Growth and Income Poverty in Latin America and the Caribbean:

Evidence from Household Surveys [*]

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Abstract

This paper provides evidence on growth and income poverty in Latin American and the Caribbean. Results are obtained by processing microdata from household surveys of 18 LAC countries covering the 1990s and early 2000s. Over this period the LAC economies have experienced very heterogeneous patterns of growth and poverty changes. Most countries in the region have had a rather meager performance in terms of poverty reduction. Episodes of positive, significant and unambiguously pro-poor income growth have been rare in Latin America in the last 15 years.

Keywords: poverty, growth, inequality, pro-poor growth, Latin America.

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1. Introduction

The performance of an economy is usually evaluated in terms of *mean* variables, like per capita GDP or disposable income. If per capita GDP increases - *i.e*. if "the economy grows"- then the performance of the economy is assessed to be positive. Although certainly relevant, this assessment is incomplete. A given increase in mean income can be the result of different combinations of individual income changes. These combinations leading to the same change in the mean are not indifferent from a welfare point of view, except if value judgments are utilitarist. An extreme case is that arising from Rawlsian value judgments: economic growth is welfare enhancing if and only if it increases the income of the most disadvantaged people in society. In fact, this proposition underlies poverty analysis, where attention is given to the performance of the poor, and the recent debate and literature on growth and poverty. Although there remains controversies on some issues, it seems that the international community has reached a consensus on the need for evaluating an economy not only in terms of mean income growth, but also in terms of the *distribution* of that growth, and in particular on the income changes of the poor.

The concern for pro-poor growth is in part the consequence of evidence showing that in some countries the fruits of economic growth were not equally shared by all the population, and, more worrisome, evidence that in some growth episodes the well-being of the poor actually decreased. The issue is equally relevant when an economy experiences negative growth. Are recessions particularly harsh for the poor? How do the different socioeconomic groups fare when the economy faces a crisis?

The empirical literature on growth and poverty has flourished since the late 1990s. Based on household survey data, several contributions have tried to elucidate whether economic growth tend to "lift all boats", in particular those of the poor.[1] This paper provides evidence on this issue for a large sample of Latin American and Caribbean countries. Most of the results are obtained by processing microdata from household surveys of 18 LAC countries covering the 1990s and early 2000s.

The rest of this paper is organized as follows. In Section 2 we briefly introduce the dataset and the main methodological issues involved in measuring growth and poverty. Section 3 starts with a basic question: have Latin American and the Caribbean countries grown in the last 15 years? In section 4 we study the distribution of growth rates across income strata by examining growth-incidence curves. Section 5 restricts the analysis to the lower tail of the income distribution. We compute measures of income poverty, and analyze whether growth has been associated to a reduction in the proportion of poor people in the population. Section 6 focuses not on the number of poor people, but on their incomes: has growth been associated to an increase in the incomes of the poor? We also study whether income growth has been higher or lower in poor strata compared to the rest of the population. The links between poverty, growth and inequality in the recent experiences of Latin American and Caribbean economies is examined in section 7 by means of

[1] Adelman and Morris (1973), Ahluwalia (1976) and Alhuwalia, Carter and Chenery (1979) are early contributions to this literature. The recent contributions include Ravallion and Chen (1997), Roemer and Gugerty (1997), Timmer (1997), Bruno *et al*. (1998), Gallup *et al*. (1999), Baulch and McCullock (2000), Dollar and Kraay (2000), Kakwani and Pernia (2000), Morley (2000), De Janvry and Sadoulet (2000), Foster and Székely (2001), Ravallion and Chen (2003), Kakwani et al. (2003), López and Servén (2004), Ravallion (2004) and Son (2004), among others. Several recent World Bank Poverty Assessments (e.g. Bolivia, Peru) include discussions and evidence on pro-poor growth at the country level.

decompositions. We also look ahead by illustrating different configurations of neutral growth rates and redistributive policies needed to achieve certain poverty reduction targets. Section 8 closes with some concluding remarks.

2. The data

Most of the statistics in this chapter are obtained by processing microdata from household surveys, and are part of the *Socioeconomic Database for Latin America and the Caribbean* (SEDLAC), jointly developed by CEDLAS at the Universidad Nacional de La Plata and the World Bank's LAC poverty group (LCSPP). The SEDLAC contains information on more than 100 household surveys in 21 LAC countries. In this chapter we restrict the sample to 57 household surveys carried out in 18 LAC countries during the 1990s and early 2000s (see Table 2.1). The sample includes data for Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay and Venezuela.

Household surveys are not uniform across LAC countries. The issue of comparability is of a great concern. We have made all possible efforts to make statistics comparable across countries and over time by using similar definitions of variables in each country/year, and by applying consistent methods of processing the data. However, perfect comparability is far from being assured. A trade-off between accuracy and coverage arises. The particular solution adopted contains an unavoidable degree of arbitrariness. We tried to be ambitious enough to include all countries in the analysis, and accurate enough so not to push the comparisons too much.

3. Growth: evidence on the mean

The region has had a positive but modest performance in terms of per capita GDP growth in the last one and a half decade. The unweighted average annual growth rate in the period 1990-2004 was 1.3% when GDP is measured in real local currency units (LCU), and 1.4% when GDP is measured in PPP US dollars (adjusted by the implicit price deflator of GDP in the United States). Most countries in the region managed to grow. However, per capita GDP growth rates were rather modest: only a few countries grew at more than 3% per year. Around half of the countries in the region had disappointing rates of less than 1%.

Growth was not uniform across regions and over time (see Table 3.1). After a bad performance during the 1980s ("the lost decade" in terms of growth), the LAC economies grew on average at an annual 1.8% in the early 1990s. Growth speed up in the mid 1990s fueled by favorable external conditions and market-oriented reforms: the mean growth rate was 2.1% in the period 1993-1997. Several South American economies had difficulties in the late 1990s, which dragged the LAC mean growth rate down to 1.5%, despite a positive performance in Central America and the Caribbean. The region suffered a period of slow growth and recessions in the early 2000s, with deep crisis in some countries. The mean growth rate was a negligible 0.1% in the period 2000-2004. Since around 2003 most countries have overcome the crisis and started to grow again at relatively high rates.

While South America grew only in the first half of the 1990s (although at high rates), Central America grew throughout the 1990s, and on average the Caribbean has grown during the whole period under analysis. Table 3.2 shows the annual growth rates for the countries included in this study. The unweighted average growth rate in the sample is

1.5% when measured in real LCU. In most cases the growth rates were meager, while two of them, Paraguay and Venezuela, suffered negative growth over the period.

Unfortunately, our micro survey data analysis does not cover exactly the period 1990-2004 in each country. That mismatch is driven mainly by the unavailability of reasonably comparable household surveys in both years. The second panel in Table 3.2 shows the annual per capita GDP growth rates for the periods to be analyzed with the available household surveys in each country. On average the growth rates are somewhat smaller, mainly because for some countries our sample starts in the late 1990s.

Column (vi) in Table 3.2 reports the annual growth rates in household per capita income recorded by national household surveys for the countries/years in our sample.[2] Growth in that variable does not coincide with per capita GDP growth from National Accounts. Of course, these are two different concepts and there are many reasons why they may differ in practice. The linear correlation coefficient between growth rates in household surveys and in per capita GDP is positive and significant. However, some of the differences seem very large. In five countries the sign of the growth rates are different. Since poverty figures are drawn from household surveys, recorded poverty trends may be different from what is expected from looking at per capita GDP figures. Given that, should we adjust incomes in household surveys to match national accounts? There are good arguments to avoid the adjusting, at least until differences in national accounts and household surveys are well-understood (Deaton, 2005). A careful study of the reasons behind the differences, and the biases arising from using alternative data sources would be extremely helpful, but it is beyond the scope of this paper.

4. Growth: evidence on its distribution

These curves introduced by Ravallion and Chen (2003) are simple and illustrative instruments to analyze growth rates along the income distribution. Specifically, they show the proportional income change at each percentile of the income distribution. They are frequently used to study the extent to which different segments of the population participate in the growth process (or suffer from a recession). The interpretation of such a simple instrument, however, should be made with cautious. There are multiple factors that affect income changes, and all are reflected at the same time in a growth-incidence curve. Some of them may have nothing to do with the “growth process”, and some may have complex interactions. Figures 4.1 show the growth-incidence curves for all the countries in our sample.[3] These curves are known to be very volatile at the extremes, especially in the bottom percentiles. For this reason we have computed confidence intervals, and deleted from the figures those points where estimates seem unreliable.[4] A disappointing result should be noticed from the outset: almost none of the LAC countries experienced sustainable strong growth along with significant equalizing distributional changes. In fact, Nicaragua is the only country where the growth-incidence curve lies above the horizontal axis and is decreasing on income, that is, economic changes have benefited all the population, and particularly the poor.

[2] In Chile incomes from household survey are adjusted to match some National Accounts figures. Unfortunately, for this study we could not completely undo these adjustments to make Chile comparable to the rest of the countries. Pizzolitto (2005) reports that growth and poverty patterns are robust to these adjustments.

[3] Growth-incidence curves for the income/consumption variable used for the estimation of poverty with national lines are available from the authors upon request.

[4] Growth-incidence curves with confidence intervals are available upon request.

The figures illustrate the heterogeneous growth patterns experienced by the LAC countries over the last 15 years. For instance, while Chile has experienced sustainable growth along the income distribution, in Argentina income changes have been negative and clearly unequalizing. Although to a lesser extent, that was also the pattern for Uruguay. In contrast, between 1990 and 2002 incomes in Brazil have increased a bit, in particular in the first half of the 1990s. The growth-incidence curve of Figure 4.1 suggests mild equalizing income changes in that country.

Figures 4.1 reflect the great variety of growth experiences in the region. It is possible to classify them into three groups:

1. A group of countries experienced positive income growth for all the population, including the poor: some Central American economies -Costa Rica, El Salvador, Nicaragua-, Chile, urban Bolivia, Brazil and Jamaica belong to this group.[5]
2. In some economies all the population suffered income losses, especially the poor. That was the case in Argentina, Uruguay and Venezuela since the early 1990s. Bolivia, Dominican Republic and Paraguay also experienced generalized income falls since the late 1990s.[6]
3. Mean household income did not significantly change in several countries of the region. In the absence of growth, the fate of the poor are closely associated to distributional movements. The poorest 20% of the population seemed to have gained in Peru (97-02). That also happened for the poorest 40% in Panama (95-02). In contrast, the poorest 20% lost in Ecuador (94-98) and Mexico (92-02), while the poorest 50% suffered income reductions in urban Colombia (92-04).

5. Growth and poverty I: the proportion of poor people

As an economy grows incomes go up, and then it is expected that some people are able to jump out of poverty. The relationship between economic growth and income poverty is, however, a subject of much debate. Is there really a negative correlation between these two phenomena? Even if there is, is the correlation strong? Are there many exceptions to the growth-poverty-reduction story? We start this section by showing poverty statistics, and then link them to the growth figures.

5.1. Poverty measurement

We restrict the analysis to income poverty. Poverty is defined as the inability of achieving a certain minimum income level, known as the poverty line (PL). Since there is a fundamental arbitrariness in defining poverty, different authors and agencies use different poverty lines. There is a wide range of poverty estimates across studies for each country. In this paper we compute a set of poverty estimates based on international poverty lines (USD 1 a day and USD 2 a day at PPP) and national poverty lines (extreme and moderate). Using a range of lines is especially relevant given the arbitrariness in the definition mentioned above.

[5] According to evidence from other sources that was likely also the case for Guatemala (e.g. ECLAC, 2004).

[6] However, there is evidence that these three countries have experienced growth and poverty reduction during the first half of the 1990s.

Both approaches on poverty (international and national) are useful. While the measurement of poverty with national lines takes into consideration that societies differ in the criteria used to identify the poor, the international lines are unavoidable instruments to compare absolute poverty levels and trends across countries, and provide regional and world poverty counts.

5.2. Poverty changes

Has poverty fallen in LAC countries during the last 15 years? The estimates in Table 5.1 suggest a remarkable heterogeneity. While some countries achieved significant poverty reductions (e.g. Brazil, Chile, El Salvador, Jamaica, Nicaragua), some others experienced large increases in the incidence of poverty (e.g. Argentina and Venezuela). Figure 5.1 illustrates these disparities by showing the change in the poverty headcount ratio (USD-2-a-day poverty line) between the early 1990s and the estimated value for 2004.[7]

On average, the Latin American performance in terms of poverty reduction over the last 15 years has been rather disappointing (see table 5.2). The population-weighted mean of the poverty headcount ratio has dropped 1.2 points when using the USD2-a-day line. The falls in the unweighted means have been larger, but still meager: just less than 2 points. Poverty moderately fell over the 1990s and increased in the early 2000s. As the population has been growing, and the incidence of poverty did not significantly decay, the number of poor people in the region has increased. While in the early 1990s around 106 millions Latin-Americans lived with less then USD2 a day, that number grew to 124 millions in the early 2000s.

The recent recovery of the LAC economies is helping reducing poverty in most countries, but even in that scenario the overall assessment of the last two decades would not be positive. Figure 5.2 shows a small drop in the LAC mean poverty headcount ratio between the early 1990s and 2004, and an increase in the number of poor people (from 106.1 to 123.7 millions in 2004).

There are substantial differences across regions in poverty reduction. The unweighted poverty mean clearly went down in Central America. In contrast, the performance in South America has been very weak, while poverty levels went up in the Andean community. The population-weighted results are somewhat different. As poverty decreased in the most-populated country of the region, Brazil, the poverty weighted-mean in the Mercosur went significantly down. In contrast, as poverty in Mexico stayed unchanged, the poverty record in Central America appears less impressive when taking weighted means.

A few countries have made continuous progress in terms of poverty reduction since the early 1990s. That seems to be the case of some Central American countries: El Salvador, Nicaragua, Guatemala, and probably Jamaica and Panama. Instead, the majority of LAC countries made some significant progress in the early and mid 1990s but could not sustain that pattern since then. In some few cases they managed to keep poverty roughly unchanged since the mid 1990s (Brazil, Chile, Costa Rica, and Bolivia according to some estimates), but in most of them poverty went substantially up (Colombia, Dominican Republic, Ecuador, Paraguay and Uruguay). Honduras and Peru have not enjoyed any episode of consistent poverty reduction, while Argentina and Venezuela have experienced large poverty increases throughout the last decade and a half.

[7] Year 2004 poverty figures are estimated by combining per capita GDP growth rates with poverty-growth elasticities (see below). The same procedure is applied when we do not have estimates (own or from other sources) for the early 1990s for a particular country.

5.3. Growth and poverty

It is said that growth is a fundamental ingredient in the recipe for poverty reduction. In this section we examine whether growth in the mean income is in fact associated to a reduction in the proportion of people below the poverty line, and how strong this link seems to be.

The first panel in Figure 5.3 suggests a strong relationship between per capita GDP and poverty levels. The linear correlation coefficient is high (0.84): countries that have grown in the past are those with the lower proportion of poor people. As expected, poor countries, in the sense of low per capita GDP, are also countries with a large proportion of poor people. The position of the country in the poverty ladder (according to our estimates) is very similar to the position in the GDP ranking. Naturally, the association poverty – mean per capita income from household surveys is even stronger (see second panel of Figure 5.3). The linear correlation coefficient is 0.93.

The strong empirical relationship shown above could be the result of a tight association between economic development and poverty reduction that occurred in the past, but that no longer exists. In fact, some people argue that the new growth patterns in the globalization era are leaving the poor behind, and that aggregate economic growth is no longer closely linked to poverty reduction. Figure 5.4, however, suggests that there has been a significant relationship between economic growth (in National Accounts) and poverty reduction.[8] Notice, however, that those economies that have been stagnant or growing at very low rates (in terms of per capita GDP) have experienced poverty increases: the linear regression line lies above the origin. On average only economies that have grown at more than annual 1% have been able to reduce poverty. The relationship growth-poverty reduction is stronger when considering the annual growth rates in incomes from household surveys: the correlation coefficient is 0.87 in both panels of Figure 5.5.

On average those countries with growth rates higher than annual 1% achieved significant poverty reductions, while those with meager or negative growth suffered poverty increases. In those countries where poverty (measured with the USD2 line) fell more than ½ point per year, the annual growth rate was 1.7% in per capita GDP and 2.8% in per capita income from surveys, while in those countries where poverty increased, the average growth rate was around zero in per capita GDP, and substantially negative in income from household surveys (-2.3%).

The evidence suggests that there exists a close relationship between aggregate economic growth and poverty reduction, in the sense of a decrease in the proportion of people below a poverty line. However, it is important to stress that these simple correlations do not prove any causal relationship. That economic growth is empirically associated to a reduction in poverty does not mean that anything that makes mean income go up will make poverty go down. It also say nothing about the need for policy interventions and the appropriate policy instruments. However, the correlations shown suggest the relevant role that growth should have in any poverty-reduction strategy.

5.4. Poverty-growth elasticities

How strong is the link between growth and poverty reduction? Even if the relationship between these variables is statistically significant, it could be the case that fast growth is associated to a small poverty drop. Table 5.3 reports the annual proportional change in

[8] The linear correlation is 0.62 in panel A and 0.68 in panel B.

poverty and the income growth rate in each period, and the resulting poverty-growth elasticities. Although sometimes illustrative, these elasticities are highly sensitive to the specific location of the poverty line in the income distribution, and to the growth rate. In one extreme if the growth rate is zero, any change in poverty would imply infinite poverty-growth elasticity. For this reason in Table 5.3 we delete the elasticities when the growth rate is less than 1%.

In most countries episodes of economic growth are associated to growing disposable income and falling poverty, implying negative poverty-growth elasticities. The magnitude of these elasticities varies as we consider incomes from surveys or GDP from national accounts, and alternative poverty lines. On average, the elasticity is around -1.4 when considering international poverty lines and income growth from household surveys, and -1.7 when using GDP growth from national accounts. The results obtained from a cross-country regression are similar (Table 5.4). The results are just illustrative since we have only 30 observations. The estimated poverty-growth elasticities are around -1.6. The interactions of the growth rate with the distance between the poverty line and the mode of the income distribution, and with the change in the Gini coefficient do not appear to be statistically significant.

In summary, there is some evidence that in the past 15 years in Latin America on average a 10 percentage point increase in economic growth (measured by either survey mean income or per capita GDP) have been associated to a fall of more than 10% but less than 20% in the proportion of poor people in the population.

6. Growth and poverty II: the real and relative incomes of the poor

Frequently, the discussion about growth and poverty deals not with the change in the number of poor people, but with the income changes experienced by the poor. In this section we start by examining changes in real incomes of the poor population, and then turn to relative incomes.

6.1. The real incomes of the poor

According to one well-know definition growth is said to be "pro-poor" if and only if poor people benefit in real terms (Ravallion and Chen, 2003; Ravallion, 2004). The growth-incidence curves computed in section 4 are useful instruments to assess changes in the real incomes of the poor. The fact that the curve is above the zero axis at all points up to the headcount ratio *H* means that real income has increased for all the poor population.[9] Define α to be a weighted sum of the individual income growth rates g_i, i.e. $\alpha=\sum_i \sigma_i g_i$, where σ_i are the weights, which are non-increasing in individual income x_i. In a typical poverty analysis the social weights of the non-poor are zero, *i.e.* $\sigma_i=0$ if $x_i \geq z$, where z is the poverty line. In this context growth is said to be pro-poor if $\alpha>0$. In particular, if σ_i is the same for all the poor people an equal to $1/NH$, where N stands for total population, then α is just the average of the growth rates of the poor. Ravallion and Chen (2003) argue for the use of this average as a measure of pro-poor growth. They show that this indicator is equal to the change in the Watts poverty index per unit time divided by the headcount index.

[9] It can be shown that it also means that poverty has fallen for a broad class of poverty measures (Atkinson, 1987).

The Ravallion and Chen's measure of pro-poor growth is computed in Table 6.1 for all the countries in our sample. In most cases we present the results for four alternatives poverty lines. In columns (iii) and (iv) we compute the mean growth rate of household per capita income for those below the USD1 and USD2 lines, respectively. In columns (v) and (vi) we compute the mean growth rate in the income (or consumption) variable used for poverty estimates with the national lines, for those below the extreme and moderate lines. In all cases we compute growth rates for those percentiles below *H* in the *initial* period.

The table reads as follows. Between 1992 and 2004 mean income in the Argentina's Encuesta Permanente de Hogares decreased at an annual 2.9%. The fall in per capita income for the poor was much harsher: around an annual 7.9% for the USD 2 a day definition. Real incomes for the most disadvantaged fraction of the Argentine population have decreased at a fast rate.

Pro-poor growth rates have been positive in urban Bolivia, Brazil, Chile, Costa Rica, El Salvador, Jamaica, Panama, and Nicaragua and negative in Argentina, Colombia, Mexico, Uruguay and Venezuela. Dominican Republic, Ecuador, Honduras and Paraguay also experienced negative pro-poor growth rates since mid 1990s.

6.2. The relative incomes of the poor

It is argued that the concept of "pro-poor growth" should make reference to situations where growth is associated to a proportionally larger income increase for the poor than for the rest of the population. According to this view growth is "pro-poor" if poverty falls more than it would have if all incomes had grown at the same rate (Baulch and McCullock (2000), Kakwani and Pernia (2000); Kakwani et al. (2003), Son (2004)).

Perhaps surprisingly, the term *progressivity*, extensively used in tax and benefit-incidence analysis, has been rarely used in this literature. A social program is said to be progressive if the benefits as a share of income are a decreasing function of income. In the same way, growth can be defined as progressive if the change in income as a share of initial income (*i.e*. the growth rate) is a decreasing function of income. Define β as a weighted sum of the difference between the individual income growth rate g_i and the growth rate of the mean g_μ., i.e. $\beta=\sum_i \sigma_i(g_i-g_\mu)$. Growth is said to be progressive if $\beta>0$. In the case where $\sigma_i=0$ if $x_i \geq z$, and $\sigma_i=1/NH$ if $x_i<z$, then β is just the difference between the average of the growth rates of the poor and the growth rate of the mean. Table 6.2 computes this measure of progressive growth for four alternative poverty estimates. The experiences have been heterogeneous across countries. Only four countries have significant progressive growth rates. In the case of Dominican Republic and Paraguay that reflects the fact that the poor suffered less (in terms of income changes) than the non-poor in the recent economic contractions. In Panama and despite a stagnant mean income, the incomes of the poor have increased. Finally, Nicaragua is the only country that exhibits growth rates that are significant, positive and progressive.[10] Only that country is well into the area of economies with positive and progressive growth rates. Argentina stands out in the "negative" area of economies with regressive negative growth.

In summary, episodes where income growth was positive, significant and unambiguously pro-poor (in absolute and relative terms) have been rare in Latin America in the last 15 years. In contrast, the region has some cases of significant negative growth that strongly

[10] However, notice that the assessment is not that good when taking consumption as the welfare indicator, that is, the variable that is used in Nicaragua to compute poverty with national lines.

hit the poor: Argentina and Venezuela for the last decade, and several countries since the late 1990s fit into this category.

7. Poverty, growth and inequality: assessing the past and looking to the future

Driven by a multiplicity of factors individual real incomes change in a given period. These changes usually modify different dimensions of the income distribution, like the mean, the degree of dispersion, and the mass below certain cut-off points. In this sense growth, (associated to the change in the mean of the income distribution), changes in inequality (associated to changes in the income dispersion), and changes in poverty (associated to changes in the lower tail of the distribution) are all particular manifestations of the change in the whole income distribution. Growth, inequality and poverty are "endogenous variables", and then it is not valid, for instance, to think changes in poverty as *caused* by growth and changes in inequality.

Being said that, researchers have found useful to decompose the change in the whole income distribution into two steps: changes in its central position (growth) and changes in its dispersion (inequality). Each of these steps in turn implies changes in the lower tail of the distribution (poverty). In that analysis, then, changes in poverty are presented as the result of growth and changes in inequality. Growth rates were analyzed in the previous sections. In this section we first take a look at inequality changes and then discuss the decomposition of poverty changes into growth and redistribution effects.

7.1. Inequality changes

The measurement of inequality faces many conceptual and practical issues that are treated in a vast literature.[11] In Table 7.1 we show some of the most widespread inequality indicators computed over the distribution of household per capita income.[12] Although the inequality ranking of countries varies as we consider different indices, the linear correlations among indices are high. Argentina, Costa Rica, Dominican Republic, Uruguay and Venezuela consistently rank as the most equal economies in the region, while Bolivia, Brazil, Ecuador, Panama and Paraguay occupy the last positions in the inequality ladder.

The assessment of the *changes* in inequality become more dependent on the index used.[13] The correlations are still positive and significant but smaller in size. Argentina and Colombia stand out as the countries that experienced the largest increases in inequality. Bolivia, Costa Rica, Ecuador, Uruguay and Venezuela have also witnessed unequalizing distributional changes.

Inequality changes do not seem to be associated to growth patterns. The linear correlations between changes in a given inequality index and income growth rates are always non- significant, regardless of the inequality index and the income variable (either

[11] For conceptual issues see Deaton (1997), Cowell (2000) and Lambert (1993). For practical issues in Latin America see Székely and Hilgert (2000), Gasparini (2004) and the 2003 LAC World Bank Flagship Report. See also the recent World Development Report (2005).

[12] See the SEDLAC web page for inequality estimates using other income variables and other indicators, and confidence intervals for the main indices.

[13] In contrast, the assessment does not depend on the income variable used. For instance, the correlation coefficients of the changes in inequality over the distribution of per capita income and household income adjusted for adult equivalent scales are around 0.99.

from surveys or National Accounts). For instance, the correlation between the changes in the Gini for the distribution of household per capita income, and growth rates in that variable is just -0.02.

7.2. Exploring the changes in poverty

As said above, changes in poverty can be statistically decomposed into a growth and a redistribution effect. In particular, we simulate the poverty change that would have occurred in a given period, had the mean income changed, but the shape of the distribution stayed fixed. In this simulation poverty changes as the "result" of changes in mean income, while inequality remains unchanged. This is the *growth effect* on poverty changes. The *redistribution effect* records the change in poverty that would have occurred if the shape of the distribution had changed in the way it did, but the mean had remained fixed.[14]

Table 7.2 shows the results of decomposing poverty changes for each country in our dataset. Poverty as measured by the USD2 line increased 11.9 points in Argentina between 1992 and 2004. If all incomes had changed (decreased in the Argentine case) at the same rate as the mean did, then the poverty headcount ratio would have increased 4.3 points. The remaining 7.6 points poverty increase was driven by changes in the shape of the income distribution, which in the Argentine case were unequalizing. Notice that while the redistribution effect accounts for most of the poverty change when using the international and the national extreme lines, the growth effect becomes prominent when using the national moderate poverty line. This observation is mainly driven by the fact that the national moderate poverty line is close to the mode of the income distribution in Argentina.

Most of the successful stories of poverty reduction (using the USD 2 line) were driven by generalized growth: Bolivia (92-03), Chile (90-03), Costa Rica (92-03), El Salvador (91-03), Jamaica (90-02), and Nicaragua (93-01). Only in Brazil (90-03) and Panama (95-02) the redistribution effect was larger than the growth effect. Brazil and El Salvador are the only cases for which both the growth and the redistribution effect were significantly poverty-reducing for all poverty lines.

Unequalizing distributional changes are behind the increase in poverty in Argentina (92-04), Colombia (92-00), and Ecuador (94-98). In contrast, the raise in poverty is mainly or totally associated to a generalized income drop in Dominican Republic (00-04), Paraguay (97-02), Uruguay (89-03) and Venezuela (89-00). Argentina is the only country for which both the growth and the redistribution effect were significantly poverty-increasing for all poverty lines considered.

7.3. Looking to the future: isopoverty curves

The reduction of poverty is one of the main goals of national societies and international organizations. The roads leading to that goal are subject of great debate. In this section we simplify the issue by thinking poverty reduction as the result of either neutral per capita income growth, or redistributive policies, or a combination of both. Of course reality is much more complex: there might be no policy instrument that increase productivity proportionally for all the population, while redistributive policies may take a significant toll on efficiency, and hence on incomes. However, it is still illustrative to know what is the

[14] See Mahmoudi (1998). Datt and Ravallion (1992) introduced the poverty change decomposition using parametric representations of the income distribution.

effort in terms of neutral economic growth and simple non-distortionary redistributive policies to attain a certain poverty target. This information is useful at least to have an idea of the "distance" of the country from the poverty target in terms of growth and redistribution.

Specifically, in this section we compute isopoverty curves, that is, combinations of neutral growth rates and simple redistributive policies that are capable of attaining a given poverty objective.[15] The starting point in each country is the latest income distribution available. We model growth by multiplying household income by a constant, thus assuming neutral growth. This exercise tell us at what rate the economy should grow, with unchanged Lorenz curve, to meet a given poverty target.

We also model two alternative distributive policies. In the first one we tax all income at the same rate and allocate the revenues in equal amounts per capita.[16] It can be shown that the fall in the Gini coefficient after this exercise is similar to the tax rate *t*. This simple redistributive policy, although not targeted to the poor, is not far from the actual fiscal system of several countries, where taxes are approximately proportional and public expenditures per capita do not substantially vary with income.

The second redistributive policy minimizes the fiscal cost of a given poverty reduction, as measured by the headcount ratio. In addition, uniform taxes (at a rate *t*) are only paid by the non-poor. This second policy is a lower bound in terms of fiscal cost of reducing the headcount ratio, since only the poor who are closer to the poverty line receive the transfer (*i.e*. those that need a smaller transfer to escape out of poverty), and they receive only the minimum amount needed to reach the poverty line. Although this policy would be probably undesirable (as the very poorest do not receive transfers), and difficult to implement (as it is perfectly targeted, with transfers depending on income), it is theoretically interesting as a lower bound for the fiscal effort to meet the poverty goal.[17] In both redistributive policies we assume no efficiency costs (or gains).

For each LAC country in our sample we compute isopoverty curves using four alternative poverty lines (figure 7.2). In each case we estimate three curves, corresponding to the goals of reducing poverty 25%, 50% and 75% from current levels in ten years. For instance, based on the 2003 figures Costa Rica will have to grow at an annual rate of more than 2% for the next decade to reduce poverty in 25%, assuming no changes in inequality. The corresponding growth rates for the target of reducing poverty in 50% are between 4.9% and 8.7%, depending on the poverty line chosen. Halving poverty through a simple redistributive linear policy demands an incremental rate of 5.1% if poverty is measured as USD1 a day, a rate of 8.5% if poverty is measured as USD 2 day or with the extreme national line, and of 17% if moderate poverty wants to be halved. Obviously, the possibility of combining the two policies reduces the growth and tax rates needed to reach a given poverty target. However, notice that the values involved are still significant. If Costa Rica grows at an annual 3% for the next decade with no distributional changes, it will still need to implement a redistributive policy with a 3.4% incremental tax rate to be able to halve poverty, as measured with the USD 2 line. If Costa Rica were able to implement a perfectly targeted system of transfers, the fiscal effort to halve poverty would be small (incremental rate of around 0.2%).

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[15] See Gasparini and Cicowiez (2005) for specific details on the computation of these curves.

[16] See Paes de Barros (2003) and Ferreira and Leite (2003).

[17] The transfers that maximize the poverty impact have a particular feature: they do not reach the very poorest. This bothering feature is driven by the use of the headcount ratio as poverty index.

The impact of a neutral growth rate on the *proportional* change in poverty depends on the shape of the income distribution below the poverty line. If the proportion of people "close" to the line is large compared to the all the people below the line, then neutral growth will take a large proportion of people out of poverty. While 20% of the Uruguayans below the USD 2 poverty line have incomes that are just less than 10% lower than the line, the corresponding proportion in Paraguay is 7%. The first panel in Figure 7.3 shows that Uruguay would need to growth at much smaller rates than Paraguay to halve poverty in 10 years. The linear correlation (across countries) between the fraction of the poor people who are close to the line and the size of the growth effect is negative and large (-0.85).

The size of the redistribution policy needed to achieve a given poverty-reduction target is larger for the poorest countries (in terms of mean income from household surveys at USD PPP). Poorer countries have lower mean income - and hence lower revenues from a given tax rate -, and higher poverty – and hence need a greater effort to halve poverty. The second panel in Figure 7.3 ranks the countries in our dataset by the incremental tax rate needed to halve poverty in 10 years with no growth. The linear correlation coefficient between this rate and mean income at USD PPP is negative and large (-0.90). Figure 7.4 illustrates the incremental tax rate needed to halve poverty if the economies managed to grow at a neutral annual 3% rate for 10 years. The size of the redistribution involved are in many cases large.

8. Concluding remarks

In this paper we have provided evidence on the association between growth and poverty reduction in Latin America and the Caribbean. Results are obtained by processing microdata from household surveys of 18 LAC countries covering the 1990s and early 2000s. We choose to highlight just some few general results in this final section.

The evidence in LAC suggests a strong correlation between economic growth and income poverty reduction. Although this simple correlation does not prove any causal relationship, it suggest the relevant role that growth should have in any poverty-reduction strategy.

On average, poverty has just slightly fallen in Latin America and the Caribbean since the early 1990s. This frustrating pattern is associated to slow growth (especially when measured with household survey data) and increase in inequality. Almost none of the LAC countries experienced sustainable strong growth along with significant equalizing distributional changes in the last decade and a half.

The LAC average is not a good representation of the country performances. The evidence suggests a remarkable heterogeneity of growth and poverty reduction patterns. Poverty has been consistently reduced in urban Bolivia, Brazil, Chile, Costa Rica, El Salvador, Jamaica, Panama, and Nicaragua. In contrast, the region exhibits some cases of significant negative growth that strongly hit the poor: Argentina, and Venezuela over the whole period under analysis, and several countries since the late 1990s fit into this category. This heterogeneity of experiences should be taken advantage to increase our understanding of the determinants of successful poverty reduction episodes, and in particular the role played by economic growth.

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Table 2.1
Household surveys in LAC
Main characteristics

Country	Name	Acronym	Year	Field work	Coverage	Households	Individuals
Argentina	Encuesta Permanente de Hogares	EPH	1992	October	Urban	17,981	67,775
	Encuesta Permanente de Hogares	EPH	1998	October	Urban	26,810	99,174
	Encuesta Permanente de Hogares	EPH	2002	October	Urban	21,148	77,733
	Encuesta Permanente de Hogares-Continua	EPH-C	2004	First semester	Urban	26,147	93,214
Bolivia	Encuesta Integrada de Hogares	EIH	1993	November	Urban	4,297	20,160
	Encuesta Nacional de Empleo	ENE	1997	November	National	8,462	36,752
	Encuesta Mejoramiento de Condicidones de Vida	Mecovi	2002	Nov/Dic	National	5,746	24,933
Brazil	Pesquisa Nacional por Amostra de Domicilios	PNAD	1990	September	National	78,512	305,967
	Pesquisa Nacional por Amostra de Domicilios	PNAD	1995	September	National	92,198	334,263
	Pesquisa Nacional por Amostra de Domicilios	PNAD	1999	September	National	102,005	352,393
	Pesquisa Nacional por Amostra de Domicilios	PNAD	2003	September	National	117,008	384,825
Chile	Encuesta de Caracterización Socioeconómica Nacional	CASEN	1990	November	National	25,793	105,189
	Encuesta de Caracterización Socioeconómica Nacional	CASEN	1996	November	National	33,636	134,262
	Encuesta de Caracterización Socioeconómica Nacional	CASEN	2003	November	National	68,153	257,077
Colombia	Encuesta Nacional de Hogares - Fuerza de Trabajo	ENH-FT	1992	September	Urban	15,626	69,683
	Encuesta Nacional de Hogares - Fuerza de Trabajo	ENH-FT	2000	September	National *	17,339	72,240
	Encuesta Continua de Hogares	ECH	2000	III quarter	National *	27,135	113,231
	Encuesta Continua de Hogares	ECH	2004	III quarter	National *	11,373	45,841
Costa Rica	Encuesta de Hogares de Propósitos Múltiples	EHPM	1992	July	National	8,479	37,251
	Encuesta de Hogares de Propósitos Múltiples	EHPM	1997	July	National	9,923	41,277
	Encuesta de Hogares de Propósitos Múltiples	EHPM	2001	July	National	10,332	41,841
	Encuesta de Hogares de Propósitos Múltiples	EHPM	2003	July	National	11,150	43,645
Dominican R.	Encuesta Nacional de Fuerza de Trabajo	ENFT	1997	April	National	3,757	15,754
	Encuesta Nacional de Fuerza de Trabajo	ENFT	2000	October	National	5,696	22,465
	Encuesta Nacional de Fuerza de Trabajo	ENFT	2003	October	National	7,904	29,771
	Encuesta Nacional de Fuerza de Trabajo	ENFT	2004	October	National	7,698	29,289
Ecuador	Encuesta de Condiciones de Vida	ECV	1994	Jun/Oct	National	4,391	20,731
	Encuesta de Condiciones de Vida	ECV	1998	Feb/May	National	5,801	26,129
	Encuesta de Empleo, Desempleo y Subempleo	ENEMDU	2003	December	National	18,959	82,317
El Salvador	Encuesta de Hogares de Propósitos Múltiples	EHPM	1991	Oct 91-Apr 92	National	18,955	90,624
	Encuesta de Hogares de Propósitos Múltiples	EHPM	2003	Jan-Dec	National	16,808	71,683
Honduras	Encuesta Permanente de Hogares de Propósitos Múltiples	EPHPM	1997	September	National	6,355	32,526
	Encuesta Permanente de Hogares de Propósitos Múltiples	EPHPM	2003	September	National	8,053	40,984
Jamaica	Jamaica Survey of Living Conditions	JSLC	1990	November	National	1,758	6,836
	Jamaica Survey of Living Conditions	JSLC	1999	June	National	1,773	6,140
	Jamaica Survey of Living Conditions	JSLC	2002	June	National	5,092	17,535
México	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	1992	September/ October	National	10,530	50,862
	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	1996	September/ October	National	14,042	64,916
	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	2000	September/ October	National	10,108	42,535
	Encuesta Nacional de Ingresos y Gastos de los Hogares	ENIGH	2002	September/ October	National	17,167	72,602
Nicaragua	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida	EMNV	1993	February/June	National	4,454	25,162
	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida	EMNV	1998	April/August	National	4,040	22,423
	Encuesta Nacional de Hogares sobre Medición de Nivel de Vida	EMNV	2001	April/July	National	4,191	22,810
Panama	Encuesta de Hogares	EH	1995	August	National	9,875	40,320
	Encuesta de Hogares	EH	2002	August	National	13,308	54,500
Paraguay	Encuesta Integrada de Hogares	EIH	1997	Aug 97-Jul 98	National	4,353	20,664
	Encuesta Permanente de Hogares	EPH	2002	Nov-Dec	National	3,789	17,600
Peru	Encuesta Nacional de Hogares	ENAHO	1997	IV quarter	National	6,487	31,280
	Encuesta Nacional de Hogares	ENAHO	2002	IV quarter	National	18,598	83,807
Uruguay	Encuesta Continua de Hogares	ECH	1989	Second semester	Urban	9,482	31,766
	Encuesta Continua de Hogares	ECH	1998	Year	Urban	17,656	56,854
	Encuesta Continua de Hogares	ECH	2001	Year	Urban	18,473	57,394
	Encuesta Continua de Hogares	ECH	2003	Year	Urban	18,338	55,369
Venezuela	Encuesta de Hogares Por Muestreo	EHM	1989	Second semester	National	43,543	225,286
	Encuesta de Hogares Por Muestreo	EHM	1995	Second semester	National	18,702	92,450
	Encuesta de Hogares Por Muestreo	EHM	2000	Second semester	National	16,809	80,417
	Encuesta de Hogares Por Muestreo	EHM	2003	Second semester	National	46,287	204,647

Source: SEDLAC (2005).
* Although the survey is national, in this study we work only with the urban observations.

Table 3.1
Annual growth rates, 1990-2004
Per capita GDP

Constant LCU

	90-93	93-97	97-00	00-04	90-04
South America	2.8	2.7	-1.1	-0.8	0.9
Central America	1.9	1.6	2.4	0.0	1.4
The Caribbean	1.1	1.9	2.8	0.8	1.6
LAC	1.8	2.1	1.5	0.1	1.3

PPP

	90-93	93-97	97-00	00-04	90-04
South America	2.7	2.7	-1.1	0.2	1.1
Central America	1.2	1.5	2.4	0.4	1.3
The Caribbean	1.1	1.9	2.8	1.0	1.7
LAC	1.6	2.1	1.5	0.7	1.4

Source: WDI and IMF, World Economic Outlook Database.

Table 3.2
Annual growth rates
Per capita GDP and per capita income from household surveys

	Growth rate p/c GDP 1990-2004		Period in survey dataset	Growth rate p/c GDP period column (iii)		Growth rate p/c income survey
	Real LCU	PPP		Real LCU	PPP	
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
Argentina	1.8	1.7	1992-2004	0.6	0.5	-2.9
Bolivia	1.2	1.2	1993-2002	1.0	1.0	3.0
Brazil	1.4	1.3	1990-2003	1.2	1.1	0.5
Chile	4.1	4.1	1990-2003	4.1	4.1	3.3
Colombia	0.9	0.8	1992-2004	0.8	0.8	1.2
Costa Rica	2.2	2.1	1992-2003	2.2	2.2	3.9
Dominican Republic	3.2	3.1	2000-2004	0.6	0.2	-9.5
Ecuador	2.8	0.7	1994-1998	0.5	0.5	2.0
El Salvador	1.9	1.0	1991-2003	1.4	1.4	1.8
Honduras	0.5	0.4	1997-2003	-0.1	-0.1	-0.6
Jamaica	0.0	-0.1	1990-2002	-0.2	-0.3	4.7
Mexico	1.3	1.3	1992-2002	1.1	1.1	-0.9
Nicaragua	0.5	0.5	1993-2001	2.3	2.3	3.4
Panama	3.1	3.1	1995-2002	2.9	2.9	0.4
Paraguay	-0.8	-0.8	1997-2002	-2.4	-2.4	-8.8
Peru	2.2	2.0	1997-2002	-0.1	-0.1	-0.1
Uruguay	1.4	1.3	1989-2003	0.6	0.6	-1.4
Venezuela	-0.4	-0.7	1989-2003	-1.2	-1.2	-3.7
Average	1.5	1.3		0.9	0.8	-0.2

Source: Own calculations based on household surveys and WDI and IMF, World Economic Outlook Database.

Table 5.1
Poverty headcount ratios, levels and change
USD-2-a-day and national moderate poverty lines

		USD 2 a day poverty line			National moderate poverty lines		
	Period	Year t1	Year t2	Change	Year t1	Year t2	Change
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)
Argentina	1992-2004	4.2	15.6	11.4	19.7	44.3	24.6
Bolivia -urban	1993-2002	33.6	24.6	-9.0	60.4	50.6	-9.7
Bolivia -national	1997-2002	36.2	43.1	6.9			
Brazil	1990-2003	28.8	20.2	-8.6	40.1	33.0	-7.1
Chile	1990-2003	14.4	5.1	-9.3	38.6	19.0	-19.6
Colombia (*)	1992-2000	9.1	16.7	7.6	53.8	59.8	6.0
Colombia (*)	2000-2004	17.5	21.7	4.2	59.8	56.8	-3.0
Costa Rica	1992-2003	12.8	8.8	-4.1	33.2	21.4	-11.8
Dominican R.	2000-2004	8.8	16.4	7.6	20.6	34.6	14.0
Ecuador	1994-1998	36.2	39.2	3.0	19.0	29.5	10.5
El Salvador	1991-2003	49.7	39.1	-10.6	65.7	42.9	-22.8
Honduras	1997-2003	32.6	36.2	3.6	72.3	71.4	-0.9
Jamaica	1990-2002	59.0	44.1	-14.8	29.2	23.3	-5.9
Mexico	1992-2002	26.8	28.0	1.1	52.6	51.7	-0.9
Nicaragua	1993-2001	61.6	48.4	-13.3	50.5	45.8	-4.7
Panama	1995-2002	20.5	17.7	-2.9	37.8	36.7	-1.1
Paraguay	1997-2002	29.4	39.3	9.9	34.8	46.4	11.5
Peru	1997-2002	32.2	32.0	-0.1	42.6	54.2	11.6
Uruguay	1989-2003	3.2	5.0	1.8	28.3	31.4	3.0
Venezuela	1989-2000	18.5	30.8	12.3	36.1	47.3	11.2

(*) In Colombia estimates in columns (ii) to (iv) are only for urban areas .

Source: Own calculations based on household surveys.
Note: Year t1 refers to the first year in column (i) Year t2 refers to the last year in column (i)

Table 5.2
Poverty in Latin America
Headcount ratio and number of poor people
USD-2-a-day poverty line

	Early 1990s	Early 2000s	Last survey	Change
	(i)	(ii)	(iii)	(iii) -(i)
A. Mercosur				
Poverty (weighted) (%)	23.6	19.0	18.8	-4.9
Poverty (unweighted) (%)	18.1	16.2	17.1	-1.1
Population (million)	204.4	244.4	246.4	42.1
Number of poor (million)	48.3	46.5	46.2	-2.1
B. Andean community				
Poverty (weighted) (%)	24.8	34.9	31.4	6.6
Poverty (unweighted) (%)	30.6	37.2	34.0	3.4
Population (million)	94.4	118.3	118.0	23.6
Number of poor (million)	23.4	41.3	37.1	13.7
C. Central America				
Poverty (weighted) (%)	30.5	29.2	29.2	-1.3
Poverty (unweighted) (%)	36.5	30.0	30.1	-6.4
Population (million)	112.7	140.4	139.6	26.8
Number of poor (million)	34.4	41.0	40.8	6.4
Latin America (A+B+C)				
Poverty (weighted) (%)	25.8	25.6	24.6	-1.2
Poverty (unweighted) (%)	29.3	28.1	27.4	-1.9
Population (million)	411.5	503.1	504.0	92.6
Number of poor (million)	106.1	128.8	124.1	18.0

Source: Own calculations based on household surveys.

Table 5.3
Poverty-growth elasticities

		Annual change in poverty (%)				Income growth rate			Poverty-growth elasticity							
		International lines		National lines					USD 1		USD 2		Extreme		Moderate	
		USD 1	USD 2	Extreme	Moderate	p/c income	national	p/c GDP	income	GDP	income	GDP	income	GDP	income	GDP
		(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)	(xi)	(xii)	(xiii)	(xiv)	(xv)
Argentina	1992-2004	12.2	11.5	13.2	7.0	-2.9	-3.1	0.6	-4.3		-4.0		-4.3		-2.3	
Bolivia (urb.)	1993-2002	-4.1	-3.4	-2.8	-1.9	3.0	2.4	1.0	-1.4	-4.0	-1.1	-3.3	-1.2	-2.8	-0.8	-1.9
Brazil	1990-2003	-2.8	-2.7	-2.1	-1.5	0.5	0.7	1.2		-2.3		-2.2		-1.8		-1.2
Chile	1990-2003	-6.4	-7.6	-7.3	-5.3	3.3	3.3	4.1	-1.9	-1.6	-2.3	-1.9	-2.2	-1.8	-1.6	-1.3
Costa Rica	1992-2003	-2.6	-3.4	-4.2	-3.9	3.9	4.1	2.2	-0.7	-1.2	-0.9	-1.5	-1.0	-1.8	-1.0	-1.7
Dominican R.	2000-2004	14.6	16.9	14.0	13.9	-9.5	-9.9	0.6	-1.5		-1.8		-1.4		-1.4	
Ecuador	1994-1998	4.3	2.0	13.8	11.6	2.0	2.0	0.5	2.2		1.0		6.9		5.8	
El Salvador	1991-2003	-2.3	-2.0	-4.8	-3.5	1.8	1.1	1.4	-1.3	-1.6	-1.1	-1.4	-4.6	-3.4	-3.3	-2.5
Honduras	1997-2003	2.9	1.8	-0.1	-0.2	-0.6	-2.2	-0.1					0.0		0.1	
Jamaica	1990-2002	-1.8	-2.4		-1.9	4.7	0.6	-0.2	-0.4		-0.5					
Mexico	1992-2002	1.9	0.4	-1.0		-0.9	.	1.1	-2.0	1.6	-0.4	0.4	1.1	-0.9		
Nicaragua	1993-2001	-7.4	-3.0	-2.6	-1.2	3.4	-1.6	2.3	-2.2	-3.2	-0.9	-1.3	1.6	-1.1	0.7	-0.5
Panama	1995-2002	-8.5	-2.1	-2.6	-0.4	0.4	0.4	2.9		-2.9		-0.7		-0.9		-0.2
Paraguay	1997-2002	4.4	6.0	0.9	5.9	-8.8	-9.1	-2.4	-0.5	-1.8	-0.7	-2.5	-0.1	-0.4	-0.6	-2.4
Peru	1997-2002	-1.6	-0.1	5.7	4.9	-0.1	-2.2	-0.1					-2.6		-2.3	
Uruguay	1989-2003	4.6	3.3	-0.2	0.7	-1.4	-1.9	0.6	-3.2		-2.3		0.1		-0.4	
Venezuela	1989-2000	5.2	4.7	3.5	2.5	-2.5	-2.4	0.2	-2.1		-1.9		-1.4		-1.0	

Source: Own calculations based on household surveys.
Note: “national” income means the income/consumption variable used to compute poverty with national lines.

Table 5.4
Poverty-growth elasticity
Estimates from a pooled regression model
Dependent variable: annual change in poverty headcount ratio (%) - USD 2 line

	(i)	(ii)	(iii)	(v)
income growth rate	-1.506	-1.659	-1.505	-1.657
	(0.157)	(0.275)	(0.161)	(0.290)
Interactions with:				
*distance poverty line-mode		0.122		0.119
		(0.228)		(0.242)
*change in the Gini coefficient			0.004	0.005
			(0.136)	(0.147)
N	30	30	30	30
Adjusted R^2	0.750	0.745	0.741	0.735

Note: Standard errors in parenthesis.

Table 6.1
Ravallion and Chen's pro-poor growth rates
Mean of income growth rates for the poor

		Income growth rate		Ravallion and Chen pro-poor growth rate			
				International lines		National lines	
		p/c income	national	USD1	USD2	Extreme	Moderate
		(i)	(ii)	(iii)	(iv)	(v)	(vi)
Argentina	1992-1998	0.2	0.1		-8.1	-8.1	-5.0
	1998-2002	-11.9	-11.9	-13.8	-16.0	-15.9	-16.1
	2002-2004	11.6	10.6	14.4	17.7	16.6	15.3
	1992-2004	-2.9	-3.1		-7.9	-8.1	-6.3
Bolivia (urban)	1993-1997	8.2	8.3	13.0	9.9	10.0	9.1
	1997-2002	-0.9	-2.1	-4.2	-3.3	-4.6	-3.8
	1993-2002	3.0	2.4	3.3	2.6	1.8	1.8
Bolivia (national)	1997-2002	-3.1		-12.8	-8.6		
Brazil	1990-1995	2.2	2.5	1.5	2.7	3.5	3.8
	1995-2003	-0.6	-0.4	-1.9	-0.4	0.4	0.4
	1990-2003	0.5	0.7	0.0	0.9	1.6	1.7
Chile	1990-1996	5.8	5.7	8.5	6.4	6.4	5.9
	1996-2003	1.2	1.3	0.6	1.3	0.4	1.1
	1990-2003	3.3	3.3	4.3	3.9	3.6	3.3
Colombia (urb.)	1992-2000	0.5			-9.8		
	2000-2004	2.7			1.4		
	1992-2004	1.1			-5.4		
Costa Rica	1992-1997	4.5	4.4	13.4	8.3	8.6	5.6
	1997-2003	3.4	3.8	-2.8	-1.3	-1.4	0.1
	1992-2003	3.9	4.1	4.5	3.1	3.2	2.7
Dominican R.	2000-2004	-9.5	-9.9	-3.9	-5.0	-4.3	-6.7
Ecuador	1994-1998	2.0		-5.6	-2.0		
El Salvador	1991-2003	1.8	1.1	1.9	2.1	0.5	0.7
Honduras	1997-2003	-0.6	-2.2	0.3	-0.9	-1.8	-1.7
Jamaica	1990-1999	7.9	1.8	9.4	9.1		2.1
	1990-2002	4.7	0.6	2.6	3.2		0.4
Mexico	1992-1996	-7.1		-13.1	-9.1		
	1996-2002	3.4		0.5	3.2		
	1992-2002	-0.9		-6.1	-2.1		
Nicaragua	1993-1998	4.0	-0.5	10.2	8.1	3.0	2.2
	1998-2001	2.5	-3.5	6.2	3.7	-2.0	-2.0
	1993-2001	3.4	-1.6	8.3	6.4	1.1	0.6
Panama	1995-2002	0.4	0.4		6.2		
Peru	1997-2002	-0.1	-2.2	2.4	1.3	-0.8	-1.9
Paraguay	1997-2002	-8.8	-9.1	-3.9	-5.1		
Uruguay	1989-1998	1.7	1.1		-2.0	-2.0	-0.8
	1998-2003	-6.8	-7.0	2.9	-0.4	0.4	-3.9
	1989-2003	-1.4	-1.9		-1.5	-1.6	-2.4
Venezuela	1989-1995	-2.9	-2.6	3.9	-1.1	0.4	-1.8
	1995-2003	-4.4	-4.2	-6.2	-3.8	-4.7	-3.5
	1989-2000	-2.5	-2.4	-1.1	-2.5	-2.1	-2.6

Source: Own calculations based on household surveys.
Note: "national" income means the income/consumption variable used to compute poverty with national lines.

Table 6.2
Progressive growth
Difference between the mean of the growth rates for the poor and the growth rate of the mean
LAC countries

		International lines		National lines	
		USD1	USD2	Extreme	Moderate
		(i)	(ii)	(iii)	(iv)
Argentina	1992-1998		-8.4	-8.2	-5.1
	1998-2002	-2.0	-4.1	-4.0	-4.2
	2002-2004	2.8	6.1	6.0	4.7
	1992-2004		-5.1	-5.0	-3.2
Bolivia (urban)	1993-1997	4.8	1.7	1.7	0.8
	1997-2002	-3.3	-2.4	-2.4	-1.7
	1993-2002	0.3	-0.4	-0.5	-0.6
Bolivia (national)	1997-2002	-9.6	-5.5		
Brazil	1990-1995	-0.7	0.5	1.0	1.3
	1995-2003	-1.3	0.2	0.7	0.8
	1990-2003	-0.4	0.5	0.9	1.0
Chile	1990-1996	2.7	0.6	0.7	0.2
	1996-2000	-0.6	0.1	-0.8	-0.1
	1990-2000	1.0	0.5	0.2	0.0
Colombia (urb.)	1992-2000		-10.3		
	2000-2004	3.9	-1.3		
Costa Rica	1992-1997	8.8	3.8	4.2	1.2
	1997-2003	-6.2	-4.7	-5.2	-3.7
	1992-2003	0.6	-0.8	-0.9	-1.4
Dominican R.	2000-2004	5.6	4.6	5.6	3.2
Ecuador	1994-1998	-7.5	-3.9		
El Salvador	1991-2003	0.2	0.3	-0.6	-0.4
Honduras	1997-2003	0.9	-0.3	0.4	0.5
Jamaica	1990-1999	1.5	1.2		0.3
	1990-2002	-2.2	-1.6		-0.2
Mexico	1992-1996	-6.0	-2.0		
	1996-2002	-2.8	-0.2		
	1992-2002	-5.1	-1.2		
Nicaragua	1993-1998	6.3	4.1	3.5	2.7
	1998-2001	3.6	1.1	1.5	1.5
	1993-2001	4.9	3.0	2.7	2.3
Panama	1995-2002		5.8		
Peru	1997-2002	2.5	1.4	1.3	0.3
Paraguay	1997-2002	5.0	3.7		
Uruguay	1989-1998		-3.7	-3.1	-1.9
	1998-2003	9.8	6.5	7.4	3.1
	1989-2003		-0.1	0.3	-0.5
Venezuela	1989-1995	6.8	1.9	3.0	0.8
	1995-2003	-1.9	0.6	-0.5	0.7
	1989-2000	1.4	0.1	0.3	-0.2

Source: Own calculations based on household surveys.

Table 7.1
Inequality measures
Distribution of household per capita income

	Share of deciles		Income ratios		Inequality indices							
	1	10	10/1	90/10	Gini	Theil	CV	A(.5)	A(1)	A(2)	E(0)	E(2)
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(viii)	(ix)	(x)	(xi)
Argentina												
16 main cities												
1992	1.8	34.1	19.0	7.9	0.450	0.370	1.101	0.165	0.299	0.510	0.355	0.606
1998	1.2	37.7	30.2	11.2	0.502	0.471	1.300	0.207	0.369	0.608	0.461	0.845
29 main cities												
1998	1.3	37.8	29.9	11.1	0.502	0.472	1.307	0.207	0.368	0.605	0.458	0.854
2002	1.0	40.3	39.4	14.3	0.533	0.530	1.356	0.233	0.412	0.657	0.530	0.920
2004	1.1	38.3	33.3	12.3	0.509	0.490	1.400	0.214	0.380	0.625	0.478	0.980
Bolivia												
Urban												
1993	1.5	42.9	29.1	9.3	0.529	0.639	2.533	0.239	0.389	0.584	0.494	3.209
1997	1.4	42.0	29.1	9.5	0.527	0.569	1.604	0.231	0.387	0.596	0.490	1.287
2002	1.2	45.3	37.3	10.9	0.552	0.619	1.603	0.253	0.422	0.653	0.548	1.285
National												
1997	0.5	45.3	87.3	21.6	0.580	0.697	1.900	0.287	0.497	0.792	0.686	1.805
2002	0.3	47.2	171.1	32.8	0.601	0.735	1.801	0.312	0.557	0.912	0.813	1.621
Brazil												
1990	0.8	47.9	58.3	17.8	0.604	0.746	2.031	0.302	0.500	0.777	0.693	2.062
1995	0.9	47.3	53.8	16.4	0.592	0.711	1.814	0.290	0.482	0.719	0.658	1.646
1999	0.9	46.8	51.2	15.8	0.586	0.694	1.815	0.284	0.473	0.706	0.642	1.646
2003	0.9	45.7	50.6	15.0	0.576	0.668	1.745	0.275	0.465	0.725	0.624	1.522
Chile												
1990	1.3	45.1	34.2	10.3	0.551	0.648	1.899	0.255	0.420	0.667	0.544	1.803
1996	1.4	44.4	32.8	10.5	0.548	0.622	1.771	0.250	0.414	0.639	0.534	1.568
2003	1.4	45.0	32.2	9.5	0.546	0.662	2.240	0.253	0.410	0.631	0.528	2.508
Colombia (urban)												
ENH-FT												
1992	1.6	39.9	24.5	8.9	0.501	0.484	1.339	0.205	0.354	0.571	0.437	0.897
2000	0.9	45.3	52.8	14.0	0.568	0.651	1.678	0.270	0.461	0.795	0.618	1.408
ECH												
2000	1.2	45.5	38.8	10.2	0.553	0.676	2.081	0.261	0.428	0.681	0.559	2.165
2004	1.0	44.3	45.6	12.4	0.553	0.623	1.810	0.255	0.434	0.711	0.570	1.637
Costa Rica												
1992	1.5	33.3	22.5	8.2	0.446	0.369	1.105	0.166	0.307	0.564	0.367	0.611
1997	1.6	33.6	21.5	8.5	0.449	0.367	1.082	0.166	0.305	0.543	0.365	0.585
2001	1.3	38.4	30.1	10.4	0.499	0.473	1.310	0.206	0.365	0.624	0.454	0.858
2003	1.2	37.1	29.8	10.1	0.490	0.452	1.289	0.199	0.358	0.616	0.443	0.831
Dominican Rep.												
1997	1.5	37.9	26.0	9.0	0.486	0.482	1.529	0.199	0.345	0.561	0.423	1.169
2000	1.2	40.8	32.8	10.4	0.520	0.532	1.484	0.224	0.387	0.626	0.489	1.101
2003	1.4	41.1	29.7	9.7	0.515	0.526	1.446	0.220	0.376	0.596	0.471	1.045
2004	1.5	41.1	28.0	9.5	0.514	0.543	1.652	0.221	0.373	0.584	0.466	1.365
Ecuador												
1994	0.9	42.8	49.2	12.4	0.539	0.607	1.737	0.248	0.430	0.752	0.561	1.509
1998	0.7	44.4	64.8	14.1	0.558	0.675	2.015	0.270	0.468	0.814	0.631	2.030
El Salvador												
1991	0.9	40.8	43.3	12.0	0.527	0.567	1.666	0.236	0.414	0.746	0.534	1.387
2003	0.8	38.2	48.3	13.3	0.509	0.503	1.435	0.222	0.411	0.779	0.530	1.029

	Share of deciles		Income ratios		Inequality indices							
	1	10	10/1	90/10	Gini	Theil	CV	A(.5)	A(1)	A(2)	E(0)	E(2)
	(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(viii)	(ix)	(x)	(xi)
Honduras												
1997	1.2	41.3	35.0	10.6	0.526	0.585	1.788	0.235	0.399	0.681	0.510	1.599
2003	1.2	42.3	34.2	11.6	0.538	0.588	1.695	0.241	0.407	0.631	0.523	1.436
Jamaica												
1990	0.4	43.7	106.6	24.7	0.572	0.646	1.564	0.282	0.508	0.833	0.709	1.223
1999	0.5	40.9	86.7	21.2	0.551	0.637	1.928	0.266	0.484	0.858	0.660	1.858
2002	0.2	44.7	181.6	36.4	0.595	0.723	1.942	0.311	0.570	0.929	0.843	1.886
Mexico												
1992	1.01	44.46	44.2	12.5	0.555	0.687	2.222	0.264	0.436	0.718	0.574	2.469
1996	1.13	42.74	37.9	10.8	0.540	0.663	2.764	0.250	0.417	0.705	0.539	3.821
2000	1.02	42.25	41.3	12.1	0.536	0.585	1.654	0.242	0.418	0.731	0.541	1.367
2002	1.05	39.79	37.8	11.2	0.514	0.515	1.403	0.222	0.394	0.723	0.501	0.984
Nicaragua												
1993	0.7	44.0	60.4	16.3	0.565	0.653	1.773	0.270	0.465	0.754	0.625	1.571
1998	1.0	43.0	42.6	11.3	0.540	0.628	1.848	0.250	0.422	0.701	0.548	1.708
2001	1.2	44.1	35.7	9.5	0.543	0.698	2.424	0.257	0.416	0.662	0.538	2.937
Panama												
1995	0.6	41.9	65.2	17.4	0.551	0.576	1.441	0.255	0.459	0.783	0.615	1.038
2002	0.8	43.6	54.7	17.0	0.565	0.616	1.552	0.264	0.459	0.725	0.614	1.204
Paraguay												
1997	0.6	42.5	72.0	20.0	0.563	0.617	1.604	0.268	0.480	0.804	0.654	1.286
2002	0.6	44.2	74.1	18.5	0.571	0.689	1.978	0.280	0.485	0.790	0.663	1.956
Peru												
1997	0.9	41.2	43.9	13.9	0.537	0.581	1.721	0.243	0.422	0.675	0.547	1.481
2002	1.1	43.2	40.5	12.0	0.546	0.636	1.946	0.253	0.423	0.650	0.549	1.894
Uruguay												
1989	1.9	32.2	16.7	6.9	0.424	0.355	1.282	0.151	0.271	0.468	0.316	0.822
1998	1.6	32.6	20.0	8.4	0.440	0.344	1.001	0.158	0.294	0.541	0.349	0.501
2001	1.7	33.5	19.8	8.5	0.450	0.364	1.066	0.165	0.300	0.510	0.357	0.569
2003	1.9	34.0	17.9	7.8	0.449	0.367	1.085	0.163	0.294	0.614	0.348	0.588
Venezuela												
1989	2.1	30.2	14.5	6.2	0.399	0.292	0.979	0.132	0.245	0.446	0.280	0.480
1995	1.7	33.5	19.6	7.6	0.442	0.368	1.126	0.162	0.295	0.529	0.350	0.634
2000	1.8	31.1	17.5	7.1	0.418	0.319	1.019	0.145	0.271	0.502	0.316	0.519
2003	1.5	32.7	21.4	8.2	0.439	0.354	1.083	0.160	0.299	0.956	0.355	0.587

Source: Own calculations based on household surveys.

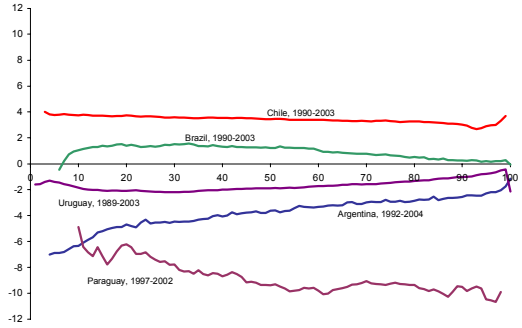
Table 7.2
Decomposition of changes in the poverty headcount ratio
Growth and redistribution effects

		USD1			USD2			Extreme			Moderate		
		Total (ii)	Growth (iii)	Redistribution	Total (ii)	Growth (iii)	Redistribution	Total (ii)	Growth (iii)	Redistribution	Total (ii)	Growth (iii)	Redistribution
Argentina	1992-1998	1.8	0.0	1.8	4.1	-0.1	4.2	3.8	-0.1	3.9	8.4	-0.5	8.9
	1998-2002	6.4	3.2	3.3	15.3	10.9	4.4	19.1	11.3	7.7	27.5	22.6	5.0
	2002-2004	-3.8	-2.7	-1.0	-8.6	-5.0	-3.5	-9.9	-5.0	-4.9	-12.6	-8.2	-4.4
	1992-2004	4.7	1.0	3.7	11.9	4.3	7.6	13.6	4.0	9.6	25.2	16.0	9.2
Bolivia (urban)	1993-1997	-6.2	-5.1	-1.1	-13.4	-12.6	-0.7	-8.6	-11.0	2.3	-9.1	-14.2	5.1
	1997-2002	2.8	1.0	1.8	4.4	1.8	2.6	1.6	4.8	-3.2	-0.7	5.6	-6.3
	1993-2002	-3.4	-4.4	1.1	-9.0	-10.7	1.7	-7.0	-7.2	0.2	-9.7	-8.2	-1.6
Bolivia (national)	1997-2002	5.5	3.3	2.2	6.9	5.4	1.5	-1.2	7.2	-8.4	2.7	7.5	-4.7
Brazil	1990-1995	-3.9	-1.9	-1.9	-8.5	-3.7	-4.8	-4.1	-2.9	-1.2	-6.5	-4.5	-2.0
	1995-2003	0.2	0.4	-0.2	-0.1	0.9	-1.0	-0.4	0.6	-1.0	-0.6	1.0	-1.6
	1990-2003	-3.6	-1.3	-2.3	-8.6	-2.6	-6.0	-4.5	-2.3	-2.2	-7.1	-3.6	-3.5
Chile	1990-1996	-1.8	-1.3	-0.5	-7.6	-7.3	-0.3	-7.4	-6.7	-0.7	-15.7	-14.9	-0.8
	1996-2003	-0.1	-0.2	0.1	-1.6	-1.4	-0.3	-1.0	-1.3	0.2	-4.3	-3.4	-1.0
	1990-2003	-1.9	-1.6	-0.4	-9.3	-8.4	-0.8	-8.4	-7.9	-0.5	-20.0	-18.4	-1.6
Colombia (urban)	1992-2000	5.2	-0.1	5.3	7.6	-0.9	8.5						
	2000-2004	1.9	3.1	-1.1	4.2	11.2	-7.0						
Costa Rica	1992-1997	-2.0	-0.8	-1.2	-4.3	-3.1	-1.2	-4.2	-2.7	-1.4	-9.6	-9.1	-0.5
	1997-2003	0.6	-0.6	1.2	0.2	-1.8	2.0	-0.1	-2.3	2.2	-2.3	-7.7	5.3
	1992-2003	-1.4	-1.6	0.2	-4.1	-5.3	1.2	-4.2	-5.3	1.1	-11.9	-16.8	4.8
Dominican R.	2000-2004	1.4	3.6	-2.1	7.6	8.5	-0.8	4.8	6.4	-1.5	13.9	15.1	-1.2
Ecuador	1994-1998	2.7	-1.4	4.2	3.0	-3.3	6.3						
El Salvador	1991-2003	-5.9	-5.0	-0.9	-10.6	-8.6	-2.0	-15.1	-5.4	-9.7	-23.1	-5.7	-17.4
Honduras	1997-2003	2.3	1.1	1.2	3.6	1.6	2.0	-0.3	2.3	-2.5	-0.9	1.7	-2.6
Jamaica	1990-1999	-21.1	-9.2	-11.9	-25.8	-17.5	-8.3				-13.5	-11.8	-1.6
	1990-2002	-7.9	-8.0	0.1	-14.8	-15.3	0.5				-7.4	-6.4	-1.1
Mexico	1992-1996	5.0	4.0	0.9	10.5	9.7	0.8						
	1996-2002	-2.6	-3.1	0.5	-9.3	-7.3	-2.0						
	1992-2002	2.4	0.9	1.4	1.1	1.9	-0.7						
Nicaragua	1993-1998	-11.6	-5.9	-5.7	-9.4	-6.6	-2.8	-1.3	0.9	-2.1	-2.7	1.2	-3.9
	1998-2001	-4.6	-2.1	-2.5	-3.9	-3.3	-0.6	-2.3	4.3	-6.7	-2.0	6.2	-8.3
	1993-2001	-16.1	-7.9	-8.2	-13.3	-10.0	-3.3	-3.6	4.7	-8.3	-4.7	6.7	-11.4
Panama	1995-2002	-6.0	0.2	-6.2	-2.9	0.6	-3.4	-3.4	0.2	-3.6	-1.1	0.7	-1.8
Paraguay	1997-2002	4.4	6.2	-1.8	9.9	10.8	-0.9						
Peru	1997-2002	-1.0	0.0	-1.0	-0.1	0.0	-0.1	5.8	4.0	1.8	11.6	6.4	5.2
Uruguay	1989-1998	0.5	-0.1	0.7	0.2	-1.3	1.5	-1.1	-0.8	-0.3	-10.9	-4.5	-6.4
	1998-2003	-0.2	0.7	-0.9	1.6	3.8	-2.2	1.0	2.5	-1.5	13.9	12.9	1.0
	1989-2003	0.3	0.3	0.0	1.8	1.8	0.0	-0.1	2.8	-2.9	3.0	13.3	-10.3
Venezuela	1989-1995	3.7	1.0	2.7	11.4	3.1	8.3	5.7	1.3	4.3	9.6	3.0	6.6
	1995-2003	0.8	3.9	-3.1	0.9	7.5	-6.6	1.3	6.3	-5.0	2.3	9.7	-7.4
	1989-2000	4.5	3.1	1.4	12.3	9.6	2.6	7.0	6.3	0.6	11.9	12.3	-0.4
	1989-2003	13.2	7.5	5.7	26.0	20.2	5.8	17.9	13.6	4.3	25.2	23.4	1.8

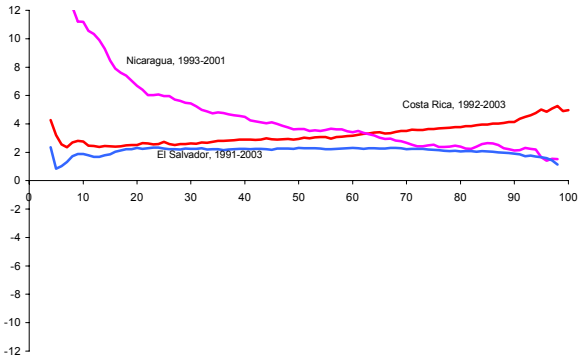
Source: Own calculations based on household surveys.

Figure 4.1
Growth-incidence curves
Household per capita income

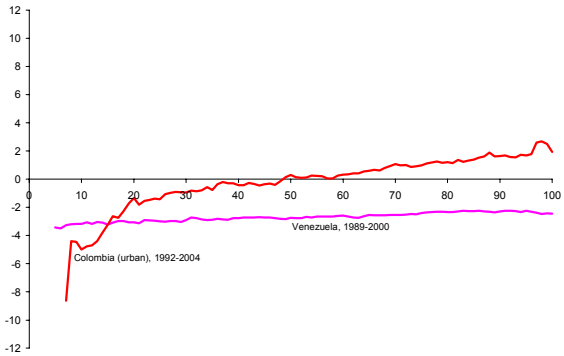
Argentina, Brazil, Chile, Paraguay and Uruguay



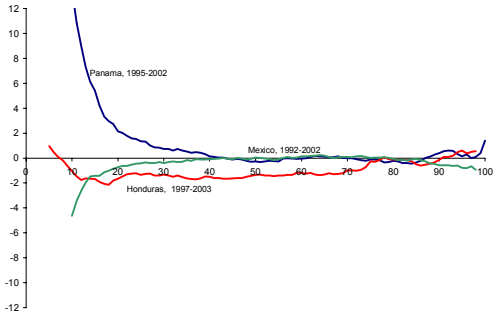
Costa Rica, El Salvador and Nicaragua



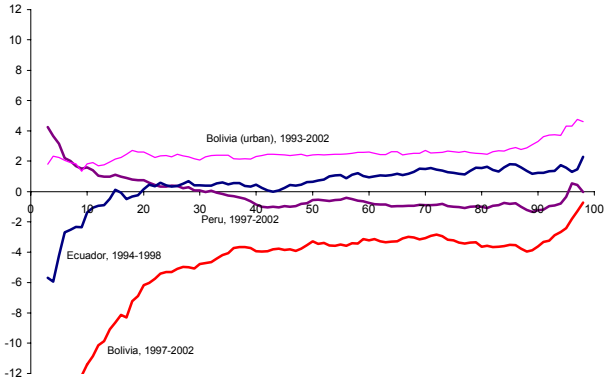
Colombia and Venezuela



Honduras, Mexico and Panama



Bolivia, Ecuador and Peru



Dominican Republic and Jamaica

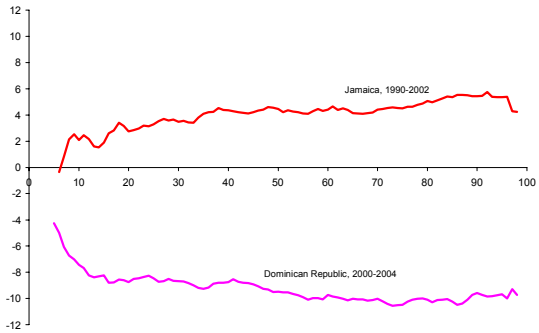
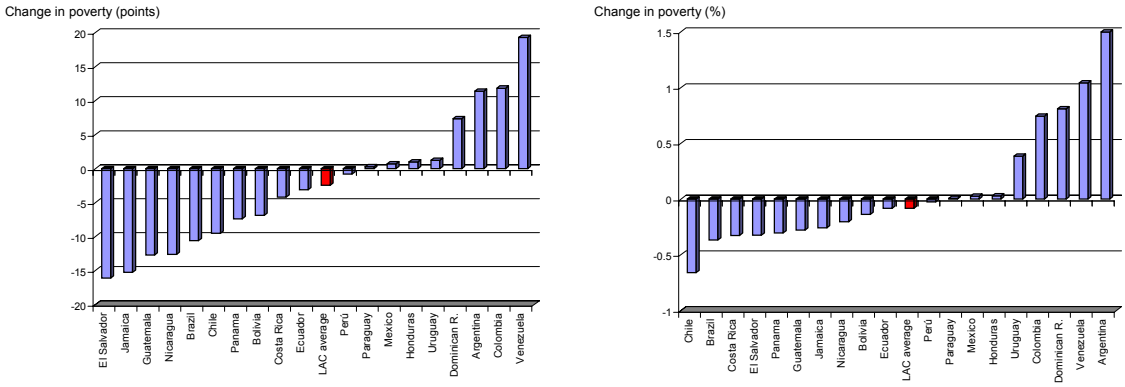


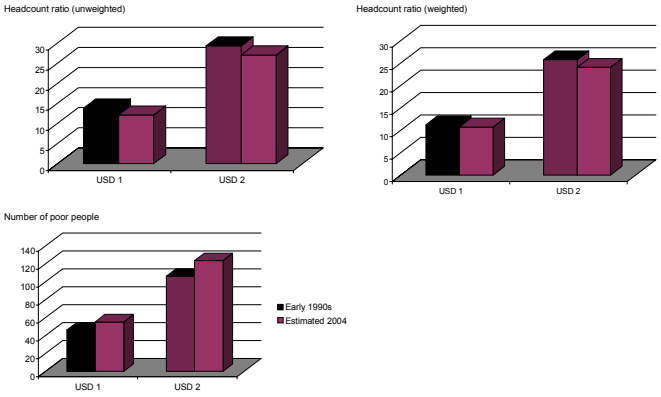
Figure 5.1
Change in the poverty headcount ratio
between early 1990s and estimated value for 2004
USD 2-a-day poverty line



Note: poverty change in Argentina truncated in 1.5, real value is 2.702.

Source: Own calculations based on microdata of household surveys.

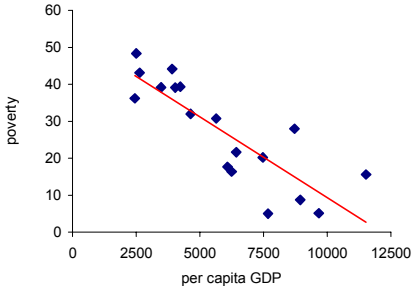
Figure 5.2
Poverty headcount ratio and
number of poor people



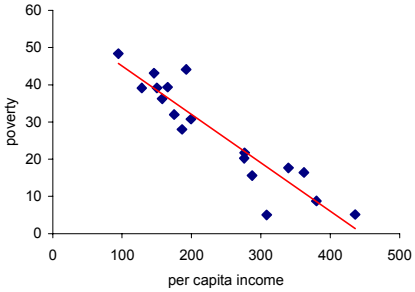
Source: Own calculations based on microdata of household surveys.

Figure 5.3
Scatterplot
Poverty headcount ratio (USD-2-a-day poverty line)
- per capita GDP or income (in PPP USD)

A. Per capita GDP (National Accounts)



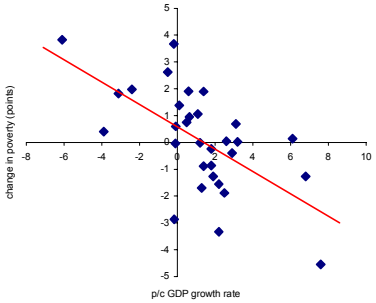
B. per capita income (household surveys)



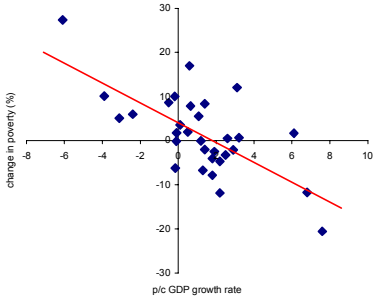
Source: Own calculations based on microdata of household surveys.
Note: values refer to the last available survey in our dataset (early 2000s).

Figure 5.4
Scatterplot
Change in the poverty headcount ratio (USD-2-a-day poverty line)
- per capita GDP annual growth rate

A. Change in poverty (points)



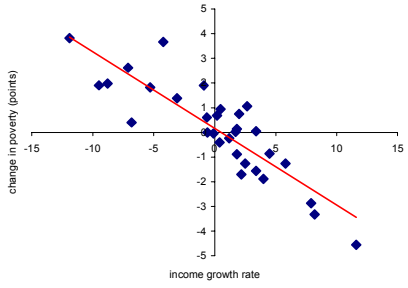
B. Change in poverty (%)



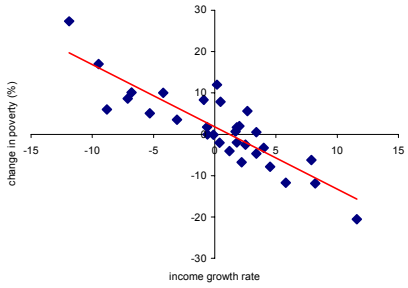
Source: Own calculations based on microdata of household surveys.

Figure 5.5
Scatterplot
Change in the poverty headcount ratio (USD-2-a-day poverty line)
- per capita income (from household surveys) annual growth rate

A. Change in poverty (points)

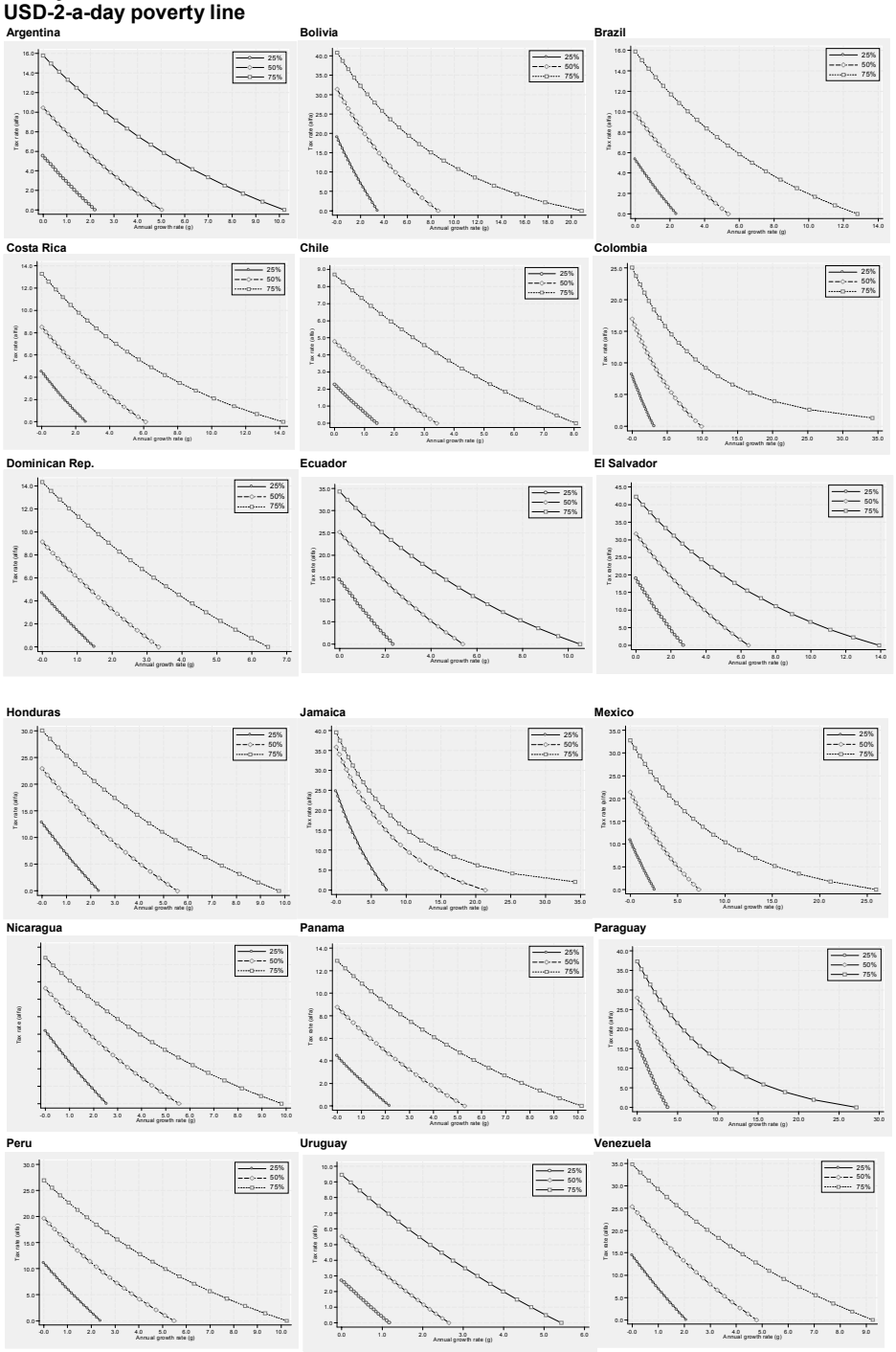


B. Change in poverty (%)



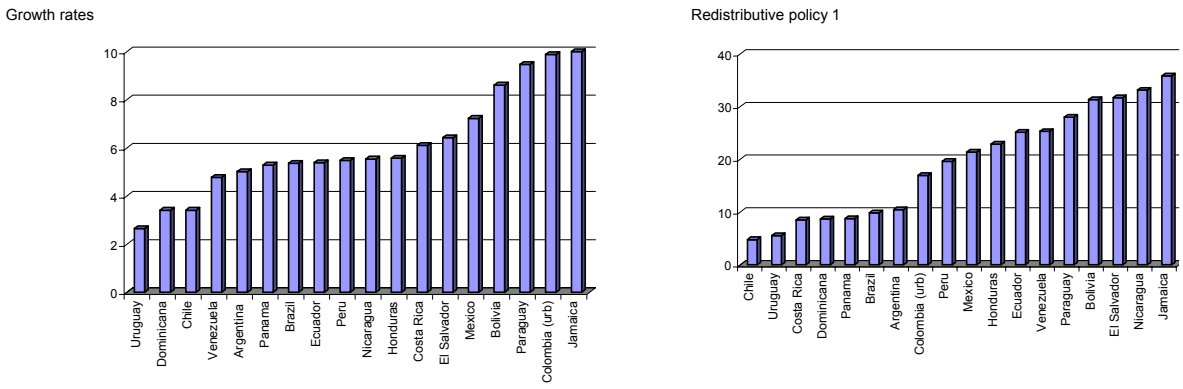
Source: Own calculations based on microdata of household surveys.

Figure 7.2
Isopoverty curves
Combinations of neutral growth rates and incremental tax rate needed to achieve a certain poverty-reduction target in 10 years
USD-2-a-day poverty line



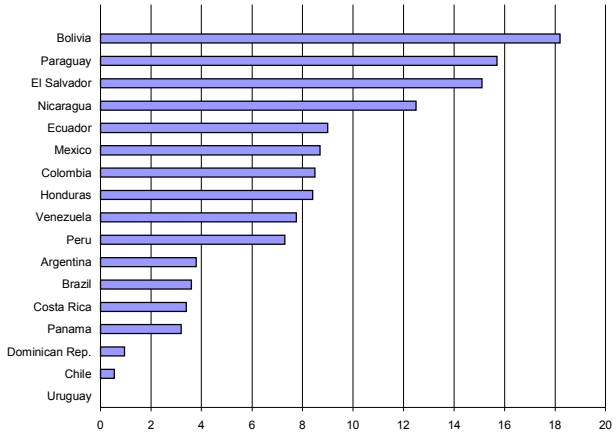
Source: Own calculations based on microdata of household surveys.

Figure 7.3
Neutral growth rate and incremental tax rate needed to achieve poverty reduction of 50% in 10 years (intercepts of isopoverty curves)
USD-2-a-day poverty line



Source: Own calculations based on microdata of household surveys.

Figure 7.4
Incremental tax rate needed to achieve poverty reduction of 50% with annual 3% neutral growth for 10 years



Source: Own calculations based on microdata of household surveys.