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RELATIVE AND ABSOLUTE POVERTY. THE CASE OF MÉXICO, 1992-2004*

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Abstract

This paper advocates that although an absolute notion of poverty should remain an essential ingredient in the evaluation of the standard of living in developing and transition economies, it is time that relative poverty begins to be systematically estimated for those same economies. This prescription is applied to México for the 1992-2004 period, where the Fox Administration has fixed for the first time an absolute poverty line for 2000. To facilitate comparisons with developed countries, the relative poverty line is fixed at 50% of mean equivalent expenditures. Absolute and relative poverty behave in opposite ways during the 1992-2000 business cycle, but both decline significantly during the 2000-04 stagnation period. Relative poverty is above absolute poverty from 1992 to 1994, below it during 1996-98, and above it again in 2000-04. In any case, relative poverty in México is well above relative poverty in developed countries.

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I. INTRODUCTION

In his seminal paper on the measurement of poverty, Sen (1976) distinguished between two problems, viz., (i) identifying the poor among the total population, a task that involves the selection of a “poverty line”, and (ii) constructing an index of poverty using the available information on the poor. While significant contributions have been made in tackling the second problem (see, *inter alia*, the surveys by Foster, 1984, Chakravarty, 1990, and Zheng, 1997, 2000), little work has been recently done on the first problem with which this paper will be concerned.

In his study of poverty in York in 1899, Rowntree was the first to consider in any detail the problems involved in defining poverty, and clearly saw his approach as being based on *absolute* lines: a family was considered to be living in poverty if its total earnings were “insufficient to obtain the minimum necessities for the maintenance of merely physical efficiency” (Rowntree, 1901, p.117).

Soon it was seen that finding a monetary value for such food and non-food “minimum necessities” was a task plagued with conceptual and practical difficulties. Perhaps more importantly, the post-war estimates using Rowntree standards yielded an overly comforting picture of how much had absolute poverty decreased over the years.² There was a real possibility that poverty would soon be abolished in developed countries, an empirical situation that ran contrary to the conviction that poverty remained a real concern even in the richest countries of the world. This led to a *relative* notion of poverty, according to which “The necessities of life are not fixed. They are continuously being adapted and augmented as changes take place in a society and its products.” (Towsend, 1979, pp. 17-18). In Atkinson’s influential words, “A poverty line is necessarily defined in relation to social conventions and the contemporary living standards of

² For example, the third York survey of 1951, following Rowntree’s earlier ones, indicated that the proportion of working class people in poverty appeared to have fallen from 31% at the time of the last survey in 1936 to less than 3% in the new survey of 1951 (quoted in Sen, 1983, p. 154).

a particular society, and in this way somebody in the United States may be adjudged poor even though he has a higher income than the average person in India” (Atkinson, 1975, p. 186).

In practice, we find an understandable divorce between the poverty concepts used in different areas of the world:

- In the *developing and transition economies* in Africa, Asia, Eastern Europe, Latin America and the Caribbean, it is recognized that there is an irreducible absolutist core in the idea of poverty. This is also the view taken in the World Bank (1990) that to make cross-country comparisons adopts a poverty line of, approximately, \$1 a day per person in 1985 or 1993 prices, adjusted for purchasing power, a standard that accords with the poverty lines typical of the poorest countries in the world.³

- *Developed countries* are exclusively concerned with a relative poverty view, with the exception of the United States, where the absolute poverty line originally suggested by Orshansky (1965) is still in use. Relative poverty is usually interpreted as falling below a poverty line equal to 50% of mean income (or expenditures).⁴

There have been several attempts to reconcile both notions of poverty (see Sen, 1983, Ravallion, 1998, and Atkinson and Bourguignon, 1999). This paper advocates the following pragmatic position for the inter-temporal analysis of poverty in developing and transition economies. In these countries an absolute notion of poverty is an essential ingredient in the evaluation of the population’s standard of living, notwithstanding that the difficulties for selecting an absolute poverty line are very real and should not be minimized. Nevertheless, we believe that it is time that relative poverty also begins to be systematically estimated in those

³ For estimates of absolute poverty in developing and transition economies, see Ravallion *et al.* (1991), Chen *et al.* (1994), Ravallion and Chen (1997), and Chen and Ravallion (2001, 2004).

⁴ For estimates of relative poverty in Europe, see Atkinson (1998), and Zaidi and de Vos (2001), and in developed countries in general, see Smeeding (1997) and Smeeding and Gottschaalk (1997).

same economies. The best way to appreciate the relevance of this suggestion is to realize that, in developing and transition economies, precise answers to the following questions are not known:

1. How does relative poverty evolve during the business cycle?
2. For which countries is absolute poverty greater than relative poverty, and for which ones the opposite is true? How large are the differences between the two notions?
3. Is relative poverty in developing and transition economies greater than in developed countries? How much greater?

This paper investigates these issues for México using seven household budget surveys, the ENIGHs (*Encuesta Nacional de Ingresos y Gastos de los Hogares*), collected every two years from 1992 to 2004 by the INEGI (*Instituto Nacional de Estadística, Geografía e Informática*). This is an interesting case study for two reasons. In the first place, this is a period characterized by widely different economic scenarios: years of recession, 1994-96; years of recovery, 1996-2000, and years of stagnation, 2000-04. In the second place, the 1990s in México constitute a period of intense political change culminated with the Fox Presidency in 2000, the first time that an outsider occupies the Presidency after 70 years of political hegemony under the PRI (*Partido Revolucionario Institucional*).

Among other initiatives, the Fox Administration has officially adopted an absolute poverty line recommended by a committee of experts, the CTMP (*Comité Técnico para la Medición de la Pobreza*).⁵ This political initiative has spurred a flurry of poverty studies, whose two main conclusions, under a number of different methodological specifications, are the following: (i)

⁵ Actually, the CTMP recommended three different absolute poverty lines. For simplicity, this paper will refer only to the first one, a food-based poverty line. Therefore, all mentions to absolute poverty in the sequel refer to what might be called *extreme* poverty.

*from 1992 to 2000, absolute poverty has behaved counter-cyclically, and (ii) in spite of the absence of growth, from 2000 to 2004 absolute poverty has significantly decreased.*⁶

The CTMP recommends studying the individual welfare distribution in which each person is assigned the current income *per capita* of the household to which s/he belongs. Alternatively, this paper identifies household welfare with total current expenditures, net of expenditures in the acquisition of certain household durables; individual welfare is then defined as household welfare adjusted for differences in household size and composition. Apart from confirming the previous results on absolute poverty, the paper's main findings can be summarized as follows:

1. Relative poverty exhibits a mildly cyclical behavior during 1992-2000. It is above absolute poverty from 1992 to 1996, below it during 1996-98, and above it again in 1998-2000.

2. The above results show that relative and absolute poverty are two different concepts that behave differently over the business cycle in México. However, during the politically important 2000-04 stagnation period that coincides with the first four years of the Ford presidency, it is found that relative poverty, as well as absolute poverty, significantly decreases. During these years relative poverty is greater than absolute poverty.

3. The incidence of absolute poverty in 1992 and 2004 is 20.1% and 18.5%, respectively, while the incidence of relative poverty in those same dates is 35.0% and 30.3%, respectively. The latter incidence levels are well above what is encountered in developed economies.

The remaining of this paper is organized in four Sections. Section II is devoted to a brief discussion of absolute and relative poverty notions. Section III presents the Mexican data and addresses some methodological issues. Section IV contains the results, while Section V offers

⁶ See CTMP (2002), Székely and Rascón (2005), Cortés (2005), Cortés *et al.* (2005a), López-Calva and Sandoval (2005), and World Bank (2004).

some concluding comments, including a brief discussion of the implications of the position adopted in this paper for international poverty comparisons.

II. CONCEPTUAL ISSUES

II. 1. Strengths and Shortcomings of Absolute and Relative Poverty Notions

As long as we are interested in statements about poverty for the population as a whole, the determination of poverty lines must confront the interpersonal comparability problem across households of different characteristics. This is true independently of whether one adopts an absolute or a relative view of poverty. Consequently, in order to focus all attention into the latter issue, in the rest of this section it will be assumed that individuals only differ in the income (or consumption) dimension.

Advocates of an absolute approach to poverty have two main arguments. In the first place, ever since Rowntree (1901) poverty refers to the inability to reach certain minimum living standard, possibly related to some survival notion, independent of time and place. In the words of Sen (1983, p. 159), “If there is starvation and hunger, then –no matter what the *relative* picture looks like- there clearly is poverty. In this sense the relative picture –if relevant- has to take a back seat behind the possibly dominating absolute consideration.” In the second place, an absolute poverty line, adjusted only for price changes, provides a fixed measuring rod against which the evaluation of anti-poverty policies and inter-temporal comparisons can be meaningfully accomplished.

The defense of a relative view is usually made along three lines. In the first place, the connection between poverty and the general living standards of the society in which the phenomenon is to be measured has been long recognized. In the often quoted lines by Adam

Smith (1776, p. 691), “By necessities, I understand not only the commodities which are indispensably necessary for the support of life but whatever the custom of the country renders it indecent for credible people, even of the lowest order, to be without. A linen shirt, for example, is strictly speaking not a necessity of life. The Greeks and Romans lived, I suppose, very comfortably though they had no linen. But in the present time ... a credible day-labourer would be ashamed to appear in public without a linen shirt, the want of which would be supposed to denote a disgraceful state of poverty.” In modern times, in line with the ideas put forth by Townsend (1954, 1962), the British Social Science Research Council (1968, quoted in Atkinson, 1975) states: “People are ‘poor’ because they are deprived of the opportunities, comforts, and self-respect regarded as normal in the community to which they belong. It is, therefore, the continually moving *average* standards of that community that are the starting points for an assessment of its poverty, and the poor are those who fall sufficiently far below these average standards.”

In the second place, it has been pointed out that the determination of an absolute poverty line is plagued with practical difficulties. There is no need to repeat here the arguments that have been given elsewhere.⁷ It suffices to recall two points. First, absolute poverty lines might differ widely within a single country.⁸ Second, even within the objective approach, there are wide differences across countries in the poverty lines obtained.⁹

⁷ For a criticism of the early Rowntree/Orshansky attempts, see Atkinson (1975, p. 186-189, and 1998, p. 25). For an evaluation of objective (food-energy intake and cost-of-basic-needs) and subjective methods, see Ravallion (1998). For an additional critique of subjective methods, see Citro and Michael (1995, p. 134-140). For the added difficulties encountered when using Purchasing Power Parities in international comparisons, see Deaton (2001).

⁸ México is a case in point. The CTMP (2002) set an official poverty line for 2000, according to which the incidence of absolute poverty in that year measured by the percentage of individuals in the population below the poverty line was 12.6% and 42.4% in the urban and the rural sector, respectively. Three years later, a team commissioned by the CTMP itself studied different alternative methods to set the poverty line. According to the preferred solution, the incidence of poverty in that year became 1.2% and 19.0% in the urban and the rural sector, respectively (see Cortés *et al.*, 2005b).

⁹ See Ravallion *et al.* (1991), Ravallion (1998), and the discussion below.

Finally, as pointed out in the Introduction, it was soon realized after the war that, according to the prevailing standards, absolute poverty was being eradicated in developed countries. The notion of relative poverty came to the rescue.

The scenario for a parting of ways was set up. On one hand, in developed countries only relative poverty was to be estimated. Fixing the poverty line at a given percentage of average income or expenditures is a simple, convenient, easy to understand, and transparent procedure. From a normative point of view, the reduction of the incidence of poverty, meaning the reduction of the percentage of people at the lower tail of the income distribution in countries where mean income is high and increasing in real terms, expresses a concern both for the plight of the (relative) poor, as well as for egalitarian values.

On the other hand, a relative notion of poverty is not without paradoxical aspects. First, we could have a situation where an income distribution Pareto dominates another one, while also displaying greater relative poverty. Second, relative poverty is invariant to equiproportionate changes in all incomes. Consequently, if all incomes in one situation are increased (decreased) in the same proportion, then poverty could be expected to decrease (increase) but relative poverty will remain constant. Third, the fact that the poverty line –and perhaps poverty itself- falls (raises) during recessions (recoveries) along the business cycle, need not be appealing to all. Moreover, some will argue that relative thresholds offer too much of a moving target for policy makers attempting to ameliorate poverty. Forth, the fact that two individuals with the same real income in two different periods or in two different societies could be judged one poor and the other non-poor depending on the value of the mean in the two situations under comparison, need not satisfy everyone's intuitions about what poverty means. In addition, for those working in developing and transition economies it is hard to abandon the belief that there is an irreducible absolutist core in the idea of poverty. Therefore, it is understandable that in those parts of the world an absolute poverty notion has generally been adopted.

The question is, how do actual poverty lines in different countries compare to each other? It turns out that the poverty line follows a non-linear relationship with mean consumption per capita: the elasticity of the poverty line with respect to mean consumption per capita is zero or very small at the consumption level in the poorest countries of the world, becomes 0.7 at the overall mean, and increases up to unity at the consumption level for the richer countries studied. We must conclude that existing poverty lines do not reflect a scientifically well-defined, universal survival notion. Instead, today it is widely recognized that the determination of any poverty line involves choosing a number of parameters. In the informed opinion of Ravallion (1998, p. 30), “It is my experience that those parameters are typically chosen (explicitly or otherwise) to accord with perceptions of what ‘poverty’ means in a given country...Arguably then, what one is doing in setting an objective poverty line in a given country is attempting to estimate the country’s underlying ‘subjective poverty line’.” Nevertheless, in so far as the elasticity of the actual poverty lines to mean consumption *per capita* is essentially flat at the lowest mean consumption levels, it makes sense that for international poverty comparisons the World Bank has chosen as an appropriate absolute poverty line the \$1/day specification, using Purchasing Power Parities (PPPs) to convert local currencies into dollars.¹⁰

II.2. The Present Puzzle and Alternative Solutions

Many would think that an adequate poverty notion should contain elements from the absolute and the relative approaches. Sen (1983, 1987) provides a conceptual solution to the problem. He starts by suggesting that the right focus for assessing the standard of living is neither commodities, nor characteristics (in the sense of Gorman and Lancaster), not utility, but

¹⁰ The original poverty line representative of low-income countries in South Asia and most of Sub-Saharan Africa was set at \$31 a month or \$1.02 a day at 1985 prices (see Ravallion *et al.*, 1991). The equivalent line using 1993 PPPs is \$32.74 a month or \$1.08 a day in 1993 prices (see Chen and Ravallion, 2001). However, since the whole structure of relative prices embodied in the PPP has changed, there is no simple way of comparing both poverty lines. Ravallion *et al.* (1991) used also a \$23 per month line, corresponding to India, as a lower bound to the range of admissible poverty lines for the developing world, while Chen *et al.* (1994) and Chen and Ravallion (2001, 2004) also give results for twice the \$1-a-day-line, a poverty line more typical of low-middle income countries.

something that may be called a person's capabilities, understood as the ability to do various things or to achieve certain functionings. Examples are the capability of feeding oneself, but also the capability to live without shame emphasized by Adam Smith, that of being able to participate in the activities of the community discussed by Peter Townsend, or that of having self-respect discussed by John Rawls (1971). The next step is the suggestion that poverty is an absolute notion in the space of capabilities, so that the poverty line is defined by the value of goods required for a specified level of capabilities. In the notation used in Atkinson and Bourguignon (1999), there is a vector of capability levels, c , and a matrix A that converts these capability levels into commodity requirements, so that at the prevailing prices p the poverty line is defined by $z = p A c$. The final idea is that the matrix A , relating capabilities to goods, may depend on the particular society.¹¹ In Sen's (1983, p.161) own words: "At the risk of oversimplification, I would like to say that poverty is an absolute notion in the space of capabilities but very often it will take a relative form in the space of commodities or characteristics." In this way, an absolute level of capabilities, c , may translate into a set of commodity requirements that is relative to the standard of living of a particular country.¹²

These ideas provide a framework where absolute and relative views are made compatible (in different spaces), and are certainly helpful in two contexts. First, they inspire attempts –such as the one by the National Research Council in Citro and Michael (1995)- to fix an absolute poverty line that is continuously updated over time for a given country. Second, they serve to rationalize the empirical relationship between poverty lines in different countries and their mean

¹¹ This may very well be the case for the sub-vector of capabilities that were attributed above to Adam Smith, Peter Townsend and John Rawls. To take a final example, think of the capability of entering the labor market. As Atkinson and Bourguignon (1998, p. 7) point out "The goods required to compete for jobs are influenced by those available to others in the same labor market. A century ago in Britain one might have needed a bicycle; today one might need a mobile phone".

¹² Notice that a thorough relativist may suggest that minimum capability levels themselves are also children of their times.

consumption *per capita*.¹³ However, to become operational for international comparisons, Sen's proposal requires implementation, that is, it requires that a vector c common to all countries and a different matrix A for each of them be specified. In the absence of such specification, developing countries keep using exclusively an absolute poverty line, developed countries use only a relative one, while for international comparisons among developing and transition countries the World Bank uses the \$1/day absolute poverty line.

It is true that, as even the World Bank (1990, p. 26) states, a "poverty line can be thought of as comprising two elements: the expenditure necessary to buy a minimum standard of nutrition and other basic necessities and a further amount that varies from country to country reflecting the cost of participating in the everyday life of society." But the above discussion also tells us that the absolute and the relative poverty notions are fundamentally different. This is why, instead of searching for ways to combine them in a single measure as others have done, the position advocated in this paper is to keep them separated.

We agree with the World Bank that in developing and transition countries an absolute poverty notion is inescapable and must not be abandoned. This should be specially the case in those countries, such as México, where an official absolute poverty line has been agreed upon. But this does not preclude asking at the same time the following questions in México: (i) How does relative poverty behave during the business cycle and during the Fox presidency from 2000 to 2004? (ii) Is relative poverty greater than absolute poverty, and if so by how much? (iii) How does México compare with other countries where relative poverty has been measured, namely, the developed countries?

¹³ Alternatively, Ravallion (1998) defines absolute poverty in utility space, assumes that utility depends on both own consumption and relative consumption, and shows that, under those circumstances, the consumption poverty line will also rise with mean consumption.

III. DATA AND MEASUREMENT ISSUES

III.1. Micro *Versus* Macro Data

As pointed out in the Introduction, in México there is available a rich series of household budget surveys collected by the INEGI every two years from 1992 to 2004, that the experts take as roughly comparable.¹⁴ This is an interesting period characterized from the macroeconomic point of view by years of recession, 1994-96, years of recovery, 1996-2000, and years of stagnation, 2000-04. Thus, the scenario is set up for a crucial empirical experiment: how do the ENIGHs reflect such deep oscillations in the macroeconomic level of economic activity?

Figure 1 around here

Figure 1.A. presents the aggregate household income and expenditure *per capita* series in real terms according to the ENIGHs.¹⁵ It provides impressive evidence about the overall consistency between aggregate income and expenditure data, as well as the impact of the *peso* crisis and the rapid recovery in economic activity independently detected in the macroeconomic information from the National Accounts.¹⁶ Figure 1.B. illustrates the behavior of household

¹⁴ Given the decrease in official poverty rates in the midst of stagnation of economic activity, the comparability of the 2000 and 2002 ENIGHs motivated a lively debate, which includes contributions by SEDESOL; F. Cortés; M. Székely and E. Rascón, and the CTMP in Chapters 7 to 10, respectively, in Székely (2005). See also the Appendixes I to IV in that volume, due to R. Aparicio and F. Cortés, Luis F. López Calva, J. Scott, and G. Teruel and L. Rubalcava, respectively, that discuss in detail the samples, incomes, public transfers, and expenditures between these two dates. For a short review of the evidence, see World Bank (2004, p. 60-61).

¹⁵ All monetary magnitudes in the ENIGHs are captured from mid-August to mid-November of each year. Reference periods range from February to July and from May to October. The INEGI translates this information into quarterly figures for all magnitudes. We assume that all monetary magnitudes are at prices of August of each year, and to express these figures at common, August 2000 prices, the information published by the Bank of México on the general Consumer Price Index for the country as a whole during this period has been used.

¹⁶ This is in spite of the fact that the percentage of households for which household current expenditures is greater than household total income in each year stays near 40% (for a discussion of this feature of the ENIGHs, see Appendix V in Ruiz-Castillo, 2005).

expenditures in different geographical areas. For later reference, notice the deep fall in economic activity in 1996 in the urban sector.¹⁷

In México, as in other countries, aggregate household expenditures and income estimated from the household budget surveys are typically lower than consumption and GDP estimated from the National Accounts. In this context, it should be recalled that some researchers recommend a reconciliation of the information in the National Accounts and in household budget surveys by increasing in various ways the household magnitudes in the latter in order to reach the higher levels of consumption and disposable income in the former.¹⁸ These procedures are known to be plagued by problems that must be solved by means of arbitrary decisions.¹⁹ Furthermore, in so far as the ENIGHs provide a convincing macro picture of the cyclical behavior in the Mexican case, these household budget surveys should be trusted all the more as the best possible data source for the study of the evolution of the living standards of the Mexican household population.²⁰

III.2. The Distribution Under Study

From the point of view of Welfare Economics, the unit of analysis is the individual. However, in the absence of a well established theory -supported by convincing empirical evidence- about the behavior of multi-person households, one is forced to study the

¹⁷ For a detailed analysis of the inter-temporal behavior of the macromagnitudes estimated from the ENIGHs, see Appendix III in Ruiz-Castillo (2005), and for some comparison between the ENIGHs and the National Accounts, see World Bank (2004, p. 63-64).

¹⁸ See, for instance, Bhala (2002).

¹⁹ See the discussion and references in CTMP (2002, p. 44-47), and for an illuminating discussion of the Mexican case, see Leyva-Parra (2005).

²⁰ This is, of course, the general position taken by scholars such as Deaton (2001, 2005), Bourguignon (2005) and Ravallion (2001, 2002, 2003) or by authorized agencies and organisms as the World Bank (2004, p. 63) and the Mexican CTMP (2002, p. 60-61; 2005, p. 13).

individual distribution in which each person is assigned the household welfare, corrected by differences in needs, of the household to which s/he belongs.

As it is usually the case in Latin America, the CTMP (2002, 2005) in México has sided in favor of an income-based measure of household welfare. However, for theoretical and practical reasons, and in order to provide a contrasting view, this paper chooses a consumption-based measure.²¹ Taking into account the difficulties of imputing a value to leisure and allocating the full cost of public goods or publicly provided goods to households, a consumption-based measure of household welfare in a given year is best approximated by household current expenditures on private goods and services.

The variable actually captured by the ENIGHs includes discontinuous expenditures on some durables, whose occurrence may distort heavily the total. These expenditures are best considered investment and excluded from our measure of household current private consumption. A clear instance of this problem is provided by expenditures on the acquisition of cars, motorcycles and other means of private transportation. On the other hand, household expenditures on housing maintenance and repairs in the ENIGHs appear mixed up with expenditures on the expansion or construction of a new housing unit. In most years, it is found that, for a large proportion of households, expenditures in these activities should also be considered investment rather than consumption. Thus, our estimate of household current consumption excludes expenditures on the acquisition of cars, motorcycles and other means of private transportation, as well as expenditures on housing maintenance *et al.* Ideally, excluding current expenditures on the acquisition of those durables should be accompanied by the inclusion of an estimate of the consumption services currently provided by these investment flows as well as by the stock of household durables acquired

²¹ This is the approach followed in my previous research with Spanish data in Ruiz-Castillo (1995, 1998), Garner *et al.* (2003), and Del Río and Ruiz-Castillo (2001a, b, c, 2002). But in choosing a consumption-based measure of household welfare I am in good company: See *inter alia*, Deaton (1997), Deaton and Zaidi (2002), Lipton and Ravallion (1995), Slesnick (1991, 1993), Ravallion (1992), and the World Bank (2004, p.8 and p. 61). For a full discussion, see Appendix I in Ruiz-Castillo (2005).

in the past. This can be done only for housing -without doubt the more important household durable- because the INEGI provides an imputed rental value for all dwellings outside the rental sector.

In practice, differences in household needs arise from two main sources. First, in so far as the presence of some public or semi-public goods within the household leads to some economies of scale in consumption, it must be recognized that households of different size have different needs. Second, children typically have smaller needs than adults. Thus, households of the same size but different demographic composition are also said to have different needs.

Assume that there is a population of H households, indexed by $h = 1, \dots, H$. Let x^h be the variable that best approximates household welfare, namely, household expenditures on private goods, net of expenditures on certain investment goods; let a^h and c^h be the number of adults and children in household h , respectively, and consider the two-parameter model of equivalence scales that leads to the following definition of household equivalent expenditures:

$$eqx^h(\alpha, \theta) = x^h / (a^h + \alpha c^h)^\theta, \theta \in [0, 1], \alpha \in [0, 1]. \quad (1)$$

The larger α is, the larger are children needs assumed to be relative to the needs of adults, and the larger θ is, the smaller are economies of scale assumed to be.

Which choices for α and θ will be reasonable to make? The CTMP (2002) in México concentrates exclusively in the case $(\alpha, \theta) = (1, 1)$ under the assumption that children and adult needs are identical and that there are no economies of scale at all. In contrast, here we take a different view. In the first place, most of the literature suggests that children are relatively more expensive in industrialized countries, while school fees, entertainment, clothes, etc. are relatively cheap in poorer agricultural economies. Consequently, Deaton and Zaidi (2002) suggests that a

could be set near to unity in U.S. and Western Europe, and perhaps as low as 0.25 to 0.33 for the poorest economies. Our own choice is to set α equal to 1/3. In the second place, if all goods in the household are private, costs rise in proportion to the number of household members, while if all goods are public, costs are unaffected by household size. Therefore, in relatively poor economies with a high share of the budget devoted to food –which should be considered as almost entirely a private good- the scope for economies of scale is likely to be small. Although Deaton and Zaidi (2002) suggest setting θ equal to 0.9 in developing countries, it will be assumed that economies of scale in México might be somewhat larger, so that θ will be set equal to 0.8.²²

III.3. Relative and Absolute Poverty Lines

Let \mathbf{eqx} be the individual distribution in which each person is assigned the equivalent expenditures of the household to which s/he belongs when $(\alpha, \theta) = (1/3, 0.8)$ in equation (1), that is, each person is assigned $\text{eqx}^h = x^h/[a^h + (1/3) c^h]^{0.8}$. In order to ensure the comparability with relative poverty in developed countries, in this paper the relative poverty line in year t , z_t^R , is chosen to be equal to half the mean of that distribution, i. e. $z_t^R = (1/2) m(\mathbf{eqx})$. A person in household h is considered to be relatively poor in year t if and only if $\text{eqx}^h \leq z_t^R$.

As far as absolute poverty lines are concerned, the situation is more complex. As indicated before, the CTMP (2002, 2005) in México studies the individual distribution in which each person is assigned the current income *per capita* of the household to which s/he belongs. Two absolute poverty lines are fixed in the year 2000 -one each for the urban and the rural sectors- which should be interpreted as the amounts of money income necessary to cover basic food *per capita* needs in each of the two sectors. Due to spatial differences in the pricing of a common

²² By way of comparison, the National Research Council recommends setting $\alpha = 0.7$ and θ in the range of 0.65 to 0.75 in the U.S. (see Citro and Michael, 1995, p. 162).

basic food basket, the urban poverty line in 2000 is greater than the rural one. Nevertheless, the incidence of absolute poverty in that year according to official estimates is 12.6% and 42.4% of individuals in the urban and the rural sector, respectively.

Alternatively, consider the possibility of switching to a consumption-based measure of household welfare. The World Bank (2004, p. 61) suggests that absolute poverty lines in 2000 should be fixed so that the incidence of poverty in the urban and the rural sectors remain constant. In our case, in addition to a consumption-based measure of household welfare, equivalent expenditures are determined according to the specification $(\alpha, \theta) = (1/3, 0.8)$ rather than the one followed by the CTMP, namely, $(\alpha, \theta) = (1, 1)$. Let z^{Au} and z^{Ar} be the absolute poverty lines in 2000 in the urban and the rural sector, respectively, which will be used in this paper. Following up on the World Bank's suggestion, z^{Au} and z^{Ar} are fixed so that the incidence of absolute poverty in that year is invariant both to the way household welfare has been approximated and to the choice made of equivalence scales. That is, z^{Au} and z^{Ar} are implicitly determined by the condition that the percentage of poor individuals in the urban and the rural sector are 12.6% and 42.4%, respectively.

Such poverty lines for the year 2000 are expressed at prices of each year during the 1992-2002 period using the deflators estimated by the World Bank (2004, p. 109) for their own consumption-based measure of household welfare.²³ Finally, to express the 2000 poverty lines at 2004 prices, the food price index published by the Bank of México has been used.²⁴ Let z_t^{Ai} be the absolute poverty line in sector i and year t ; then a household h living in sector i in that year will be considered poor if $eqx^h \leq z_t^{Ai}$.

III.4. Poverty Measurement

²³ Such deflators take into account different price indices for each commodity included in the basic food basket determined by the CTMP in 2000.

²⁴ The food inflation rate between these two dates is 122.31%.

Both relative and absolute poverty will be measured using the family of Foster, Greer and Thorbecke (1984) poverty indices, denoted by FGT_{β} . For a population of N individuals, indexed by $i = 1, \dots, N$, P of whom are poor when the poverty line is z , the index is defined by:

$$FGT_{\beta}(\mathbf{x}, z) = (1/N) \sum_{i \in P} [(z - x^i)/z]^{\beta}. \quad (2)$$

When $\beta = 0$, we have the headcount, a measure of the *incidence* of poverty; when $\beta = 1$, we have a measure of the *intensity* of poverty that takes into account the aggregate poverty gap; while when $\beta = 2$, we have a measure of the severity of poverty that takes into account the income *inequality* among the poor.

Part of the interest of this family of poverty measures is that they are additively decomposable in the following sense. Consider, for instance, the partition of the population into the urban and the rural sectors, so that the distribution under study can be expressed as $\mathbf{x} = (\mathbf{x}^u, \mathbf{x}^r)$. Then, each of the FGT_{β} measures can be written as:

$$FGT_{\beta}(\mathbf{x}) = p^u FGT_{\beta}(\mathbf{x}^u) + p^r FGT_{\beta}(\mathbf{x}^r),$$

where p^u and p^r are the urban and rural population shares, respectively. In an inter-temporal context, this permits the explanation of the overall absolute poverty change in terms of the change within the urban and the rural sectors, and a term that captures the change in population weights. For any two years, say 1 and 2, the change in overall poverty, $\Delta P_{\beta} \equiv FGT_{\beta}(2) - FGT_{\beta}(1)$, can be decomposed into the following three terms:

$$\Delta P_{\beta} = \Delta P_{\beta}^u + \Delta P_{\beta}^r + \Delta Demo_{\beta} \quad (3)$$

where: $\Delta P_{\beta}^u = p^u(1) [FGT_{\beta}(\mathbf{x}^u)(2) - FGT_{\beta}(\mathbf{x}^u)(1)] =$ change in overall poverty due to the change in poverty within the urban sector;

$\Delta P_{\beta}^r = p^r(1) [FGT_{\beta}(\mathbf{x}^r)(2) - FGT_{\beta}(\mathbf{x}^r)(1)] =$ change in overall poverty due to the change in poverty within the rural sector;

$\Delta Demo_{\beta} = [p^u(2) - p^u(1)] FGT_{\beta}(\mathbf{x}^u)(2) + [p^r(2) - p^r(1)] FGT_{\beta}(\mathbf{x}^r)(2) =$ change in overall poverty due to the change in population shares.

IV. EMPIRICAL RESULTS

Table 1 presents the evolution of absolute poverty at the national, urban, and rural levels according to the family of poverty measures FGT_{β} , $\beta = 0, 1, 2$. To facilitate the interpretation, from here on all poverty estimates are multiplied by 100. Panel B in that Table includes the change in overall poverty in different sub-periods, while panel C reports the decomposition of changes in FGT_0 into the three terms of equation (3); for any sub-period, panel C reports on the expressions $100(\Delta P_b^u/\Delta P_b)$, $100(\Delta P_b^r/\Delta P_b)$, and $100(\Delta Demo_b/\Delta P_b)$.

Table 1 around here

Absolute poverty dramatically increases during the recession from 1994 to 1996 at all geographical levels. Contrary to what happens in the urban sector, in the rural sector the incidence, the depth, and the severity of poverty keep slightly increasing from 1996 to 1998, indicating that the poorest individuals in this sector did not initially benefit from the recovery in

the general level of activity.²⁵ However, as has been established before for other measures of household and personal welfare (see references in note 5), absolute poverty continuously falls from 1998 to 2004, especially in the rural sector.

Interestingly enough, changes in absolute poverty are always larger (in absolute value) for FGT_2 than for FGT_1 and FGT_0 (see Table 1.B). In particular, the decline in absolute poverty during the Fox years is equal to 23.6%, 29.4%, and 33.3% according to FGT_2 , FGT_1 , and FGT_0 , respectively. How can this change be accounted for? The decomposition of the incidence of poverty in Table 1.C indicates that as much as 86.3% of the overall poverty decline in 2000-2004 must be attributed to the poverty decline within the rural sector.

For the entire 1992-2004 period, absolute poverty experiences a moderate decrease: about a 10% decline according to the three poverty measures (see the last column in Table 1.B). However, both sectors behave very differently: in the urban sector, poverty slightly increases, while in the rural sector it considerably decreases. Accordingly, in the decomposition of the overall change in FGT_0 during 1992-2004, the percentage attributed to the change within the urban (rural) sector has a negative (positive) sign (see the last row in Table 1.C).

Table 2 around here

Table 2, that has the same structure than Table 1, shifts the attention towards the relative case. Recall that there are two absolute poverty lines, one each for the urban and the rural sectors. Due to spatial price differences, the urban absolute poverty line is greater than the rural one in every year during the 1992-2004 period. This tends to close the distance between the extents of poverty in the two sectors. However, because both areas are viewed as part of a single political community, when a relative point of view is adopted national living standards are taken

²⁵ This fact has also been noticed in World Bank (2004, p. 59, 108) in the income case with $(\alpha, \theta) = (1, 1)$.

into account in the determination of a single poverty line. The conjecture is that it will be harder to reach such common poverty line in the rural than in the urban sector. This is indeed what is observed in the data: relative poverty in México is essentially a rural phenomenon, and the distance between poverty estimates in both sectors is even greater than in the absolute case. For instance, in 1992 the distance between the incidence of absolute and relative poverty in the two sectors is 27 and 47 percentage points, respectively.

As far as trends are concerned, notice that the fact that the relative poverty line moves cyclically does not imply anything about relative poverty itself. It turns out that relative poverty does not change much in the urban sector during the entire 1992-2000 business cycle. However, rural poverty clearly falls down with the 1994-96 recession and goes up with the 1996-2000 recovery.²⁶ At the national level, relative poverty shows a mild cyclical behavior according to the three FGT poverty indices. In other words, the 1994-1996 recession is mildly equalizing, hurting the rich relatively more than the poor and giving rise to a decrease in relative poverty, while the recovery is disequalizing, favoring the rich more than the poor and giving rise to an increase in relative poverty.

Figure 2 around here

The incidence of absolute and relative poverty in all geographical levels is conveniently represented in Figure 2. The counter-cyclical (cyclical) nature of absolute (relative) poverty according to FGT_0 , are clearly illustrated. The above facts confirm that absolute and relative poverty are different phenomena that behave in opposite ways over the cycle in 1992-2000. Do they disagree also during the important 2000-04 period? They do not: relative poverty remains essentially stable in the urban sector, but it decreases considerably at the rural level according to

²⁶ This is consistent with the cyclical character of both relative poverty lines and net expenditures inequality in this sector. (For an analysis of expenditures inequality in México during this period, see Appendix VI in Ruiz-Castillo, 2005).

all FGT indices. Trends in the rural sector during this key period translate into the same ones at the national level.

As in the absolute case, changes in relative poverty are always larger (in absolute value) for FGT_2 than for FGT_1 and FGT_0 (see Table 2.B). In particular, the decline in relative poverty during the Fox years is equal to 13.7%, 21.1%, and 25.8% according to FGT_0 , FGT_1 , and FGT_2 , respectively. The decomposition of the incidence of poverty for that sub-period in Table 2.C, indicates that as much as 84.4% of the overall poverty decline in 2000-04 must be attributed to the poverty decline within the rural sector. As a matter of fact, the information in Table 2.C corroborates that the overwhelming factor accounting for the change in the incidence of relative poverty in all time periods is the poverty change within the rural sector. In particular, the negative sign in the urban sector in the last row of Table 2.C indicates that, in spite of a 13.5% decline in overall relative poverty during 1992-2004 according to FGT_0 (see the last column in Table 2.B), the incidence of relative poverty in the urban sector increases in that period; most of the explanation (91.8%) of the overall decline must be attributed to what happens in the rural sector.

Figures 3 and 4 around here

A final aspect must be considered: how do relative and absolute poverty levels compare to each other? Or in other words, how many relative poor are also absolutely poor and how many are not? Figure 3 presents the relationship between absolute poverty lines at all geographical levels and the single national relative poverty line at current prices in all years. At the beginning of the period, the relative poverty line is above all absolute poverty lines. With the recession, it crosses the national and even the urban poverty lines, and with the recovery it becomes again greater than all absolute poverty lines. Figure 4 presents the evolution of the incidence of relative and absolute poverty at the national level. In 1992, one fifth of the population is below the

absolute poverty line but as many as 35% are poor in a relative sense. However, when the fall in economic activity comes in 1996, essentially all the relative poor become absolute poor as well. After the recovery, relative poverty becomes again larger than absolute poverty. In 2004, 30.3% of the population is relative poor and 18.5% remain absolute poor.²⁷ In line with moderate changes in mean equivalent expenditures and equivalent expenditures inequality from 1992 to 2004, moderate reductions in absolute and relative poverty are also found during this period.

Figure 5 around here

Figure 5 illustrates the relationship between relative and absolute poverty in the rural and the urban sectors. Given the dominant role of the rural sector in accounting for poverty changes at the national level, it is not surprising to find that the evolution in this sector resembles quite closely the pattern already observed in Figure 4 for México as a whole. Instead, the fact that as a consequence of the recession absolute poverty overcomes relative poverty in the urban sector may come at first sight as a surprise. However, a plausible explanation is provided in Figure 1: the fall in aggregate household expenditures *per capita* in real terms during the 1994-96 recession is far more dramatic in the urban than in the rural sector; this manifests itself in a very large relative increase in absolute poverty in the urban sector.

V. CONCLUSIONS

Relative poverty lines are arbitrarily but easily fixed as some percentage, usually 50%, of a country's mean income (or expenditures). While an absolute poverty concept may seem at first sight to refer to some easily identifiable survival notion, in practice the determination of an

²⁷ Absolute poverty profiles in México are rather well known (see *inter alia*, World Bank, 2004), but if most of the time relative poverty is greater than absolute poverty, then an interesting issue, beyond the scope of this paper, is to identify who are the relative poor that are not absolute poor.

absolute poverty line requires several *ad hoc* decisions. As indicated in Section II of this paper, relativistic influences have led to a situation in which, beyond a certain standard of living, absolute poverty lines across developing and transition economies vary directly with mean income or consumption.

Be that as it may, the empirical poverty literature is divided into two camps. In developing and transition economies, where an absolutist poverty view is understandably hard to abandon, all attention has been directed to the estimation of absolute poverty. Developed countries, where the worst levels of absolute poverty have been essentially eradicated, have understandably turned towards relative poverty.

Conceptually, as explained in Section II, there have been attempts to reconcile both notions within a single country. Contrary to these attempts, the main contribution of this paper is to emphasize that the two approaches are essentially different, and that there is something to be learned by keeping them separate in practice. This point of view has been illustrated with data from a large transition country, such as México, that in 1992-2004 has passed through a number of diverse macroeconomic scenarios. The main conclusions can be summarized as follows.

(i) The cyclical and counter-cyclical behavior of relative and absolute poverty in México during the 1992-2000 business cycle clearly indicates how different the two approaches are. (ii) The fact that in the 2000-04 stagnation years the incidence, the intensity, and the severity of both absolute and relative poverty show a significant decrease according to the FGT poverty measures, indicates that something important is changing in Mexican poverty, however measured. (iii) The explanation must be sought in the rural sector, where absolute and relative poverty according to all measures have been declining since 1998 and 2000, respectively. (iv) During the 1992-2004 entire period there has been a reduction of 8.2 and 13.5 percentage points in the incidence of absolute and relative poverty, as well as a reduction of 11 and 22.3 percentage

points in the severity of absolute and relative poverty, respectively. This appears to be the consequence of some slight growth in real terms and some inequality reduction in the rural sector since 2000. (v) At the beginning of the period, the relative poverty line is above the absolute poverty lines at all geographical levels. With the recession, it crosses the national and even the urban poverty lines, and with the recovery it becomes again greater than all absolute poverty lines. At the end of the period, the incidence of absolute and relative poverty is 18.5% and 30.3%, respectively. The later figure is still well above the percentage of relative poverty found in European and developed countries.²⁸

Scholars interested in international poverty comparisons have also been worried by the divorce between the poverty approach in developing and in developed countries. In particular, Atkinson and Bourguignon (1999) attempt to bring together the two approaches by simply postulating that there is a hierarchy –or lexicographic order- of two levels of capability. The first concerns physical survival, takes precedence, and requires a bundle of goods, such as nutrients or shelter, which is broadly fixed in absolute terms. A second capability concerns social functionings and requires a basket of goods that depend on the mean level of income.²⁹

More importantly, these authors take a decisive step towards a new implementable definition of poverty in a world inclusive basis in which all citizens of the world enter with equal standing. Let z and m_i be an absolute poverty line common to all countries and mean income in country i , respectively, and let γ be a number in the unit interval representing a given percentage of mean income. The absolute poverty line z should be applied for identifying the poor in

²⁸ For instance, according to Zaidi and de Vos (2001), the poverty head count around 1988 in 9 European countries, using a consumption-based measure of household welfare, are as follows: Portugal, 24.5%; Italy, 21.1%; Greece, 17.9%; Spain, 15.9%; United Kingdom, 14.9%; France, 14.7%; Germany, 9.7%; Belgium, 7.4%, and Netherlands, 4.8%.

²⁹ A justification for the hierarchies of capabilities is merely sketched in terms of the limited or increasing importance of the formal labor market at low and high levels of development, respectively. It is assumed that, as the nature of work changes and the formal labor market becomes more important, commodity requirements begin to depend on average living standards. A second rationalization of the two approaches is offered, whereby absolute and relative poverty are regarded as distinct dimensions in the space of capabilities.

countries for which $\bar{m}_i < z$. In countries for which $\bar{m}_i \geq z$, the relative poverty line \bar{m}_i becomes applicable. By eye-balling the relationship between actual poverty lines and mean consumption per capita referred to in Section II (see Ravallion *et al.*, 1991, and Ravallion, 1998), Atkinson and Bourguignon suggest that $z = \$1/\text{day}$ (in 1985 purchasing power), and \bar{m}_i is, approximately, equal to one third.³⁰

If we follow this suggestion, then there will be countries with two types of poor people: people who are poor in relative but not in absolute terms and those who are poor on both accounts. As pointed out by Atkinson and Bourguignon (1998), this raises new issues: in a measure of global poverty, should we count all poverty types equally? Or should we consider some weighted average, with declining weights assigned to poor people on both counts, and relative but not absolute poor?

But what do we actually know of relative poverty in developing and intermediate countries? Very little indeed. This is why the point of view advocated in this paper is that, at present, there is much to be learned by keeping the absolute and the relative views separated in practice. Future research would start by fixing a common absolute poverty line of the \$1-a-day-per-person type for the entire world, as well as a relative poverty line in each country equal to some common percentage, say 50% already used by developed countries, of their mean income or expenditures. The estimates of absolute and relative poverty in each country will lead to a world wide partition -which we lack at present- into three main groups: (I) countries for which absolute poverty is greater than relative poverty, (II) countries for which the opposite is the case and absolute poverty is greater than zero, and (III) countries for which there is only relative poverty. It is expected that the poorest countries will be in group (I), transition countries in group (II), and developed countries in group (III). Once this exercise is done, we will be in a

³⁰ This is essentially the exercise performed in Chen *et al.* (2001) for 1987 and 1998, and in Chen and Ravallion (2004) for several years during the 1981-2001 period. In the latter case, relative poverty lines at 1993 prices were adjusted for price changes.

better position to confront the ethical issue of weighting different types of poverty already raised in Atkinson and Bourguignon (1998).

Finally, in a world-inclusive approach in which national boundaries are truly given no intrinsic status, one may also fix a world wide relative poverty line equal to, say, 50% of the world mean income or expenditures.³¹ In groups (I) and (II), world wide relative poverty will typically be greater than either its absolute or its own relative poverty, but countries in group (III) might be divided into two sub-groups, one with world wide relative poverty greater than its own relative poverty, and one in which the opposite is the case. Of course, this complicates the weighting issue by adding some new poverty types. But again, knowledge of the facts should be helpful while we devise aggregation methods across poverty types.

³¹ See Atkinson (1998) for the implications of pursuing a European-wide approach within the European Union.

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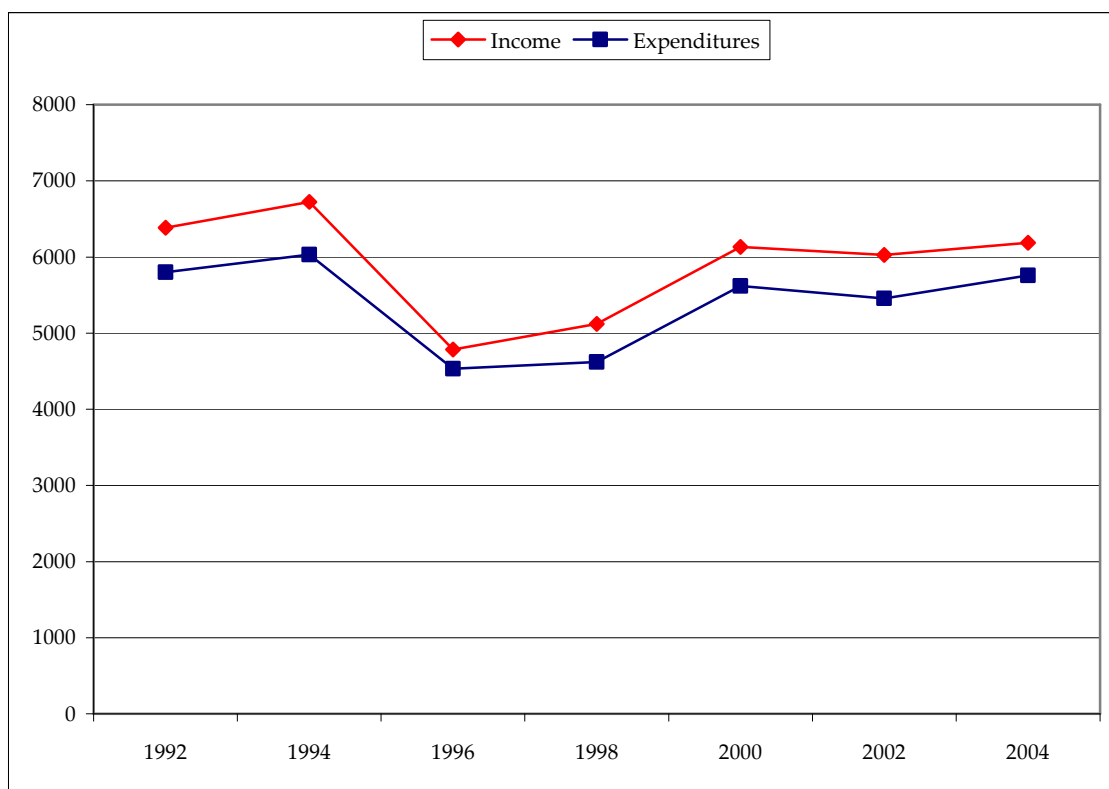


Figure 1.A. Household Income and Expenditures *Per Capita* In Real Terms

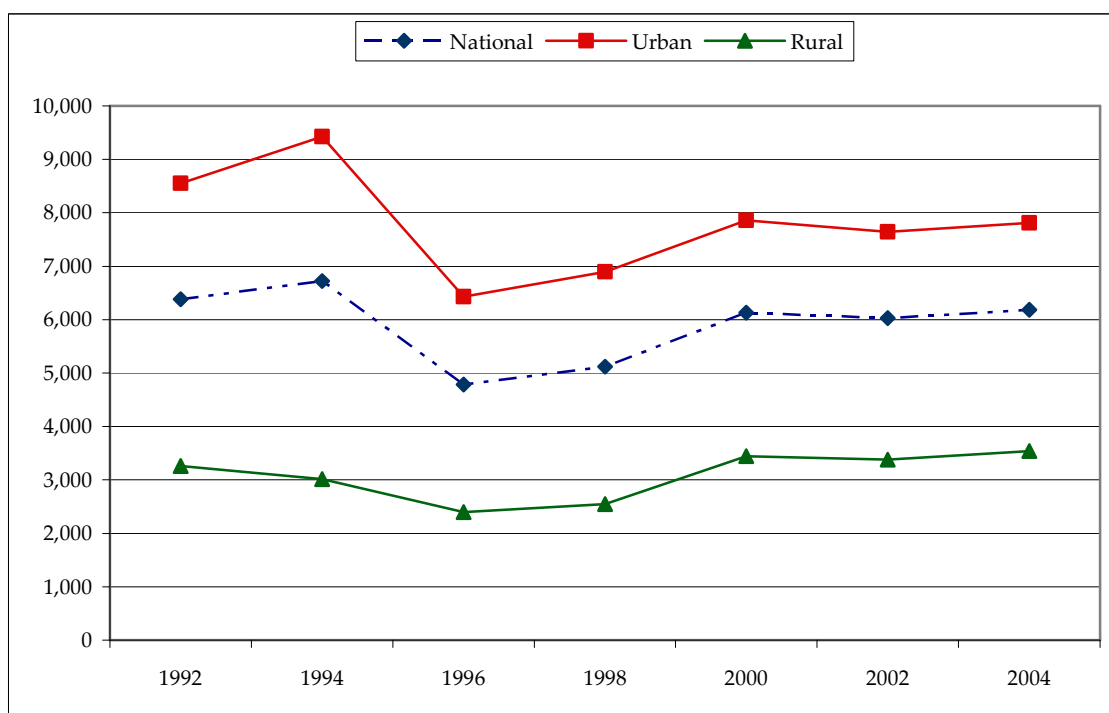


Figure 1.B: Household Expenditures *Per Capita* In Real Terms In Different Geographical Areas

Table 1.A. The Evolution of Absolute Poverty In the Individual Distribution Where Each Individual Is Assigned the Net Expenditures Per Equivalent Adult of the Household to Which S/he Belongs

National							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT₀	20.1	19.6	33.8	32.8	24.2	20.5	18.5
FGT₁	5.8	5.2	10.6	10.7	7.4	5.9	5.3
FGT₂	2.5	2.0	4.8	4.9	3.3	2.4	2.2

Urban							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT₀	9.0	9.9	22.0	19.5	12.6	11.1	11.6
FGT₁	2.0	2.1	5.6	4.7	2.8	2.4	2.7
FGT₂	0.7	0.7	2.1	1.7	0.9	0.8	1.0

Rural							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT₀	36.2	32.9	51.0	52.2	42.3	35.9	29.7
FGT₁	11.3	9.5	18.0	19.3	14.7	11.6	9.4
FGT₂	5.0	3.9	8.6	9.5	7.0	5.1	4.2

1.B. Change In Absolute Poverty At the National Level, In %

	1996-1992	2000-1996	2004-2000	2004-1992
FGT₀	68,0	-28,5	-23,6	-8,2
FGT₁	81,8	-30,0	-29,4	-10,1
FGT₂	92,3	-30,6	-33,3	-11,0

1.C. Decomposition Of the Change In FGT0

1996-1992	55,8	44,5	-0,3
2000-1996	57,8	36,9	5,4
2004-2000	10,4	86,3	3,3
2004-1992	-91,3	159,5	31,8

Table 2.A. The Evolution of Relative Poverty In the Individual Distribution Where Each Individual Is Assigned the Net Expenditures Per Equivalent Adult of the Household to Which S/he Belongs

National							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT ₀	35.0	36.1	32.2	32.7	35.1	33.3	30.3
FGT ₁	12.5	12.6	10.7	11.5	12.8	11.2	10.1
FGT ₂	6.1	6.0	5.0	5.6	6.4	5.3	4.7
Urban							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT ₀	15.8	16.0	15.6	14.5	17.5	16.5	16.8
FGT ₁	3.9	3.7	3.7	3.4	4.1	3.9	4.3
FGT ₂	1.4	1.3	1.3	1.2	1.5	1.4	1.6
Rural							
Poverty Indices	1992	1994	1996	1998	2000	2002	2004
FGT ₀	62.7	63.7	56.2	59.1	62.5	60.9	52.1
FGT ₁	24.8	24.8	20.9	23.4	26.2	23.3	19.5
FGT ₂	12.7	12.4	10.4	12.0	14.0	11.7	9.7

2.B. Change In Absolute Poverty At the National Level, In %

	1996-1992	2000-1996	2004-2000	2004-1992
FGT ₀	-8,04	9,03	-13,72	-13,50
FGT ₁	-13,83	18,85	-21,13	-19,23
FGT ₂	-17,46	26,87	-25,85	-22,35

2.C. Decomposition Of the Change In FGT₀

	1996-1992	2000-1996	2004-2000	2004-1992
1996-1992	3,17	95,08	1,75	
2000-1996	37,96	89,04	-27,00	
2004-2000	7,96	84,40	7,65	
2004-1992	-13,54	91,84	21,70	

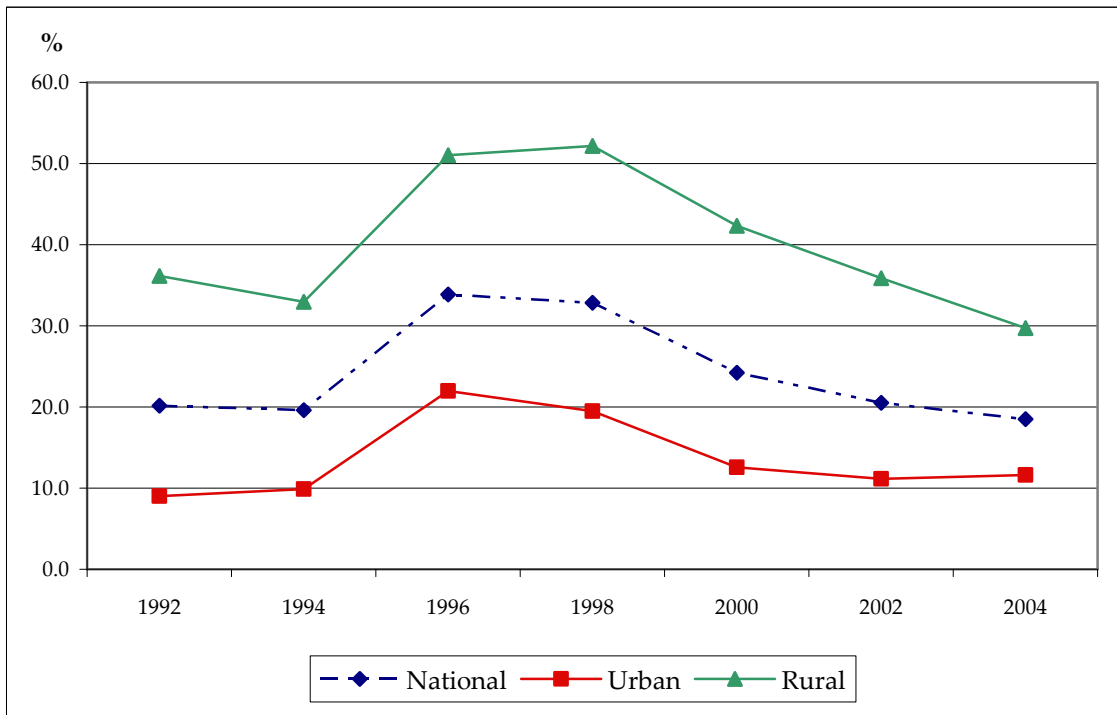


Figure 2.A. Incidence Of Absolute Poverty In %

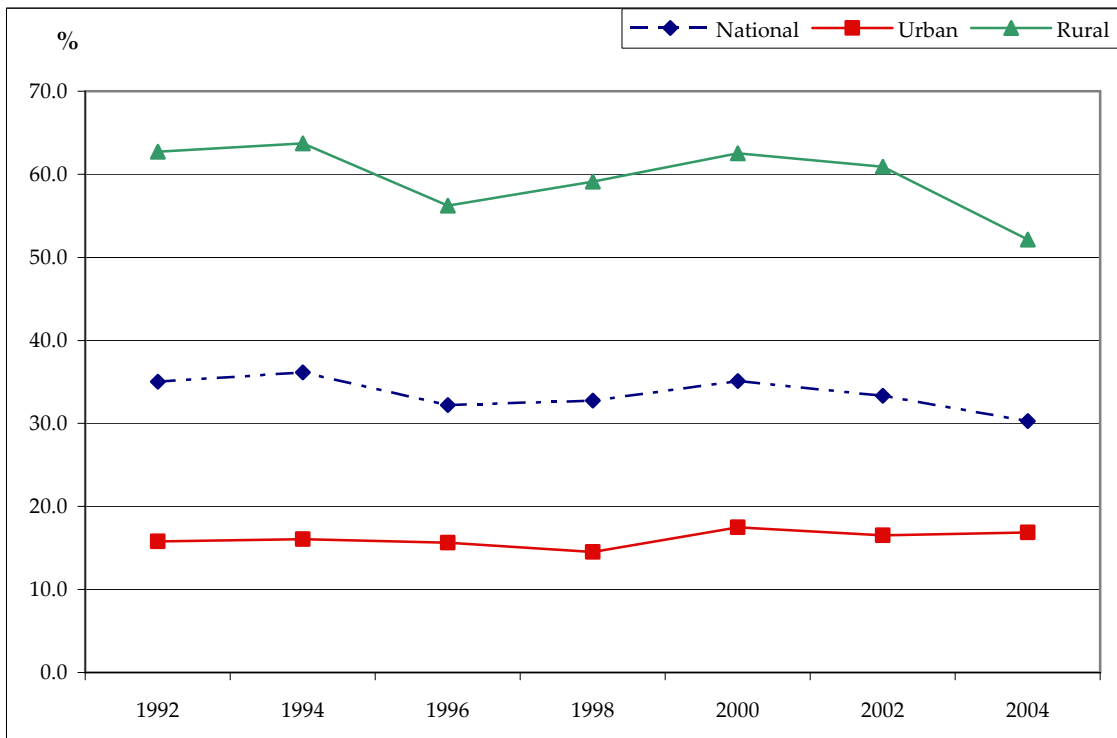


Figure 2.B. Incidence Of Relative Poverty In %

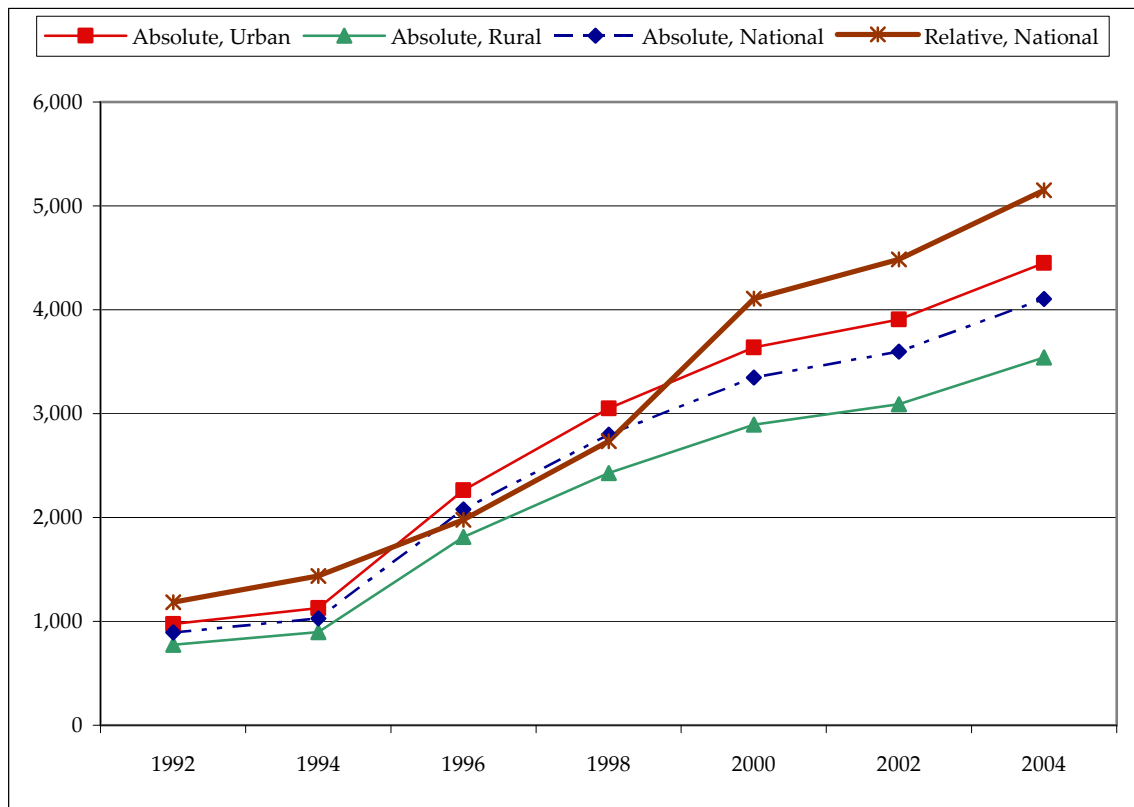


Figure 3. Absolute Poverty Lines At All Geographical Levels and Relative Poverty Line At the National Level

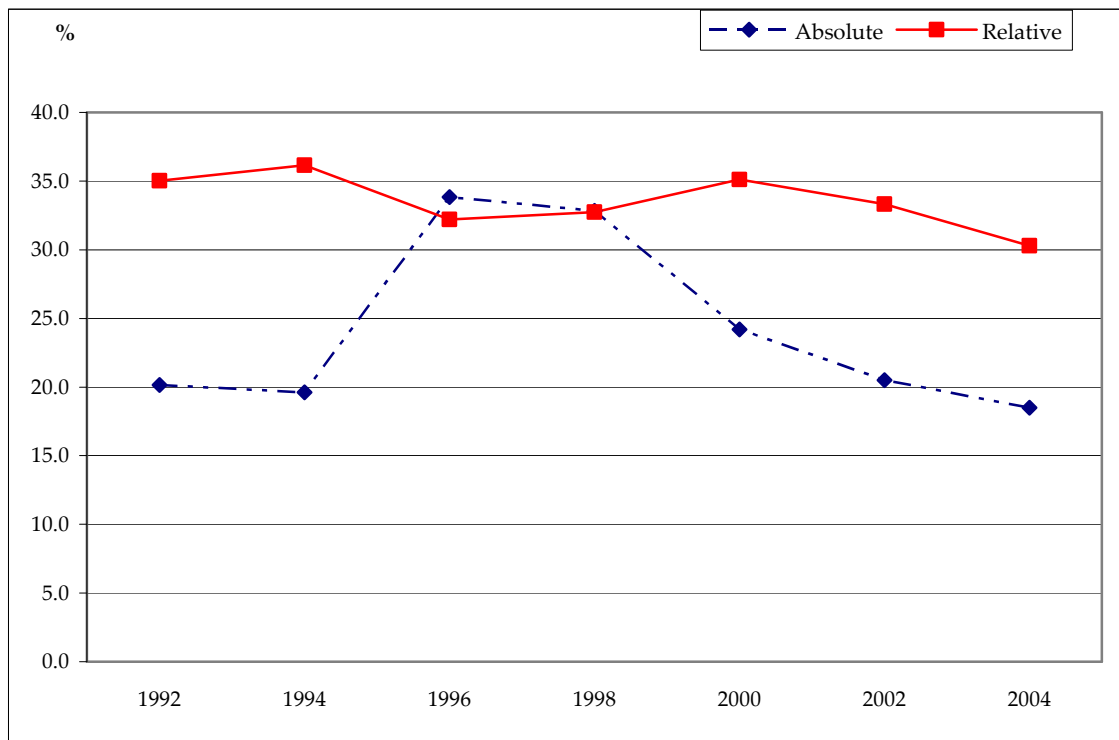


Figure 4. Incidence of Relative and Absolute Poverty At the National Level In %

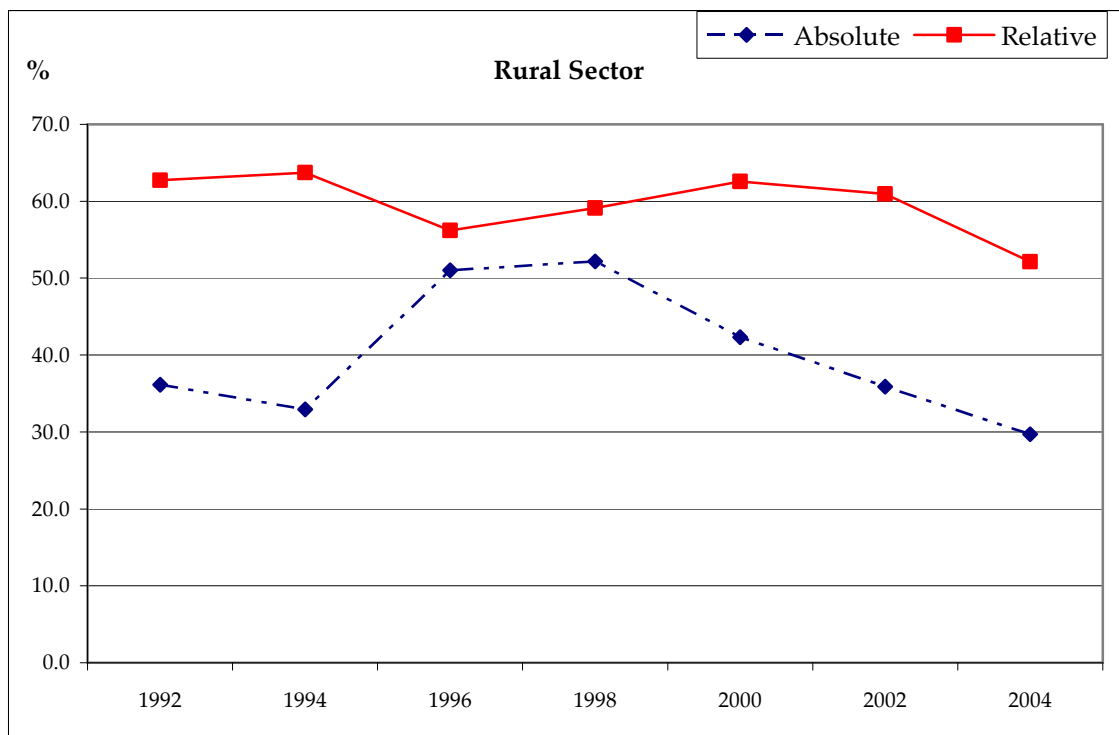
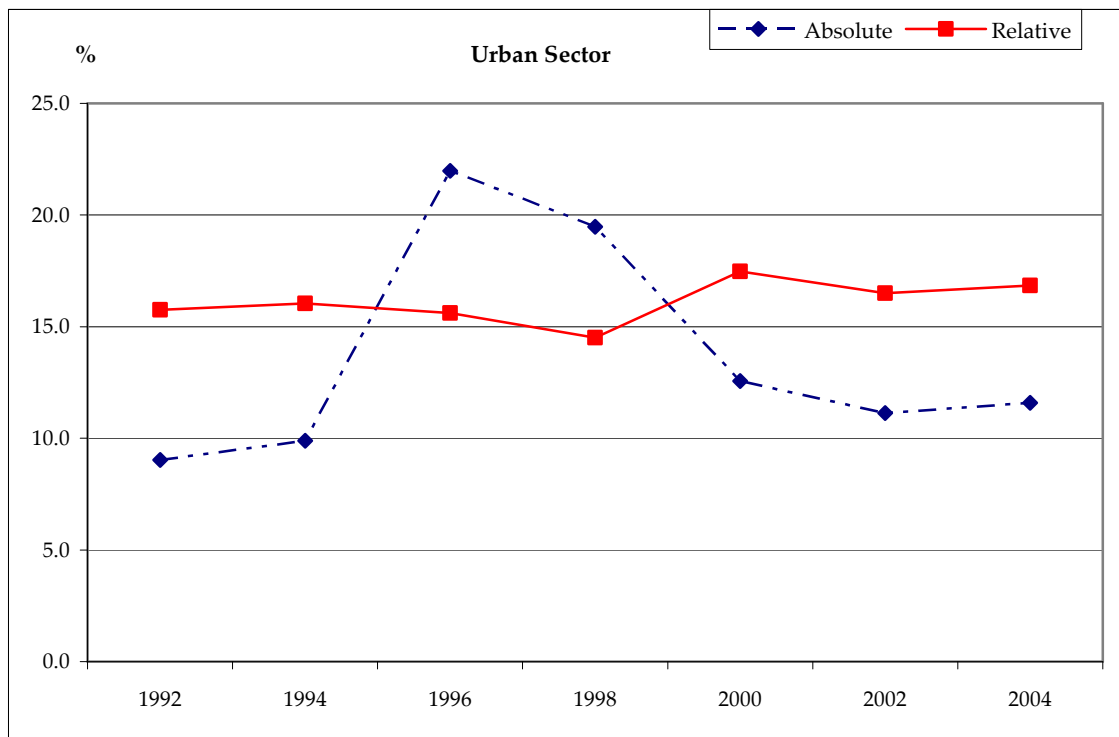


Figure 5. Incidence of Relative and Absolute Poverty In % In the Urban and the Rural Sector