

THE INTEREST REGARDING POVERTY MEASURES

As stated earlier, longitudinal studies are essential for the understanding of different types of poverty, highlighting the difference between "chronic" and "transient" poverty since this enables us to perceive the movements of the same people at the time. Study panels tend to be more accurate for the identification of poor (not poor) individuals, which should (should not be) subject to policies.

Baulch and Hoddinott defended the accurate use of consumption measures instead of the income to denote well-being, since these elements tend to be less susceptible to shocks.[18] Besides that, they defend longer studies based on economic mobility (controlled by life cycles besides the standard safeguards) instead of focusing on the movement below of above the poverty line according to some parameters, for example, a food basket to fulfill food consumption needs.

[16] See http://www.brasilsemmiseria.gov.br/apresentacao-2/, accessed in August 2011.

[17] A significant step was the accomplishment of the second round of the Impact Evaluation of the Bolsa Família Program (AIBF), with longitudinal aspect, outlined in the section below "Comparable Studies in Brazil".

[18] "Due to the inherent ex-post linearity and variability, the magnitude of transient poverty is probably higher when income instead of consumption is used to measure well-being" Baulch and Hoddinott 2000:10-11.

On the other hand, Buck et al. (1995: 21) defend the study when it prioritizes information about the events that occur with relative frequency and at a short duration or on income, as well as income mobility at individual level. The "analysis of the income dynamics should be based on genuine studies" (ibidem).

These arguments justify investment on the preparation of studies whenever information is researched on economic mobility.

TRADITIONAL MOBILITY STUDIES ADVANTAGES

Traditional mobility research (for retrospective information, with emphasis on intergenerational occupational mobility) encompasses several difficulties known by experts, and in the case of longer studies, it cannot be easily replaced by longitudinal parameters.[19]

In the case of a shorter reference to the intergenerational mobility (such as the case of the PME of April 1996, which reported the existing occupational condition 5 years ago), the longitudinal monitoring (for example, annual visits) seems feasible with updated information on each survey, which avoids the cognitive effort of the memory access and the probability of errors in the report, since people tend to remember striking events with more accuracy, for example, their marriage or their first job.

LONGITUDINAL STUDY: METHODOLOGICAL ADVANTAGES AND DISADVANTAGES

From the methodological viewpoint, the advantage of longitudinal studies tends to enhance the variability within the scope of the models compared to cross-sectional studies, since longitudinal information is correlated to the variability between individuals (as in a cross-sectional survey) with time variability (for the same people, information is collected on two or more occasions).

It is worth noting that this type of study has a higher covariance between estimates from one period to another, which leads to few standard mistakes in this case. Furthermore, the lack of response to the wave in this case enables the use of better information required for this type of deviation.[20]

Menchik (1993:429) points out the risk of "reverse coincidence" when cross-sectional data are analyzed, since it can be inferred, for example, that poverty causes poor health (in the case of a person with a disease that is not related to the economic situation), on the other hand: poor health prevents work and payment compensation.

Surpassing the control of a number of aspects (such as health) of the individuals that were interviewed in cross-sectional data, the study analysis will enable the best

[19] Among other difficulties, cohorts (parents and children) who have lived under different productive structures, economic crises (such as in the 80s), productive restructuring (such as in the 90s) and periods of growth (such as in 2000), as well as productive differentials between generations and life-cycle effects are frequently uncontrolled. Among the current occupation of the children and parents, when they started in the labor market may be related to more than 50 years ago and the same occurs regarding the first and current occupation of the interviewee.

[20] On the other hand, adjustments are more complex, since it must take into account different level of lack of response per wave.(Unstats, 2005a:129).

correlation between income (permanent and temporary) and mortality. The risk of falling and remaining in poverty can be caused by "idiosyncratic"shocks such as the death of main person of the same, or "covariants", systematically impacting a place, for example, by a flood (Baulch and Hoddinott 2000:9).

Costs can be considered as a disadvantage (especially when compared at least to just one study) and methodological matters:

- Loss (friction or[21] fatigue during the study);

- Conditioning or long-term effects of the participants in the study (*time-in--sample bias*);

- Assessment errors.

Regarding assessment mistakes related to poverty and mobility, (a) inconsistent statements (regarding income and/or consumption), (b) deflators problems, (c) equivalence scales problems among youth and adults (for calculations that surpasses basic *per capita*) and (d) difficulties in pairing households, families and individuals per wave can be outlined. These errors tend to increase the variability and incorrect ascending or descending mobility (Dercon and Shapiro, 2007:18).

ON LONGITUDINAL RESEARCH COSTS

In general, there are references to the high cost of longitudinal studies, often in comparison to a single cross-sectional study. They are related to the attention rendered to the friction and the aforesaid assessment of errors that are not visible in cross-sectional surveys. In addition, the best efforts to decrease friction and lack of response may lead to each individual, when the latter no longer resides in that home. The same home may also become the home of another family.

Having said that, sharing sampling units has its own reasoning in terms of economy. However, essays may indicate at least controversial reference. Duncan et al. (1987) made the following statement on the American PSID Survey (*Survey of Income and Program Participation*): "Surprisingly, the monetary cost of surveys is smaller than the cost of repeated comparison among cross-sectional surveys."

The choice of a type of study is related to the goals of the research, but also to the inherent costs of the same. According to Buck et al. (1995), a continuous study would be cheaper than a rotating study.[22]

[21] The term "friction" is used to designate individuals (households, families, people) that cannot be interviewed due to several reasons during the second phase of a longitudinal research. Such survey friction is usually represented by a percentage ("non-interviews") in relation to interviews effectively performed during the first phase.

[22] See Table A1 of the Annex, with a systematization of the comparison point of two types of studies. It is worth noting that, in the case of SIPD, there is no doubt regarding the rationale of a rotating study in the pursuit of a job.

FOREIGN RELEVANT EXPERIENCE

The largest and longest studies known are related to epidemiology. Among the most renowned studies, we can state the Framingham cohort study (heart disease), which began in 1948 with 5,209 individuals.[23] The ARIC (*Atherosclerosis Risk in Communities Study*) study which started in 1987 with approximately 15,700 individuals can also be stated.[24] These two studies are from the United States. Regarding newborns, we can state the British study NCDS (*National Child Development Study)* with cohorts of (currently) approximately 17,000 people, that were monitored from 1965, 1969, 1974, 1981, 1991, 1999-2000, 2004 and 2008. The waves of this research were used for medical studies, but also to outline social and educational policies, etc.

In terms of socio-economic research-related studies, a few examples are consolidated in developed countries. The forerunner is the PSID (*Panel Study of Income Dynamics*) study that began in 1967 in the United States. A summary table is depicted below.

TABLE 1- CONSOLIDATED SOCIO-ECONOMIC STUDIES

Name of the study	Country/ Scope	Duration/ Frequency	Agency in charge	Sample (approx.)	Main subjects
PSID - Panel Study of Income Dynamics	United States / domestic	From 1968 / Biannual since 1999	Michigan Univ.	4800 families in 1969, increasing up to 9000 in 2009 (70,000 individuals in all). Sub-samples: Latinos, immigrants, low-income	social, economic and health behavior
SIPP - Survey of Income and Program Participation	United Kingdom / total(1)	From 1984 / waves in 4 to 4 months / total among 2½ and 5 years	U.S. Census Bureau	Between 14,000 and 46,500 households	income, work, eligibility and participation in social programs; 1 x costs per Panel
BHPS - British Household Panel Survey	United Kingdom / total(1)	1991-2009 / Annual	Michigan Essex	5,500 households (10,000 individuals with more than 16year old). Sub-samples: Scotland, Wales and Northern Ireland (2001)	situation and socio-economic behavior
Understanding Society	Germany / Domestic	From 2009 / Annual	Michigan Essex	40,000 households (100,000 individuals); Sub-samples (N = 1,000) for several ethnic minorities.	situation and socio-economic behavior

[23] http://www.framinghamheartstudy.org/about/history.htmlhttp://www.framinghamheartstudy.org/about/history.html

[24] See http://www.cscc.unc.edu/aric/

Name of the study	Country/ Scope	Duration/ Frequency	Agency in charge	Sample (approx.)	Main subjects
ECHP - European Community Household Panel	Europe / 15 countries	1994-2001 / Annual	Eurostat	60,000 households (130,000 adults with more than 16 years old) for the national representation of 12 countries; 3 more countries during the period	economic activity, personal income, social relations, health, work, education
SOEP - German Socio-economic Panel	Germany / Domestic	From 1984 / Annual	DIW Berlin - Econ. Research Institution	11,000 households (20,000 people); Eastern Germany since 1990; Sub-samples: immigrants, high income	Economic activity, income, work, health, satisfaction
HILDA - Household, Income and Labour Dynamics in Australia Survey	Australia / Domestic	From 2001 / Annual	Michigan Melbourne	the first study comprised 7,682 households and 19,914 individuals	Situation and socio-economic behavior, work, family

(1) Does not enable sub-national interruptions

Some points regarding these consolidated studies can be outlined:

- Typically they are long and have domestic coverage;

- There are samples with several sizes;

- An effort is made to monitor expressly individuals that were comprised initially in the study, out of the household scenario;

- Attempts are made to decrease any sort of friction based on consolidated techniques (contacts between waves, questionnaires with intermediate sizes, visits by the same interviewer whenever possible, demonstration of appreciation, incentives, even reducing the repetitions (which would also be associated to funding), etc.;

- Inclusion of sub-samples (*boosters*) to improve the monitoring of segments (for example, low income level) and prevention of interruptions. Besides this, the studies should monitor new population in countries with immigration focus;

- In a general sense, the university research centers attendees are responsible especially with government funding. According to the participation (and assessment of policies and based on repeated conduction of studies, the SIPP research is conducted by the official statistic agency of the United States.

Regarding the development of studies in developing countries, most of them try to develop the life condition of the population in terms of poverty and mobility. Usually, these studies are short (or rotating) and based on regional coverage. In longitudinal studies compiled according to Baulch and Haddinott (2000), the duration is from 18 months to 18 years". In terms of duration, Dercon and Shapiro (2007) reported 50 studies on poverty or mobility, in which, 5 are based on rotating studies and two thirds are related to short studies with a duration of five years or less.

Regarding the results, Baulch and Haddinott (2000:18) indicate the following studies: (a) "poor individuals" are those who are poor or those who are poor at some given moment; (b) there is a strong level of transient poverty, in other words, poor individuals in some but not throughout the entire study. These individuals are usually the majority, in studies that are used as a definition to poverty in absolute and relative terms; (c) changes in returns achieved from resources (*endowments*) due to extrinsic events or minor improvements in capital stock (financial, human, social, etc.) can be a significant source of income; and (d) temporary shocks may have long-term consequences.

Table 2 outlines information achieved from studies that were conducted in some countries in Latin America:

TABLE 2 - SOCIO-ECONOMIC STUDIES THAT WERE CONDUCTED IN LATIN AMERICAN COUNTRIES

Name of the study	Country and coverage	Duration – Frequency	Person in charge	Sample (approx.)	Main subjects
PANEL-CASEN – Domestic Socio-economic Characterization Survey	Chile / Regions 3, 7, 8, RM Santiago (60% of the population)	STUDY-CASEN 1996-2001-2006	Ministry of Planning	21,000, 18,900 and 14,600 people in 1996-2001-2006 (28% of friction in 2001 and 51% between 1996 and 2006)	economic activity, income, work, education, health
EPH – Permanent Household Survey	Argentina / urban agglomeration	1974 /quarterly/ which was converted into quarterly in 2002 / rotation 2-2-2	ENDEC	25,000 quarterly studies conducted in households; overlap (expected) of 100% in the first two quarters and two subsequent quarters of the year[25]	work, income, education

[25] Since 2003, "this type of scheme ensures that the home is surveyed for the first time in the second week of the first quarter and is surveyed again in the second week of the second quarter and is removed temporarily from the study only to be surveyed in the second week of the first quarter of the subsequent year and in the second week of the second quarter of the following year" INDEC (2003:19).

Name of the study	Country and coverage	Duration - Frequency	Person in charge	Sample (approx.)	Main subjects
ENOE - National Employment Survey	Mexico / metropolitan region	1983 (EN-EU-ENE) / ENOE in 2005 / quarterly / rotation 1-2(5)	INEGI	120,000 quarterly studies conducted in households; overlap of 80% in the subsequent quarter, 20% in the first quarter of the following year	work, income, housing
New PME - Monthly employment survey	Brazil / 6 Metropolitan regions	1980 / reformulated in 2002 / monthly / rotation 4-8-4	IBGE	40,000 households per month, overlay of 75% month per month, overlay of 50% after 12 months	economic activity, income, work, education
SIPD - Continuous PNAD	Brazil / National	Begins in 2011 / Quarterly / rotation 1-2(5)	IBGE	180,000 quarterly studies conducted in households; overlap of 80% in the subsequent quarter, 20% in the first quarter of the following year	economic activity, income, work, education, living conditions, migration, modules

With the exception of Chile, these are rotating studies as in the case of the PME and the Continuous SIPD/PNAD.

As a result, some points of methodology and findings of studies on poverty and mobility from studies reported in Table 1 and 2 will be discussed.[26]

The study conducted by Muffels et al. (2000) is an example of the study analysis in terms of poverty and inequality in countries with the development of social protection systems. The longitudinal information achieved in the United Kingdom, the Netherlands and Germany will be used. The authors made comparisons that can be defined as short-term (one year), five years (between the three countries) and ten years (only for Netherlands and Germany, due to the unavailability of the British data). In this study, households and individuals were compared regarding the following: "always poor", "poor at a given time" and "continuously not poor" conditions. [27] The availability of data and the duration of each study will have direct effects on these parameters. Contrition regarding the data censorship at the left and the right, but they informed that the probably of leaving the line of poverty reduced rapidly during the 2 years in this condition.[28] In terms of results, they showed that beside the transference of income, employment market events and also household components (number of persons, age, etc.) are related to the mobility. The information achieved demonstrated that chronic and transient poverty shared characteristics, even though low level of education and income are notorious in individuals who are persistently poor. It also indicated that

[26] In the annexes, both questionnaires will be outlined: ECHP and STUDY-CASEN.

[27] Strong emphasis is made on absolute poverty in these countries (for example, regarding homeless and illegal immigrants), but there is focus on the European Union definition: income level below the line of average income (relative poverty).

[28] This is related to the results on essays regarding this matter. See Baulch and Hoddinott, 2000.

poverty is a long-term phenomenon when the number of poor individuals (different types) bypasses those related to the short-term comparison. Finally, regardless of the strong mobility among poor individuals, there are characteristics related to persistent poverty (especially in the UK).

In Latin America, in addition to studies based on PMEs (discussed in the next section), we will highlight three studies: Contreras et al., 2004 (Chile), Albornoz and Menéndez, 2002 (Argentina) and Gong and Villagomez, 2002 (Mexico).

Contreras et al. used the STUDY-CASEN "Domestic Socio-economic Characterization Survey"[29] 1996-2001, the first study conducted in Chile with the initial sampling format that was carried out in 5,326 domicile. It was possible to interview approximately 70% of those individuals at an interval of 5 years.[30] In some regions (encompassing 60% of the Chilean population), the authors describe major vulnerabilities in homes with children. For maintenance in poverty conditions, this information indicated difficulties in fighting health problems sustained by the main person in the home of almost 40% of the poorest individuals in the study, which differs from the rest of the population, hence, mitigating the effects of this type of shock. In order to evade poverty, the positive effects of the vocation study are highly indicated. It is noteworthy that the last result in the study is deemed as relevant in accordance with other information on income that was achieved.

Albornoz and Menéndez analyzed income mobility and inequality during different economic shocks in the city of Buenos Aires, using five interruptions during the "Permanent Household Survey":[31] 1991/1992, 1993/1994, 1994/1995, 1998/1999 and 1999/2000. The innovative character in the Argentinian study, according to the authors, indicated that the "income mobility survey offered a dynamic dimension for the understanding regarding income distribution which could not be perused in the cross-sectional surveys." Different behaviors can be depicted for the same phenomenon during the period of crisis/recession. Emphasis can be stressed on higher education role to avoid the reduction of the position on the "social ladder". Unfortunately, the analysis is limited due to the short-term of the studies conduction and does not indicate clearly the correlation between the attest increase in inequality in the 1990s and the short-term mobility, which proved to be volatile.

In Mexico, the analysis conducted by Gong and Villagomez (2002) should be mentioned. In that country, the ENEU "National Employment Survey",[32] a study with a structure that is similar to the Continuous PNAD (1-2/5 rotation) was used. The authors did not study the life conditions but the employment mobility in the formal, informal and unemployment sectors.[33] Similar to the Argentinian study, comparisons were made in different years, to control the macro-economic conditions. In this case, the period of rapid growth comprised between 1992-1993 and the period known as the Mexican crisis that took place between 1994-1995 was taken into consideration.

[29] The STUDY-CASEN should not be misplaced with the CASEN survey. This is the main survey that addresses poverty and the pertinent life condition, applied transversely in Chile, on a biennial or triennial nature since 1987. In the entire country, 73,720 households were sampled in 2006 (http://www.mideplan.gob.cl/casen/pdf/metodologia_2006.pdf).

[30] They were also monitored in 2006 with 51% of friction in 1996 (PNUD CHILE, 2009).

[31] Before a strong reformulation in 2003, this was a six-month rotation study in which the households remained for approximately a year and a half in the sample. It is noteworthy that 25% of the panel was renewed during each wave and approximately 50% of the original sample was achieved from the sample that was conducted in the following year (disregarding any level of friction). In this structure, the final sample achieved in households (paired) was between 30% and 35% of total of individuals that were interviewed.

[32] The current name of the study is ENOE "National Occupational and Employment Survey".

[33] The study was restricted to five cities, encompassing 60% of urban employment in Mexico.

In both periods (conduction of studies in five quarters), respectively, 64% and 75% of the individuals remained in the five waves. The findings are congruent with the paper on the matter granting more stability and participation in the formal sector to more educated individuals. Mobility works differently between population groups and periods (growth and recession), which is an interesting finding in this type of analysis. In this case, we also regret the short duration of the study in order to perceive variations and best causal schemes in terms of variability. Besides that, the authors regret the lack of information on migration (seasonal and recurrent to the United States).

COMPARABLE STUDIES IN BRAZIL

In the Brazilian health sector, there are cohort studies involving newborns in Pelotas (cohorts in 1982, 1993 and 2004) and in other locations (for example, São Paulo; Barros et al., 2006). For adults, the "Projeto Bambuí (Bambuí Project)", on hypertension on elderly individuals can also be mentioned (Firmo et al., 2004).

Recently, ELSA project began (Longitudinal Study of Adult Health) comprising "a cohort of 15 thousand civil servants from six public higher education public schools in the Northeast, South and Southeast of Brazil." The first wave concluded on December 2010.[34]

In the socio-economic area, similar to the short studies that were conducted in Mexico and in Argentina, Machado and Ribas (2008) relied on the PME to study the mobility of the same (individuals who remained poor and those who were no longer poor).[35] According to the authors, the PME is the "only household survey which enables this type of analysis." (ibidem, p.7). In all of them, 6 metropolitan regions encompassed by the PME were used, similar to the studies that were conducted in Argentina and Mexico accumulating these studies (2002-2007). However, unlike other Latin Americans, elements of comparison were not transferred on a yearly basis.

Between the first and the last assessment in the same household that was conducted during 16 months, they recognized "this time is not sufficient to estimate the duration of the poverty experienced by that family" (ibidem). Having said that, the methodological sophistication, the censorship (right and left) was accounted by the authors according to the models and they decided not to compute any income that was not achieved from employment sources.[36]

According to the demand, Machado and Ribas (2008) demonstrated that there is a higher probability that the family may enter into the line of poverty and remain there due to the number of children, illiterate adults, main person in charge of the home who is not caucasian. On the other hand, "the presence of at least one elderly is [household characteristics] a major impact on the probability of leaving the line of poverty, *vis-à-vis* to remaining in the same, increasing the chances in more than 20%"

[34] See http://www.elsa.org.br/oelsabrasil.html.

[35] In these essays (p. 10), the study conducted by Barros, Mendonça and Neri (1995) should be mentioned as follows: "They also used the PME study, but only for a descriptive analysis. In other words, they did not investigate the main elements of the duration of poverty and no control was associated to the censorship issue. However, they obtained interesting results."

[36] Allocation made from the PNAD, since the information was not stated in the questionnaire of the PME.

(ibidem). There is a greater chance for the family to enter and remain in poverty if the per capita income is far from being within the parameters of the line, except when the income is equivalent to zero (which may be a result of the loss of the only source of income).

According to the supply, the authors (ibidem, p.27) stated that "changes in the unemployment rate of the economy do not affect directly the probability that the family may remain or not in poverty. Variations in the salary mass, on the other hand, may represent a significant impact." The authors regret the limitations but consider that "the format of the PME [monthly] is ideal for the analysis of transitions and effects of variation in aggregate demand, since it enables the investigation of the changes in a short span of time" (ibidem). They stated the recurring measure (monthly) as one of the important points in a continuous study that could be taken into consideration for these shocks.

Based on the PME and income achieved from non-employment sources achieved from the PNAD, Ribas e Machado (2008)[37] criticized the conclusions[38] drawn from a specific measure (such as the PNAD, with information obtained in September) and performed their poverty and mobility calculation as an indicator of "permanent income" with PME which will present four assessments in a year. The conclusion is stated below:

> ...the trends depicted in the figures presented by poverty and inequality in RMs [metropolitan areas] according to the monthly information are the same observed with the PNAD data, regarding the month of September. However, we identified that behind these trends, those figures show a certain seasonal pattern. Between January and April of each year, inequality tends to be higher, while the average income is lower and poverty tend to rise. From May to September, even though there was an increase in inequality, average income also increases poverty and consequently decreases this level. Between October and December, inequality tends to decline and the poverty rate and the rate of indigence will accompany this reduction.

> In the investigation of transitions into and out of poverty and indigence, we identified that behind the statistics achieved from the PNAD, the mobility result is considerable. In fact, only 40% of the poor individuals and 25% of the indigent persons in the RMs observed in September remain in this condition at least until January of the following year. (Ribas and Machado, 2008:24)

Once more, the collection method has an impact on the breakdown of mobility and longitudinal data.

A recent example of independent longitudinal survey is the Impact Evaluation of the Bolsa Família Program (AIBF). The first phase took place in 2005 when 15,426 households were interviewed.[39] After the first phase, those persons in charge of the

[37] They used an approximate pairing algorithm as outlined by Soares and Ribas (2008).

[38] According to the authors, income achieved from non-employment sources, (interest, rents, retirement, private and government transfers) usually represent about 30% of total household income.

[39] It was applied in 269 counties of 23 states and the Distrito Federal; See details on the methodology and the sampling of the first wave in CEDEPLAR/UFMG and MDS, 2007. About results of this survey and other MDS assessment surveys, consult Tapajos and Quiroga (2010).

survey defended the implementation of a second phase highlighting the limitations in the conclusions on the impact of policies with a specific measure:

> ... The difference achieved at the baseline is not an impact measure, in other words, a measure that can be considered as such, without any doubt. To this end, it is necessary to conduct the second phase of the survey in order to establish the longitudinal base. CEDEPLAR/UFMG and MDS, 2007:6

After this, attempts were made to interview the same families during the second phase of the survey in 2009. During this second phase, there was a similar level of friction to previous studies that were mentioned in other sections. The AIBF II achieved 74.1% of this conversion, totaling 11,433 interviews. The first results of this second phase were released in 2010 and were essential in the analysis of the program impact, according to the opinion of one of the coordinators:

"Previous studies have registered the changeable circumstances of the lives of the beneficiaries of the Bolsa Família Program throughout the course of time. However, none of them were able to demonstrate that the program was responsible for these changes. In this new assessment, we have succeeded in this", said John Hoddinott. [40]

Unfortunately, at the time of completion of this text, the full report had not yet been made available by the Ministry of Social Development (MDS) or its partners.

THE EXISTING LONGITUDINAL STRUCTURE CURRENTLY AVAILABLE AT THE IBGE AND WHAT CAN BE EXPECTED FROM THE ENTITY

As previously mentioned, just as the PME, the new system presented by the Continuous PNAD includes a superimposition of households from one year to another. In this case, 20% of households (except losses) are interviewed in the first quarter of the following year after their inclusion in the survey. The superimposition is welcome in longitudinal surveys, even if the scope is limited.

Regarding the sources of losses, Ribas and Soares (2010), after the analysis of the PME, stated that, besides non-existent households, those that were closed or refused to render answers, the change of domicile would be the main source of friction in the conduction of the survey.[41] Lopes (2002), just as Ribas and Soares (2010), during the analysis of the PME in the different periods (and formulations) attested that the possibility that these individuals will remain in the study varies from region to region, the period of the year and also due to their profile (for example, people with more than 29 years tend to leave the study, due to decisions related to study, pursuit of job, etc.). Households that are controlled by women and persons with a higher level of education were less likely to friction. Clearly, there is a risk of deviation of

[40] IFPRI, 2010:2

[41] "The primary cause of the fatigue [friction] in a longitudinal research is directly related to the change of address of the people included in the sample. In the PME, this is a major problem than other surveys included in the study, such as the PSID (Panel Study of Income Dynamics) and the BHPS (British Household Panel Survey), which really make attempt to find people in other addresses" Ribas and Soares 2010:214.

the study when the people that tend to leave the study are different from those that remain in the study.

The structure of the SIPD is based on the superimposition of households, not families or individuals, which is prone to be a source of major friction. The good news was the inclusion of the[42] possibility of establishing a unique identification of the individuals in the household in the collection software of the Continuous PNAD.[43] This is a fundamental step of the development of longitudinal studies.

Furthermore, this control will enable the real assessment of the friction at an individual level, which, otherwise, would be unknown, as what happened with the PME.[44]

Besides that, the structure of the continuous PNAD, as stated by Paes de Barros, in the first SIPD forum, may enable the conduction of an interesting study from one year to another, according to the analysis that is established as "inclined":

> Select a group of letters A, B, etc. After a year, these individuals may be interviewed. In this case, we can estimate very accurately the unemployment rate variation of these individuals a year later. In this case, the superimposition is of 100%. Obviously this is not an unemployment rate in a certain point of time, but of a group of persons that were dispersed during a certain period. This superimposition is very important to the person conducting the data analysis. (http://www.ibge.gov.br/home/estatistica/indicadores/sipd/primeiro_forum/primeiro_relatorio.shtm)

Even if the definition of a study with a longer term and repeated interviews is not feasible, the structure to be assembled in the Continuous PNAD will enable richer longitudinal studies with more precision than what we have currently. This also happens because the household income achieved from other employment sources is also included and is not stated in the PME questionnaire.

CONCLUSIONS AND RECOMMENDATIONS

Based on inquiries and longitudinal studies that were used for debate, it can clearly be stated that these studies are very interesting for the understanding of poverty and mobility and are far richer than the cross-sectional surveys. These studies are relevant in the case of causal relationships, since they avoid deviations. However, there are inherent methodological difficulties.

Short panels, as in the case of PME and as it will be in the case of the SIPD/Continuous PNAD, even with the limitations regarding the observation of "chronic" and "transient" poverty will be used for an approximation of the phenomenon. An action that is repeated on a quarterly basis is interesting for the seasonality control and also to enable the study of short-term shocks. Having said that, a shorter assessment period is essential to assess policy impact.

[42] Since 2008, all of IBGE's household studies were accomplished with the PDA (Personal digital assistant).

[43] "For example: A home with only one resident (Mr. José da Silva) – during the first visit, this resident will be given the ID number 01. On the second visit, it was attested that this resident was no longer there. The new resident is Mr. Pedro Gomes. Mr. Pedro will be given ID 02 and the order number 01" IBGE, 2009.

[44] "During the interval of 12 months, the proportional loss of households is almost of 10%. However, the losses in terms of individuals are much higher in the new PME based on the interval of nine months with more than 50% of loss, attaining almost 70% in the 16th month" Soares and Ribas (2008). However, they still indicate that these friction rates for individuals are possibly contaminates with the so-called "false friction". This took place since the information used for the pairing of individuals may not be as accurate as the information used in the pairing of households (Soares 2010: 224).

Another point that should be highlighted is the household overlay in the study. The structure that is currently in mind is of 20% between the first and the fifth quarter. Some of the most vulnerable groups have low incidence, and a limited level of super-imposition which can hinder the reliability of the estimates regarding these groups.

There are examples of longitudinal studies in developed countries and also developing countries. In both cases, short studies (up to 5 years) are very prevalent. For example, the American SIPP study which is focused on eligibility, participation and efficiency of social policies, in 2008, is scheduled to last for 5 years with quarterly interviews. Some studies compare several short panels (one or two years) for several years and the main idea is to oppose periods of a bigger or smaller economic growth. On the other hand, we can mention the Chilean Study (Contreras et al., 2001 ; PNUD Chile, 2009). This study does not have the ideal specification since it does not present regular measures, but managed to assess the transition and individuals that remained in poverty at a range of 5 years and 10 years.

One of the main points of the SIPD is that it was designed to comply with many challenging requirements. Having said that, one of the essential requirements to improve the longitudinal aspect of the SIPD study was complied with: the unique identification of the individuals on each visit. One of the *sine qua non* conditions is the achievement of alternative methods used to find individuals besides those that remained in the same household and are interviewed on each visit.

An aspect to be taken into account is how to interview people that have moved around in the same city and/or to deal with the immigration aspects which are sources of deviations for the researched on poverty and social mobility in the case of a less partial focus. New technologies such as CATI research tool (*computer assisted telephone interviewing*), may help. Obviously, this will not take place without difficulties, especially since you are seeking people that are at the base of the social pyramid. On the other hand, during the second phase, the Impact Evaluation of the Bolsa Família Program (AIBF) found more than 70% of the individuals surveys after 4 years. This shows that the elaboration of a longitudinal research with low-income people is doable.

Relying on the identification of individuals, to move beyond the scope of the SIPD/Continuous PNAD, it is appropriate to assess the possibility of interviewing these

households, families and individuals (who may have their own families by then, etc.) once more, after one or more periods with a specific research or a new quarterly study after 1 year, 5 years, 10 years, taking advantage of the Master Sample of SIPD sectors. Have a new series of actions will be applicable to control the variation of the household income on a monthly basis, as highlighted by Machado and Ribas (2008).

Another method would be the use of a structure related to the POF, with the insertion of a longitudinal aspect in simplified versions (annually). In addition to the occupation and income, measures of consumption are strongly desirable for the understanding of poverty, especially since they are less volatile than income. In any case, even without changing the initial cross-sectional structure, it would be interesting to think about the "preparation of the basis", complying with the unique identification of the individuals in the household studied by the POF.

On the other hand, if a cross-sectional mobility module is included in the Continuous PNAD, according to those included in the PNAD (1973, 1976, 1982, 1988, 1996) with emphasis on occupational mobility, it is interesting to ponder about the retrospective time frame. The PNAD study encompassed the job of the father and also the first job. In the case of PME of April 1996, it also referred to the job of the father and the job of the respondents (of 20 years or older) in April 1991, in other words, 5 years earlier. The use of the first occupation replicates the formulation used in each module of the PNAD. In juxtaposition, regarding specific policies, it is interesting to subscribe to one (or more) short and medium-term fixed time frames (1 year, 5 years...) and to verify the access to professional qualification, assistance, etc. Short and medium-term fixed time frames are more aligned with the priority of the assessment of the impact generated by the policies that were implemented. However, this last strategy is not exempt of complications since it repports fundamental events (such as the first job) retrospectively with more accuracy. Once more, the data achieved from the study would be preferable.

The attainment on richer elements on mobility may be a supplement applied during one interview, either with a longitudinal structure (perhaps counting on subsamples encompassing specifically vulnerable individuals), or specific studies will provide information aligned with the political priorities and, therefore, will constitute the grounds for the definition of policies for equitable growth.

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ANNEX

TABLE A1 - CONTINUOUS STUDY VS. ROTATING STUDY

	Continuous Study	Rotating study

Advantages	- Lower cost
	- Better analysis of the duration of the phases (spells)
	- Duration sufficient enough to have information on
	   the background and consequences of the events
		- Better representation of the population
		   phases
		- Possibility of investigation of friction impacts
		   and conditioning
		- Possibility of more frequent interviews

Draw backs	- Deviation of the possibility of friction and reduced subgroup size after the friction - Immigrants are not encompassed in the population - More susceptibility to the demonstration of fatigue by the interviewee	- Higher cost - The duration is not sufficient enough for the collection of information on the background and consequences of events - Lower number and sample conceived for the total duration of the study [censorship] - Difficulties to merge data from different panels

Buck et al. (1995:ii)

SOCIAL PROGRAMS ACCESS AND OCCUPATIONAL MOBILITY PANEL STUDY: THEORETICAL AND METHODOLOGICAL ASPECTS OF THE BRAZILIAN SOCIAL DEVELOPMENT STRATEGY ASSESSMENT

Marco Antonio Carvalho Natalino

INTRODUCTION

Recent transformations in the Brazilian social policies field have established a new order of demands from public spheres and the parties directly involved with the enforcement of these policies. In the meanwhile, the definition and the questioning of the social issue come into play, with the generation of countless points of view on the recent developments of the poverty and inequality rates as well as the role played by social programs that were recently implemented.

As a matter of fact, it can be clearly seen in the current scenario that there is a great demand on the behalf of the academic community and the community of public policies evaluators for periodic information regarding the living conditions of the population directly affected by the aforesaid transformations. For example, in this scenario, samples of the IBGE's household reformulation project and the preparation of an Integrated System of Household Surveys (SIPD) resulted in the recent conversion of the National Household Sample Survey (PNAD) in a continuous research mode with the intent to attract socio-demographic variations in a shorter space of time for the entire national population. The initiative developed by the Ministry of Social Development and Hunger Alleviation in the accomplishment of a Social Programs Access and Occupational Mobility Panel Study (PPP) can be applicable to this project.

The intent of the Social Programs Access and Occupational Mobility Panel Study (PPP) is the collection of information that will assist in the characterization of the population in conditions of poverty, enabling the assessment of initiatives oriented towards social and productive inclusion of the same. This is a longitudinal household survey with quarterly periodicity and duration of three years, which will encompass a meaningful amount of the population living in poverty in two context that are particularly relevant for the understanding of several dynamics that comprise the poverty phenomenon in Brazil: the metropolitan area in the southeast and the Brazilian semi-arid region. The intent of this study surpasses the general socio-demographic characterization of this population, monitoring of the evolution of factors related to poverty and the overcoming of the same based on income instability, access to social programs and inclusion in the productive sector.

In addition to this introduction, this article is divided into three parts. The next section will focus on the transformation of the Brazilian social policies as a background for the new and improved standards, need for research and periodic information about the living conditions of the national population, discussing the role played by state institutions in the collection and analysis of information in compliance to these requirements. The next section also specifies the poverty dynamics analysis with a summarized presentation of the domestic and foreign debate on the understanding and assessment required by reliable and periodic information achieved from state organizations, academic and civil bodies based on debates regarding the limits of the studies focused on the static conception of the poverty with indifference towards the interactive effect between deprivation, vulnerability and social risk. The final section will outline the main aspects of the PPP, presenting its methodological design and analyzing the contributions it can bring to the study of poverty in Brazil, focusing on income volatility, access to public services and the characterization of the multiple dimensions of poverty that is seen in Brazil.

PROGRAMS ASSESSMENT FOCUSED ON SOCIAL POLICIES EXPANSION

Since the establishment of the constitutional regime in 1988, Brazil was subjected to several changes in the scope and in state actions based on expansion and democratization based on responsiveness albeit contradictory, subject to different levels of "momentum" and setbacks to the demands of the citizens. Within the scope of this scenario, major attention was given to the reorganization and expansion of the complex requirements purported by the legal, administrative and financial bodies that structure the provision of social services and benefits in the country. The expansion of social policies in Brazil is a socio-historic phenomenon, which, on the one hand, corresponds to the international experience of modern peripheral countries throughout the last century and yet undertakes characteristics and distinguishing features that deserves to be mentioned.

If the extension of the social rights that were constitutionally guaranteed at the end of the eighties reflects a previous dynamics in which Brazilian society "incorporates the recognition of certain contingencies, risks and social equalities deemed as desirable, demanding that the State and other social bodies should be held as responsible for their defense and protection" (Ipea, 2012), prospectively this generates a programmatic agenda in the social area that established the grounds for subsequent progression. Despite the criticism rendered to the Social State and considerations to the state administration, which is noticeable in the political debate in the 1990s throughout Latin America, the expenditures of the Brazilian federal government have multiplied during the period. The moderation to the rendering of criticisms to the Social State and the partisan transition that took place twelve years ago, on the other hand, led

the executive administration to a coalition process that, despite the diverse ideological characteristics, implemented, consolidated and expanded a list of policies that were well directed hence reverting into the acceleration of the federal expenditure expansion process, which was of 11.24% of GDP in 1995 and attained 16.23% in 2011. Considering the economic expansion in the period, the social expenditures increase, per capita, of the federal government was of 126% between 1995 and 2010 (graph 1).

This increase in the expenditures was boosted by the encompassing and the scope of

FIGURE 1: PROGRESSION OF THE SOCIAL FEDERAL EXPENDITURE PER CAPITA (1995-2010)
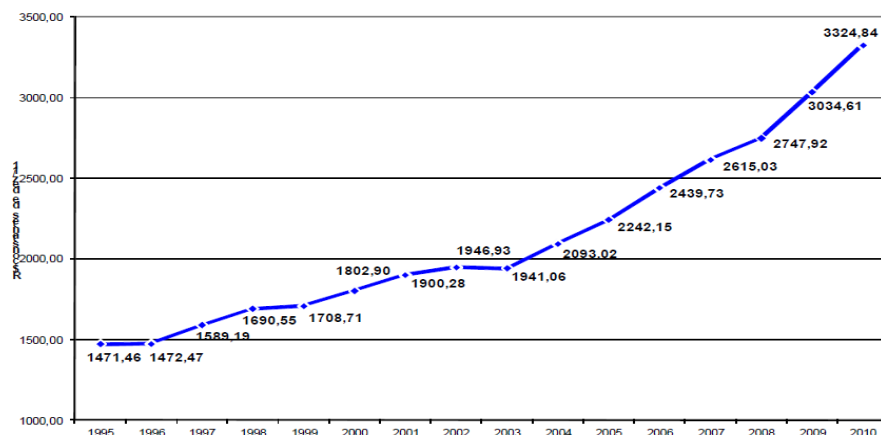
Source: Ipea (2012)

the existing social policies, including social security policies, employment protection, education, health, and, especially, social assistance and income transfer, extending this purview to the administrative structure, the legal framework and also to programs, actions, activities and social benefits provided to the population. This major complexity of the government performance is largely a result of amendments in the Brazilian social framework, which on the other hand, is conditioned by the results of the public policies implemented during the period. Improvements in vital social indicators such as child mortality, schooling and income, just to mention the human development assessment (UNDP, 2013), changes the demands for public services and the operation logic of programs focused on the continuous improvement of the living conditions of poor populations that are at social risk.

The infant mortality case is paradigmatic: the type of health action required for the reduction of child mortality levels changes as the treatment (e.g. diarrhea) become increasingly less representative in accordance with the general framework (Pilchard,

2014). Because of this, relevant actions with more financial resources, complex operations for the maintenance of the reduction of this rate is required. Beside the changes in the type of action required to solve the social problem inherent to the public program, territorial dispersion and the social characteristics of the target population will also be amended. In short, as a specific public action attains a coverage next to 100%, the harder it is to expand its coverage, In this case, for example, as school frequency increases, the representative rate of population that was not encompassed will be the indigenous population and individuals with disabilities, hence, in order to encompass a general access to social policies, it is necessary to develop policies that will comply specifically with the specificities of these segments. The repercussions of this general movement regarding the demands for knowledge and policy evaluation convert generic studies into insufficient elements with very little depth and therefore the application of more sensitive methods are required to attract specific phenomena with varied capabilities.

According to the complexities of the scenario, the expansion of social policies are still supported by an inceptive process which is sometimes contradictory, systemic organization of various sectoral policies (Abrucio et al., 2010), the elaboration of cross-sectional agendas with the intent to comply with several interconnections among the actions of each area in the lives of vulnerable population (Natalino, 2009), with inter sectoral actions, liaising actions of several bodies and federated entities with more or lesser level of success (Chandel, 2012). The interactive action between various social programs, whether they are participants or not of the same government "plan" based on the multidimensional large-scale resources of programs such as the Program Bolsa Família, purports a high challenge to the evaluation of these programs and is not sufficient to attest the reality of the public policies in the accomplishment of specific evaluation methods. Within the scope of program assessments, it can be said that the Brazilian population, especially those with lower income is the subject of multiple "treatments" simultaneously, and significant differences can also be observed in the implementation of each of these treatments nation-wide and effects that were added by the conjoint offer of two or more programs. Therefore, resuming the example of child mortality, the recent study (Rasella et al., 2013) demonstrates the complementary and interactive effects of the Bolsa Família and Family Heath Care Programs in the reduction of child mortality in Brazil. While the latter is a structuring program that renders basic attention to health conditions, in special to lower income populations, the first is an income transference program specifically organized by municipal public institutions in the social assistance area, However, based on specific health requirements of the pregnant mother and the first phase of childhood and the wide scope in the organization of the demand and offer of social assistential services in other relatively remote locations and not frequently served by public services and, crucially, due to the ability to guarantee a minimum income for families whose monetary volatility and vulnerability will often place them in circumstances of extreme food, nutrition, housing insecurity and the access to items required for the health of the

mother and the newborn, the Bolsa Família is a fundamental factor in the current scope of the Brazilian policy in the prevention of infant mortality.

Analogously, several household surveys under the perusal of the national and state statistic agencies are insufficient since they are compelled to extend the scope of their research, the frequency as well as the expedition of the process involved in the dissemination of the information that are deemed as essential to public policies and the debate to various subjects associated to social issues[1]. In response to the demands, these institutes are using new information technology and investing on the expertise of their staff. The high degree of the institutionalization and the on-job training of the bureaucracy of these entities in Brazil, among which we can state the IBGE and the Ipea, contributed to the accomplishment of the expansion process in an organized manner; yet, the demand for qualified expertise outweighs the supply capacity of these institutions.   Correlated with this reality, government agencies that are in charge of the execution of these policies are elaborating and expanding the areas in charge for the collection and analysis of primary information, as well as the processing and continuous monitoring of secondary data, frequently achieved from administrative records.

All these elements make up the current scenario of the evaluation of social policies in Brazil. This combined movement has generated a change in the traditional framework of a lack of evaluative studies and use of data and indicators as instruments of public management. According to Vaitsman e Paes-Sousa (apud Bichir, 2013), this movement is part of the wider process of on-job training of the Brazilian public administration entities; Nevertheless we agree with this diagnosis and it is debatable in terms of social policies whether such amendment is strongly conditioned by an endogenous dynamics of the expansion of the same.

THE DYNAMICS OF POVERTY AND ITS EVALUATION

In this expansion context of social policies and the increase and qualitative amendment of the demand for information and evaluative studies that is part of the creation and institutional strengthening of an Secretariat for Evaluation and Information Management (SAGI) in the Ministry of Social Development and Fight against Hunger (MDS), who is the main responsible for the policies used to combat poverty and inequality of the federal Government. With the substantial reduction in monetary poverty and in various other areas in recent years (see Cambraia et al., 2013 and also Fruttero and Calva, in this publication), requirements for anti-poverty policies were also changed. These provisions were extended to encompass, in the case of the current Government plan for the area ("Brazil Without Extreme Poverty" Plan), access to public services and the opportunities of productive inclusion. At the same time, the coverage of income transfer policies were also broadened in order to comply with the requirements of the population segments that are still excluded from the program.

[1] The PNAD example already mentioned is good example in this sense. Even before the Organization of the continuous PNAD, the scope of the study was expanded to encompass new topics on a yearly (e.g. internet usage) or eventual (through various supplements) basis.

Both movements will comply with the aforesaid process with the expansion of the need for detailed, far-ranging and periodic information that will enable the assessment of various aspects and parameters of this phenomenon encompassing other elements other than the income, without neglecting such aspects, perception of the interconnections and temporary dynamics. Based on the assumption that what we evaluate affect what we do, is widespread in sociology of knowledge from the outbreak of the last century, gained new momentum with the publication of the report of the Commission on the measurement of economic performance and social progress (Stiglitz, Sen and Fitoussi, 2010) – it is possible to assert that the information currently available on populations in poor conditions, albeit more comprehensive than in the past decade, are insufficient to respond to the demands of knowledge on the behalf of the academic communities and public policy experts, government specialists and organized civil society.

In line with this change in the character of the poverty phenomenon as seen in Brazil, actions undertaken by the MDS (the diagnostics elaborated by the SAGI) are congruent with the multiple facets of poverty. In the field of existing public actions, the Bolsa Floresta, for example, indicates an initiative focusing on a very specific audience, with needs and opportunities that are very different from those observed in poor urban areas, and the focus is not restricted to the resolution of poverty, with the intent to integrate human development and environmental sustainability of people who traditionally lived at the margin of the national society. The example is relevant to indicate the challenges of the assessment of programs in this new context: it is imperative to understand the multifaceted character of poverty in the country: urban and rural, infant, black and female, subject to various types of violence and civil and social rights violations, with classifications and diverse compositions regarding the access to public services, social, economic and cultural opportunities, housing and food vulnerabilities. In this complex context, the challenge is to generate information and diagnostics that allow rational and informed development of differentiated solutions for each of these various facets, including in depth specifics of each context used to observe the conditions and life style of people living in situations of deprivation and vulnerability. Therefore, the accurate description, analysis, and dynamics of the diversity of situations that make up the phenomenon of poverty in Brazil is particularly relevant to the improvement of public policies for social development.

One of the main elements to be considered in this analysis is the temporal dimension, consecrated in specialized papers by means of the differentiation between "chronic" and "transient" poverty. Chronic poverty is the result of a structural deficit of capital (economic, social, cultural, physical), while transient poverty is resulting from shocks or conjunctural variations that do not reflect the standard of living of individuals and families (Faris and Villatoro, 2012). This volatility is not well captured by static "photographs" achieved through specific surveys or resources to cross-sectional studies accomplished on a yearly basis, generating limitations to the understanding of poverty.

Still with regard to the limits of the traditional approaches of poverty, it is worth noting that the assessment of poverty by means of income leads to the denotation of an indirect utility function of direct income (e.g. work) and indirect (goods and services offered by the State) sources (Thorbecke, 2005). The relevance for the measurement of poverty depends on the existence of a market for the goods deemed as essential and a supposedly the perfect functioning of the market, which can be affected by distance, lack or ignorance on the part of the population, as well as barriers generated by prejudices and cultural and educational barriers to the object in a suitable manner. While in countries where large portions of the population are living in poverty, the assessment of the same by means of income may induce to the implantation of policies with extremely positive effects for the confrontation of the problem, and this is still the scenario faced in Brazil, to the extent in which these same countries attain lower rates monetary poverty, poverty will undertake a more complex and multifaceted aspect that will remain as a challenge

In addition to the market failures, the assumption that the allocation of resources on the behalf of the families is perfect and the main purpose, above any other, will comply with the minimum basic needs defined by others (for example, the researcher or the agency that create poverty indicators) is an inference that is widely refuted. This occurs due to the values, preferences, obligations and disabilities that are culturally conditioned to "imperfect" intra-familiar assignments based on age and gender inequalities, in addition to specific situations associated to drug addiction and other dependencies. Therefore, the deeper understanding of phenomena associated to serious material deprivation may go beyond the analysis of life conditions, encompassing also life styled in which the deprivation is experienced by people in their daily lives. This is particularly relevant regarding evaluative studies that are carried out with the intent to inform the governmental action, due to the risk that the inference and preferences rendered to the poorer class which might not be easily perceived by the latter, the policy might not achieve the expected results.

Risk aversion is a particularly relevant element for the understanding of the economic actions of the very poor class which deserves to be mentioned. It is directly associated to the lack of capital, there is no room for the undertaking of risks, and in this case, allocations of time and resources deemed as inefficient due to the possibility of the accessing parameters of severe situations of nutritional poverty, for example. In this case, the preference for small agricultural producers for crops with lower productivity, with lower risk level is also well known (Thorbecke, 2005). This lack of capital has profound effects, and the interrelation between poverty and chronic risk is a fundamental variable for the dynamic understanding of deprivation. Chronic poverty can, in fact, reflect risk aversion strategies – *one must stay poor to stay secure* (Wood, 2003). To Dercon (2005):

> There is increasing evidence that non-insured risks increase poverty, by means of

behavioral responses ex ante, affecting the choice of activities, goods, resources and technologies, as well as through continuing effects and possibly permanent transient shocks on the ownership of various types of assets.

We must recognize, therefore, that living in poverty is a risky life. Regarding public policies, this recognition is closely associated to the consolidation of social security as a fundamental component of the post-war industrial societies (Esping-Andersen, 1990). In cases in which the social security system is inadequate and/or does not encompass large portions of the national population, there is major aversion to risk by poor population, including regarding political risks (see Singer, 2009). In short, social security regimes, in addition to the reduction of poverty, may promote a very intense reduction of the vulnerability, which can be understood as the "*uncertainty of future income flows and the consequent loss of welfare caused by this uncertainty*" (Thorbecke, 2005).

Finally, it is worth pointing out briefly in this wide-ranging debate about the multidimensionality of poverty, observing the correlation between the several manifestations of deprivation in the association with vulnerability and the changeful aspects of time. Vulnerability to shocks is broadened in accordance with the level of poverty in several aspects. For example, malnutrition causes problems and cognitive health, increasing vulnerability in the future. Transient shocks can generate permanent poverty pitfalls, blurring the distinction between chronic and transient poverty. In addition, certain dimensions (e.g. education) are more costly in terms of time to be acquired by means of the increase of income others (food, housing). So, someone can be simultaneously poorer today and less prone to poverty in the future. Regarding evaluation studies, the complex interaction between these variables is another element to be considered, observed, measured and monitored and this is not possible according to the current list of surveys available.

LONGITUDINAL SURVEYS AND POVERTY STUDIES

As indicate by Dercon and Shapiro (2009), the standard approach to the investigation of correlations and causes of poverty are achieved from the analysis of the dynamics of the same, which presupposes some kind of diachronic evaluation of the phenomenon. A couple of reasons can indicate the answer, among which we can point out the following: (i) the situation of individuals change over time; (ii) identification of the temporary nature of poverty is a fundamental element for the definition of priorities, for the outline of appropriate policies for each group and for the monitoring of established goals; and (iii) the longitudinal studies enables the assessment of the validity of the life standard measure based on the monetary criteria (see Feres and Villatoro, 2011, page 40).

Therefore, the extensive list of dynamically interrelated variables in the composition of the phenomenon of poverty requires the use of more sophisticated research resources than those that were implemented at that time in Brazil. In the specialized literature, special focus is given to the achievement of knowledge incurred by the

longitudinal studies surveys. Longitudinal studies are investigation tools in which certain variables are observed in same sample repeatedly throughout the course of time. During the last years, there was an increase in the recognition and appreciation of longitudinal studies, especially of the survey type, both at academic level and also by the government and private sector (Lynn, 2009), due to the analytical advantages of this type of survey on cross-sectional studies (*cross-sectional*).

Particularly, the field of public policy evaluation in longitudinal studies, a methodologically powerful tool capable of generating periodic information regarding certain program (or set of programs) that should be assessed on an ongoing basis, will enable the rapid observation and vital indicators used to monitor the policy that were implemented, including regarding the complex interaction of various programs and activities to the achievement of specific social goals. Accordingly, longitudinal surveys enables the association between classic assessment outlines (of the type ex ante and ex post) of the logics used for the monitoring of these programs based on the continuous monitoring of the activities that were performed. On the other hand, the high cost implies that not all programs can be used in this type of study, which is more attractive to the extent that it can encompass several aspects correlated to the lives of individuals interviewed, consequently, enabling the conjoint assessment of a high number of public actions. In fact, the recent increase that was observed in the number of countries from North Atlantic and several regions of the global South with the organization of longitudinal surveys for the monitoring the living conditions of the population, based on the increase of the income variations and other poverty-related parameters, as well as changes in access, quality and the impact of various programs and social benefits conceived for this population. In juxtaposition, the Brazilian strategy used for the confrontation of extreme poverty (Brasil Sem Miséria ("Brazil Without Extreme Poverty" Plan) was associated to the conduction of a longitudinal study with the intent to assess the results and also to provide quarterly incentives for the evaluation and improvement of public actions aimed at the poorest population.

The intent of the Social Programs Access and Occupational Mobility Panel Study is the collection of information that will assist in the characterization of the population in conditions of poverty, enabling the assessment of initiatives oriented towards social and productive inclusion of the same. This is a household longitudinal survey, with quarterly periodicity and duration of three years, encompassing a representative sample of households with per capita income of up to R$140,00.[2]

The sample will be based on the primary data of the 2010 Census, in order to avoid coverage and sub-registry problems eventually observed in administrative registers of social programs such as the Unique Enrollment Number. The period between the census data collection and assembly of the study indicates that several households that were sampled no longer have the income profile required by the survey. Therefore a new enrollment of households and pertinent information for the composition of

[2] Further information about the survey can be obtained on a technical study undertaken with the scope of the Secretariat for Evaluation and Information Management of the MDS (Bichir, 2013).

the households that will be monitored will be required. The Brazilian Institute of Geography and Statistics (IBGE) will comprise the Monitoring Committee of the survey and will be responsible for the preparation of the sampling plan.

The sample selected is based on two different contexts that are inherent to the type of poverty faced by Brazilian individuals as seen currently: the metropolitan area of the Southeast and the Semi-arid region. The selection of the contexts takes into account, on one hand, the theoretical and methodological distinction between a traditional type of poverty associated with economic formations based on subsistence, on small family's property and in the low degree of socioeconomic dynamism, and on the other hand, a typically modern, urban and peripheral poverty associated with excluding dynamic economic formations with high level of precarious employment and underemployment based on housing parameters with low degree of infrastructure. In both contexts, there is an unacceptable level of access to basic public services required for the exercise of citizenship; However, such precariousness denotes a very different socio-political aspect and the generation of opportunities that are not evenly accessible to the poor population.

The first year of the survey was already hired and according to the schedule, the first field surveys will begin in March 2015. From this date, on a four months basis, new data collection will be carried out through the distribution of questionnaires electronically, reducing consistency problems associated with paper questionnaires. The collected data will be transmitted through a secure network to a server that will provide partial on-line information. After the completion of each collection, the consolidated data will be analyzed and condensed into a report, which will be disseminated publicly. Following the policy of transparency of the MDS evaluative research (Pathak et al., 2013), the databases will be made available to the entire population in the web page of the Secretariat for Evaluation and Information Management.

The intent of this study surpasses the general socio-demographic characterization of this population, monitoring of the evolution of factors related to poverty and the overcoming of the same based on income instability, access to social programs and inclusion in the productive sector. The focus of the same are aligned with the federal government's strategy for the confrontation of the problem ("Brazil Without Extreme Poverty" Plan) and, therefore, the intent is to assess in depth the effectiveness of the actions implemented to achieve its objectives, enabling the monitoring of the various federal, state, municipal public initiatives and non-governmental organizations in an interactive way. It is worth noting that possible changes and improvements in the content of the programs that make up the plan may be incorporated to the study and according to the quarterly characteristic, may hasten certain issues or modules that complies with the demands of information achieved from the programs redesigns. Furthermore, the three aspects (income, productive inclusion and access to services) encompasses and denotes the concerns and perennial interest variables of

the researchers, such as composition of the household income and the volatility of the same, education and completion of professional qualification courses with the inclusion in the professional market, as well as the demand, access and satisfaction of the population with the provision of essential public services.

The operational complexity inherent to the conduction of the longitudinal survey in countries in development, with a complexity that is disclosed especially by the high rates of friction and sample loss observed in similar studies conducted in Latin America – sum up the analytical complexity of the data analysis achieved from the longitudinal study with the intent to encompass and correlate multiple relevant variables to the understanding of the phenomenon of dynamically and multidimensional poverty levels. It is worth noting that the intent of the research is also correlated to the dynamic analysis of poverty in various aspects, in accordance with the analysis undertaken in the previous sections.

The contents of the questionnaire used for the survey, which will be pre-tested in January 2015, and will be divided into various topics and sections. Beside that, there is a fixed part that will be applied on a quarterly basis and another that is variable. The variable part of the questionnaire is similar to the "supplements" used in household surveys but it is also different since it will be used as the central strategy of the conduction of the study. After the characterization of the population used in the study is established and divided into several subjects such as housing, income, labor, family conviviality, health, education, access to public services and social benefits, indebt-

edness, shocks, professional qualification and productive inclusion, among other topics dealt with in the questionnaire attached, the research will deepen the scope of the questions on each of these topics among others. In this sense, the completion of specific variables sections on social assistance, social capital and relationships and assistance networks, socio-occupational mobility, migration, productive family environment, violence, food safety and other issues can also be foreseen.

In summary, the accomplishment of the Social Programs Access and Occupational Mobility Panel Study represents an important step in the line of information quality available to the parties engaged in the study, in the evaluation and in the fight against poverty as seen currently in Brazil, enabling a dynamic and multifaceted analysis of material deprivation and various situations of social vulnerability faced by poor people. The methodological design of longitudinal Panel constitutes clear progress analysis of the cross-sectional type, and the sample focus on low-income population ensures major representation of this environment than surveys that are conceived with the intention to represent the entire population. From the analytical point of view, the construction of a questionnaire specifically conceived for this segment entails more adequacy of the linguistic suitability and deepening of the inherent subjects to the phenomenon being perused. Added to the theoretical and methodological advantages, it is understood that the PPP can be adapted to the new framework of the demands for in depth periodic evaluative studies providing answers to the new challenges to social policies and comprising an important element of the Brazilian strategy for combating poverty.

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MULTIDIMENSIONAL POVERTY MEASUREMENT: A POWERFUL TOOL FOR POVERTY ALLEVIATION ACROSS LATIN AMERICA

The Alkire Foster method of multidimensional poverty measurement ∼ methodology and current applications

INTRODUCTION

Income poverty measures provide one useful tool for policymakers tasked with alleviating, reducing or eliminating poverty. Though they are undoubtedly important, such one-dimensional measures also miss a lot. No one indicator – such as income – can capture the multiple aspects that constitute poverty or wellbeing. Poor people themselves describe their experiences of poverty as multidimensional. They include, for example, lack of education, health, housing, empowerment, employment, personal security and more. This is true whether we are talking about how we measure poverty nationally in a specific country such as Brazil, or at the global level.

As a result, national multidimensional measures are being used by a growing number of policymakers across Latin America (and beyond) to improve policy design, target beneficiaries more effectively and to monitor and evaluate interventions. The Alkire Foster (AF) method is a leading methodology in this field. This report sets out the method's utility as poverty reduction tool by examining its properties and advantages as a poverty measurement methodology, as well as current national and international policy applications of the method. These applications demonstrate its potential as a tool for constructing context-specific sub-national, national and global multidimensional poverty measures.

Current applications of the AF method include national, regional and international measures of poverty, using dimensions and indicators that are tailored to the specific context. It is used in the construction of the global Multidimensional Poverty Index (MPI) which features annually in the UNDP *Human Development Report*. The governments of Mexico, Colombia, and Bhutan, for example, have also utilised the method to devise multidimensional poverty measures that help to shape social policies and/ or inform the targeting of anti-poverty programmes. Work is also well underway in El Salvador and China (as detailed below) to develop context-specific measures of multidimensional poverty. In addition, many Latin American countries, including Ecuador, Chile, Uruguay and the Eastern Caribbean Islands, are also in the process of developing measures which capture the multiple dimensions of poverty. This report provides an overview of these national policy applications of the Alkire Foster method in the field of poverty measurement[1].

[1] The Alkire Foster method of multidimensional measurement has applications beyond poverty alone. It has been used to create the Women's Empowerment in Agriculture Index, a measure of the empowerment, agency, and inclusion of women in the agriculture sector, which was developed by OPHI, USAID and the International Food Policy Research Institute (IFPRI). The index used to track the change in women's empowerment levels that occur as a direct or indirect result of interventions under Feed the Future, the US government's global hunger and food security initiative (see Alkire, Meinzen-Dick et al (2013)). It has also been used to measure wellbeing in the form of Bhutan's Gross National Happiness Index. The Index includes both traditional areas of socio-economic concern such as living standards, health and education and less traditional aspects of culture and psychological wellbeing. It thus captures the multiple dimensions of a holistic reflection of the general wellbeing of a population.

By offering a way to monitor progress on the multiple dimensions of poverty, the AF method can make a valuable contribution to poverty reduction efforts nationally and internationally. It can provide political incentives to reduce poverty by reflecting changes swiftly and be used to monitor inclusive growth. Measures constructed using this method can incorporate the 'voices of the poor' via participatory exercises whilst also drawing on expert and technical opinions.

MULTIDIMENSIONAL POVERTY AND THE ALKIRE FOSTER METHOD[1]

WHY FOCUS ON MULTIDIMENSIONAL POVERTY?

How we measure poverty can importantly influence how we come to understand it, how we analyse it, and how we create policies to influence it. For this reason, measurement methodologies are of tremendous practical relevance.

While most countries of the world define poverty by income, poor people go beyond income in defining their experience of poverty. They include lack of education, health, housing, empowerment, humiliation, employment, personal security and more. No one indicator, such as income or consumption, is uniquely able to capture the multiple aspects that contribute to poverty.

Furthermore, levels and trends of income poverty are not highly correlated with trends in other basic variables such as child mortality, primary school completion rates, or undernourishment (Bourguignon et al 2010: 24, 27). A person or household can be income poor but multidimensionally non-poor, or income rich but live in multidimensional poverty. Multidimensional poverty does not therefore necessarily indicate income poverty. Income poverty data come from different surveys, and these surveys often do not have information on health and nutrition therefore a person or household can be income poor but multidimensional non-poor or income rich but living in multidimensional poverty.

In recent years, the literature on multidimensional poverty measurement has blossomed in a number of different directions. The 1997 Human Development Report and the 2000/1 *World Development Report* vividly introduced poverty as a multidimensional phenomenon, and the Millennium Declaration and MDGs have highlighted multiple dimensions of poverty since 2000. In the academic literature, new measurement methodologies are being created.

Interest in multidimensional poverty measurement among policy-makers is also growing fast. The number of countries conducting multi-topic household surveys that provide the required inputs for the construction of multidimensional measures have additionally increased dramatically from the mid-1980s, to around 130 developing

countries at present. This phenomenon, together with advances in techniques and the increasing demand to understand and monitor poverty and social policies, generate a unique framework for the implementation of multidimensional poverty measures.

Multidimensional poverty measures, in our definition, identify overlapping deprivations at the household level across different dimensions. They show the average number of poor people and deprivations with which poor households contend. Multidimensional poverty measures cover a range of deprivations that a household may suffer. They can also examine poverty by population group, or study the composition of deprivation for different groups.

Multidimensional metrics are rigorous, easy to use, flexible, and adaptable to different contexts.

COUNTING APPROACHES AND THE AF METHOD

Multidimensional poverty measures that are based on people's own deprivation profiles can, at a glance, provide an integrated view of the situation. The most widely used multidimensional poverty measures since the 1970s have been what are called 'counting approaches'[3]. Most applications of counting measures tend to report a headcount ratio. While this is very easy to understand and communicate, it does not provide incentives to reduce the deprivations of the poorest of the poor. Nor can it be broken down by dimension to show how people are poor.

In 2007, Oxford Poverty and Human Development Initiative (OPHI) Director Sabina Alkire and Professor James Foster created a new method for measuring multidimensional poverty (referred to as AF method for Alkire Foster)[4]. It uses a counting approach to identifying 'who is poor' by considering the range of deprivations they suffer, and combines this with the Foster-Greer-Thorbecke (FGT) methodology that is the most widely used class of income poverty measures. The resulting measure aggregates information to reflect societal poverty in a way that is robust, can be broken down by regions and groups and, importantly, can be broken down by dimension and indicator to show how people are poor.

WHY THE AF METHOD?

1) It is intuitive and easy to calculate

To identify the poor, the AF method counts the overlapping or simultaneous deprivations that a person or household experiences in different indicators. The indicators may be equally weighted or may take different weights. People are identified as mul-

[3] These are widely applied because most poverty data use categorical or ordinal variables, and counting measures can be created that use these data in a rigorous and appropriate manner. See Alkire and Foster (2011).

[4] See Alkire, S and Foster, JE 'Counting and multidimensional poverty measurement', *Journal of Public Economics*, Volume 95, Issues 7–8, August 2011, Pages 476–487; Alkire, S and Foster, JE 'Understandings and misunderstandings of multidimensional poverty measurement', *The Journal of Economic Inequality*, Volume 9, Issue 2 , pp 289-314; and Alkire, S, Foster, JE and Santos, ME 'Where did identification go?', *The Journal of Economic Inequality*, Volume 9, Issue 3 , pp 501-505.

tidimensionally poor if the weighted sum of their deprivations is greater than or equal to a poverty cutoff – such as 20%, 30%, or 50% of all possible (weighted) deprivations.

Having identified who is poor, the AF method then summarises information to show the deprivations experienced by the poor as a proportion of all possible deprivations in society. The simplest measure in the class – which is the most widely applied – can be computed by simple multiplication. It is the product of **H × A:** the headcount ratio or percentage of people who are identified as poor (H), multiplied by the average share of weighted deprivations that poor people experience (A), which is termed the intensity of poverty. This product is called the adjusted headcount or M0 in the AF method; in the construction of a Multidimensional Poverty Index it is termed the MPI value.

This measure has been found to be rigorous, easy to 'unpack' and to use for policy, and flexible, which makes it adaptable to different contexts.

Contemporary methods of measuring poverty and wellbeing commonly generate a statistic for the percentage of the population who are poor, a headcount. The AF method generates a **headcount** and also a unique **class of poverty measures** that include:

- An 'adjusted head count' that shows both the *incidence and intensity of poverty.* It is obtained by multiplying the proportion of people who are poor by the percentage of dimensions in which they are deprived.

- A measure that reflects the *incidence, intensity and depth* of poverty. The depth of poverty is the 'gap' between poverty and the poverty line.

- A measure that reflects *the incidence, intensity, depth of poverty and inequality* among the poor.

2) It is unique

The measure provides the **intensity** of poverty. The AF method is unique in that it can distinguish between, for example, a group of poor people who suffer only one deprivation on average and a group of poor people who suffer three deprivations on average at the same time. This flexible approach can be employed in a variety of situations by choosing different dimensions (e.g. education), indicators (e.g. how many years of education a person has), deprivation cutoffs (e.g. a person with fewer than five years of education is considered deprived), weights (e.g. education and health dimensions are equally weighted), and poverty cutoffs (e.g. a person who is deprived in one-third or more of the weighted indicators is poor).

3) It gives information about specific poverty groups and regions

The measure can be broken down or decomposed by **geographic area, ethnicity, gender or other groups,** to show the composition of poverty within and between them. The measure can also be decomposed after identification to show which deprivations (e.g. dimensions and indicators) are driving poverty among and within groups.

4) It gives information across time

The measure can be used to monitor changes in poverty and the composition of poverty over time using time series or panel data. The AF method reflects other dimensions directly and changes immediately as these change. When used with appropriate indicators this time **sensitivity** feature makes it an effective monitoring tool because improvements in the dimensions measured, such as health and education, are reflected more quickly than with traditional approaches.

COMMON USES

Poverty measures: The AF method can be used to measure national, regional or international levels of poverty, using dimensions and indicators that are tailored to the specific context. It generates one cardinally meaningful number, which can be broken into intuitive indices.

Geographic: The AF method can be used to identify which regions are the poorest, for example for geographic targeting, or to inform allocation decisions

Monitoring and evaluation: The AF method can be used to monitor the effectiveness of programmes over time.

Targeting the poorest groups and beneficiaries: A person's 'deprivation score' can be used to target the poorest beneficiaries and can be broken down to show the indicators in which they are most deprived, helping to inform interventions such as conditional cash transfers, district interventions or public programmes.

Complement other metrics: The AF poverty method can complement other measures, such as income poverty, single MDGs, and inequality measures.

USING THE AF METHOD

An AF 'multidimensional poverty index' can be intuitively constructed in 12 steps. The first 6 steps are common to many multidimensional poverty measures; the remainder are specific to the AF counting method.

Step 1: Purpose and framework
Choose the **purpose** of the measure, and identify the **institutional framework** for generating, releasing, and updating the measure.

Step 2: Unit of analysis
Choose a **unit of analysis** (e.g. a person, household, or community)

Step 3: Dimensions
Choose **dimensions** (e.g. education, health, living standards)

Step 4: Indicators
Choose **indicators** for each dimension (e.g. years of schooling, body mass index)

Step 5: Deprivation cutoffs
Set **deprivation cutoffs** for each indicator

Step 6: Values
Set and apply **values or relative weights** for each indicator

Step 7: Weighted deprivations
Sum the share of **weighted deprivations** for each person (or other unit of analysis)

Step 8: Poverty cutoff
Set and apply the **poverty cutoff** (i.e. the percentage of weighted indicators a person must be deprived in to be considered poor)

Step 9: Headcount
Calculate the percentage of people identified as poor (the **headcount ratio**) (i.e. divide the number of poor people by the total number of people)

Step 10: Intensity
Calculate the **intensity** of poverty (i.e. add up all poor people's share of weighted deprivations and divide by the number of poor people)

Step 11: Adjusted headcount ratio
Calculate the **adjusted headcount ratio** (M0 or the MPI = H x A)

Step 12: Consistent indices
Calculate the **consistent indices:** censored headcount ratios for each indicator, percentage contributions of each indicator to overall poverty, standard errors, etc.

As you will see from the 12 steps outlined above, many key decisions are left to the user. These include the selection of purpose, space, unit of analysis, dimensions, deprivation cutoffs (to determine when a person is deprived in a dimension), weights or values (to indicate the relative importance of the different deprivations), and a poverty cutoff (to determine when a person has enough deprivations to be considered to be poor). It is precisely this flexibility that enables the methodology to have many and diverse applications.

The essence of the method is an intuitive counting approach to identifying the poor. This 'dual-cutoff identification' uses two forms of cutoffs. The first is the set of **deprivation cutoffs**, which identify whether a person is deprived with respect to each dimension. The second, the **poverty cutoff**, delineates how widely deprived

a person must be in order to be considered poor. The term 'deprived' indicates that a person's achievement in a given dimension falls below its deprivation cutoff. If a person's deprivations meet or exceed the poverty cutoff, then the person is considered to be 'poor', and the condition is called 'poverty'.

This identification approach thus uses a counting methodology in which the second cutoff is a minimum share of dimensions of deprivation a person must experience in order to be identified as poor. This 'dual cutoff' identification system gives clear priority to those suffering multiple deprivations and works well in situations with multiple dimensions.

POLICY APPLICATIONS

The AF method is rigorous, easy to 'unpack', flexible, and adaptable to different contexts. It is therefore easy to use for policy purposes and it is currently being applied in a wide range of contexts, including national poverty measurement, social policy design, monitoring of national development targets, national wellbeing and happiness measures, and cross-national measures of poverty and empowerment.

The next two chapters explain in depth the construction and institutionalisation of poverty measures in Colombia and Mexico respectively. **Colombia** has used its pioneering multidimensional poverty measure to monitor progress towards its national development plan. Meanwhile, **Mexico** has passed its multidimensional poverty measure into law, and the dimensions have been chosen by Congress to reflect the social rights enshrined in the Mexican constitution.

The fifth chapter explains other applications of the AF method, including recent developments in **El Salvador** where a proposed MPI will link with social action programmes and guide social policy; **China** where a proposed multidimensional measure in the Wu Ling Mountain Region will incorporate environmental data; and **Bhutan** where a national MPI reflects deprivations in rudimentary services and core human needs. It also explains how the **global Multidimensional Poverty Index** (MPI), included in the UNDP *Human Development Report* uses the Alkire Foster method and is able to track changes in acute poverty over time. Finally, it introduces a new network of policymakers – the Multidimensional Poverty Peer Network – whose participants are drawn from over 25 governments and institutions. It works to advance multidimensional poverty measurement nationally and internationally.

THE COLOMBIAN MULTIDIMENSIONAL POVERTY INDEX

USING A MULTIDIMENSIONAL POVERTY MEASURE TO MONITOR A NATIONAL DEVELOPMENT PLAN

Colombia is a pioneering country in the world in the use of multidimensional poverty measurement for poverty reduction. In 2011, the Government of Colombia adopted an innovative new poverty-reduction strategy, which sets firm and binding targets and outputs based on budget constraints and priorities to close the country's poverty gap. Colombian President, Juan Manuel Santos, announced a National Development Plan with poverty reduction as the centrepiece. The government plans to reduce multidimensional poverty by 13 per cent by the end of 2014 – from 35 per cent of the entire population in 2008 to 22 per cent in 2014. Devised by Colombia's Ministry of Planning, it is the first National Development Plan to use the AF method for measuring multidimensional poverty through the Colombian Multidimensional Poverty Index (MPI-Colombia).

UNIT OF ANALYSIS

The MPI-Colombia uses the household as unit of analysis. Household members are therefore considered to be deprived according to the achievements of all household members simultaneously (e.g. a person is considered to be deprived if any of his or her fellow household members are deprived in literacy).

Three criteria based on the Colombian context were used to select this unit of analysis:

First, a normative criterion draws on the Colombian Constitution, which claims that the guarantee of living conditions and rights is the joint responsibility of the family, society and the State – not the responsibility of individuals in isolation.

Second, an empirical criterion draws on academic evidence relating to Colombia which shows that households historically respond to adverse situations collectively.

The final criterion relates to the social policy context of the country. This criterion draws on existing policies, programmes and instruments in the country, all of which use the household as unit of analysis and intervention.

DIMENSIONS AND INDICATORS

Building on the flexibility inherent in the AF method, the MPI-Colombia assesses broader aspects of poverty in five dimensions using 15 indicators (Figure 1).

FIGURE 1: MPI-COLOMBIA: A NESTED WEIGHTING STRUCTURE

Education	Childhood & youth conditions	Labour	Health	Public utilities & housing conditions
Educational achievement	School attendance	Absence of long-term unemployment	Health insurance	Access to improved drinking water
Literacy	No school lag	Formal employment	Access to health care services when needed	Adequate elimination of sewer waste
	Access to childcare services			Adequate flooring
	Absence of child employment			Adequate walls
				No critical overcrowding

WEIGHTS

The MPI-Colombia uses a nested weighting structure where each dimension has the same weight (0.2) and each indicator has the same weight within each dimension. This set of weights was selected to reflect the equal importance of each dimension as a constituent element of quality of life. Alternative weighting structures were presented during the consultation process for the design of the index but no consensus could be reached regarding the benefits of the alternative options.

POVERTY CUTOFF

The overall poverty threshold – the share of dimensions in which a person must be deprived in order to be considered multidimensionally poor - was set at one-third of the weighted dimensions. This decision was taken based on both statistical criteria and analytical validation. The statistical analysis included computing poverty for all possible values (deprivations in different percentage of weighted indicators) and systematically checking the robustness of the results to changes in these values.

INSTITUTIONS

The MPI-Colombia has been used both to set the specific targets and to track progress towards them in the National Development Plan. As mentioned, the National Development Plan has specific targets for multidimensional poverty reduction alongside income poverty and inequality. It also has specific targets for each of the dimensions and indicators considered in the Index. The list of the concrete goals is shown in in Table 1.

TABLE 1: COLOMBIA'S 'TRAFFIC LIGHT' MONITORING SYSTEM SHOWS PROGRESS TOWARD GOALS

Poverty	Base Line	2011	Alert	Goal 2011	Goal 2014
Income poverty (% LP)	40.2%	34.1%	🟢	35,9%	32%
Extreme income poverty (%LI)	14.4%	10.6	🟢	11,6%	9,5%
IPM (Multidimensional poverty) base line 2008	34.6%	29.4	🟢	25,7%	22,5%
Families graduated from extreme poverty (UNIDOS)	0	581	🔴	10,000	350,000
Gini (Income)	0.557	0.54	🟢	0,556	0,544

To ensure that the targets are on track, President Santos has established a special ministerial Cabinet commission. This commission is headed by the President and includes each of the ministers and heads of departments responsible for the specific targets included in the National Development Plan. The commission holds monthly meetings where each member reports on the advances of his or her sector. The commission has a technical Secretariat for monitoring the advances in the plan. This Secretariat produces reports based on a "traffic light" system which triggers alerts when progress towards each indicator falls off track. Members of this Official High Commission are shown in Figure 2.

FIGURE 2: COMPOSITION OF THE OFFICIAL HIGH COMMISSION WHICH MONITORS COLOMBIA'S POVERTY REDUCTION STRATEGY

Leaders
- Counsellor for the Presidency
- National Planning Department

Permanent members
- Ministry of Health
- Ministry of Labour
- Ministry of Housing
- Ministry of Agriculture
- Ministry of Education
- Ministry of Finance

MANDATORY PRESENCE
The President of Colombia

Source: Government of Colombia

The characteristics of the MPI-Colombia (e.g. it can be broken down to observe the contribution of each of the dimensions to overall poverty levels; it allows analysis of specific groups or regions, or the possibility of analysing simultaneously experienced deprivations) result in rich discussions regarding public policy at a multisectoral level and a clear map for coordinating the design and implementation of policies to achieve an integrated strategy for the reduction of poverty.

An additional element of this monitoring system is its transparency and the account-ability it generates vis-à-vis the general public as well as within government. As part of the institutionalisation of the MPI-Colombia, the government has now transferred the responsibility for the calculation of the Index to the National Statistics Department (an independent institution) and established an independent board of national and international experts to oversee the data. Moreover, surveys are now fielded and the MPI released on an annual basis in order to support the follow up of the Development Plan. The information depicting the advances in the plan is made public annually, allowing for the results to be widely scrutinised and lagging sectors identified.

MPI-COLOMBIA AT THE MUNICIPAL LEVEL

A proxy of the national MPI-Colombia was constructed at the municipal level using Census data from 2005. The municipal MPI allowed poverty maps to be created and updated using the new multidimensional (Figure 3) approach and assessment tool. These maps were subsequently used as instruments for geographical targeting and differentiation of social programme's interventions.

FIGURE 3: MPI – INCIDENCE AT A MUNICIPAL LEVEL

Urban (H)   Rural (H)
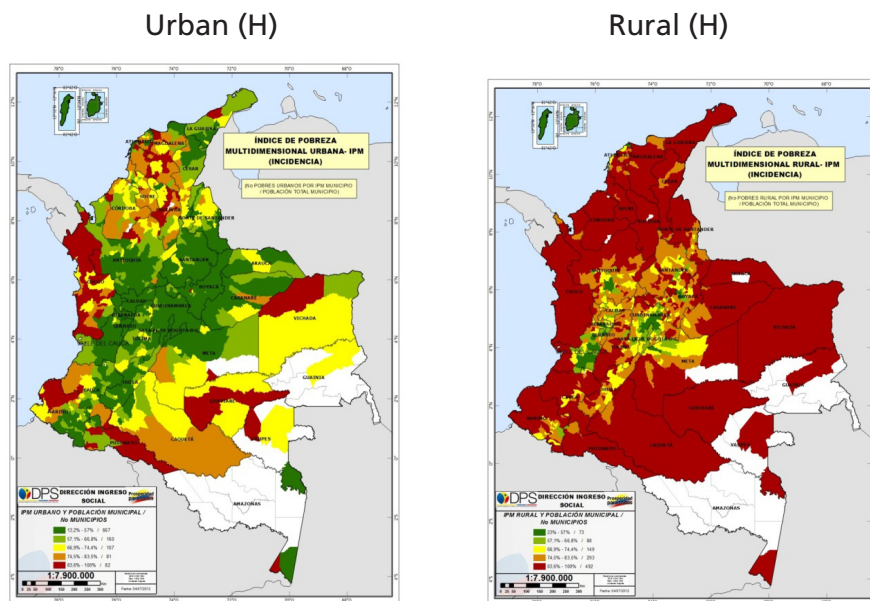
Source: Government of Colombia

There is a high ratio of rural to urban poverty and also between central and coast regions. Furthermore, urban-rural and centre-periphery gaps have intensified over recent years.

POLICY APPLICATIONS

Families in Action

Families in Action is a conditional cash transfer programme for poverty reduction. Under the scheme, selected families receive direct cash transfers that are incremental and conditional on the improvement of the education and health outcomes of the members of the household. The programme currently exists in 1,102 municipalities and targets 2.6 million families in Colombia (approximately 10 million people). Since 2012, the MPI-Colombia has been used to define the regions for the allocation of the Families in Action Plus cash transfers programme. The MPI-Colombia allows for geographical targeting in order to differentiate coverage, interventions, and adapting the amounts of the transfers according to regional specificities.

This has three concrete results: 1) there is an increase in the number of beneficiaries according to the headcount ratio of the municipality's MPI (i.e. more beneficiaries on the poorer municipalities); 2) a higher total transfer amount to rural and poorer

areas; and 3) a higher impact on reducing households liquidity constrains according the geographical location.

The programme currently allocates the funding according to four main groups:

Group 1: Bogota

Group 2: 21 cities (21 capitals)

Group 3: 512 municipalities with a MPI of less than 70%

Group 4: 568 municipalities with a MPI of over 70%

The UNIDOS programme

The UNIDOS programme is the main public policy initiative to reduce extreme poverty in Colombia. The objective of the programme is to enhance the income-generating abilities and the quality of life conditions of the families involved through a better targeting of the provision of public services. For this, the programme places a strong emphasis on the efficiency of the identification process of potential beneficiaries and offers specific policies in the following areas: a) income and work, b) education and capacity, c) health, d) nutrition, e) housing conditions, f) family relationships, g) banking and savings, and h) access to justice.

The identification of beneficiary families is done through a census-type exercise involving a short questionnaire that collects detailed information on multidimensional and income poverty. The information is then processed and beneficiaries divided by categories depending on the type of poverty prevailing in the household (income or multidimensional), and the dimensions were deprivations are observed. A set of social programmes based on each household's needs is then defined for the selected families. Delegates of the UNIDOS programme in each public agency are then responsible for enrolling the families in particular interventions and to oversee the development of the family in the specific area pertaining their agency. For this, regular evaluation sessions are carried out in order to evaluate the achievements of

households. Community meetings are also part of the strategy in order to define a mechanism for local management.

The enrolment of selected families is transitory; once a family no longer lives in extreme poverty, the family is moved into other social programmes (such as Families in Action). In order to determine this, the MPI-Colombia is used alongside an income poverty measure as a condition for promoting families from the UNIDOS programme. This implies that only families classified as non-multidimensionally poor and non-income poor are promoted out of the programme.

The programme is managed by National Agency for Extreme Poverty Eradication (ANSPE) who coordinates the involvement of 20 State agencies and the selected families. The programme currently targets 350, 000 families (around 1, 150, 000).

The Youth in Action programme

Youth in Action is a conditional cash transfer programme aimed at improving the income and employment opportunities of vulnerable young people in Colombia. The programme started in 2013 and has been designed to support several income-generating initiatives in different sectors of the economy defined in the National Development Plan. The programme currently targets 120,000 youths.

An agreement with the national education agency (SENA) has been made to ensure technical and academic training is made available to participants. The education agency studies the profiles of the targeted population in order to improve education provision. It also provides information to improve the monitoring of programme outcomes and the progress of beneficiaries.

Regional development plans

The MPI-Colombia is also being used as an instrument for monitoring regional policies as well as a base line for defining goals on specific interventions. The agenda includes the definition of public resources as well as private alliances for accomplishing these goals. Figure 4 shows these goals in detail.

FIGURE 4: SECTORAL GOALS FOR POVERTY REDUCTION

Pobreza		Línea Base PND 2008	Dato 2011	Dato 2012	Análisis	Goal
MPI (Multidimensional Poverty)		34.7%	29.4%	27.0%	🟢	22.5%
A(1)	Educational achievement (≥15 yrs)	58.8%	54.6%	53.1%	🟢	52.8%
	Literacy (≥15 yrs)	14.2%	12.0%	12.1%	🟢 ★	12.0%
B(2)	School attendance (6-16)	5.4%	4.8%	4.1%	🟢	3.5%
	No school lag (7-17)	33.4%	34.1%	33.3%	🟡	33.1%
	Access to child care services (0-5)	12.1%	10.8%	9.4%	🟢	10.6%
	Children not working (12-17)	5.5%	4.5%	3.7%	🟢	2.9%
C(3)	Long-term unemployment	9.6%	9.1%	10.0%	🔴 ★	9.3%
	Formal employment	80.6%	80.4%	80.0%	🔴	74.7%
D(4)	Health insurance	24.2%	19.0%	17.9%	🟡	0.5%
	Access to health services	8.9%	8.2%	6.6%	🟡	2.4%
E(5)	Access to water source	12.9%	12.0%	12.3%	🟡 ★	10.9%
	Adequate sewage system	14.1%	14.5%	12.1%	🟢	11.3%
	Adequate floors	7.5%	6.3%	5.9%	🟢	5.6%
	Adequate external walls	3.1%	3.2%	2.2%	🟢	2.1%
	No critical overcrowding	15.7%	14.2%	13.1%	🟢	8.4%

Source: Government of Colombia

THE MEXICAN MULTIDIMENSIONAL POVERTY MEASURE

PASSING A MULTIDIMENSIONAL POVERTY MEASURE INTO LAW

Origin

In 2004, a consensus among Mexican political parties led to the approval of the General Law for Social Development (LGDS), which created an independent Council for the Evaluation of Social Policy (CONEVAL) in 2006. The LGDS mandated CONEVAL to design a multidimensional poverty measure based on the insights of Mexican law. A new multidimensional poverty measure was adopted by the Mexican government in December 2009. It is the first national poverty measure to reflect the full breadth of poverty at the household level, including social factors such as health, housing, education and access to food, as well as income at national, state and municipal level.

The measure enables public policy to focus on moving the population identified as extremely poor to a situation outside of poverty and vulnerability. There are several elements that make this multidimensional approach an important one:

a. The dimensions chosen by Congress are based on social rights.

b. The cutoffs are taken mainly from the Mexican Constitution and the main

regulations in the social area. These two elements align the poverty measure to the Mexican legal framework.

c. The methodology makes visible the link between poverty and social programmes and strategies, for public policy purposes.

d. Estimations are done every two years at the national and state level, and every five years for the municipality level.

Institutions

The LGDS established CONEVAL as a decentralised agency from the Federal Government with technical and administrative autonomy. On one hand, it regulates and coordinates the evaluation of social development policies and programmes; on the other, it establishes the guidelines and criteria for the definition, identification and measurement of poverty in Mexico. To carry out these tasks, CONEVAL is led by an executive secretary and six academic councillors, elected by the National Commission of Social Development, from the Deputies Chamber, through a national call.

The LGDS mandated CONEVAL to develop a multidimensional measure of poverty, which considers at least the following indicators: current income per capita, educational gap, access to health services, access to social security, housing quality and spaces, basic services in homes, access to food and the degree of social cohesion. The law argued two essential areas should be balanced in the new measure: economic wellbeing and social rights. This informed the decision to have equal weights on income poverty and social rights. The new methodology allowed a more thorough study of poverty, for besides measuring income, social deprivations are also analysed from a social rights perspective. CONEVAL's multidimensional poverty measure is well institutionalised, having been used both before and after the 2012 general election (which resulted in a change in the ruling coalition).

Dimensions and Indicators

In Mexico, multidimensional poverty incorporates three spaces of the population's living conditions: economic wellbeing, social rights and territorial context. The new methodology was selected after a review of alternative methods to measuring multidimensional poverty. The first line of research consisted in carrying out a number of studies and seminars with national and international experts. During this stage, a group of well-known experts on poverty measurement were consulted in order to identify the main challenges in defining and measuring multidimensional poverty.

Based on the results of those first sessions in 2007, in the second stage, CONEVAL asked a group of experts to elaborate a methodological proposal that solved the problem

of multidimensional poverty measurement according to the LGDS mandates. These proposals were presented at two internal workshops and an international academic seminar, during which their main features, properties and scope were discussed. As a result of the discussion of the methodological proposal, CONEVAL undertook, during a third stage, the task of proposing a poverty measurement methodology that would satisfy the legal regulations, be sensitive to Mexico's social setting, and that was grounded on strong methodological basis. This proposal was discussed with a group of specialists during the last quarter of 2008 at one national and one international academic seminar.

The selected method adopts a social rights approach to develop indicators for the following 8 dimensions: educational gap, access to healthcare, access to social security, basic services at home, quality of living spaces, access to food, the current income per capita and the degree of social cohesion, as is set forth by the General Law for Social Development.

The indicators for educational gap focus on the population aged between 2-15 years and those who are above 16 years old.

Access to health services is measured by measuring access to popular insurance, a social security public institution or a private medical service.

Access to social security is measured through direct access to an existing plan for medical services and pensions for senior citizens, by access through a family member, or voluntary enrolment in another institution for access to the same.

The quality of living spaces is determined by looking at the roofs, walls, floors and ration of people per room.

The indicators for social cohesion are economic inequality, social polarisation, social networks and income ratio.

Indicators for access to basic services include access to adequate water facilities, drainage services and electricity.

Access to food is determined by a measurement on a spectrum of food security where food insecurity can be characterised as slight, moderate or severe.

To measure the income variable, CONEVAL used the National Household Income and Expenditure Survey (ENIGH). This measurement is conducted at national level and for urban and rural areas.

Cutoffs

The thresholds for the indicators were determined through legal criteria and through consultation with experts from public institutions (health, housing, social security, education). According to this new conception, a person is multidimensionally poor when his/her income is insufficient to acquire the goods and services he/she requires to satisfy his/her needs and presents deprivation in at least one of the following six indicators: educational gap, access to healthcare, access to social security, housing quality and spaces, basic services in homes and access to food.

In the educational domain, among the population aged 13-15 years, a person is considered deprived if they are not attending a formal educational centre. For the population above 16 years of age, a person are considered deprived if they lack the mandatory basic education current at the time she should have completed it.

In access to health a person is considered deprived they are not enrolled in or not entitled to receive medical services from public or private services.

A person is considered deprived in the dimension of social security if they do not receive medical services through a public, voluntary or family network.

A person is considered deprived in access to basic services if they are not in a location where they have access to fresh or piped water, public drainage services or public electricity.

A person is considered deprived in quality if living spaces if the construction of walls, floors and roofs is from residue material or soil, and if the ratio of people per room is greater than 2.5.

People living in households with a level of moderate or severe food insecurity are considered deprived in the dimension of access to food.

Weights and poverty cutoff

The law named two essential areas that should be covered by the measurement i.e. economic wellbeing and social rights. Each is considered equally important for an accurate estimation of poverty. Thus income and social rights are equally weighted. Each social right is likewise equally weighted, giving an effective weight of 50% to all social rights and the other 50% to income.

A person is identified as multidimensionally poor if they are deprived in income according to the cost of a basic needs basket, and are also deprived in one or more social right. A person is in extreme poverty if they are deprived in income according to the food basket, and are deprived in three or more social rights.

FIGURE 5: POVERTY IDENTIFICATION IN MEXICO
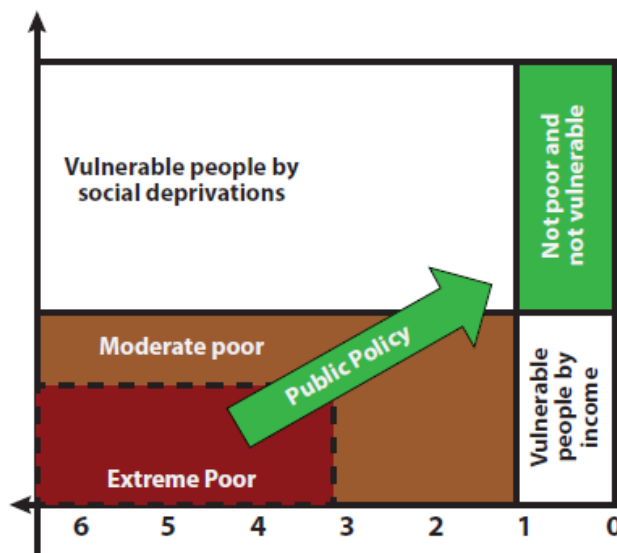
Source: CONEVAL, Mexico

Results – regional and by population

In the year 2010, 46.2 percent of the national population lived in conditions of multidimensional poverty, that is, approximately 52 million people in the country were deprived in at least one dimension and had insufficient income to satisfy their needs. This population presented 2.5 social deprivations on average.

People are considered extremely multidimensionally poor if they are deprived in three or more social indicators and if their income is insufficient to reach food poverty line, even if they devoted their entire income to this purpose. The measurement of the degree of social cohesion takes place through four indicators: economic inequality, social polarisation, social networks and income ratio. Regarding the concentration of income, in 2008 the Gini index value at national level was 0.506, which is a typical value of societies with a high concentration of richness.

Between 2008 and 2010 there was an increase in coverage of basic services such as education, access to health, access to social security, quality of housing and basic services in housing. All these are part of the poverty measurement, as stated in the Act.

FIGURE 6: FROM 2008-2010 ALL SOCIAL DEPRIVATIONS DECREASED, EXCEPT FOR ACCESS TO FOOD
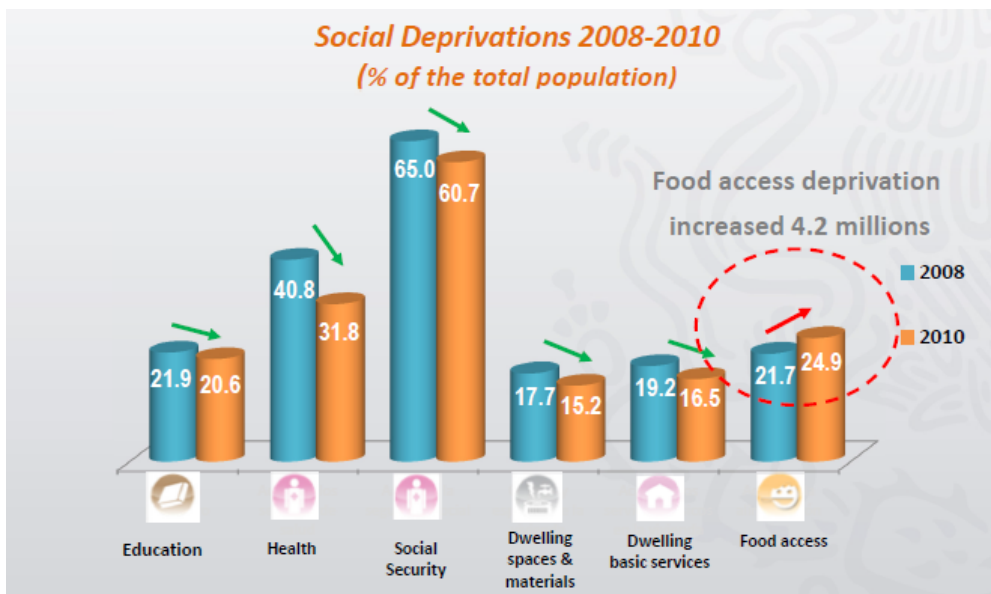
Source: SEDESOL, Mexico

Two dimensions of poverty however showed an unfavourable trend in that period, reflecting the global financial crisis: the purchasing power of income fell and food insecurity increased.

The net balance of poverty increased by 3.2 million people between 2008 and 2010, reaching 52 million people, but at the same time, extreme poverty remained 11.7 million in the two years.

FIGURE 7: CHANGE IN POVERTY 2008-2010

Change in poverty 2008-2010
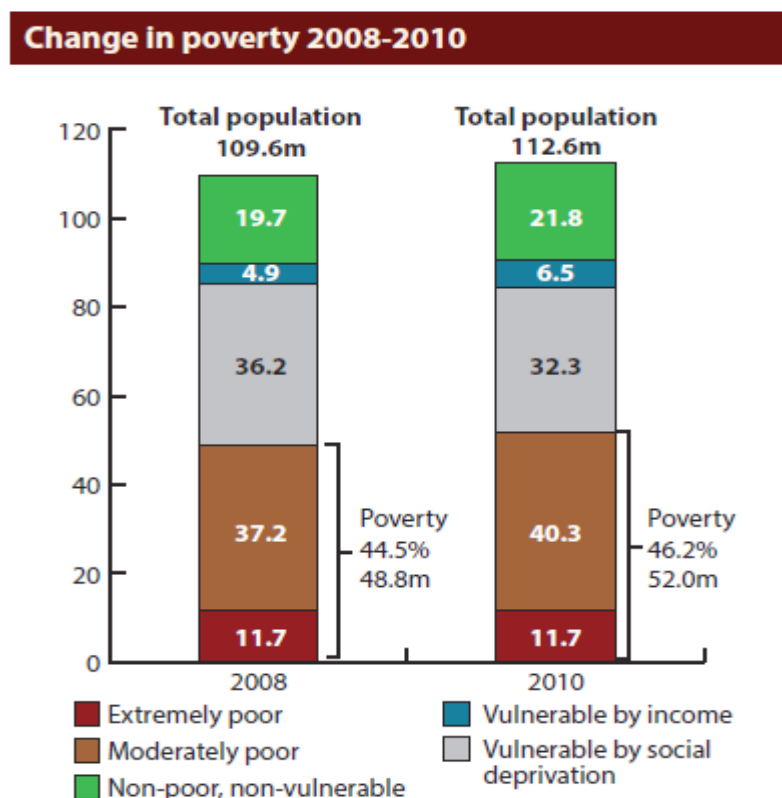
This increase occurred because, in general, social policy was directed at people in greater poverty, as the economic crisis and the increase in food prices hit the population, especially in the urban areas of the country. This set of circumstances will be reflected mainly in the poverty intensity and not necessarily in the headcount ratio. In other words, a similar percentage of the population remains in poverty, but those who are poor are less poor in 2010 compared with 2008.

These results, together with the multidimensional poverty maps for states and municipalities, have been taken into account by the new government to design its overall social policy, especially that focused on extreme poverty and food deprivation. For this purpose, each ministry has a specific goal to reduce extreme poverty, according to the dimensions they are linked to (Figure 8).

FIGURE 8: STRUCTURE OF MINISTRIES RESPONSIBLE FOR MEXICO'S POVERTY REDUCTION STRATEGY
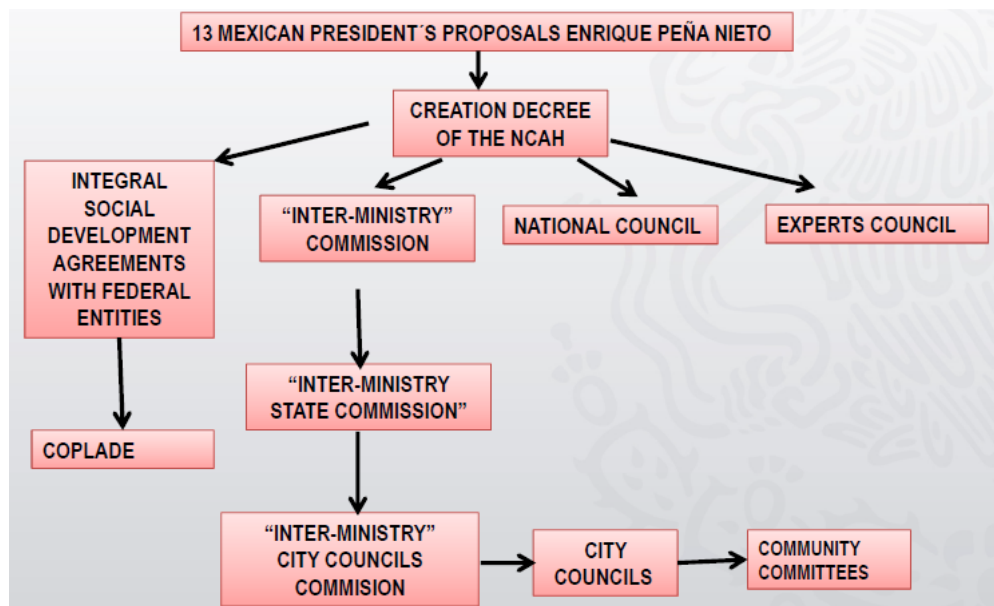
Source: SEDESOL, Mexico

On July 29 2013 COEVAL released the results of the 2012 statistics on multidimensional poverty in Mexico. The in-depth report covers each aspect of Mexico's poverty - from income poverty to the six social dimensions of poverty included in the measure. The full results can be found on the CONEVAL website:http://www.coneval.gob.mx/Paginas/principal.aspx.

FIGURE 9: COMPONENTS OF MEXICO'S POVERTY REDUCTION PLAN

Source: SEDESOL, Mexico

ADDITIONAL POLICY APPLICATIONS OF THE AF METHOD

EL SALVADOR: A GUIDE FOR SOCIAL POLICY

Until 2011, the Government of El Salvador, with the support of United Nations Development Programme (UNDP), designed a project funded by the Grand Duke of Luxembourg to build a methodology for measuring poverty that took into account the multidimensional nature of the phenomenon as identified by poor people themselves. The project arose because of a gap between the official poverty measure and social programmes in the country. While the official measure of poverty in El Salvador is based on an income approach and selected goods and services, the government's social programmes are based on a more integral conception of poverty, using other public policy tools than those connected to income.

An Advisory Board known as the Presidential Technical Secretary Office of the Republic of El Salvador (Secretaria Técnica de la Presidencia de la República) was devised which includes representatives from government, international organisations and members of academia. The Board's goal was to build a new poverty measurement methodology. The Board reviewed existing statistical information available in El Salvador's household survey data. This data was then used to build a preliminary multidimensional poverty index. During the process the Board felt that it was not

enough to know how to measure the variables to capture poverty experiences of individuals but it was also necessary to learn how to conceptualise them.

Focus groups were thus conducted with people who had been identified as living in poverty by team members in order to understand the main deprivations associated with poverty in El Salvador. As a result of the discussions, poverty was felt to be manifested in 8 dimensions: employment, housing, education, security, recreation, health, nutrition and income.

The Board then developed indicators based on information from these focus groups. It also established a clear roadmap for decision-making, establishing the household as the unit analysis (and identifying possibilities of measuring at an individual level) and making decisions on thresholds for each indicator. The process was enriched by thematic working groups with participants from different sectors and supported with technical advice from the OPHI team.

FIGURE 10: WORK TO DATE AND NEXT STEPS
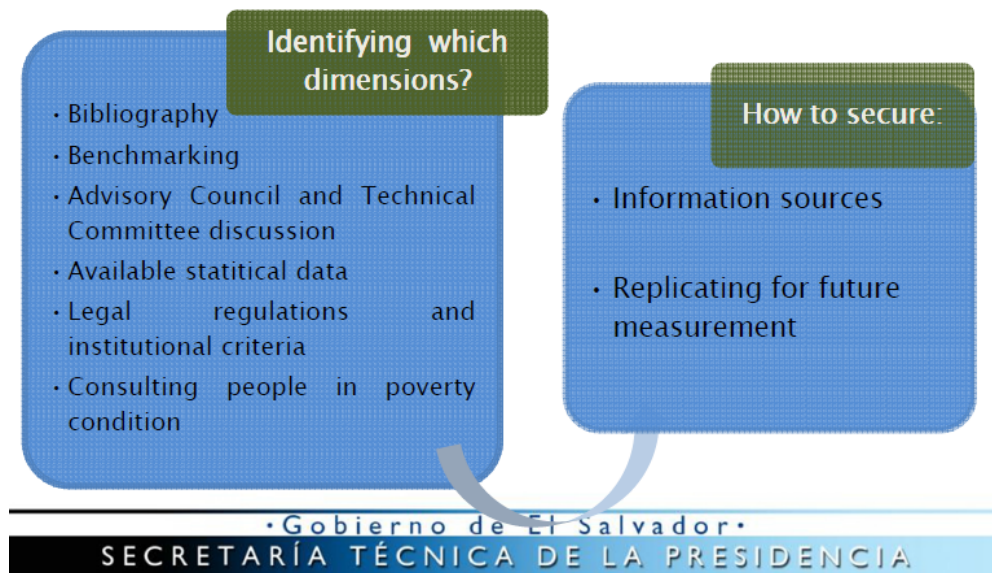
Source: Government of El Salvador

A significant strand of work is underway to establish a link between the multidimensional poverty rate and social action programmes in order to ensure that the tool for measuring poverty is also able to detect the success of public policy programmes

aimed at reducing deprivations. In order to establish this link, the Board plans on conducting a qualitative study to understand the habits and decision-making process of people in poverty, addressing paradoxes that can only be understood from what people say.

This information is thought to be essential for the design of inclusive and effective programmes for poverty eradication. The qualitative study is an innovative feature of the El Salvador experience. El Salvador has used a much more extensive participatory process to define the dimensions and indicators in its measure. This has required extensive field visits, panel and individual interviews. This participatory process will in turn lead to a document with the results of this participatory process.

The new multidimensional poverty measure will also have a practical use, guiding social policy in El Salvador. The proposed multidimensional poverty index (to be announced in early 2014) will monitor the results of social action programmes, help improve such programmes (when necessary), and will be used in the design of new policies. The government of El Salvador is also considering how to connect the new multidimensional poverty measure with its national statistics modernisation project, as well as the best ways to harmonise poverty measurement with social policy goals and laws. The government is also considering whether to create measurement tools for specific groups (for example, children).

BHUTAN: IMPLEMENTING AN MPI ACROSS STATES

The Royal Government of Bhutan has taken the view that poverty is multidimensional. Most of its previous poverty reports have focused on income poverty, largely due to an absence of data on other human deprivation aspects of poverty. A multidimensional outlook is fully consistent with the basic development philosophy of Gross National Happiness (GNH); the need to view development more holistically and beyond just income measures. Similarly, a multidimensional approach to poverty and its equivalent measure, the MPI, captures more than just income poverty at the household level.

DIMENSIONS AND INDICATORS

The MPI is a useful index of acute multidimensional poverty and reflects deprivations in very rudimentary services and core human needs. The index, which measures both the incidence of poverty and its intensity, has three core domains: health, education and living standards, which are assessed using several indicators. At the global level, the ten indicators used pertain to years of schooling and child enrolment (education); child mortality and nutrition (health); and electricity, flooring, drinking water, sanitation, cooking fuel and assets (standard of living).

For Bhutan, a varied MPI model with slight changes from the global model has been constructed, using 13 indicators with varying weights. Efforts to further refine the model and attune it to Bhutan's GNH index are underway as relevant data become available. Nevertheless, the basic intent is to explore the value added that such a measure could bring, in addition to supplementing the income poverty measures that are already in use.

The 13 indicators that comprise Bhutan's initial MPI pertain to primary schooling and children out of school (education); child mortality, nutrition and food insecurity (health); and electricity, housing, cooking fuel, drinking water less than 30 minutes away, improved sanitation and asset ownership of livestock, land and appliances (living standards).

RESULTS

Some 25.8% of the population in Bhutan is deemed to be MPI poor and deprived in at least 4 of the 13 indicators. The MPI measure at the national level for 2010 works out to 0.12, with an average intensity of poverty at 0.45. The MPI further highlights the intensity of poverty in Bhutan, i.e. the proportion of indicators in which they are deprived. For instance, 16.9% of the population in Bhutan is MPI poor in five, or 39%, of the 13 indicators, while there are no MPI poor in all 13 of the indicators.

The highest levels of deprivation pertain to access to improved sanitation (pit latrines with slab), cooking fuel (if wood, dung or charcoal used), schooling (five years of school education) and electricity. From the three core domains, education (41%) contributes the most to multidimensional poverty, followed by living standards (37%) and health (23%).

There are stark differences between multidimensional poverty levels in urban and rural areas of the country. There are also considerable variations between 'Dzongkhags', the administrative and judicial districts of Bhutan, with relatively higher levels of multidimensional poverty in Gasa, Samtse, Dagana, Zhemgang and Lhuentse. While there is a strong correlation between income poverty and multidimensional poverty incidences, the two are not, however, the same. A classic case is that of Gasa, which has among the lowest income poverty incidence but the highest level of multidimensional poverty in the country, facing considerable deprivations in access to improved drinking water, electricity and education. In 2014, it is expected that Bhutan will update its MPI with new data and results.

CHINA: INCORPORATING ENVIRONMENTAL DATA

In the 12th Five-Year Plan (FYP) for the period 2011-2015, the Chinese government placed the issue of inequality high on its policy agenda; the CPC Central Commit-

tee convened the Development-oriented Poverty Reduction Working Meeting at its highest level in November 2011, officially releasing the Outline for Development-oriented Poverty Reduction for Rural China (2011-2020).

The Outline highlights the main mission between 2011 and 2020: to help people move out of poverty and improve their living standards more rapidly. For this purpose, the Outline has identified 14 key regions as priority national anti-poverty regions in the next ten years, of which Wu Ling Mountain Region is the first.

The current criterion for identifying the poor is income or consumption, which is only one dimension of poverty. Multidimensional measurement is required to recognise the specific characteristics of poverty in China. For this purpose the International Poverty Reduction Centre in China (IPRCC) is developing a Geographic Information System (GIS) for National Poverty Reduction which will identify and monitor multidimensional poverty, and plans to pilot it in the Wu Ling Mountain Region.

OPHI will support IPRCC's work to design the multidimensional poverty indicators and create a measure. It is expected that the GIS for National Poverty Reduction will be completed and used in 2014.

INSTITUTIONS

The IPRCC was established in 2005 by the Chinese government and the United Nations Development Programme, and is based in Beijing. Two members of the IPRCC attended OPHI's Summer School on Capability and Multidimensional Poverty in Jakarta in August 2012. IPRCC will work closely with the National Statistics Bureau of China in order to obtain the household data and to conduct the poverty research properly. Field trips to Wu Ling Region will have the following aims: (a) To collect information from the government officials, academics and development workers in these regions; (b) To conduct focus group discussions and field visits for farmers; (c) To identify and confirm local partners for the research projects; (d) To identify potential regions for the sample survey.

OBJECTIVE OF INITIAL STUDY

The proposed study has dual objectives: using the multidimensional poverty measure to measure the extent of poverty in the Wu Ling Mountain Region; and identifying the character and underlying causes of poverty in the regions.

METHODOLOGY FOR STUDY

In measuring multidimensional poverty, the IPRCC seeks to make decisions about the domains relevant to wellbeing, their respective indicators and threshold levels,

and the aggregation function. The institution uses the AF method, which combines information on both the number of deprivations and their level, and information on poverty depth and distribution.

Methodologically the study will integrate household and village survey information with GIS data on the environment. The measurement includes demographic, economic, social, ecological and environmental dimensions, both standard poverty indicators (for example, type of house, drinking water, sanitation, electricity, assets, access to market, farmland and health insurance), and resource indicators (such as soil quality, environmental safety and ecology frangibility).

COVERAGE

The project will cover the Wu Ling Mountain Region in South China. It includes the 4 provinces of Hubei, Hunan, Chongqing and Guizhou and their 71 counties, and covers an area of 71,800 km2. The population is 36.45 million, of which 76.6% is rural population with 2553 Yuan income per capita. Wu Ling Mountain Region is the largest poverty-stricken area in China and is home to the highest number of minorities in the country.

EXPECTED OUTCOMES

The study will result in a comprehensive report on multidimensional poverty in the Wu Ling Mountain Region, including policy recommendations to the relevant government departments and financial institutions. A workshop will be held to promote communication among policymakers, researchers, practitioners and NGOs, encourage the application of research results and raise awareness. A system will be built to monitor multidimensional poverty in Wu Ling Mountain Region.

The IPRCC will sponsor the set up and design of the index's indicators with OPHI. The monitoring network will involve the NBS (National Bureau of Statistics of China), CPAD (China State Council's Poverty Alleviation and Development Office) and the poverty reduction sector in the local government, with the guidance of the experts of IPRCC. In addition, IPRCC will set up a database of household poverty which will be updated every year, analyse the data and write reports for the NBS and CPAD.

THE GLOBAL MULTIDIMENSIONAL POVERTY INDEX (MPI)

The global Multidimensional Poverty Index (MPI) is an international measure of acute poverty covering over 100 developing countries. It complements traditional income-based poverty measures by capturing the severe deprivations that each person faces at the same time with respect to education, health and living standards.

The MPI assesses poverty at the individual level. If someone is deprived in a third or more of ten (weighted) indicators (see below) then the global index identifies them as 'MPI poor', and the extent – or intensity – of their poverty is measured by the number of deprivations they are experiencing.

The MPI can be used to create a comprehensive picture of people living in poverty, and permits comparisons both across countries, regions and the world and within countries by ethnic group, urban/rural location, as well as other key household and community characteristics. This makes it invaluable as an analytical tool to identify the most vulnerable people – the poorest among the poor, revealing poverty patterns within countries and over time, enabling policy makers to target resources and design policies more effectively.

The MPI goes beyond previous international measures of poverty to:

- Show all the deprivations in the selected indicator that impact someone's life at the same time – so it can inform a holistic response.

- Identify the poorest people. Such information is vital to target people living in poverty so they benefit from key interventions.

- Show which deprivation combinations are most common in different regions and among different groups, so that resources can be allocated and policies designed to address their particular needs.

- Reflect the results of effective policy interventions quickly. The MPI will immediately reflect changes in any of its indicators such as school attendance so can be used to monitor progress.

- Integrate many different aspects of poverty related to the MDGs into a single measure, to give an overview of its component changes, to reflect interconnections among deprivations and to help identify poverty traps.

The global MPI was developed by OPHI with the UN Development Programme (UNDP) for inclusion in UNDP's flagship Human Development Report (HDR) in 2010. It has been published in the HDR ever since.

The MPI uses 10 indicators to measure three critical dimensions of poverty at the individual level: education, health and living standard in 109 developing countries. These directly measured deprivations in health and educational outcomes as well as key services such as water, sanitation, and electricity reveal not only how many people are poor but also the composition of their individual poverty. The MPI also reflects the intensity of poverty – the sum of weighted deprivations that each person faces

at the same time. A person who is deprived in 70% of the indicators is clearly worse off than someone who is deprived in 40% of the indicators.

FIGURE 11: DIMENSIONS AND INDICATORS OF THE GLOBAL MPI
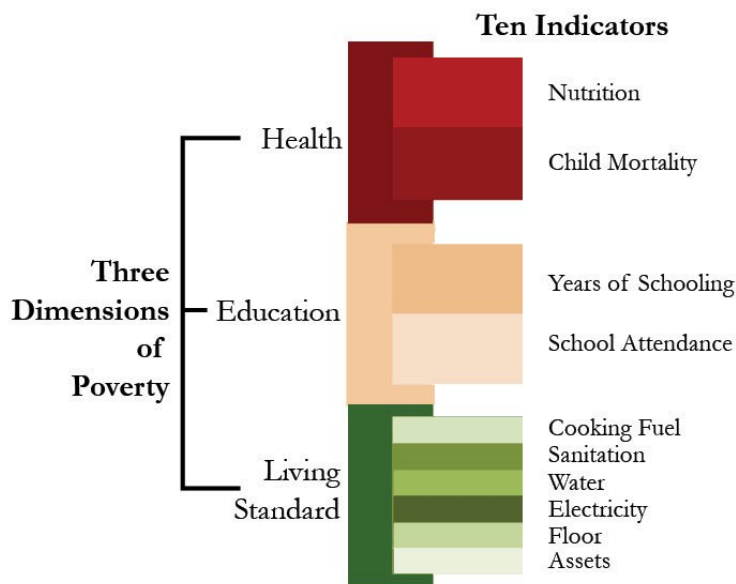
It identifies overlapping deprivations across the same three dimensions as the Human Development Index and shows the average number of poor people and deprivations with which poor households contend. One deprivation alone may not represent poverty. The MPI requires a household to be deprived in multiple indicators at the same time. A person is multidimensionally poor if he or she is deprived in at least one third of weighted indicators. This is the cutoff for someone to be defined as acutely poor.

Since 2011, two additional categories of multidimensional poverty have been reported in the HDR Tables. These are called the 'population vulnerable to poverty' and the 'population in severe poverty'. The population vulnerable to poverty is defined as the percentage of the population at risk of suffering multiple deprivations—that is, those people with a deprivation score of 20–33 percent. The population in severe poverty, meanwhile, measures the percentage of the population in severe multidimensional poverty—that is those with a deprivation score of 50 percent or more.

DATA

The global MPI relies on three main datasets that are publicly available and comparable for most developing countries: the Demographic and Health Survey (DHS), the Multiple Indicators Cluster Survey (MICS), and the World Health Survey (WHS). Certain countries use special datasets.

It uses the most recent and reliable data available since 2002. However surveys are taken in different years, and some countries do not have recent data. In order to facilitate the analysis, the year of the survey is reported in the MPI tables. The difference in dates limits direct cross country comparisons, as circumstances may have improved, or deteriorated, in the intervening years. Naturally, this is a stimulus for country government to collect new surveys that better reflect more recent progress. A significant number of DHS and MICS household surveys are currently underway and it is expected that more recent data will be available soon for a number of countries.

CHANGES OVER TIME

Changes in the global MPI has over time have been calculated for 22 countries in 2013 (where suitable data was available)[5]. Of 22 countries having data on MPI poverty over time, 18 reduced MPI significantly, and most reduced multidimensional poverty faster than income poverty. Nepal, Rwanda and Bangladesh had the largest absolute reductions in MPI poverty, followed by Ghana, Tanzania, Cambodia and Bolivia.

Colombia also had strong reductions in relative terms. Bangladesh, Ghana, and Bolivia cut MPI poverty two to three times faster than income poverty. Nepal made stellar progress in both. Subnational patterns vary. Bangladesh and Rwanda reduced MPI significantly in every region, Nepal in 10 out of 13 regions, Cambodia in 12 out of 19 regions, and Nigeria in only one of its six regions.

This research showed that each of the ten indicators mattered: each indicator went down significantly in many countries, and no two always moved together.

THE MULTIDIMENSIONAL POVERTY PEER NETWORK (MPPN)

The global Multidimensional Poverty Peer Network (MPPN) is an international peer network for policymakers engaged in implementing multidimensional poverty measures. The overall goal of the Network is to reduce poverty by helping governments to better measure and allocate their multidimensional poverty eradication resources, as well as by aiding international efforts to adopt multidimensional measurement methods to better track progress of the post-2015 development agenda.

[5] ALKIRE, S.; ROCHE, J.M., 2013.

As this report shows, a growing number of policymakers around the world are working to establish multidimensional poverty measures in order to capture, monitor and better understand the multiple dimensions of poverty. Many are using the AF methodology and the related set of empirical techniques developed at OPHI. The global MPPN has been created in response to this overwhelming demand for information on implementing multidimensional measures, and for technical and institutional support.

The network provides international support to policymakers engaged in or exploring the construction of multidimensional poverty measures, including input into the design of the measures, and the political processes and institutional arrangements that will sustain them. Through the network, early adopters can share their experiences of the design of such measures and their institutionalisation via peer-to-peer technical and policy support. The network provides access to resources including technical support, executive training courses and an online store of knowledge and lessons learned ('South-South' learning).

NETWORK GOALS

The network of policymakers aims to be visible, articulate, and engaged. It seeks to create political momentum and credibility for wider approaches to poverty measurement and cross-sectoral poverty reduction activities. Together the participants have pledged to:

- Promote multidimensional poverty measurement and policy applications at the sub-national, national and international levels.

- Advocate for the multidimensional measurement of development goals in the post-2015 development context, including in the form of a "Multidimensional Poverty Index (MPI) 2015+" as a headline indicator of multidimensional poverty that can reflect participatory inputs, and can be easily disaggregated.

- Foster joint research and develop tools of measurement, policy design and analysis and assist with the dissemination and technical validation of efforts to implement the multidimensional poverty measures.

The network strives to create policies that are better designed, accurately targeted and more effective in reducing poverty in all its dimensions.

NETWORK PARTICIPANTS

Ministers and high-level officials from over 20 countries currently participate in the global MPPN: Angola, Bhutan, Brazil, Chile, China, Colombia, Dominican

Republic, Ecuador, El Salvador, Germany, India, Iraq, Malaysia, Mexico, Morocco, Mozambique, Nigeria, Peru, Philippines, Tunisia, Uruguay and Vietnam.

Institutional participants include: The Southern Africa Development Community (15 members), The Organization of Eastern Caribbean States (9 members and associate members), Economic Commission for Latin America (ECLAC) and the Organization for Economic Cooperation and Development (OECD).

OPHI is also a participant and acts as the Secretariat of the network. The Secretariat facilitates periodic meetings of all network participants (virtually and in person) in order to share information and take any necessary decisions. Working groups, such as that on the post-2015 agenda, work on specific issues for presentation to the wider group. A face-to-face meeting each year is planned and will be hosted by a participant country.

The network was founded by OPHI with Mexico's CONEVAL and Colombia's Department of Social Protection, with financial support from the German government's Federal Ministry for Economic Cooperation and Development (BMZ). The network, which was launched in June 2013, is expected to grow rapidly. The launch at the University of Oxford was attended by Juan Manuel Santos, President of Colombia, Professor Amartya Sen and Ministers from 16 countries of the 22 participant countries. The two-day event marked the first exchange by policy-makers involved in the network and included a full day of intensive sharing of on-going work by Ministers.

The MPPN forms a core part of OPHI's efforts to build and advance a more systematic methodological and economic framework for reducing multidimensional poverty, grounded in people's experiences and values. By working with national and regional governments and international and regional organisations to share expertise and experience, OPHI seeks to catalyse the development and implementation of multidimensional measures of poverty, wellbeing and inequality around the globe. The Network builds on OPHI's longstanding intensive training programmes for technicians and policymakers.

AREAS OF WORK

The Communique approved at the Network launch identified three broad areas of work.

1. The expansion of multidimensional measurement

The expansion of multidimensional poverty measurement using the AF method and based on OPHI's work at the national, regional and subnational levels will be done through:

a. Facilitating and enabling leaders in multidimensional poverty measures to share their experiences with policy makers in countries that are exploring the possibility of developing, or are in the process of implementing, such measures;

b. Providing access to resources, including both an online internal portal of knowledge and experience, and a new website;

c. Promoting technical support among participants and facilitating both Executive Education courses for policy makers and Technical Training courses on multidimensional poverty measurement;

d. Promoting interaction among participants through various means of communication such as email exchanges, Skype calls, videoconferences, an interactive website and a meeting once a year;

e. Promote multidimensional poverty measurement with regional bodies such as SADC as well as international agencies, particularly those who work in poverty measurement.

2. An effective and informed voice in the post-2015 discussions

The Network will have an effective and informed voice in the post-2015 discussions about multidimensional poverty measurement and in promoting the multidimensional measurement of the post 2015 MDGs. This will be done through:

a. A side meeting at the UN General Assembly in September 2013 sponsored by participants of the Network on this topic;

b. Through the Government of Colombia, working through ECOSOC to promote the concept;

c. Working with key Network countries to undertake education and advocacy on this issue at national and international gatherings.

3. The promotion of joint research and development of practical tools

The Network will promote joint research and the development of tools of measurement, policy design and analysis. This will be done, for example:

a. With the Government of Colombia to develop more detailed training manuals and methods for policy makers and technical experts;

b. With the Government of Mexico to develop materials on the institutionalisation of these efforts at the national level;

c. With OPHI staff and researchers in participant countries to undertake continued research and testing of methods to improve the methodology;

d. With OPHI staff and researchers from participant countries to undertake research on results of the work in countries adopting the measure as well as on cross-time comparisons of country data.

Speaking at the launch of the Network in June 2013, President Juan Manuel Santos of Colombia said: "I am a firm believer that it is our duty to lead ambitious social changes within our countries. Fortunately, the Multidimensional Poverty Peer Network (MPPN) will be the platform to help this happen. The sole idea of applying this tool (the MPI) in more countries is inspiring. It will stimulate growth and wellbeing wherever it goes. Of this I am sure. No matter how different and diverse our nations are, we are all alike in one regard: we have more than one dimension. And this is the beauty of this instrument."

CONCLUSION

Multidimensional poverty measures have much to contribute to both national and international efforts to reduce poverty and improve the lives and opportunities of people living in poverty. Such measures can fill the gaps left by one dimensional measures, by, for example, identifying who is poor across dimensions, or by revealing the nature of poor people's deprivations. In doing so, they provide powerful policy insights, helping to improve policy design, allocate resources more efficiently, identify the interconnections among deprivations, monitor the effectiveness of policies over time, and target poor people as beneficiaries of services or social programmes.

At the national level, increasing numbers of policymakers, led by those in Latin America, are turning to multidimensional poverty measures to sharpen their poverty reduction efforts. At a time of global financial turmoil and uncertainty about the future of aid flows, these measures assist in making the most of precious resources and help governments to delve deeper into the local dynamics of poverty.

To harness the growing momentum around such efforts, the global Multidimensional Poverty Peer Network works to connect, support and inspire innovators and experts in multidimensional measurement using a model of 'South-South' learning, collaboration and support. It works to spread the uptake of multidimensional poverty

measures nationally and internationally and undertakes to carry out joint research. As we look forward, this energy will hopefully spark many new innovations in poverty measurement and policy processes.

FURTHER INFORMATION

The OPHI website includes a portal of information on the AF method, its applications and the activities of the global MPPN: www.ophi.org.uk/

For further information on the AF method visit: www.ophi.org.uk/research/multidimensional-poverty/.

For further information on specific applications of the AF method: www.ophi.org.uk/policy/.

In-depth information on the MPI, including data tables and methodology is available at: www.ophi.org.uk/multidimensional-poverty-index/mpi-data-methodology/.

OPHI also has its own Working Paper series which captures the latest research on multidimensional poverty measurement: www.ophi.org.uk/resources/ophi-working-papers/ For information related to Latin America see:

Social Panorama of Latin America (2013) ECLAC: http://www.cepal.org/publicaciones/xml/8/51768/SocialPanorama2013Briefing.pdf.

On the website of CONEVAL in Mexico you will find the latest information on Mexico's MPI http://www.coneval.gob.mx/Paginas/principal.aspx.

Colombia's Department of National Planning which constructed Colombia's national MPI https://www.dnp.gov.co/Inicio.aspx.

Information on the Travessia programme of Minas Gerais, Brazil, which has implemented a Multidimensional Poverty Index (MPI) in 132 of its municipalities http://www.ophi.org.uk/policy/national-policy/brazil-mpi/.

For information on other applications of the AF method:

Gross National Happiness website http://www.grossnationalhappiness.com/

Women's Empowerment in Agriculture Index http://www.usaid.gov/developer/WEAI

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MEASURING CHRONIC POVERTY IN BRAZIL

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President Dilma's announcement in 2011 of the commitment to eradicate misery in Brazil represents a historical pledge in a country characterized during many years by high and persistent levels of poverty and inequality. In the 2000s, poverty declined steadily in Brazil. According to IPEA (the National Institute of Applied Economics Research), extreme poverty reached 7.3 percent in 2009, down from 15.2 percent in 2003; while moderate poverty declined to 21.4 percent from 35.8 percent. Despite these impressive gains, there is still a large number of people who remain poor in monetary terms and who lack access to basic services. Reaching these people, and more importantly, establishing the conditions for their productive inclusion into the Brazilian economy, remains a challenge.

Despite the gains highlighted above, poverty remains high and more than one person out of five lives below the poverty line. Under the *Brasil sem Miseria* (BsM) strategy, the government intends to lift 16 million individuals out of poverty. President Dilma's announcement was accompanied by the release of new statistics on extreme poverty in Brazil, based on the 2010 Census of the National Statistical Institute (IBGE).[1] Over 16 million Brazilians were living under 70 *Reais* a month (about USD 35), half of them under 19 years of age, and 40 percent of them living in the Brazilian Northeast. The objective of BsM is to lift these 16 million individuals from poverty through a three pronged approach based on income transfers, access to services, and productive inclusion activities. The plan has an explicit concern regarding people who have not been reached by social policies in the past, those catalogued as the "poorest of the poor".

To achieve the objective of eradicating misery it is essential to understand who the individuals in misery are and which services they need. Eliminating poverty, within the context of a plan like *Brasil Sem Miseria*, necessarily entails an understanding of who are the people who face deep, persistent and complex poverty[2]; what characteristics keep them in this condition; and what are the potential channels of mobility out of poverty. This understanding will help identify the type of policy instruments that can be used to address the issues.

During the last decade, monetary poverty and inequality in Brazil have decreased substantially. While the specific figures depend on the poverty line chosen, all studies concur that there has been a robust and remarkable decline of headcount poverty (both extreme and moderate) in the 2000s.[3] If poverty reduction was to continue at the same pace as during the last decade, however, it would take another two decades to reach a rate of extreme poverty below one percent.

[1] There are different figures for Brazil's poverty headcount, according to the poverty lines and household surveys used, as well as to how income variables are managed in working with microdata.

[2] These are all characteristics related to the concept of the ultra poor; i.e. those whose poverty is deep (in terms of an income poverty gap); whose poverty persists over time (even from one generation to the next); and where more than one dimension of deprivation coexists — including lack of voice and agency to decide autonomously about life plans.

[3] According to IPEA, poverty went from 35.8 in 2003 to 21.4in 2009 and extreme poverty from 15.2 to 7.3. Using the $2.5 and $4 a day poverty lines, poverty went from XX to XX and from XX to XX respectively.

Since some level of monetary poverty is always going to exist, when can a policy-maker consider poverty to be eradicated? As is the case with unemployment, where frictional unemployment cannot be eliminated, there will always be some individuals below the income poverty line, due to shocks and short-term income swings. These individuals are the transient poor—the equivalent of the frictional unemployed. Completely eliminating transient poverty would require eliminating shocks, which is something no policy can achieve. Yet, as individuals recover from the shock, they are no longer income poor, thus the word transient. In contrast, chronic poverty is of greater concern, as it describes individuals whose poverty is prolonged and who are poor period after period. These individuals lack the financial resources and access to basic assets necessary to expand their income generating opportunities. In addition, these individuals tend to lack agency—the ability to aspire to a better life and to locate the building blocks to achieve this better life (Hickey and Bracking, 2005). Indeed, agency and related aspects, such as self-esteem and aspirations, frequently constitute one of the missing dimensions in the analysis, although they constitute important matters to overcome poverty, as shown by recent studies (Vakis, 2012).

This article presents two methodological proposals for the measurement of chronic poverty in Brazil.[4] While poverty rates declined substantially over the 1990s and 2000s, an important number of Brazilians who are persistently poor remain. Panel data, if available, could potentially be used to identify those households that live in chronic poverty and the barriers that prevent them to break free from poverty traps. Nevertheless, as in other parts of Latin America, appropriate long-term panel data is unavailable in Brazil. Given the paucity of data, this paper outlines two main strategies to identify the chronically poor and their constraints. The first one consists of building synthetic panels that can be used to estimate chronic poverty using monetary measures, following the spells approach. The second strategy uses a multidimensional approach, where nonmonetary measures are intersected with the persistence aspect of the concept of ultra poverty to approximate the measurement of chronic poverty. Both methodological proposals are applied empirically to the analysis of poverty in Brazil.

Chronic poverty refers to the absence of change in income (directional, rather than relative) for specific groups of the population, and it entails a notion of persistence. From an intergenerational perspective the notion is associated with the long-term structural constraints that persist across generations—a problem of fairness in the society. From an intra-generational lens, it relates to the weak link between aggregate economic growth and the income generation capabilities of households—which hinders their ability to seize opportunities within their lifetime, accumulate assets and integrate productively in a society (Cord and Lopez-Calva, 2012). In addition to its connection to fairness and the incapacity of benefitting from economic growth, the chronicity or persistence of poverty may also reflect the lack of voice of certain groups in the population and the lack of responsiveness of the political system to their needs (Hickey and Bracking, 2005).

[4] The methodologies compiled and the empirical analysis presented in this article are drawn from the report "Poverty Dynamics in Brazil: Patterns, Associated Factors and Policy Challenges" (World Bank, 2013), prepared by a team composed of the authors mentioned in addition to Maria Ana Lugo, Rogerio Bianchi-Santarrosa and Jordan Salomon.

Over the last decade Brazil has achieved remarkable results in terms of poverty reduction. [...] However, a significant number of people remain who are poor, not only in terms of income but also in terms of access to basic services. According to the 2010 Census of the National Statistical Institute (IBGE), over 16 million Brazilians were living under 70 Reais a month (about US $35), half of them under 19 years of age, and 40 percent of them living in the Brazilian Northeast.[5]

Empirically, there are two main tactics to identify the chronically poor using panel data: the "spells" and the "components" approaches (Yaqub, 2000). In the former, the chronically poor are identified by counting the number of 'spells of poverty' experienced by an individual. The second approach separates the permanent from the fluctuating components of a person's income, identifying as chronically poor those whose permanent component of income (or consumption) falls below a specified poverty line. In the absence of long-term panel data, the present article proposes to look at poverty dynamics and its correlates through the use of synthetic panels first, and the employment of non-monetary dimensions second. By identifying potential channels of mobility towards reducing vulnerability, these approaches can contribute to solve problems of information, with value to the resolution of Brazil's goals.

USING SYNTHETIC PANELS TO ANALYZE POVERTY DYNAMICS IN BRAZIL

To characterize the dynamics of income mobility in Brazil, we use the synthetic panel approach developed by Dang, Lanjouw, Luoto and McKenzie (2011), which is based on the small area estimation and "poverty mapping" methodology of Elbers, Lanjouw and Lanjouw (2003). The analysis aims to map how many people left poverty and how many stayed poor in Brazil between 2003 and 2011 and to provide a characterization of these households.

Synthetic panels are built using two cross section datasets by estimating the relationship between income and two sets of variables; i) time-invariant variables at household level — traits such as gender, year of birth and parental education that do not change throughout a lifetime—for each year; and ii) time-variant variables at state level — such as unemployment rate, population in working age, displacement rate, etc. The key element is to construct a predicted income for households in one period using the information about their characteristics and the parameters of an income model estimated in the other period. Assumptions are needed regarding the correlation of the error term over time, and the two extreme assumptions –no correlation and full correlation—derives in an upper and lower bound for estimated income of every household (see Ferreira, et al, 2012).

[5] Using PNAD data, about 4.7 percent of the population lives below the official extreme poverty line of R$70 per month; while 12.4 percent live below the R$140 official poverty line. This amounts to more than 24 million Brazilians whom, despite the efforts of social programs, continue to live in poverty and about 9 million who remain in extreme poverty. While the Census and PNAD data are not comparable, they both show there is still a not-negligible share of population living in extreme poverty.

Combining the observed and predicted household income, it is possible to study the movements in and out of poverty over the period, and the characteristics of those who stayed below the poverty line, those who emerged, and those that fell below the cut-off.

Synthetic panels have been proved to perform well in predicting actual mobility in and out of poverty. For instance, Cruces et al. (2011) compare mobility patterns of synthetic panels with actual panel data, implementing sensitivity analyses and robustness checks in Chile, Nicaragua and Peru. By means of two rounds of cross-sectional data, their results suggest that the methodology performs well in predicting actual mobility, and many of the assumptions of synthetic panels hold. The correlation between two periods' error terms is always positive. Importantly, the true mobility pattern lies between the upper and lower bound for the majority of subgroups and countries, and the results are robust to additional tests.

One of the main advantages of this approach is that is that it does not need to impose much structure to the individual income generating process to estimate the bounds on mobility. The method allows us to calculate lower and upper bounds on the movements in and out of poverty, depending on the assumption regarding the individual-specific error term. The assumption that error terms between periods are perfectly correlated leads to a systematic underestimation of the mobility between periods. This functional form is thus used to estimate the lower bound on mobility. That is to say—given that mobility is estimated across two survey rounds in which the same disturbance term applies to both consumption measures—the lower-bound measure of mobility is clean of classical measurement error, providing a lower-bound estimate of "true" mobility. Conversely, assuming that error terms are perfectly uncorrelated leads to an overestimation of the amount of mobility; this equation is thus employed to calculate the upper bound (see Ferreira et al. 2013).[6]

Households are then classified according to their incidence of poverty into four groups: 1) those that are always poor— 'the chronically poor'; 2) those that were poor in the first period but not in the second—the 'leavers' of poverty; 3) the non-poor in the initial period who fell into poverty in the second one— the 'enterers' into poverty; and 4) those that are never poor. The extreme poverty, moderate poverty, and middle class lines are set at R\$70, R\$140 and R\$250 per month, respectively.[7] Figure 1 shows the mobility pattern in Brazil from 2003 to 2011 (compared to 1992-1997, another period of considerable decline in poverty). The graph illustrates that 8.6 to18.3 percent of the population emerged from poverty in 2003-2011, while 3.8 to 14 percent remained, representing those who are chronically poor. In the same period, the share of people that fell into poverty was 7.5 percent in the upper bound estimates (using lower bounds there was practically no entrants to poverty).

[6] As part of the background work for the WB Report (2013), Bourguignon (2012) presents a methodological improvement in the construction of household income synthetic panels based on repeated cross-sections, The issue of narrowing down the gap between upper and lower bounds is addressed by giving more structure to the correlation of error term over time. This methodology allows for a more precise analysis of income dynamics than the lower and upper bound approach, obtained by assuming zero or perfect correlation between the residuals of income regressions at various points of time.

[7] These poverty lines correspond to the official threshold values for 2010.

FIGURE 1: MOBILITY IN BRAZIL, INTERNATIONAL POVERTY LINES (LOWER AND UPPER BOUNDS)
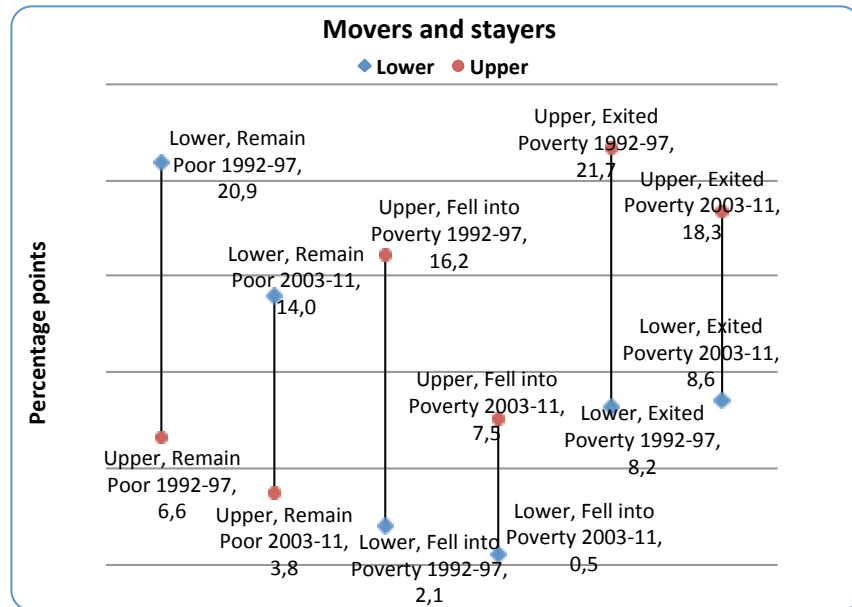
Table 1 illustrates a transition matrix for Brazil in terms of three economic groups: the poor (those with incomes below R$140 per month), the vulnerable (with incomes between R$140-250 per month), and those in the middle and upper classes (with incomes of more than R$250 per month).[8] Between 2003 and 2011, of the total population that moved across classes, 6.7 percent graduated from poverty, joining the ranks of the vulnerable, and almost 2 percent moved from poverty into the middle class.[9] A large share of those who were initially vulnerable (11.2 percent) also graduated to the middle class. These findings are in line with a 2012 study from Brazil's *Secretaria de Assuntos Estratégicos* (SAE), which points to substantial upward mobility to the middle class in Brazil over the last decade.[10] There were very few poverty entrants in the period (0.9 percent experienced a worsening of their status from middle class to vulnerable; and only 0.5 percent descended from vulnerability into poverty). Nevertheless, the findings also point to a substantial share of immobile individuals: 14 percent of the population remained steadily in poverty between 2003 and 2011—i.e., nearly one in seven Brazilians remained chronically poor throughout the period.

[8] These definitions take into account vulnerability to shocks and the risk of falling into poverty, see Lopez-Calva and Ortiz-Juarez (2012) and Ferreira et al. (2013).

[9] In this framework, a measure of intra-generational mobility is the share (the sum of the off-diagonal cells in the matrix) of individuals who moved from one group to another one.

[10] *Secretaria de Assuntos Estratégicos:* 'Voices of the Middle Class'.

TABLE 1: MOBILITY IN BRAZIL 2003-2011, INTERNATIONAL POVERTY LINES (LOWER BOUND ESTIMATES)[11]

		Destination: 2011			TOTAL 2003
		Poor (0-140 *Reais*)	**Vulnerable** (140 – 250 *Reais*)	**Middle Class +** (250 *Reais* +)	
Origin: 2003	**Poor** (0-140 *Reais*)	14.0%	6.7%	1.9%	22.6%
	Vulnerable (140 – 250 *Reais*)	0.5%	7.0%	11.2%	18.7%
	Middle Class + (250 *Reais*+)	0.0%	0.9%	57.8%	58.7%
TOTAL 2011		14.5%	14.6%	70.9%	**100.0%**

Source: Fruttero, Castaneda, Lopez-Calva & Lugo (2012).

Previous studies have been unable to track specific individuals to identify who has transitioned out of poverty. The methodology used here makes possible to observe the patterns of mobility in Brazil without panel data. Looking at the demographic, socioeconomic, migratory, and employment characteristics of the different groups, we are able to track the characteristics of individuals associated with specific mobility patterns. Analyzing the profiles of the poverty leavers between 2003 and 2011 (and comparing them with the previous poverty reduction period of 1992-1997), we find that exiting poverty in Brazil during the last decade is highly correlated with educational achievement, location and employment status. Those who managed to emerge from poverty and eventually join the middle class (understood as those with lower vulnerability to poverty) show higher educational achievement—more than 50 percent of households whose head had completed primary education graduated from poverty—as well as better labor market conditions.

MEASURING CHRONIC POVERTY IN BRAZIL USING NON-MONETARY DIMENSIONS

While the construction of synthetic panels provides useful insights in the analysis of chronic poverty, there are limitations to this approach. First, in practical terms, two-cross sections are still needed for synthetic panels—while the methodology presented below requires only one cross section. In addition, the upper and lower bounds are often wide in their estimates of chronic poverty, making it difficult to

[19] Lower bounds require fewer technical assumptions, and they allow the discussion of the most conservative scenario of directional mobility (both upward and downward). In the lower bound, as the residual is inputted for each observation, it is possible to cross information on mobility with other characteristics. For the upper bounds analysis see Fruttero, Castaneda, Lopez-Calva and Lugo (2012).

identify individuals as poor. Moreover, the synthetic panel methodology, analogous to traditional poverty measures, restricts the information utilized to identify and aggregate the amount of poverty to monetary indicators—income or consumption at the household level. The second methodology presented suggests that multidimensional measures of poverty—those that introduce non-monetary dimensions into the identification of the poor[12]—constitute a good instrument to measure chronic poverty and potentially enhance the incidence of programs.

The methodology proposed takes advantage of the empirical regularity whereby those who are both monetary and multi-dimensionally poor in one period are systematically—and considerably—more likely to have been monetary poor in other periods. This might be due to the fact that it requires a certain number of periods for an individual to be above the poverty line (monetary) so that such person can accumulate assets that will be reflected in nonmonetary dimensions. In principle, a household that has only been poor in monetary terms in one period would not show deprivations in other dimensions. However, if income is insufficient for several periods, children may start dropping out of school, assets may start to divest, and so on. Symmetrically, it will take several periods of income sufficiency for households to be able to build assets and invest in other dimensions that would make them non-poor from a non-monetary lens. Thus, in the absence of panel income data, using multidimensional measures (exploiting the information contained in the intersection of the different nonmonetary dimensions of poverty) constitutes an effective way to identify and target the chronic poor.

Using non-monetary dimensions to measure chronic poverty, in addition, holds important advantages. Monetary indicators of well-being fluctuate substantially over time, constituting a weak marker for long-term welfare (Chaudhuri & Ravallion 1994; McKay & Perge, 2010). Conversely, non-monetary indicators, such as education, health, nutrition and household assets do not vary nearly as rapidly, and can capture a great deal of information about historical deprivations (see Grynspan and Lopez-Calva, 2011).

The Alkire and Foster (2011) multidimensional poverty measure is used here to identify and aggregate the different dimensions of poverty. Alkire and Foster (2011) incorporate dimensionality into the identification of the poor by using a dual cut-off based on the counting approach proposed by Atkinson (2003). The first cut-off, the traditional poverty line "z", identifies whether individuals are poor within a given dimension. The second cutoff, the dimensional one, establishes the proportion of dimensions "k", in which an individual must be identified as poor to be considered multi-dimensionally poor. In our analysis, the non-monetary dimensions are then intersected with the persistence aspect of the ultra poverty concept to approximate the measurement of chronic poverty as a potential instrument for targeting.

[12] Equally important to the measurement of poverty is the information excluded from this analysis. Poverty can be described as the deprivation of basic human *functionings*: the set of 'beings and doings' that a person can choose from and has reason to value (Sen, 1985).

Assuming k=3 as a reasonable cutoff to define people who are multi-dimensionally poor, the population is categorized as follows. The *chronic poor* are constituted by people who live below the monetary poverty line and who are simultaneously multi-dimensionally poor. The *non-monetary poor but deprived* comprise those who, although living above the poverty line, are still deprived in multiple dimensions. The *transient poor* refer to people who live below the moderate poverty line but who are not multi-dimensionally poor (this group has a higher probability of escaping poverty, and its current status is likely to be just transitory). Finally, people who are not considered poor in either income or other dimensions are referred as to the *better-off*. The analysis uses the 1999, 2001, 2011 and 2012 rounds of the PNAD survey. The indicators refer to health, education and labor outcomes associated with poverty, all weighted equally (indicators are described in table 2).

TABLE 2: WHO ARE THE CHRONIC POOR?

Indicator	The household is considered deprived on that dimension:
Child School Attendance	if any school-aged child (7-17 years old) is not enrolled in school
Years of schooling	if none of the household members has 8 years of schooling or more
Improved sanitation	if the dwelling has no access to a general network or septic tank
Safe water	if the dwelling has no access to piped water provided by the general network of distribution, well or spring
Electricity	if the dwelling has no access to electricity
Shelter	if living in a shelter not constructed with masonry materials (like bricks and stones)
Assets	if it does not own at least two of: i) refrigerator/freezer; ii) telephone/mobile; iii) clean cooking fuel stove (gas or electric cooker)

Income mobility has indeed increased in the country during the last decade, and chronic poverty in Brazil has fallen at a faster rate than transient poverty, as shown in Figure 3. In 2004, a total of 17.7 percent of the population were monetary poor—living below 140 Reais per capita per day; of these, 6.7 percent were chronic poor according to our definition (the moderate and severe income and multi-dimensionally poor); and 11 percent were transient poor. By 2012, the share of the monetary poor had fallen to 7.4 percent, only 1.6 percent were chronic poor, and 5.8 percent were transient poor.

FIGURE 3: MATRIX MULTIDIMENSIONAL AND INCOME POVERTY, 2004 AND 2012
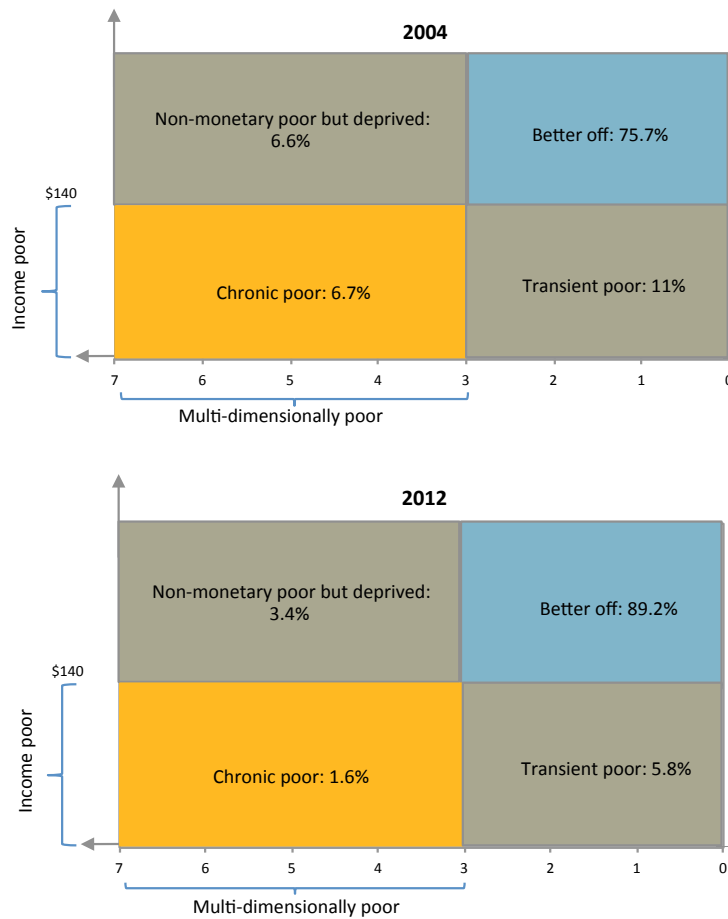
Source: Estimates using PNAD, based on World Bank (2013).

Understanding the—non-negligible—differences between chronic and transient poor can help prioritize interventions, characterizing the most appropriate beneficiaries for programs. In 2011, only 30 percent of the chronic poor had secured access to water compared to coverage of 93 percent for the transient poor. Illiteracy was over 20 percentage points higher among the chronic than the transient poor (43 percent vs. 19 percent); while the average schooling of the transient poor doubled that of the chronic (4.9 versus 2.2 years on average).

The heterogeneity between groups extends to other dimensions including race, with the non-white population facing significantly higher chronic poverty (see Table 3). Gender presents more modest differences, with male-headed households representing a larger share of the multi-dimensionally poor; while female-headed ones account for a larger share of the transiently poor.[13] Indigenous, afro-descendant and "pardos" are overrepresented among the chronic poor.

TABLE 3: WHO ARE THE CHRONIC POOR

	Characteristics	Percentage of total population	Percentage of Chronic Poor
Race	Indigenous	0.46%	1.66%
	White	45.56%	18.67%
	Black	10.06%	12.94%
	Asian	0.61%	0.14%
	Pardo	43.31%	66.59%
Region	Norte	8,43%	26,86%
	Nordeste	27,96%	63,79%
	Sudeste	41,32%	4,58%
	Sur	14,62%	3,61%
	Centro-Oeste	7,67%	1,16%

Source: World Bank (2013).

Regional differences are also important, with the Northeast of Brazil showing twice as large a level of chronic poverty with respect to the rest of Brazil. Moreover, the multidimensional poverty framework confirms poverty convergence among states. As Figure 4 shows, there is a high correlation between income and multidimensional poverty reduction by state over the 1999-2011 period. The states with the highest initial income poverty level were those that achieved the highest reduction in multidimensional poverty during the decade.

[13] The latter, however, could be due to gender-based factors related to the position of head of household, with relatively well-off poor women being over-represented as female heads of household.

FIGURE 4: INCOME AND MULTIDIMENSIONAL POVERTY REDUCTION (P.P.) – 1999-2011
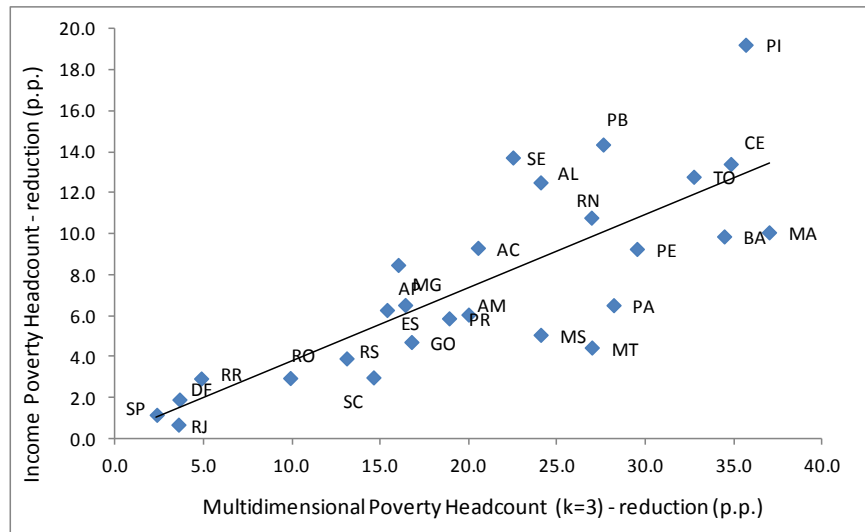
Source: Bianchi, Castaneda, Lopez-Calva, & Solomon (2012).

While chronic and moderate poverty have significantly decreased across states, the findings stress the needs for policy to address the specific needs of *each* group. Figure 5 shows the distribution of each defined group of the population for every state. On one hand, rich states like São Paulo, Rio de Janeiro and Distrito Federal have practically driven multi-dimensional poverty to zero. The major issue in these states now lies in addressing transient poverty. In states from the North, South and Center-West regions, the challenge is on reducing vulnerability. In the Northeast, however, there is still meaningful both chronic and transient poverty to be addressed.

FIGURE 5: DISTRIBUTION OF POPULATION BY STATE, 2011
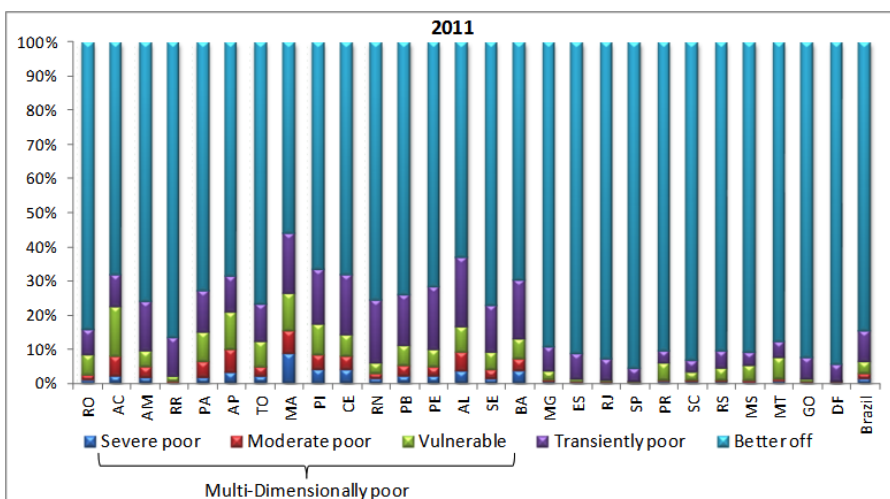
Source: Bianchi, Castaneda, Lopez-Calva, and Solomon (2012).

IDENTIFYING THE CHRONICALLY POOR

A simulation exercise indicates that households that are identified using income and multidimensional poverty status (MPI) thresholds tend to be much more associated with the characteristics of chronic poverty than those identified using only income-based methods. The exercise exploits, first, and only for the purpose of validation, the synthetic panel methodology presented above. For the sake of this exercise, the synthetic panel is constructed for the 2003-2011 period. The round of 2003 is used as a baseline to calculate predicted income for 2011. The analysis relies on the estimation of the lower bound on mobility by assuming perfect correlation between error terms. Once people in 2003 are classified by their multidimensional poverty status (MPI) and their predicted income in 2011, we calculate how multidimensional poverty is associated with the probability of remaining in (chronic) poverty (see Box 1 for details).

BOX 1 - MULTIDIMENSIONAL POVERTY ASSOCIATED WITH THE PROBABILITY OF REMAINING IN CHRONIC POVERTY

For individuals in the synthetic panel, the probability that they are income poor in 2011 is calculated given that they are income poor in 2003. Then, the probability that an individual remains poor for individuals who are MPI poor and MPI not-poor in 2003 is examined. We test the hypothesis that given that a person is poor in period 1, she is more likely to remain poor (chronically poor) if she is also identified as multi-dimensionally poor:

$$P(\text{Poor } 2011=1 | \text{Poor } 2003=1, \text{MPI } 2003=1)=1 \text{ and}$$
$$P(\text{Poor } 2011=1 | \text{Poor } 2003=1, \text{MPI } 2003=0)=0$$

P(*Poor* 2011=1□ | Poor 2003=1, MPI 2003=1)>
P(*Poor* 2011=1□ | Poor 2003=1, MPI 2003=0)
P(*Poor* 2011=1□ | Poor 2003=1, MPI 2003=1)>P(*Poor* 2011=1□ | Poor 2003=1, MPI 2003=0)

The table below shows the probability of remaining in poverty from 2003 to 2011 for those who were poor in the initial period, given that the individual was or not MPI (k=3) in 2003. As the dependent variable is a dummy indicating MPI status, the probit, logit and linear models generate the same results. Every result was significant at 95 percent. We report the results for the different poverty lines.

Probability of remaining in income poverty conditional to initial multidimensional poverty status (k=3):

Poverty line	Probability of remaining in poverty if not MPI (1)	Probability of remaining in poverty if MPI (2)	Difference (3) = (2)-(1)	(3)/(1)	(2)/(1)
R$ 70 a month	57.6%	75.4%	17.8%	30.9%	1.31
R$ 140 a month	55.3%	80.2%	24.9%	45.0%	1.45
R$ 250 a month	62.8%	86.4%	23.6%	37.6%	1.38
$ 2.5 a day	57.2%	81.9%	24.7%	43.3%	1.43
$ 4 a day	61.1%	85.0%	23.9%	39.1%	1.39
$10 a day	76.4%	94.7%	18.4%	24.1%	1.24

For example, using the poverty line of R$140 a month, people who were MPI (k=3), that is, who were deprived on 3 or more dimensions, had a probability of remaining in poverty that was 24.9 percentage points higher than those who were not MPI (80.2 percent against 55.3 percent). This means that if an individual was multi-dimensionally poor in the first period, she is 45 percent more likely to be chronically poor in the second period than if she was not MPI poor.

The results suggest that a multidimensional poverty analysis indeed can add information to identify who is chronically poor. As mentioned, the underlying idea is that those who are multi-dimensionally and monetary poor in one period have a higher probability of also having been monetary poor in the previous periods. Indeed, we find that within a period of sizeable reduction of poverty, people who were not only income but also multi-dimensionally poor had a significantly lower probability to emerge from monetary poverty.

The results are not driven by one specific dimension. Indeed, if a specific dimension was to be associated with "chronicity"—instead of the intersection of several of them—a higher probability of remaining in poverty for those who are MPI would be generated as a result of the correlation between MPI and that specific dimension. To investigate this issue, we run again all regressions on the probability of remaining in poverty on MPI status, excluding people who are deprived on a specific dimension. If the results were fully driven by that single dimension, we would expect that the MPI status would not lead to higher probabilities of being poor in 2011. The results (available in the full report) confirm that MPI status continues to explain a significant difference of the probability of people remaining in income poverty. When people who are deprived of assets were excluded from the regression, the impact of MPI diminished the most. These results imply that it is the *intersection* of dimensions which contains the information needed to identify chronicity.

People who are not only monetary poor but also multi-dimensionally poor also face higher level of deprivations in all dimensions (see Table 4). For instance, they possess even less assets, on average, than the group identified using only income—this is especially important considering that the inability to accumulate assets is correlated to the probability of remaining in poverty traps. These chronically poor households also have a significantly lower level of education, substantively higher illiteracy rates and lower enrollment rates for children, as compared to those selected only using monetary criteria (Table 5).

TABLE 4: POTENTIAL TARGET GROUPS – DEPRIVATION RATES BY DIMENSION

Potential target groups	Deprivation on shelter	Deprivation on sanitation	Deprivation on safe water	Deprivation on electricity	Derivation on education	Deprivation on child attendance	Deprivation on Assets
Monetary poor (R$140 poverty line)	19%	53%	25%	3%	46%	10%	16%
Extreme monetary poor (R$70 poverty line)	20%	54%	28%	4%	49%	9%	21%
MPI (k=3)	50%	95%	65%	10%	80%	19%	41%
Monetary AND MPI poor	49%	95%	72%	12%	78%	19%	48%
Extreme monetary AND MPI poor	47%	95%	73%	12%	78%	18%	55%

TABELA 5: POTENCIAIS GRUPOS ALVO - EDUCAÇÃO

Potential target groups	Years of education - Head of the household	Years of education - people older than 15	Illiteracy - Head of the household	Enrollment rate 7 to 17 years old
Monetary poor (R$140 poverty line)	4.5	5.2	29%	94.1%
Extreme monetary poor (R$70 poverty line)	4.8	5.2	29%	93.9%
MPI (k=3)	2.2	3.0	48%	84.3%
Monetary AND MPI poor	2.2	3.2	48%	89.6%
Extreme monetary AND MPI poor	2.1	3.1	51%	90.0%

WHAT DOES IT MEAN TO ELIMINATE POVERTY?

A key question in the pursuit of eradicating poverty refers to the understanding of what this means in practical terms: when is it possible to say "mission accomplished"? A certain level of poverty will always be present—analogous to the case of frictional unemployment—because it is not possible to shield all individuals all the time against all types of risks. Some individuals will always appear below the monetary poverty line. These individuals refer to the transient poor—the equivalent of the frictional unemployed. Completely eliminating this kind of poverty would require shielding people against all shocks, something which no policy can achieve (and which would be an undesirable policy goal). Yet, it is possible to think that this type of poor will be able to recover after the shock, escaping from this condition. What is of more concern refers to the chronic poor, those whose poverty persists over time; who are poor period after period.

Empirically, the optimal methodology is that which best answers the question being asked, towards the intended purpose. Defining precisely the question—when can we claim victory in the eradication of poverty—thus can contribute to find the best methodologies to tackle the issue at hand. In this sense, more than substitutes, the methodologies proposed here are complementary to the current approaches. The multidimensional approach can complement the current target mechanisms of BsM, providing an accurate and stable picture of poverty towards the most efficient way to reach the chronic poor. This article highlights elements to better solve the "inclusion" part of the equation (reducing the inclusion—or exclusion—error in

the targeting of selected groups), proposing an instrument to complement the identification of the chronically poor. On one hand, we use synthetic panel techniques to analyze the dynamics of poverty and its correlates over time. On the other, we provide evidence about the potential of combining multidimensional and monetary measures to identify chronically poor people in the absence of longitudinal data.

This approach of combining multidimensional and purely monetary indicators of poverty also provides a framework to answer the question of what it means to eradicate poverty. If poverty can be classified as chronic (structural) and transitory, from a normative perspective, the policy goal should be to eliminate structural poverty completely. In the long run, however, there will always be a positive level of transient poor (given the nature and insurability of risks). At each level of poverty—as measured by monetary indicators—policies to eliminate structural poverty can focus on the share of those who are also multi-dimensionally poor (implementing interventions to address chronic poverty); while differentiated policies can be implemented for those who are transiently poor (i.e., providing insurance and/or coping mechanisms against shocks).

In this sense, part of the answer to the question of eliminating poverty entails achieving the lowest level—if not zero—of chronic poverty, that is, of individuals who are monetary poor and also poor in a combination of dimensions. At the same time, it involves having the mechanisms in place to minimize transient poverty, providing coping mechanisms so that both the transiently poor and the vulnerable can build up resilience (for example in the form of assets) against shocks.

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ANNEX 1 – SYNTHETIC PANELS USING REPEATED CROSS-SECTIONAL DATA[14]

This section summarizes the technique proposed by Dang et al. (2011) to estimate intragenerational mobility by converting two or more rounds of cross-sectional data into a synthetic panel. A model of income (or consumption) is estimated from cross-section data in year K, using a specification that includes only time-invariant covariates[15]. Parameter estimates from this model are then applied to the same time-invariant regressors in a cross-sectional survey from year L to predict an income estimate for households from year L in year K, thus creating a "synthetic panel." Analysis of mobility can then be done based on the households from year L, using their actual income observed in year L along with their predicted income from year K.

Formally, assume that we have two rounds of cross-sectional surveys (denoted as round 1 and round 2). Calling yit round t household log per capita consumption or income (where t =1, 2) of household i and z the poverty line, we are interested in estimating (a) the fraction of poor households in the first round of the survey that escaped poverty (Pr(yi2 > z|yi1 < z)) or remained poor (Pr(yi2 < z|yi1 < z)) in the second round of the survey; and (b) the fraction of nonpoor households in the first round of the survey who became poor (Pr(yi2 < z|yi1 > z)) or remained nonpoor (Pr(yi2 > z|yi1 > z)) in the second round of the survey. This task cannot be performed directly by using repeated cross-sectional surveys because all households are interviewed only once, in either in the first or second round of the survey. However, we can straightforwardly estimate the relationship between income and time-invariant characteristics in each round:

$$y_{it} = \beta_t x_{it} + \varepsilon_{it} \quad t = 1,2 \quad (A1)$$

where xit is a vector of time-invariant characteristics (or characteristics that can be easily recalled from one round to the other one) of household i in round t of the survey and it is an error term. Using observations from the second round, we can predict consumption in the first round (2i1) by means of the same observed vector of time-invariant or retrospective characteristics (x2i1) and the first round ordinary least squares (OLS) estimates of parameters 1, where the superscript refers to observations of households surveyed in the second round. Because we do not know the empirical correlation between the error term between the two rounds, lower- and

upper-bound estimates of mobility are derived using two different sets of assumptions about the correlation.

Specifically, Lanjouw et al. (2011) argue that the correlation between both error terms is likely to be non-negative[16]. Then, if we assume zero correlation between the first-round and second-round error terms, Lanjouw et al. (2011) propose to predict income in the first round by randomly drawing with replacement for each household i in the second round from the empirical distribution of first-round estimated residuals (denoted by 2i1) as follows:

$$\hat{y}_{i1}^{2U} = \hat{\beta}_1' x_{i1}^2 + \tilde{\varepsilon}_{i1}^2 \quad (A2)$$

Equation (A2) allows us then to compute estimates of movements in and out of poverty. For example, the fraction of poor households in the first round that escaped poverty in the second round is given by

$$\Pr(y_{i2}^2 > z \,|\, \hat{y}_{i1}^{2U} < z) \quad (A3)$$

Because we are randomly drawing from the empirical distribution of estimated errors, we need to repeat the procedure R times and take average of equation (A3) to estimate movements in and out of poverty. In all likelihood, however, the correlation between error terms will be positive. By assuming no correlation, equation (A3) will provide an upper-bound estimate of the mobility in and out of poverty. Dang et al. (2011) propose estimating also a lower bound on mobility by now assuming a perfect positive correlation between error terms. In this particular case, estimates of residuals from the second round () can be directly used to predict income in the first round as follows:

$$\hat{y}_{i1}^{2L} = \hat{\beta}_1' x_{i1}^2 + \hat{\varepsilon}_{i2}^2 \quad (A4)$$

Equation (A4) allows us to compute lower-bound estimates of movements in and out of poverty. For example, the fraction of poor households in the first round that escaped poverty in the second time is given by

$$\Pr(y_{i2}^2 > z \,|\, \hat{y}_{i1}^{2L} < z) \quad (A5)$$

Because we are not drawing from the empirical distribution of estimated errors, we do not need to repeat the procedure R times as in the upper-bound approach. In fact, this last approach provides a clean underestimate of true mobility because we are using household-specific error terms (from the second round in this example). In other words, because mobility is estimated across two survey rounds in which the same disturbance term applies to both consumption measures, the lower-bound measure of mobility has been "purged" of classical measurement error and thereby provides a lower-bound estimate of "true" mobility. It is for this reason that we report these estimates in the report: it allows a more conservative estimate of mobility trends.

Any new methodology would make little sense without validating it, especially in a context of interest. Cruces et al. (2011) conduct a validation of this approach by implementing a wide range of sensitivity analyses and robustness checks in three countries in Latin America where different lengths of panel data are available (Chile, Nicaragua, and Peru). The authors show that the methodology performs well in predicting actual mobility in and out of poverty by means of two rounds of cross-sectional data; true mobility lies within the two bounds most of the time, and the results are robust to additional tests.

THE PERMANENT ARGENTINIAN HOUSEHOLD SURVEY: UTILITY AND LIMITATIONS IN QUASI-LONGITUDINAL STUDIES RELATED TO LIVING CONDITIONS

Claudio Comari[1]

ABSTRACT

In most Latin American countries and those in the Caribbean, a marked and sustained downward trend in incidents of poverty and inequality is evident.

Some of the statistical evidence available will be examined in the first section of this paper, which supports the above statement, both on a regional and a national scale. Afterwards, the contributions made towards reducing poverty and inequality as part of major public policies for creating jobs, the improvement of distributional equity by increasing current salaries, and the differential impacts on wage structures are also analysed, along with the impact of extending the social security system.

In the second section, it looks at the issues of utilities and limitations in quasi-longitudinal studies about living conditions, which are addressed by providing two examples of relevant case studies from the rotating panels, which make up the sample concept of the Permanent Argentinian Household Survey.

PUBLIC POLICIES AND THE DYNAMICS OF POVERTY AND INEQUALITY

POVERTY AND INEQUALITY: RECENT TRENDS

As part of the extensive repertoire of reports and studies on Latin American economic and social reality provided by researchers, governments, NGOs and international organisations, there is a general consensus about changing trends which have been verified in our region in relation to incidents of poverty and the distribution of inequality.

This owes more to its author than it does to the report provided by the World Bank (WB) "*Economic mobility and the growing middle class in Latin America*" in 2012, which at the time gave rise to unusual interest in the issue of economic mobility and social impact.

The document highlights that this trend was broken in 2003 and there is a change in trend of increasing poverty and inequality which has been verified within the region for decades: "*...the current situation within the region is a recent reality, and is somewhat unprecedented. It is the result of a process of social transformation which began around 2003, and during those years upward mobility increased at a remarkable rate.*"

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Higher family income resulted from the growth of GDP and a marked decrease in income distribution inequality are the determining factors of rapid and unprecedented expansion of the middle classes according to the World Bank. It was also noted that Argentina and Brazil are the countries where distributional equity makes the highest contribution.

The results are generally correct, albeit they may be insufficient: there have been incidents of GDP growth and simultaneous deterioration of living conditions, as well as societies with low levels of inequality suffering from poverty.

In its report "*Social overview within Latin America - 2011*", the Economic Commission for Latin America (ECLAC) supplied the following chart, in which a growing trend of incidents of poverty and indigence between 1980 and 2002 is observed, followed by a sharp decline during the first decade of the century, particularly in the proportion to those suffering from poverty.

GRAPH 1: TRENDS IN POVERTY AND DESTITUTION, 1980-2011.
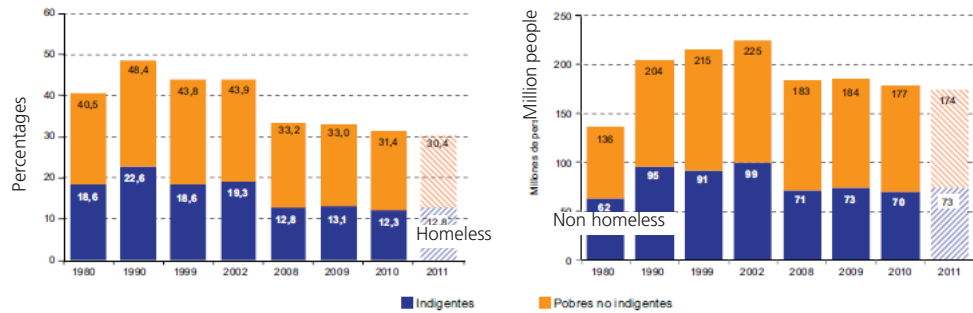
Source: Economic Commission for Latin America and the Caribbean (ECLAC) about special tabulations in home surveys of the corresponding countries. a Estimate for 18 countries plus Haiti. The figures at the top represent the percentage and total number of poor people (indigents plus poor but not indigent). The figures from 2011 come from a projection.

Extract from ECLAC (2012). Social overview within Latin America 2011. ECLAC. Santiago de Chile. p.p. 16.

In relation to inequality in terms of the distribution of income, the turnaround is evident in the chart, which was taken from the same ECLAC publication.

GRAPH 2: TRENDS IN POVERTY AND DESTITUTION, 1980-2011.

■ 1990-2002   ■ 2002-2008   ■ 2008-2010

There are countless sources of information reflecting the changes in trends which showed a shift towards reducing poverty and inequality.

But, what is the foundation for such formidable changes?

The improvement in living standards of people within the region cannot be understood, however it can be linked to the hegemony of growing political and economic catechism from the Washington Consensus. The crisis of the neoliberal model had an impact on the region, and this was followed by the assumption of governments such as those headed by Hugo Chavez in Venezuela, Ignacio Da Silva in Brazil, Nestor Kirchner in Argentina, Rafael Correa in Ecuador, Evo Morales in Bolivia, who among others, made significant changes in the direction of public policies.

They then appeared as common denominators strengthening the state's role within the economy by regaining control of businesses and key resources, extending their social investment and infrastructure, and promoting policies and strengthening domestic markets, which resulted in sharp declines in unemployment, and improvements in income and working conditions.

This also saw social security policies introduced as comprehensive universal retirement plans, along with child allowance in Argentina and the Brazilian Program Bolsa Familia.

This series of antithetic measures for economic and social policies, which were once introduced in Latin America, are now finally able to explain the increase in the middle class population on an average income, as stated by the World Bank, while they can also explain the reduction in poverty and levels of equality, which have been highlighted by ECLAC.

RECENT DYNAMICS IN ARGENTINA: POVERTY AND THE DISTRIBUTION OF INCOME

This is in relation to the decrease in the trend of incidents of poverty and indigence experienced by Argentina, although these are much more noticeable than those observed on average for the entire region within the patterns of the studies carried out above. Whereas the poverty rate was 54% of the population within the patterns of the above studies, in 2012 this proportion stands at 6.5% of the population. In addition, incidents of poverty among the population are also down during the same period, from 27.7% to 1.7%.

It is true that the methodology used by the National Institute of Statistics and Census (INDEC) for measuring poverty per income is not entirely the same one used by ECLAC. However, we should take note that any official measurements used by INDEC, are fairly consistent with the dynamics of the measurements used by international organizations (by other methods).

The measurements used by ECLAC (by using its own value categories and by correcting national income accounts), relative to that used by INDEC, have a correlation coefficient[2] near perfect, 0.999, in addition to the fact that the result is significantly lower as illustrated in the table below

TABLE 1: EVOLUTION OF POVERTY, 2004-2014.

	INDEC	CEPAL
2004	42,3	29,4
2005	36,4	26,0
2006	29,2	21,0
2009	13,6	11,3
2010	11,0	8,6
	Ro = 0, 999	

Individual compilations based on INDEC and ECLAC sources.

[2] The Pearson correlation coefficient varies between 1 and -1. It is close to 0 when the relationship between the variables is minimal, and it equals 1 when the two variables have the same measurement (i.e. the same cases are measured in inches and centimetres), and it approaches -1 when the variation between the variables correlate perfectly, albeit in opposite directions.

The same is true of the World Bank estimates (which do not correct income and the poverty line quoted as US$ 2 per day and US$ 1 per day for the poverty line according to Purchasing Power Parity), whose measurements express a correlation of 0.973 when compared to the measurements used by INDEC.

TABLE 2: EVOLUTION OF POVERTY, 2003-2011.

	Indec	CEDLAS/BM
2nd half of 2003	47,8	22,1
1st half of 2004	44,3	19,7
2nd half of 2004	40,2	17,0
1st half of 2005	38,9	15,4
2nd half of 2005	33,8	13,4
1st half of 2006	31,4	12,5
2nd half of 2006	26,9	10,3
1st half of 2007	23,4	9,2
2nd half of 2007	20,6	9,0
1st half of 2008	17,8	8,5
2nd half of 2008	15,3	8,3
1st half of 2009	13,9	8,0
2nd half of 2009	13,2	8,1
1st half of 2010	12,0	6,6
2nd half of 2010	9,9	6,4
1st half of 2011	8,3	5,4
		$Ro = 0,973$

Individual compilations based on INDEC and WB/CEDLAS sources.

This requires us to be aware that with the same approach, which in this case looks at revenue, it is possible that multiple forms of operation may in fact determine different levels of incidence by making further reference to the complexity and relative arbitrariness of how poverty is measured, even having taken the dynamics into consideration.

Regarding the issue of inequality, one of the most widely used statistical forms for measuring the distribution of monetary income is the Gini coefficient, whose nominal values vary between 0 and 1. The Gini value tends to be lower, i.e. closer to zero, to the extent that the distribution of income is more equal.

The evolution of Argentina to that extent is similar to the one ECLAC stated for the region. The following chart illustrates the evolution between 1974 and 2011 for the

greater Buenos Aires region. The geographical area is truncated, because this was the maximum range of the data source available in the 1980s.

GRAPH 3: EVOLUTION OF THE GINI COEFFICIENT IN THE GREATER BUENOS AIRES REGION 1974-2011.
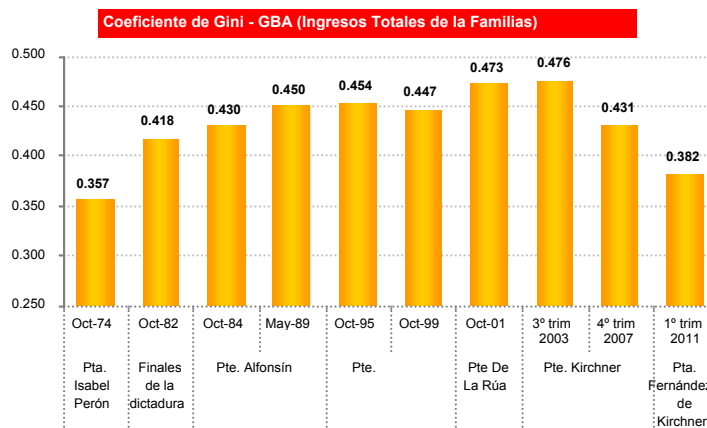
Self generated. Source: PHS. INDEC.

Since 1974, there has been evidence of an increasing trend, which was only broken in 2003 as the result of a persistent downward spiral.

The series begins with a Gini value of 0.484 and culminates in 0.371 for the total of 31 urban areas, which were represented in the INDEC Permanent Household Survey between 2003-2012.

DETERMINANTS OF IMPROVEMENTS IN ARGENTINA:

a) the issue of employment

The changes in employment market conditions represented established sources of significant changes in the social situation within Argentina.

The unemployment rate dropped sharply from a representative figure of 20.4% of the population active in work at the beginning of 2003 to below 10% by the end of 2006. From then on, it was consolidated by one digit, and it was then followed by a more gentle decline, although it did even manage to reach 6.7% in late 2011.

Low vacancy rates, along with the creation of direct and immediate higher household incomes of those in work had the indirect knock-on effect of generating better

[2] Trata-se de instâncias de acordos entre sindicatos e associações empresariais (geralmente, por setor de atividade e de duração anual) relativos a salários, condições de trabalho e benefícios laborais, que são homologados pelo Ministério do Trabalho e se tornam norma.

conditions for increasing wages for the workforce. This, combined with the revival of the joint discussions as part of the collective agreements in place[3] where favoured and sustained forms of work, saw a significant increase in income from employment, which we will analyse a little further.

However, policies for strengthening the domestic market which favoured the creation of jobs and collective elements are not the determining factor behind increases in salaries: in 2003 and 2004, legal decrees for wage increases at fixed rates were issued in order to further improve the position of the most disadvantaged people, because they establish a differential proportion increases in relation to revenue. The Institute for the Minimum and Flexible Salaries sets a flat reference for all wages in the economy on an annual basis, and this is done starting from a base of 200 pesos in 2003, and reached a total of 3,300 nominal pesos in 2013.

In terms of improvements within the workplace, this deserves a chapter of its own, as these highlighted the creation of registered employment, i.e. no casual work. Records provided by the Federal Administration of Public Revenue (AFIP), which is in charge of tax collection and social security resources, show that there were 4.9 million registered contributors in 2003, whereas AFIP appeared to have 9.1 million people registered. This information is supplemented by the proportion of unregistered employees identified in surveys whose representation ranged from 48.3% to 32.8% between 2003 and 2012. The exponential growth of registered workers is also backed up by information collected by the PHS in relation to the growth in employment, as illustrated in the chart below

GRAPH 4: COMPOSITION OF TOTAL EMPLOYMENT WITHIN THE 31 URBAN AREAS FROM 2003 TO 2012.
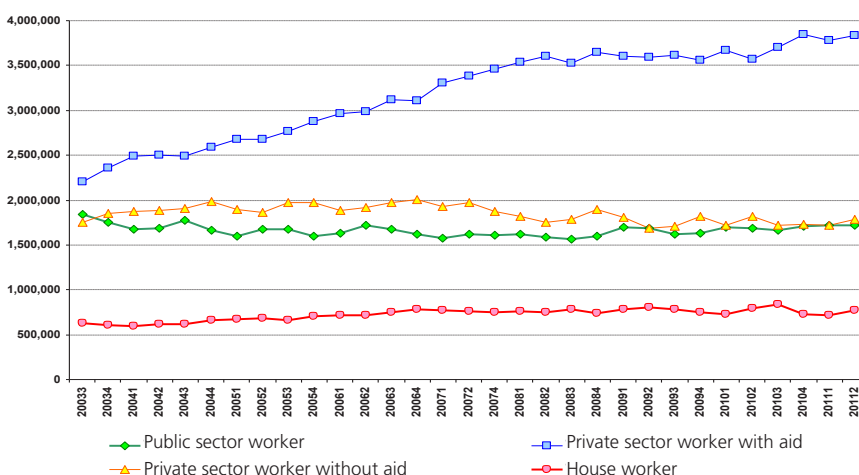
Source compilation: PHS. INDEC

The chart shows that, while the volumes measured by the survey for unregistered jobs within the Public Sector, the Domestic Sector and the Private Sector do in fact remain constant throughout the decade, the number of registered workers within the private sector increases persistently, which explains the overall increase in employment per se.

Job growth, the relative improvement in the proportion of quality employment, policies for pay increases, etc., are a combination of factors which in turn determine a significant decrease in the concentration of employment income: the Gini coefficient of income from the main occupations fell from 0.475 to 0.381, from 2003 to 2012.

b) the issue of social protection

Between 2003 and 2009, the creation of registered employment resulted in the incorporation of millions of children and young adults into the social security system, whereby each worker would receive a giro payment for family allowance. This started in 2009 with the introduction of Universal Child Allowance[4], which is aimed at workers who do not receive the routine maintenance payment, but who are eligible for full national benefits as they are under 18 years of age.

At the other end of the population spectrum, the older members of the population benefited from a series of measures, which were gradually improving access to, and recognition of rights.

The wage policy for retired people or for pensioners included a similar wage policy in relation to the employment process, one which would provide economic security for these people by systematically boosting the improvement pensions experienced since 2003. We should remember that the minimum state pension was a total of $150, as specified by various legal versions of the Mobility and Assets Act.[5] This was introduced in 2009, and reached a nominal total of $ 2,477 in 2012.

As with children and young adults during this historical period, the elderly also received wider coverage in terms of their right to social security. During the initial period of his first term in office, President Néstor Kirchner allowed those aged 70 or above the right to access to a pension, which resulted in more than one million people being incorporated into benefits provided by the pension system.

[4] This benefit was extended to pregnant women from 2011.

[5] The Mobility and Assets Act states that there will be two annual increases according to a polynomial formula, which also includes an increase in salaries and tax contributions.

In 2006, a measure of its scope and impact raised one particular exceptional issue: more than 2.5 million people paying into a pension fund had received pension benefits, which, alongside the fact that benefits were being awarded to more than 1 million pensioners over the age of 70, this ensured that the expansion of social security now involves more than 93.4% of adults at retirement age.

The National Social Security Administration (ANSES) reported[6] that there were 3,158,000 pensioners and people receiving a state pension in 2003, while in 2013 citizens drawing a state pension had increased to 7,318,036. Therefore, people included in the welfare system over recent periods have more than doubled, which in itself is a staggering statistic.

However, the real significance of this shift in paradigms is magnified when you actually look at what happened towards the end of the last century. In fact, in addition to the harmful effects on the social security system caused by an increase in unemployment and flexible forms of employment, in the 1990s the pension system became private through a series of pension fund administration companies. As a result of this, certain resources which had been protected by social security had fallen into major decline: "...whereas those in retirement drawing a state pension in 1996 equalled 2,035,772, this figure had reduced to 1,651,851 by 2004". [7]

Moreover, this oversaw a revolution in terms of acknowledging economic rights of the elderly, whose validity and sustainability was assured by re-nationalising the pension system established by Decree No. 26,425 from 2008, when a new law demanded that the state reassume responsibility for administering pension funds.

The series of measures which were taken to aid the working age population were aimed towards full-time employment, where young adults and children could receive universal benefits, and payments would be made to the elderly who were already drawing a state pension. These are the main factors which can provide an explanation in relation to the reversal of trends both in poverty and in inequality. This review allows us to highlight the importance of a universal social security system combined with full employment, which ensures complete coverage of all of its components among the population pyramid.

[6] ANSES (2013). Revista Argentinos. Year 2 No. 11. p.p. 15.

[7] ANSES (2011). Análisis de la Cobertura Previsional del SIPA: Protección, Inclusión e Igualdad. Observatorio de la Seguridad Social. Buenos Aires. p.p. 7.

GRAPH 5: POPULATION PYRAMID OF ARGENTINA.
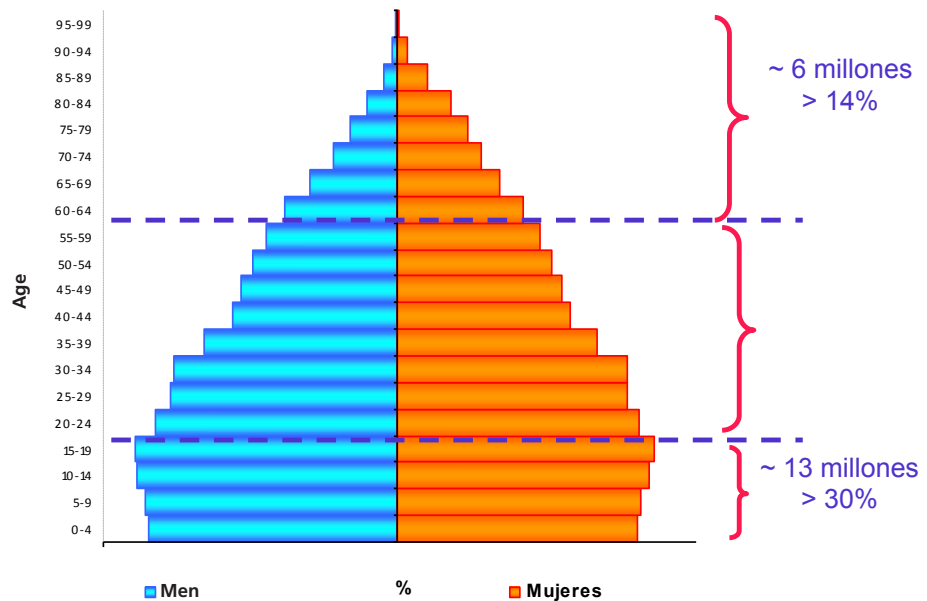
Compilation. Source: CNPHV 2010. INDEC.

c) the issue of tax-related equality and the allocation of budgets

In macroeconomics term, Argentina recovered from a chronic fiscal deficit - only to be hit with another level of debt - and this characterised the final quarter of the twentieth century, a surplus fiscal position with a significant reduction in its debt levels. This should be redeemable as part of the significance changes to the tax policy which have been introduced to date, and which examine tax collection related information published by the AFIP.

In order to analyse the social distribution of the tax burden, we got under way with a series of assumptions which allow us to group the sources together; being aware of *earnings*, and *personal capital gains taxes based* on *overseas trade*, these all fell clearly within sectors with higher incomes and therefore on people who had a greater ability to pay. We also know that tax *credits and debits* have more of an impact on those who conduct business to which they are subject to *Value Added Tax* (VAT) and other income (categorised as miscellaneous taxes) does not discriminate in this type of manner, as it is the type which is levied on all consumers.

By grouping the four primary sources (earnings + assets + overseas trading + credits and debits) on one hand, and by grouping the remaining two (VAT + miscellaneous taxes) on the other hand, we can see if the proportions have been maintained over recent years, or whether these have been changed, and how significant these actually are in terms of how the tax burden is distributed from a social perspective.

This collection of tax revenue draws the conclusion that, although consumption taxes have not been reduced, they have themselves significantly increased the tax burden on the most concentrated sectors, which is highlighted in the following chart.

GRAPH 6: EVOLUTION OF TAX REVENUE COMPONENTS. 1997-2012.
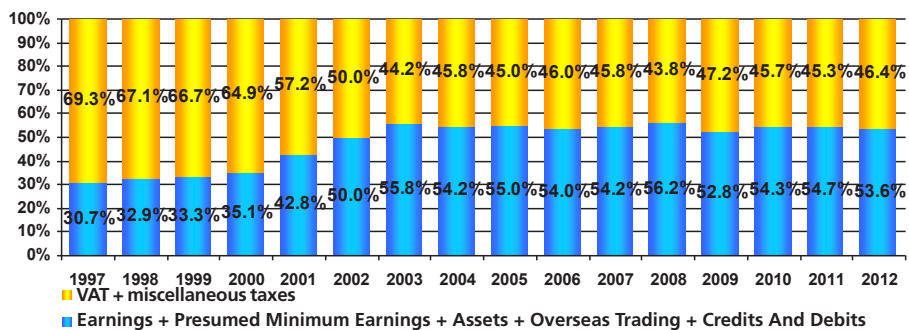
Compilation. Source: AFIP.

Tax contributions paid for those exclusively in the top bracket increased from 30.7% (less than one third) of the collection in 1997 to 53.6% (more than half) of the collection of 2012, and these changes are particularly evident since 2003.

In order to provide a more favourable comparison, we averaged the percentages in 1997 and 1998 -years of routine economic performance over the period of the neoliberal model- which allowed us to compare them with the average from 2003 to 2012.

This second category of tax collection data confirms conclusively that although tax contributions have neither been reduced nor have witnessed any radical changes to the tax system, the decisions which were made have significantly increased the share of the contribution among the most concentrated sectors and/or those which have the greatest spending power, which itself has resulted in serious social shift of the tax burden. The taxes were paid from businesses and affluent sectors represented one third of the collection during the 1990s which become stable at around 55 percentage points in the period from 2003 to the present day.

GRAPH 7: EVOLUTION OF CATEGORIES RELATIVE TO TAX COLLECTION. 1997-2012.
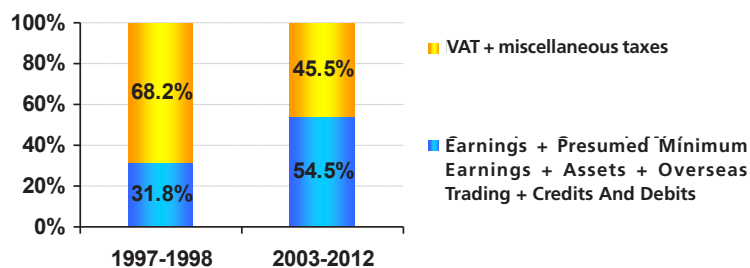
The budget allocation was adjusted because of this; both from the perspective of state revenues, and an increased contribution from "those who were liable to make a contribution" and from the perspective of the destination of the funds raised. This also proved that there was an increase in the trend of "those less well off".

In its "*Social Panorama of Latin America - 2010*", ECLAC states that the public social expenditure per capita (measured in dollars at the year 2000) in Argentina increased from US $ 1,299 in 2002-2003 to US $ 2,387 during the period 2008-2009, i.e. it virtually doubled in just six years.

QUASI-LONGITUDINAL STUDIES RELATIVE TO LIVING CONDITIONS

The official statistical repertoire of Argentina does not include a longitudinal study, although there is a long tradition of adopting samples of rotating panels. This type of concept has been used in the Household Survey conducted by INDEC since 1974.

A prominent feature of the PHS, which has been in place since 2003, is the sample consisting of panels able to rotate. Each household panel survey was conducted four times over two consecutive quarters and was highlighted in interviews during the same two quarters of the following year. This panel concept is known as 2-2-2. According to the quarterly rotation of each panel, each quarter shares 50% of households from the sample taken during the following quarter, as well as during the same two quarters in the following year. Santillán Pizarro (2007) quoted that "... the *PHS is only representative of sources of statistical data within the Argentinian system capable of being used for longitudinal analysis techniques, even if it has not been designed*

[8] Santillán Pizarro, M. (2007). La pobreza en Argentina. Aportes metodológicos para el estudio de su dinámica y desagregación espacial. PhD thesis. Córdoba. Not published.

specifically for that purpose" [8]. The same paper acknowledges a series of precedents in these types of procedures.

These types of concepts are widespread among statistics institutes, and almost all of the workforce surveys use one of its variants. For reasons which may give rise to extensive exposure, national statistics offices do not regularly publish information in relation to the evolution of the panels.

It is normally said that longitudinal studies are designed to produce a film, whereas the concepts of rotating panels are only able to capture a series of stills from the same film for a short period of time. In fact, we could even say that this type of concept allows *quasi-longitudinal* studies to be implemented, as they alternate effectively in the absence of longitudinal studies, given the enormous explanatory power these various possible designs possess, and how they act during changes within the study as a result of various observations where properties of interest allow these to be confirmed or rejected based on the hypotheses of multiple studies.

Let us consider the example of an unpublished study from Hoszowski (2008)[9]. The sharp decline in incidents of poverty in Argentina between 2003 and 2007 triggered a major controversy regarding the determining factors behind this. On the one hand, some researchers argued that the decline was merely a result of the fall in unemployment, which can be explained fully by those in receipt of a new form of income; on the other hand, some researchers argued that in addition to the fact that people earning a new wage did indeed have a part to play, this also played a central role in the restructuring of basic salaries.

Questioning the possibilities provided by the PHS, Hoszowski compared the amounts of revenue and the amounts of income earners in households which were relative to both one quarter and the same quarter during the following year, which had not seen any changes in terms of their actual composition, i.e. there were not any new contributors, and none of the components had been lost.

The following table shows the results obtained in relation to the total relative increase of household income (A), the percentages of those increases due to higher income of people who were included in both observations (B), the percentages shown as an increase in newly-created job opportunities (C) and the percentages of increases caused by revenue from unemployed people (D).

TABLE 3: REVENUE INCREASES DURING TRANSITIONAL PHASES.

Quarters	(A) Relative increase (in %)	(B) % per income	(C) % per job	(D) % per benefit seeker
4th 2005-06	21,8	76,3	13,1	10,6
3rd 2005-06	26,4	74,1	13,6	12,3
2nd 2005-06	25,7	76,2	13,8	10,0
1st 2005-06	24,0	80,1	11,0	8,8
4th 2004-05	22,7	77,9	12,1	10,0
3rd 2004-05	19,3	78,3	9,8	11,8
2nd 2004-05	15,1	76,4	16,4	7,2
1st 2004-05	14,7	71,6	13,2	15,2
4th 2003-04	14,6	76,6	8,2	15,2

Hoszowski, A: based on sources. PHS-INDEC.

The results show that in every situation the largest contribution towards the increase of total revenues comes from growth in income and those who were actively employed. Therefore, by means of a relatively simple procedure, a set of results was provided which helped find out which of the two hypotheses obtained was correct.

Here is another example of using panels as part of *quasi longitudinal studies*, which in this case involves a series of studies used in my own doctoral thesis[10] and which are produced in advance thereof.

Over the past decade, we have witnessed a construction of the "*Nini generation*" (from the Spanish *not employed, not in education*) or the "*nini*" used as a social category or group, which attracts the attention of the media, political leaders and multilateral authorities.

Since the investigation of participation among the workforce and the formal education system refers to very short periods, it is surprising to see the intention of assigning a social group status to mere circumstances of people.

The issue of the *Nini* is always accompanied by prominent quantifications, which appear to be linked to assessment scales: this group can be refered to as either: *they pose a risk,* or *they are at risk,* or *they are at risk of becoming a risk*, however, those *Nini* are grouped and remain synonymous with both insecurity and crime.

In the research I carried out, I found out that the *Nini* generational hypothesis has zero substance, as the following quasi-longitudinal study has demonstrated.

This exercise consisted of linking all of the cases within the age group who took part in the PHS sample in 2010, and who have been observed during the four provisional

window period observations. Four groups are obtained, which we identified from the quarter during which the initial survey was conducted: GT1 is the youth group of 15-24 year olds surveyed during the first and second quarters of 2010 and 2011; GT2 are those who responded during the second and third quarters of 2010 and 2011; GT3 during the third and fourth quarters of 2010 and 2011, and GT4 are those questioned during the fourth quarter of 2010 and 2011, and during the first quarter of both 2011 and 2012.

In order to identify the corresponding quarterly status, a four digit variable (which we call "flow") is created, in which each digit represents the category in the variable describing the "situation" in the order of observation according to the classification:

Category	ID
Employed and in education	**1**
Employed, not in education	**2**
In education, unemployed	**3**
Not in education, job seeker	**4**
No income, not in education	**5**

The code 3331 means that those in question were classed as "*in education, but unemployed*" during the first three observations, whereas the fourth observation was categorised as "*employed and in education*".

Paired cases with the same category during the four observations generally represent slightly less than half of the studied population, and the population consistently belonging to the category "*in education, and unemployed*" is the largest, which itself accounted for around one third of the entire age group.

One striking feature here is the concentration of almost half of the paired cases (5,851 sample records) in only five of the categories, as the potential value of all the statuses combined is 5 to the fourth power (625 entries).

TABLE 4: TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS

Category	Flow	GT1	GT2	GT3	GT4	Average
Employed and in education	1111	2,1	3,2	0,9	2,8	2,3
Employed, not in education	2222	10,3	7,0	8,8	9,6	8,9
In education, unemployed	3333	27,4	35,2	32,6	35,5	32,7
Not in education, job seeker	4444	0,1	0,0	0,1	0,2	0,1
No income, not in education	5555	3,6	3,5	2,5	4,8	3,6
Sum of subtotals		43,5	48,9	44,9	52,9	47,6

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 – 1st quarter 2012. Total of 31 agglomerates. Percentage of total.

As these statistics highlight, there are hardly any cases left in the category "*not in education and job seeker*" during the four observations, and only 2.5% and 4.8% of cases remained in the category "*not in education andno income*".

This more or less suggests that the "*Issue of Nini*" has been brought to an abrupt halt, given that it actually revolves around a very small group, which retains that particular status, whereas the majority of *Nini* based situations do in fact relate to transient events.

The following table shows the probabilities of each of these four situations occurrence, according to the dynamics of the PHS survey:

TABLE 5: PROBABILITY OF OBSERVING THE "EMPLOYED AND IN EDUCATION" CATEGORY, AND TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS

Employed and in education	GT1	GT2	GT3	GT4	Average
0/4	72,8	73,6	78,4	80,8	76,4
1/4	13,5	13,4	13,1	9,6	12,4
2/4	8,5	7,6	5,0	4,4	6,4
3/4	3,1	2,3	2,5	2,3	2,5
4/4	2,1	3,2	0,9	2,8	2,3

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 - 1st quarter 2012. Total of 31 agglomerates. Percentage of total.

TABLE 6: PROBABILITY OF OBSERVING THE "EMPLOYED AND NOT IN EDUCATION" CATEGORY, AND TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS

Employed, not in education	GT1	GT2	GT3	GT4	Average
0/4	62,7	69,7	64,1	67,2	65,9
1/4	11,3	7,5	11,1	9,5	9,9
2/4	8,1	9,3	9,7	6,6	8,4
3/4	7,5	6,5	6,3	7,1	6,8
4/4	10,3	7,0	8,8	9,6	8,9

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 - 1st quarter 2012. Total of 31 agglomerates. Percentage of total.

TABLE 7: PROBABILITY OF OBSERVING THE "IN EDUCATION, UNEMPLOYED" CATEGORY, AND TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS

In education, unemployed	GT1	GT2	GT3	GT4	Average
0/4	36,9	31,0	31,6	34,4	33,5
1/4	9,0	8,2	9,6	8,8	8,9
2/4	12,4	12,3	12,3	9,7	11,7
3/4	14,3	13,4	14,0	11,6	13,3
4/4	27,4	35,2	32,6	35,5	32,7

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 – 1st quarter 2012. Total of 31 agglomerates. Percentage of total.

TABLE 8: PROBABILITY OF OBSERVING THE "NOT IN EDUCATION, JOB SEEKER" CATEGORY, AND TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS .

Não estuda e procura trabalho	GT1	GT2	GT3	GT4	Média
0/4	85,4	86,3	84,5	86,6	85,7
1/4	10,9	9,4	10,2	10,4	10,2
2/4	3,1	3,8	4,3	1,9	3,3
3/4	0,4	0,4	0,9	0,9	0,7
4/4	0,1	0,0	0,1	0,2	0,1

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 – 1st quarter 2012. Total of 31 agglomerates. Percentage of total.

TABLE 9: PROBABILITY OF OBSERVING THE "NO INCOME, NOT IN EDUCATION" CATEGORY, AND TRANSITIONAL FLOWS RELATIVE TO EMPLOYMENT AND EDUCATIONAL STATUS. POPULATION AGED 15-24 WITH FOUR OBSERVATIONS

No income, not in education	GT1	GT2	GT3	GT4	Média
0/4	70,4	75,1	68,9	68,9	70,8
1/4	14,7	13,2	18,1	16,8	15,7
2/4	7,6	5,3	6,8	6,0	6,4
3/4	3,8	2,8	3,7	3,5	3,5
4/4	3,6	3,5	2,5	4,8	3,6

Comari, C.: based on sources. INDEC. PHS 1st quarter 2010 – 1st quarter 2012. Total of 31 agglomerates. per pc of total.

Of all of the cases in the four observations which matched our calculations, these indicate that 24.6% belong to the category "*Employed and in education*" for at least one observation; a minimum of 34.1% represented the category "*Employed, not in education*", 66.5% in the category "*In education, unemployed*", 14.3% in the category "*Not in education, job seeker*" whereas 29.2% could be observed at least once in the "*No income, not in education*" category.

The use of rotating panels in this quasi-longitudinal study allowed us to illustrate that the majority of the situations where people who were neither in employment nor in education as per the *Nini* model are merely transient events, which severely questions the legitimacy of characterising individuals who contradict the features of a "*nini generation*."

CONCLUSIONS

A review of underlying evidence allows us to say that the reduction of poverty and distributional inequality is just the inevitable result of how public policies have been implemented in recent years in terms of their direction, policies which, far from the thesis which explained the economy in terms of "market moods" or "tailwinds", are based on subordinate economic and social policy objectives of higher equity and social justice.

As a synthesis of the first section, we are in a position to say that improvements are made when the approach of the rights of citizens over economic development is achieved, when delineating, monitoring or analysing public policies, in order to promote even higher levels of food, health, education and economic security for all the population, within the context of increasingly egalitarian societies.

In the second section, we examined some quasi-longitudinal studies, which account for the enormous explanatory potential of these concepts of research, and in particular, where the possibilities are quoted when examining the dynamic aspects of the phenomena of interest. The study conducted by Hoszowski identifies an unachivable question from a static approach. In the second example referred to as the so-called "*Nini generation*", a dynamic examination results in an entirely different conclusion to the one suggesting empirical evidence of an isolated observation. It has therefore been confirmed that the longitudinal and quasi-longitudinal studies are able to reflect such phenomena, and therefore they draw certain conclusions, which no other quantitative research concept would be able to draw upon.

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POVERTY MEASUREMENT IN POLAND

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Due to the range as well as social and economic consequences of poverty, information on this research area is very significant. Knowledge about poverty is essential while developing, implementing, monitoring and evaluating social policies on national as well as international (in context of polish membership in EU) level.

Since more than 20 years poverty has been a subject of systematic methodological works as well as studies and analysis, conducted by CSO of Poland. This article contains a synthetic presentation of methods of measurement and analysis of this phenomenon, adopted by CSO. The basis for the analysis of poverty are the results of representative households surveys, conducted by CSO of Poland, such as:

- Household budget survey – annual survey, that serves as a basis for assessing a scope of economical poverty; conducting for the national use mainly.

- European statistics on income and living conditions (EU-SILC) – annual survey, carried out since 2005 in Poland. EU-SILC serves as a basis for assessing poverty rates, comparable internationally between European Union member states. It is a panel survey providing i.e. data on persistent poverty rates.

- Multidimensional social cohesion survey – cyclic survey whose first edition was conducted in 2011 and 2nd edition is planned for 2015. Results of this survey are the basis for i.a. analysis of a scope of multidimensional poverty as well as its determinants.

In case of all of the mentioned surveys, household was assumed as the unit of analysis. CSO adopted economical definition of this concept, defining household as a group of persons related to each other by kinship or not, living together and sharing income and expenditure (multi-person household) or a single person, not sharing his/her income or expenditure with any other person, whether alone or with other persons (one-person household). Family members living together but not sharing their income and expenditure with other family members make up separate households.

[1] More information regarding methodological aspects of the households budget survey is available in the publication Household budget survey in 2012, GUS, Warsaw 2013 (http://stat.gov.pl/cps/rde/xbcr/gus/WZ_budzety_gospodarstw_domowych_w_2012.pdf).

Economic poverty in Poland estimated on the basis of the household budget surveys[1]

Although poverty is a multidimensional phenomenon, in context of social policy, crucial role is played by economic poverty defined as lack or insufficiency of resources considered as indispensable to satisfy the unit's basic needs.

Since first half of the nineties till now, CSO of Poland regularly publish data on the scope of economic poverty, assessed with a use of different poverty thresholds. Consideration of several, rather than only one threshold, is a result of the fact, that none of the poverty lines has been considered as the official threshold. Furthermore, from a methodological point of view, there is no reason to adopt undoubtedly only one of the thresholds, because each poverty line has certain advantages and disadvantages, though. It was assumed, that analysis conducted on a basis of different methodological approaches give an opportunity to monitor a phenomenon of poverty more relevant, than with a use of one approach only.

Following poverty thresholds are taken into consideration by CSO, while estimating a scope of objective poverty:

relative poverty threshold is 50% of the mean expenditures determined at the level of all households estimated

so-called *'legal' poverty threshold* is the amount which, according to the Law on Social Assistance, provides eligibility for a monetary benefit from social assistance

the subsistence minimum, regarded as *the extreme poverty threshold* is estimated by the Institute of Labor and Social Studies[2]

In the analysis of objective poverty, level of expenditures constitutes a synthetic measure of the household's economic well-being. A household and thus all its members has been regarded as poor, if the expenditure level (including a value of products received free of charge as well as the value of natural consumption) was below the adopted poverty threshold.

[2] The subsistence minimum takes into the account only these needs, that cannot be postponed and must be satisfy immediately. Consumption lower than this level causes a biological emaciation. The starting point adopted for determination of the extreme poverty threshold is subsistence minimum estimated by the Institute of Labor and Social Studies (IPiSS) for the 1-person employees' household. Then, this value is multiplied by a number of 'equivalised persons'. An adoption of this rule causes, that extreme poverty threshold (except one-person employees' household) is different from the subsistence minimum assessed by IPiSS for a specific type of household (i.e. 4-persons employees' household contained of 2 adults and 2 children).

LIMINARES DA POBREZA AO LONGO DO TEMPO CSO

Relative poverty threshold

„Legal" poverty threshold

Subsistence minimum (extreme poverty)
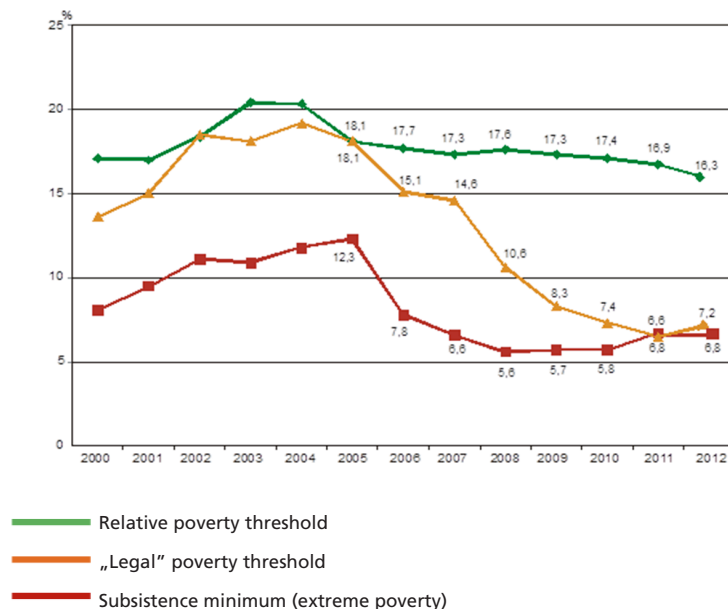
Assessments of the objective poverty are supplied by the information on the range of subjective poverty. The most common method of measurement the subjective poverty is so-called Leyden Poverty Line (LPL). Since many years this method, originally developed by researchers of Leyden University, has been used by CSO of Poland to calculate the range of subjective poverty. According to LPL, the basis of the calculation of poverty lines are households' opinions regarding their needs in terms of income. Furthermore, poverty thresholds assessed for particular households type correspond with approximate level of income, declared as insufficient for respondents. In 2012, income below the subjective Leyden Poverty Line had approx. 15% of households in Poland.

The size of samples, used in the households budget survey (recently, the samples amounted more than 37 thous. of households) allowed to assess a scope of poverty not only on national, but also subnational level, considering different socio-demographic characteristics.

In fact, since the beginning of 90's conclusions regarding socio-demographic characteristics of the population at risk of economical poverty have not changed. Thus, occupational status and its aspects such as: ability to work, unemployment, profes-

sional skills and type of occupation, have considerably large impact on poverty in Poland. Furthermore, the most influential determinants of poverty are as follows: unemployment, low occupational status, living in rural areas and small towns, as well as a model of living in a multi-children family.

SCOPE AND PERSISTENCE OF POVERTY IN POLAND AND EUROPEAN UNION IN VIEW OF THE RESULTS OF EU-SILC[3]

Poverty reduction and social cohesion make up the strategic goals of the social policy commonly adopted by the EU Member States. The information system is needed for designing and implementing an effective and comprehensive social policy. Therefore, continuous improvement of the statistical data sources on poverty and social exclusion has been emphasized in both, recommendations as well as actions of the European Commission. This involves i.a. the adoption of the mutually agreed set of indicators adequate for a precise diagnosis and comparison of the situation in the EU Member States as well as for monitoring the achievement of the commonly adopted goals in the area of combating social exclusion and poverty (including Strategy 'Europe 2020'[4])

The list of binding social exclusion and poverty indicators mostly covers relative poverty indicators determined in relation to income distribution in a given country. There are at least two main reasons why the relative approach to poverty measurement is considered more adequate than the absolute one. First of all, one of the key objectives put forward by EU is to provide all its inhabitants with an opportunity to enjoy a moderately high level of well-being. Secondly, the life standard perceived as the acceptable minimum depends to a large extent on the socio-economic development which differs between countries. At the same time, an increasing living standard differentiation (especially in the context of EU expansion) generates a question about a possible extension of the set of indicators so as to fully represent these differences. As a matter of fact, the comparison of indicators of monetary poverty confirms, that some EU Member States have similar or even lower poverty rates than the others, although the level of economic situation and material well-being is higher in the latter. Then, it was suggested that relative poverty indicators should be supplied by non-monetary deprivation measures.

Comparison of different indicators between countries require the availability of coherent and fully-harmonized data resources. EU-SILC complies with this condition, being the main source of EU comparable data on income, poverty and other aspects of the living conditions. Therefore, the survey is a basis for both, cross-sectional and longitudinal analysis of well-being in EU.

[3] More information regarding methodological aspects of EU-SILC survey is available in the publication *Incomes and living conditions of the population in Poland (report from the EU-SILC survey of 2011)*, GUS, Warsaw 2012 (http://stat.gov.pl/cps/rde/xbcr/gus/wz_dochody_warunki_zycia_raport_2011.pdf) and on the Eurostat official website: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/

[4] More information about Strategy 'Europe 2020' is available online: http://ec.europa.eu/europe2020.

Box 1. Definitions of Strategy 'Europe 2020' indicators

At risk of poverty or social exclusion rate – Percentage of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity. Persons are only counted once even if they are present in several sub-indicators.

At risk of relative poverty rate – Percentage of persons with the equivalised disposable income (after social transfers) below the at-risk-of-poverty threshold set at 60% of the national median of equivalised disposable income

Severe material deprivation rate – Percentage of persons in households declaring inability to meet at least 4 out of 9 following needs due to financial reasons:

1) Payment for a week holiday of all households members away from once a year;w
2) Eat meat, fish (or vegetarian equivalent) every second day;
3) Keep home adequately warm;
4) Coverage of unexpected expenses (in the amount of the monthly values 60% of the national median of equivalised disposable income);
5) Timely adjust payments related to housing, repayment instalments and credits;
6) A color TV;
7) A car;
8) A washing machine;
9) A telephone.

Very low work intensity rate – Percentage of persons aged 0-59 living in households with very low work intensity, where the adults (aged 18-59) work less than 20% of their total work potential during the past year.

Values of Strategy 'Europe 2020' indicators in years 2005-2011.								
Specification		2005	2006	2007	2008	2009	2010	2011
		% of persons in households						
At risk of poverty or social exclusion rate	European Union	25,6	25,2	24,4	23,6	23,1	23,6	24,2
	Poland	45,3	39,5	34,4	30,5	27,8	27,8	27,2
At risk of relative poverty rate	European Union	16,4	16,5	16,5	16,4	16,3	16,4	16,9
	Poland	20,5	19,1	17,3	16,9	17,1	17,6	17,7
Severe material deprivation rate	European Union	10,7	9,8	9,1	8,4	8,1	8,3	8,8
	Poland	33,8	27,6	22,3	17,7	15,0	14,2	13,0
Very low work intensity rate	European Union	10,3	10,5	9,6	9,0	9,0	10,0	10,2
	Poland	14,2	12,3	10,0	7,9	6,9	7,3	6,9

Poland implemented EU-SILC in 2005. The European living conditions survey has been conducted by CSO with the use of the rotational panel method in the four-year cycle. Data proved by a panel survey is the basis for the analysis of persistence of poverty.

Both, individual as well as social effects of poverty depend on a fact, whether a deterioration of well-being is of short or long duration. However, while analyzing persistence of poverty, it is necessary to monitor population at risk of poverty continuously, for a long period. This kind of monitoring is possible with the use of panel surveys. Cross-sectional analysis consider both types of poor persons: these, who became poor for a first time, as well as those who have been poor for years.

DISTRIBUTION OF POPULATION IN POLAND BY NUMBER OF YEARS SPENT IN POVERTY WITHIN A FOUR-YEAR PERIOD

Number of years spent in poverty	Poland	European Union
	% of persons in households	
Never	69,5	70,8
1 year	11,3	11,0
2 years	7,6	6,8
3 years	4,8	5,0
4 years	6,8	6,5

Box 2. The scheme of sampling, EU-SILC 2005-2011

Year	No. of subsample									
2005	1	2	3	4						
2006	1	2	3	4	5					
2007	1	2	3	4	5	6				
2008	1	2	3	4	5	6	7			
2009	1	2	3	4	5	6	7	8		
2010	1	2	3	4	5	6	7	8	1	
2011	1	2	3	4	5	6	7	8	1	2

Paineil 2008-2001

Data on the persistence of poverty presented in this article refers to 2008-2011 panel sample. The sample size amounted to 2875 households, consisted of 8070 persons (including 6439 persons aged 16 or more).

Methodological solutions adopted in EU-SILC allow to estimate poverty rates on a basis of four-year period of a continuous observations of the same group. According to the analysis of panel surveys conducted between 2008-2011, approximately 29% of persons in European Union, and approx. 30% of persons in Poland experienced at least one-year period of living in poverty (with a poverty threshold at 60% of median disposable income in a given country). However, approximately one-third of these persons (11%) has been at risk of poverty for one-year period only, when approx. 7% of persons in both, European Union and Poland, have experienced poverty for all 4 years of a panel survey.

According to the methodology of Eurostat, persons are considered as permanent poor ones, if a level of their equivalised disposable income has been lower than the adopted relative poverty threshold in the year of a survey, as well as for 2 of 3 years preceding a survey. In 2011, adopting a poverty threshold at the level of 60% of median income in a given country, every tenth citizen of European Union was poor in terms of persistent poverty. In Poland this rate amounted the similar level (10,1%), what constituted more than half of population at risk of relative poverty. Among persons in Poland aged 18 or less, persistent poverty rate reached 12,5%, what comprised approx. 57% population of poor persons in this age group), while among the oldest persons, aged 65 or more, it was 9,6% (comprising 65% population of poor persons in this age group).

Proportion of persistent at risk of poverty rate to at risk of poverty rate in Poland

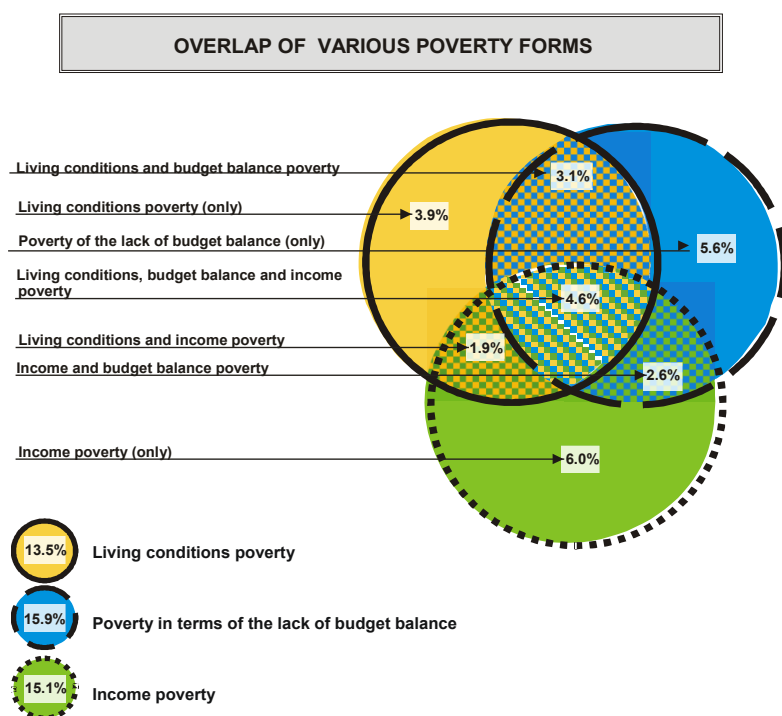|	2008	2009	2010	2011
	%			
At risk of poverty rate (by 60% of median equivalised income poverty threshold)	16,9	17,1	17,6	17,7
Persistent at risk of poverty (by 60% of median equivalised income poverty threshold)	10,4	10,2	10,5	10,1
Proportion of persistent at risk of poverty rate to at risk of poverty rate	61,5	59,6	59,7	57,1

Since 2008, there was observed a slight increase (from 8,7% up to 10%) of the persistent poverty rate in European Union, while in the same period in Poland, there was recorded a similar level of this indicator (increase of a poverty rate form 10,1% up to 10,5%). However, there was observed a decrease of persistent poverty rate among persons aged 18 or less, and increase of this rate in the oldest age group (persons aged 65 or more).

MULTIDIMENSIONAL ANALYSIS OF POVERTY IN VIEW OF SOCIAL COHESION SURVEY 2011[5]

Complementary element of the one-dimensional approach to poverty is multidimensional analysis of this phenomenon. Recently, this kind of analysis has been implemented on a basis of Social Cohesion Survey, conducted in 2011.

As opposed to the traditional, one-dimensional, approach, whereby the range of poverty is usually established on the basis of households' income or expenditures, here three complementary dimensions were taken into an account: income poverty, living conditions poverty, and the poverty in terms of the lack of budget balance.

OVERLAP OF VARIOUS POVERTY FORMS

Living conditions and budget balance poverty — 3.1%
Living conditions poverty (only) — 3.9%
Poverty of the lack of budget balance (only) — 5.6%
Living conditions, budget balance and income poverty — 4.6%
Living conditions and income poverty — 1.9%
Income and budget balance poverty — 2.6%
Income poverty (only) — 6.0%

13.5% Living conditions poverty

15.9% Poverty in terms of the lack of budget balance

15.1% Income poverty

Particular poverty dimensions are defined as follows:

- Income poverty – households are considered poor in terms of income poverty, if their monthly monetary disposable income (within 12 months preceding a survey) was lower than a value considered as a poverty threshold. Defining both, income poverty as well as its threshold, equivalised income was taken into account. It allowed to compare households with different demographic characteristics. Poverty threshold has been assumed at 60% of median eqivalised income assessed on a national level.

- Living conditions poverty – households are considered poor in terms of living conditions poverty, if they were affected by at least 10 of 30 symptoms of poor living conditions. The symptoms are related to the following aspects: dwelling quality, equipment in durable goods, deprivation of different consumer needs (material, as well as non-material ones).

- Poverty in terms of the lack of budget balance – households are considered poor in terms of this type of poverty, if they are affected by at least 4 of 7 symptoms included. The symptoms refers to both: households subjective opinions about their material status, as well as facts confirming budgetary difficulties of the households (including arrears).

Proportion of persistent at risk of poverty rate to at risk of poverty rate in Poland

SPECIFICATION (indicators pair)	PEARSON'S CORRELATION COEFFICIENT
Assessment of the correlation between base indicators	
Aggregate indicator of poor living conditions - level of household income	-0,41
Aggregate indicator of poverty in terms of the lack of budget balance – level of household income	-0,45
Aggregate indicator of poor living conditions - aggregated indicator of the lack of budget balance	0,67
Assessment of the correlation between poverty indicators	
Living conditions - Income	0,37
Living conditions - the lack of budget balance	0,45
Income - the lack of budget balance	0,36

Expanding the analysis to non-income aspects provided a more complete picture of this phenomenon. The analysis allowed to reveal groups of households that face a number of difficulties with balancing their budget or live in poor conditions although their current income considerably exceeds the income poverty threshold. In Poland, it refers in particular to the households of older persons, that belong to the group with relatively the lowest income poverty rate.

According to the criteria adopted, approximately 28% of households on Poland were affected by at least one of three poverty forms (including income poverty, living conditions poverty and poverty in terms of the lack of budget balance). Most of these households (15,5%) experienced one poverty form only. Three poverty forms were accumulated among every twentieth household (approx. 5%). The latter group is considered as at risk of multidimensional poverty.

While observations of the poverty determinants, logistic regression models has been employed. The most significant factors, that increase a risk of poverty in terms of all poverty forms, are as follows: low educational level, as well as related to this low occupational status of a households head, unemployment and disability.

Types of households, that were most commonly affected by poverty were households comprised of: persons with low educational level, unqualified workers, pensioners, households with unemployed persons, single parent and multi-children families, as well as single men. Accumulation of different poverty forms was also commonly observed in rural areas and urban areas with relatively small population.

Box 3. Co-occurrence of poverty and social isolation

Multidimensional character of the Social Cohesion Survey gives an opportunity to analyze the correlations between different aspects of a quality of life, including linkage between poverty and a phenomenon of social isolation. Co-occurrence of poverty and social isolation was considered as a significant symptom of social exclusion.

It was assumed, that persons are socially isolated, if they contact with the external (in relation to own household) social environment with very low frequency. Thus, aggregate indicator of social contacts were employed to assess the frequency of particular types of social relations undertaken by a given person.

Different types of social relations were included while defining a concept of social isolation: contacts with close and distant family, contacts with friends, colleagues and neighbors, relations arising from religious life, as well as active involvement in associations, parties, clubs and social organizations. However, there was assessed only a fact of occurrence (or non-occurrence) of a given relation, no matter what was a reason of this situation. Moreover both, direct contacts, as well as contacting by phone, e-mail and other means of communication were taken into consideration. Value of a synthetic indicator of social contacts ranged from '0' ("strongly socially isolated" persons) to 10 ("strongly socially integrated" persons). A social isolation threshold was adopted at the level of indicator equal to 3.

COEXISTENCE OF POVERTY AND SOCIAL ISOLATION IN % OF PERSONS AGED 16 YEARS AND MORE

	% of persons
No symptoms of either poverty or social isolation	67,8
Only social isolation (without poverty)	4,9
Poverty (at least one form) without social isolation	23,3
Simultaneous occurence of poverty (at least one form) and social isolation => social exclusion:	4,0
social isolation and one poverty forma	1,8
social isolation and two poverty formsb	1,2
social isolation and three poverty forms	1,0

a This item concerns the occurrence of one poverty form, so it does not refer to households in which two or three forms occurred at once.
b This item concerns the occurrence of two poverty forms, so it does not refer to households in which three forms occurred at once

The concept of poverty is very difficult to define. Adoption of both, an appropriate definition of poverty as well as measurement methods has a large importance for the analysis of this phenomenon. However, each method has certain advantages and disadvantages. Number of poor persons as well as their socio-demographic characteristics depend to large extent on the adopted approach and the methods of measurement. Due to this fact, while measuring poverty it is essential to ensure that the results of surveys give possibly most reliable and widest diagnosis of this research problem. Furthermore, it is important to take into consideration a multidimensional character of this phenomenon. However, it should be kept in mind, that all the methods used to measure poverty must be adequate to geographical circumstances, socio-economic situation and culture of a given country.

DETERMINANTES DA POBREZA – AVALIAÇÃO DA SIGNIFICÂNCIA CONTRIBUTI-VA DE VÁRIOS FATORES

Explanatory variables	Income poverty	Living conditions poverty	Poverty in terms of the lack of budget balance	Multidi-mensional poverty
			Wald statistics	
Equivalised income (decile)	x	1022.4 ★★★	1311.7 ★★★	x
Principal source of household's income	520.5 ★★★	x	x	261.5 ★★★
Household size	143.2 ★★★	136.5 ★★★	119.5 ★★★	45.5 ★★★
Age of the household head	136.0 ★★★	13.4 ★★	106.4 ★★★	65.9 ★★★
Educational level of the household head	151.9 ★★★	101.8 ★★★	54.7 ★★★	93.8 ★★★
Occupation of the household head	155.2 ★★★	41.4 ★★★	48.2 ★★★	60.6 ★★★
A disabled person in the household	8.2 ★★★	57.6 ★★★	43.5 ★★★	29.9 ★★★
An unemployed person in the household	360.9 ★★★	75.1 ★★★	53.8 ★★★	165.1 ★★★
Type of locality	39.9 ★★★	19.1 ★★★	101.7 ★★★	5.7 n.s.
Voivodship	55.5 ★★★	73.4 ★★★	107.1 ★★★	25.1 ★★

X – variable not included in the model
The statistical significance of various parameters and values included in the model:
★★★ significant at the level of 1%
★★ significant at the level of 5%
★ significant at the level of 10%
n.s. – not significant (lower than 10%)

LIST OF INTERMEDIATE VARIABLES (PARTIAL INDICATORS) INCLUDED IN THE AGGREGATE INDICATOR OF POOR LIVING CONDITIONS

Components of the indicator of the lack of budget balance (intermediate variables)	% of households representing a given symptom (the intermediate variable value =1)
Arrears in rent, electricity or gas payments (at least two months in arrears), and in mortgage repayment (at least one month in arrears)	4,2%
Subjective household's opinion on the inability to "make ends meet" (it is difficult or extremely difficult for the household to "make ends meet")	30,7%
The household has to save money on a daily basis, or there is not enough money in the household to satisfy even the most basic needs (self-assessment)	36,8%
Declared household's income is lower than the necessary (minimum) level of income that would allow to "make ends meet"	26,8%
Loan or credit was contracted to cover the current consumer expenses (on food, clothing, footwear, regular payments)	7,2%
Household's perception of considerable difficulties in making current expenses, due to loan/credit repayment	11,8%
Household's declaration indicating the lack of any financial leeway (inability to cover an unexpected expense of PLN 400-500)	42,0%

LIST OF INTERMEDIATE VARIABLES (PARTIAL INDICATORS) INCLUDED IN THE AGGREGATE INDICATOR

Components of the indicator of poor living conditions (intermediate variables)	% of households representing a given symptom (the intermediate variable value =1)
Poor condition or no electrical system available	8.1%
No central heating or a fuel-fired (coal, wood, sawdust) furnace	15.7%
Poor sanitary conditions (no running water, including hot water, no bathroom or toilet)	23.4%
Dark and damp dwelling	17.1%
Dwelling located in a noisy neighbourhood or in a region with contaminated natural environment (dust, smoke, other contaminants)	18.0%
Too small dwelling (as for the household needs) or not every adult person has a separate room or a separate space in a dwelling to rest, study and work	26.2%
Inability to maintain an adequate temperature in a dwelling (not warm enough in the winter, and not cool enough in the summer)	35.8%
Poor dwelling conditions — general (subjective) assessment	5.1%
No washing machine	9.3%
No fridge or freezer	1.0%
No microwave or multifunction robot	20.1%
No vacuum cleaner	2.1%
No radio or TV set	3.1%
No CD, DVD or MP3 player, no cable or satellite TV	5.7%
No (landline or mobile) phone	1.6%
No computer	9.3%
No access to the Internet for financial reasons	11.4%
Poor provision of durable goods in the household — general (subjective) assessment	4.9%
No car for financial reasons	12.4%
No money for entertainment (tickets to cinema, theatre, concerts, visits in restaurants, etc.)	37.1%
No money for at least one week of holiday once a year	42.9%
Household cannot afford to invite their family or friends to dinner, supper or other meal once a year	14.4%

Household cannot afford to buy presents for their nuclear family (parents, siblings or adult children) once a year	11.7%
No money to buy books or press items	17.9%
No money to buy pharmaceuticals	14.5%
No money to visit specialist doctors or dentists	26.2%
No money to buy footwear, clothing and bedclothes	13.4%
No money to replace worn-off furniture	30.3%
No money to buy food (resigning from meat, fresh fruit and vegetables)	9.3%
The need to resign from any of the basic meals (breakfast, dinner or supper) for financial reasons	2.1%

Methodological aspects of measuring poverty

Surveys on poverty have over century-old tradition. For years now, the adoption of 'operational definition' of this phenomena as well as measurement methods, is a basic dilemma for the researchers. It is necessary to keep in mind, that the adopted approach and data resources have a large impact on both: the amount of people at risk of poverty as well as their socio-demographic characteristics. Both, complex character of the poverty (including time-based changeability, spatial diversity, cultural and economic conditions) as well as linkage of this field with the decisions of social policy makers cause many difficulties in defining poverty by social researchers.

Absolute or relative poverty

Generally, poverty can be defined with use of two different approaches: absolute or relative. Adopting the absolute approach, there is an assumption that households (or persons) are poor, if they are not able to satisfy needs, considered in given conditions as the basic ones, irrespective of the conditions of households (or persons) in the best situation. On the other hand, relative approach is considered as a form of inequality, excessive distance between living conditions of particular social groups. Thus, households (or persons) are considered poor, if their material situation is significantly worse than the situation of the other members of a given society.

The consequences of the choice between the absolute approach and the relative one are very significant. Regarding absolute approach, standards and thresholds of the basic needs change slowly, so even slight increase of total income may result in decrease of the scope of poverty. Then, in terms of absolute approach, poverty can be totally eliminated by the high economic growth. In contrast, in terms of relative approach poverty cannot be completely eliminated. Increase of the total income

does not implicate simultaneous decrease of the poverty rate, which may remain at the same level. However, decrease of the poverty rate is a result of the reduction of income redistribution inequalities, and it is the only way to change the poverty rates in terms of relative approach.

Objective or subjective poverty

Making a choice between relative and absolute definitions is a first step to measure poverty statistically. Before the analysis, it is necessary to decide, whether poverty will be considered objectively, by the assessing the level of needs satisfaction of individuals surveyed and irrespectively of their personal valuations in this field, or subjectively – with respect to personal opinions of persons surveyed.

Monetary or multidimensional poverty

In the classical approach, identification of poverty effects from the income situation or it is based on the level of households' expenditures/consumption. However, this method of differentiation of poor persons is kind of simplification, what may cause omission of some important aspects of the actual situation. Because of this, methods of analysis which take into account income as well as non-income aspects of poverty become more adequate in the opinion of the social researchers, treating poverty as multidimensional phenomenon, rather than only income-based one. Therefore, while defining multidimensional poverty, a concept of severe material poverty becomes less influential, what results in an increasing role of the multidimensional approach, which allows to understand poverty as a lack of or limited availability to e.g. healthcare, education, culture, lack of social security and weakening of social bonds.

In the literature of subject, the widely understood, multidimensional poverty is also concerned as 'overall poverty'. This term has been used i.e. in Copenhagen Declaration, calling for the fight against poverty.

Many authors consider that both, wide understanding of poverty as well as setting it in the social context cause, that a concept of poverty shifts toward social exclusion. Both, poverty as well as social exclusion are the complex phenomena; whereby as there is no only one, universal definition of poverty, so there are many different definitions of social exclusion in the publications related to this research area. It is common, that poverty is treated as one of the social exclusion symptoms. Furthermore, in a public opinion, poverty is often identified as the same phenomena as social exclusion. Determining of the relations between social exclusion and poverty is a subject of theoretical considerations, political debate, as well as empirical studies.

In practice, measuring multidimensional poverty demands resolving a number of methodological issues and answer the questions such as: Which dimensions of poverty

and their indicators should be considered? Are all the indicators important at the same level? How to identify poor persons with the use of number of dimensions? How to constitute the aggregate indicators of multidimensional poverty?

From practical point of view, the most commonly solutions are these simplified ones, determined by the data availability. Furthermore, a common practice is departing from aggregate indicators in favor of a set of indicators, related to a given dimension.

Due to difficulties with both, measurement and interpretation of the results of multidimensional analysis of poverty (particularly, in case of aggregate indicators or using more elaborate techniques), a classical method of measurement the economical poverty remains essential, having unequivocally defined thresholds (also referred as 'monetary poverty'). However, multidimensional analysis are an indispensable component, supplementing the measurement of monetary poverty.

Indicator of economic well-being

Standard analysis of economical poverty consider the level of income or consumption/expenditures as a synthetic measure of economic well-being. Both, availability and quality of data determine the choice of the method. Generally, disposable income is a measure of opportunities of the needs satisfaction, when special households surveys focused on income, are conducted on a regular basis. On the other hand, economic well-being is usually (but not always) measured with use of the level of expenditures/consumption, when the analysis are based on the household budget surveys. Measuring well-being with the use of the level of consumption (including expenditures and natural consumption) instead of current income is supported by a number of arguments. Firstly, long-term observations lead to a conclusion, that the information about income are more reliable in the household budget surveys (lesser level of underestimations). Secondly, it is assuming that consumers expenditures are more stable and they have a linkage to the permanent income – foreseen in the long-term perspective by a household.

Equivalence scale

It is commonly known, that in comparison to a household comprised of 2 persons, four-persons household does not have to spend two times more money for its needs to hold the same standard of living. Then, the youngest children demand rather lesser living costs than the oldest ones. Thus, equivalent scales are employed to allow the comparison of households' situations in the field of income and expenditures, diversified by size and demographical structure. For instance, CSO of Poland use two types of scales in their analysis: original OECD scale (also known as 'Oxford scale), as well

as modified OECD scale. The original OECD scale is commonly employed for the use of national analysis, while the modified scale is applied for the EU international comparative analysis, according to the requirements of Eurostat.

Modified OECD equivalent scale is assessed as follow: 1 – for first adult person in a household (person aged 14 or more), 0,5 – for each consecutive adult member of a household, 0,3 – for each child younger than 14 years old. Thus, i.e. 3-persons household comprised of 2 adult persons and one child constitutes 1,8 equivalent units (1+0,5+0,3). Assessing the equivalent units in case of original equivalent scale is very similar to the modified one, except the rule that second, and each consecutive adult person is valued 0,7, whereas each child – 0,5. Following this rule, 3-persons household comprised of 2 adults and one child constitutes 2,2 equivalent units in terms of original OECD scale.

The choice of a poverty threshold

A poverty threshold (also known as a 'poverty line') is defined by a value of income or expenditures, that has been considered as insufficient in terms of the satisfaction of a household needs. Household (and thereby, all of its members) is considered poor, if a level of its income/expenditures is below a value assumed as a poverty threshold. Generally, depending on the criteria adopted, there has been distinguished three crucial groups of poverty thresholds: absolute, relative and subjective ones. They can be defined in different ways. In the absolute approach, there has been employed so-called 'basket' method. This method is based on a subsistence minimum or social minimum, assessed by experts. Other solution, prevalently employed in case of international comparisons, is arbitral assessment of a poverty threshold, based on empirical experiences. This approach is used, i.e. by the World Bank, constituting a value of the line at 1, 2, 4 dollars per capita.

On the other hand, relative approach assumes, that a poverty threshold is related to the median or average income either expenditures/value of consumption, calculated on a basis of representative surveys. Decision of how percent of a median or an average will establish a poverty line, is actually arbitral and related to the distribution of income to some extent. It is common, that there are few coexisting poverty thresholds, i.e. 40%, 50%, 60%,as in the case of Eurostat's calculations for the EU countries (whereas a 60% median income threshold is considered as the basic poverty line).

In a context of international comparisons, it is important to keep in mind, that an adoption of the same percent of median/average income or expenditures in two countries: with average low level of wealth and average high one, determine completely different opportunities of consumption some goods and services in each of

these countries for the amount being a poverty line. Then, comparing the relative poverty indicators in particular countries, we should always bear in mind, that a relative nature of a measurement shows us, to large extent, a level of a differentiation of income/expenditures, but it does not indicate these issues, that could be compared in terms of the absolute poverty definition.

The subjective approach assumes trust in a perception of the surveyed members of society which, in result, allow to avoid constructing the arbitral poverty thresholds. Subjective poverty lines are defined on a basis of surveys, containing question for. i.e. level of income, that respondents consider insufficient to satisfy basic needs of their households. Fundamental disadvantage of a subjective approach is, that different respondents define their minimal living standards in the different ways (depending on various factors, such as: their own situation and consumer preferences, situation of persons being in more favorable situation, as well as general social mood). It may lead us to the surprising results when we analyze poverty rates in terms of changes in time or compare them internationally. Therefore, it is recommended to use the subjective approach as a supplementary measure of so-called objective methods, rather than the substitute measure of them.

The publication *Cadernos de Estudos – Desenvolvimento Social em Debate* ("Studies Notebooks – Social Development in Debate") has the objective of circulating evaluations and studies, disseminating the researches results in order to support discussions about policies, programs, actions and social services. This 21st edition debates the Social Programs Access and Occupational Mobility Panel Study (PPP), a research that intends to characterize the general living conditions of Brazilian families in poverty over time, considering their access to public goods and services as well as the income fluctuations and various forms of their participation in the labor market. The PPP is a sample household survey, with quarterly basis.

The seven articles in this volume present the theoretical and methodological elements of the PPP, the experience of related surveys in other countries, as well as a general overview of the state of the art in the matters of researches on poverty internationally. This publication is the result of the dialogue established in the *Technical Workshop for the Discussion of International Experiences on Longitudinal Panels Development for the Study of Poverty*, organized by the Ministry of Social Development and Fight Against Hunger (MDS), in partnership with the Programme for Social Cohesion in Latin America – EUROsociAL. Therefore, this edition contributes to the discussion and qualification of longitudinal methodological design of surveys that seek to broaden the understanding of the poverty phenomenon in Brazil and Latin America.

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