

# Economic Growth, Inequality, and Poverty

Findings from a New Data Set

*Richard H. Adams, Jr.*

The World Bank  
Poverty Reduction and Economic Management Network  
Poverty Reduction Group  
February 2003



## Abstract

Adams uses new data from 50 developing countries and 101 intervals to examine the impact of economic growth on poverty and inequality. He finds that growth represents an important means for reducing poverty in the developing world. When economic growth is measured by survey mean income (consumption), there is a strong, statistical link between growth and poverty reduction. When economic growth is measured by GDP per capita, the statistical relationship between growth and poverty reduction is still present, albeit not quite as strong.

Economic growth reduces poverty because growth has little impact on income inequality. In the data set income

inequality rises on average less than 1.0 percent a year. Since income distributions are relatively stable over time, economic growth tends to raise incomes for all members of society, including the poor. When growth is measured by survey mean income (consumption), the elasticity of poverty with respect to growth is  $-2.59$ . In other words, on average, a 10 percentage point increase in economic growth (measured by survey mean income) will produce a 25.9 percent decrease in the proportion of people living in poverty (\$1 a person a day).

---

This paper—a product of the Poverty Reduction Group, Poverty Reduction and Economic Management Network—is part of a larger effort in the network to better inform policy debates about economic growth, poverty, and inequality. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Nelly Obias, room MC4-834, telephone 202-473-1986, fax 202-522-3283, email address [nobias@worldbank.org](mailto:nobias@worldbank.org). Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at [radams@worldbank.org](mailto:radams@worldbank.org). February 2003. (42 pages)

*The Policy Research Working Paper Series disseminates the findings of work in progress to encourage the exchange of ideas about development issues. An objective of the series is to get the findings out quickly, even if the presentations are less than fully polished. The papers carry the names of the authors and should be cited accordingly. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the view of the World Bank, its Executive Directors, or the countries they represent.*

**Economic Growth, Inequality and Poverty:  
Findings from a New Data Set**

Richard H. Adams, Jr.

PRMPR

MSN MC4-415

World Bank

1818 H Street, NW

Washington, DC 20433

E-Mail: [Radams@worldbank.org](mailto:Radams@worldbank.org)

Phone: 202-473-9037

Draft: For discussion and comments only



During the 1990s the world economy grew at a respectable gross domestic product (GDP) growth rate of 2.5 percent per year. However, intense debate continues to rage over the extent to which this economic growth has benefited poor people in the developing world. On the one hand, Dollar and Kray claim that “(since) average incomes of the poorest fifth of society rise proportionately with average incomes . . . (economic) growth generally does benefit the poor as much as everyone else (2001: 1, 32). If this statement is true, then economic growth should be both necessary and sufficient to reduce poverty in the developing world. However, on the other hand, some observers argue that economic growth tends to increase income (and asset) inequality, and that these higher levels of inequality ensure that economic growth benefits the rich rather than the poor. Forsyth, for example, writes that “there is plenty of evidence that current patterns of (economic) growth and globalization are widening income disparities and thus acting as a brake on poverty reduction” (2000: 6). If this argument is correct, then the best way to reduce poverty would be to first tackle the considerable income and asset inequalities in the low-income countries of the world.

Deciding which of these arguments is correct is crucial to devising effective programs and policies for reducing poverty in the developing world. To date, many of the anti-poverty initiatives mounted by the major donor organizations of the world (World Bank, USAID, DFID) have focused more on promoting broad-based economic

growth in developing countries, than on tackling differences in income and asset inequality in these countries. In order to understand how such a broad-based growth strategy might contribute to poverty reduction, it is essential to come to an understanding of how – and to what extent— economic growth is a necessary, if not sufficient, means for reducing poverty in the developing world.

The purpose of this paper is therefore to use empirical data to address the key question: “How does economic growth affect poverty and inequality in the low-income countries of the world?” The paper is organized as follows. Part 1 sets the stage by reviewing recent analytical arguments regarding the relationship between economic growth, poverty and income distribution. Part 2 then presents a new household data set, which contains detailed growth, poverty and inequality data for 50 low- and lower-middle income countries of the world. Part 3 discusses econometric methods for estimating growth and poverty relations from these new data, and Part 4 describes the main findings of the data set. The next two sections of the paper use the new data to analyze the relationship between growth and income distribution (Part 5) and growth and poverty (Part 6) in the developing countries of the world. The final section, Part 7, summarizes.

### 1. The Debate about Economic Growth, Poverty and Income Distribution

In the past, some observers have argued that economic growth is not sufficient to reduce poverty in the developing world. For instance, in 1974 Chenery and others published an influential book in which they declared: “It is now clear that more than a decade of rapid growth in underdeveloped countries has been of little or no benefit to

perhaps a third of their population” (1974: iii). Similarly, Adelman and Morris (1973) argued that: “Development is accompanied by an absolute as well as a relative decline in the average income of the very poor. . . . The frightening implication (of this) is that hundreds of millions of desperately poor people . . . have been hurt rather than helped by economic development” (1973: 189-193).

These early arguments on the relationship between growth and poverty were heavily influenced by the Kuznets hypothesis (1955, 1963). This hypothesis claims that growth and inequality are related in an inverted U-shaped curve: in the early stages of economic development, income distribution tends to worsen and does not improve until countries reach middle-income status. The implications of this hypothesis are obvious: if, in the early stages, economic growth leads to more inequality, then poverty might take many years to decline in the developing world.

The Kuznets hypothesis was based on data derived from cross-sectional data, that is, data from different countries observed at various stages of development at about the same point in time. If, however, the goal is to understand how growth affects inequality, what is really needed is time series data which show how inequality changes within countries as they grow over time. In the last decade such time series data have become available and have been analyzed by a number of studies, including Ravallion (1995), Deininger and Squire (1996, 1998), Schultz (1998) and Bruno, Ravallion and Squire (1998).<sup>1</sup> The empirical findings of all of these more recent studies tend to reject the Kuznets hypothesis. In the words of Ravallion: “The rejection of the inverted U hypothesis (of the Kuznets curve) could not be more convincing. . . . The data do not suggest that growth tends to either increase or decrease inequality” (1995: 415).

The most current thinking is that economic growth does not have much of an impact on inequality, because income distributions generally do not change much over time. According to Deininger and Squire (1996: 587), gross domestic product (GDP) per capita increased by 26 percent in the developing world between 1985 and 1995, while Gini coefficients in the world changed by only 0.28 percentage points per year over the same period.<sup>2</sup> To cite a specific country example, in Taiwan (China) real per capita income increased fivefold between 1964 and 1990, yet the Gini coefficient barely moved, declining from 32.2 to 30.1

Since income inequality tends to remain stable over time, economic growth can be expected to reduce poverty, at least to some extent. Exactly how much growth actually reduces poverty depends on at least two factors. The first is the rate of economic growth itself. Using an international poverty line of \$1 per person per day, an econometric study by Squire (1993) regressed the rate of poverty reduction in a country against its rate of economic growth. His results show that a 1-percentage point increase in the growth rate reduced the poverty headcount (\$1 per person per day) by 0.24 percentage points. A similar econometric study was done by Bruno, Ravallion and Squire (1998). For 20 developing countries over the period 1984 to 1993, these three authors regressed the rate of change in the proportion of the population living on less than \$1 per person per day against the rate of growth (change in survey mean income) and obtained a statistically significant regression coefficient of  $-2.12$ . This means that a 10-percentage point increase in growth (as measured by survey mean income) can be expected to produce a 21.2 percent decrease in the proportion of people living in poverty (\$1 per person per day). The second factor affecting how much economic growth



reduces poverty is the extent of inequality. In a straightforward statistical sense, economic growth can be expected to reduce poverty more if inequality falls, than if it does not. This expectation is confirmed by the previously cited study of Bruno, Ravallion and Squire (1998). For the same 20 developing countries, these authors regressed the rate of change in poverty on both the change in growth (change in the survey mean) and the change in inequality (as measured by the Gini coefficient). They obtained statistically significant coefficients of  $-2.28$  for the growth variable and  $3.86$  for the inequality variable. In other words, even small changes in the overall distribution of inequality can lead to sizeable changes in the incidence of poverty. For any given rate of economic growth, the more that inequality falls, the greater is the reduction in poverty.

## 2. New Data Set on Growth, Poverty and Income Distribution

To test these relationships, and to more accurately pinpoint the impact of economic growth on poverty and inequality, it is necessary to construct a new empirical data set. This data set should do three things: first, it should focus on the low-income countries of the world; second, it should utilize the results of household budget surveys, since these surveys represent the best source of poverty information in most developing countries; and third, it should include complete growth, poverty and inequality for as many countries and time periods as possible.

Other observers have built such data sets to examine the impact of growth on poverty. Deininger and Squire (1996), for example, constructed a comprehensive data base on income distribution for 58 countries. However, this data base included only 26 developing countries, and did not contain any specific poverty data. Ravallion and Chen

(1997), Chen and Ravallion (2000) and Ravallion (2001), also constructed useful data sets that had growth, poverty and income distribution data. For example, the 1997 data set used by Chen and Ravallion (2000) included 42 developing countries.

The purpose of this study is to expand the coverage of previous work by including the results of those country-level household surveys which have become available since 1997. Initially, the goal was to include all 119 countries which were classified as either “low income” or “lower middle income” countries by the World Bank in the World Development Report, 2000/01.<sup>3</sup> However, it proved impossible to find poverty and inequality data for many of these 119 countries. Many of these countries had only one household survey, and some of the smaller population countries had no survey at all.

The present paper thus uses data from 50 “low income” and “lower middle income” countries;<sup>4</sup> all of these countries had at least two nationally-representative household surveys since 1980. The year 1980 was used as a cutoff point, because many of the pre-1980 household surveys were of suspect quality.

Table 1 gives the countries, geographical regions, dates and welfare indicators included in the new data set. The data set is notable in that it includes 13 countries from Sub-Saharan Africa, a region for which household survey data are relatively rare. It also includes countries from all other regions of the developing world, including 4 countries from East Asia, 12 from Europe and Central Asia, 10 from Latin America, 5 from South Asia and 6 from the Middle East and North Africa.

Since the goal is to examine how economic growth affects poverty and inequality, we need at least two surveys for each country. In the data set two surveys for one country define what is called an “interval.” The data set includes a total of 101 intervals,

which is considerably more than previous studies.<sup>5</sup> In constructing the intervals we use relatively restrictive criteria: intervals must be 2 or more years in length, they must come from nationally-representative surveys and they must use the same “welfare indicator” -- either expenditure per person or income per person -- over time. Table 1 shows that most countries (30) use expenditure per person as the welfare indicator; only 4 countries use both expenditure and income. When countries use both welfare indicators (i.e. they switch between expenditure and income), we either make sure that the same indicator is used in computing an interval or else we drop the interval.

Table 2 summarizes the information for the 101 intervals from the 50 countries in the data set. The poverty and inequality data in the table come from the World Bank, Global Poverty Monitoring database and the data on GDP growth come from the World Bank, 2001 World Development Indicators database.

In measuring changes in poverty, Table 2 uses three different poverty measures. The first, the headcount index, set at \$1 per person per day, measures the percent of the population living beneath that poverty line in various survey years. However, the headcount index is a bit simple because it ignores the amounts by which the expenditures (income) of the poor fall short of the poverty line. For this reason, Table 2 also reports the poverty gap index, which measures in percentage terms how far the average expenditures (income) of the poor fall short of the poverty line. For instance, a poverty gap of 10 percent means that the average poor person’s expenditures (income) are 90 percent of the poverty line.

Although the poverty gap index measures the depth of poverty, a third measure -- the squared poverty gap index -- indicates the severity of poverty. The squared poverty

gap index possesses useful analytical properties, because it is sensitive to changes in distribution among the poor. In other words, while a transfer of expenditures from a poor person to a poorer person will not change the headcount index or the poverty gap index, it will decrease the squared poverty gap index.

To ensure comparability across countries, all of the poverty lines in Table 2 are international poverty lines, set at estimates of \$1.08 per person per day in 1993 purchasing power parity (PPP) exchange rates.<sup>6</sup> The PPP exchange rates are used so that \$1.08 is worth roughly the same in all countries. PPP values are calculated by pricing a representative bundle of goods in each country and comparing the local cost of that bundle with the U.S. dollar cost of the same bundle. In calculating PPP values, the comparison of local costs with U.S. costs is done using conversion estimates produced by the World Bank.<sup>7</sup>

To measure changes in inequality, Table 2 uses the Gini coefficient. In the table this measure is normalized by household size and the distributions are weighted by household size so that a given quintile (such as the lowest quintile) has the same share of population as other quintiles across the sample.

In examining the impact of economic growth upon poverty and income distribution, the key question becomes: "growth of what?" "Growth" can be defined in various ways, and Table 2 presents two measures of growth: (1) change in the level of mean expenditure (income) per person, as calculated from the household surveys; and (2) growth as measured by changes in GDP per capita, in PPP units, as measured from national accounts data. Unfortunately, these two measures of growth do not often agree. For instance, in Table 2 the two growth measures move in opposite directions about one-

third of the time (36 of 101 intervals). This is not surprising, given their differences in definitions and coverage. Growth as measured by the survey mean comes from the household survey itself, so it is usually closely correlated with observed changes in household expenditures (income). However, growth as measured by GDP data comes from the national accounts, which measure household expenditure as a residual item, so that errors and omission elsewhere in the accounts automatically affect the calculation of household expenditures. A major problem here is business expenditure, which has to be estimated and subtracted from expenditure totals in order to arrive at the expenditure of households. Since the national accounts data also include many items (such as the expenditures of nonprofit organizations and the imputed rent of owner-occupied dwellings) which are not included in the household surveys, it is little wonder that the two measures of growth do not correspond.

Which of these measures of growth is more accurate? According to Deaton, who has spent many years trying to reconcile household survey and national accounts measures of growth in India,<sup>8</sup> the best answer is:

“We don’t know, although it seems safe to say that there are almost certainly errors in both the (national accounts and the household survey figures). There is a longstanding prejudice by many economists against using surveys and in favor of (using) national accounts (to measure growth), (however) this is probably without basis” (2001: 133).

For the purposes of this study, we will use the unique approach of reporting results using both measures of growth. Most other growth and poverty studies typically only report results using growth as defined by changes in the survey mean.<sup>9</sup>

### 3. Econometric Methods for Estimating Growth, Poverty and Inequality Regressions

Our goal is to use the new data to analyze how economic growth affects poverty and income distribution in the developing world. However, the new data are riddled with measurement error and noncomparabilities. The household survey data are plagued by problems in the accuracy of household response, and the national accounts data measure household expenditure as a residual item. When the data are used in cross-country regressions, these errors in measurement behave like country-level fixed effects, although they also cause artificial variation over time. This means that there is latent heterogeneity in distribution. Combining these various features, the type of relationship that we want to estimate can be expressed following Ravallion and Chen (1997) as:

$$\text{Log } P_{it} = \alpha_i + \beta \log \mu_{it}^* + \gamma t + \varepsilon_{it} \quad (1)$$

Where  $P$  is the measure of poverty in country  $i$  at time  $t$ ,  $\alpha_i$  is a fixed effect reflecting time differences between countries in distribution,  $\beta$  is the “growth elasticity” of poverty with respect to mean expenditure (or mean GDP) given by  $\mu_{it}^*$ ,  $\gamma$  is trend rate of change over time  $t$ , and  $\varepsilon_{it}$  is a white-noise error term that includes errors in the poverty measure.

In equation (1) we want to estimate  $\beta$  so that we can understand how growth (as measured by  $\mu_{it}^*$ ) affects the poverty measure,  $P$ . Unfortunately, we are not able to observe the true mean  $\mu_{it}^*$ ; we are only able to observe the following estimate:

$$\log \mu_{it} = \log \mu_{it}^* + v_{it} \quad (2)$$

where  $v_{it}$  is a country-specific, time-varying error term that is assumed to be white noise. However, when we use the household survey data, since the poverty measure ( $P$ ) and mean consumption are derived from the same source,  $v_{it}$  is allowed to be

contemporaneously correlated with  $\varepsilon_{it}$  in equation (1). Using equation (2), equation (1) becomes:

$$\text{Log } P_{it} = \alpha_i + \beta \log \mu_{it} + \gamma t + \varepsilon_{it} - \beta v_{it} \quad (3)$$

Taking first differences,  $\alpha_i$  can be eliminated in order to obtain:

$$\Delta \log P_{it} = \gamma + \beta \log \mu_{it} + \Delta \varepsilon_{it} - \beta \Delta v_{it} \quad (4)$$

In equation (4) the rate of poverty reduction (P) is regressed on the rate of growth in mean consumption (or mean GDP). This is the basic equation that will be estimated here.

However, as Ravallion and Chen (1997) note, the difference transformation that is used to obtain equation (4) introduces a first difference in the original error term ( $\varepsilon_{it}$ ). If the latter is white noise, then the new error process in equation (4) is correlated within countries and over time. This means that successive intervals for a given country are not statistically independent, because they have one household survey (or one national accounts) in common. Conventional methods of calculating standard errors then have to be modified to take account of the variance-covariance matrix of the error process  $\Delta \varepsilon_{it}$ . In this study we correct all standard errors and t-ratios to take account of the error covariance of this specification.

#### 4. Main Findings of New Data Set

Table 2 shows that definite changes took place in the poverty and income distribution measures over the period 1980 to 1999. Poverty, when measured by the headcount index of \$1.00 per person per day, declined in slightly over half (52 of 101) of the intervals in the data set. The poverty gap index also declined in slightly more than

half (54 of 101) of the intervals. However, income inequality, as measured by the Gini coefficient, increased in 55 of 101 intervals.

At the country level, some of the changes in poverty and inequality in Table 2 are quite large. For example, in Ghana the headcount index of poverty (\$1 person/day) increased from 1.2 to 78.4 percent between 1992 and 1997. Two possible explanations exist for such large “swings” in poverty. The first is that in many developing countries poverty, as measured by the \$1 per person per day standard, is quite “shallow” in the sense that many people are clustered right above (and below) the poverty line. Thus, even modest rates of economic growth (or decline) have the effect of producing large changes in the proportion of people living in poverty. The second explanation is measurement error. As discussed above, in all likelihood the various household surveys are measuring household expenditures (incomes) with nonrandom error.

##### 5. Economic Growth and Income Distribution

Table 3 provides a regional summary of how economic growth affects inequality. For the data set as a whole, the two measures of growth suggest rather different rates of change. Economic growth, as measured by the survey mean, rose in 52 of the 101 intervals, but the average rate of change was slightly negative: -0.90 percent per year. However, economic growth as measured by GDP per capita was much stronger: GDP per capita rose in 80 of the 101 intervals and increased at an average rate of 2.66 percent per annum.<sup>10</sup>



Whatever the correct rate of economic growth was, inequality rose in slightly more than half (55) of the intervals in the data set. However, the average annual rate of increase in the Gini coefficient was small: only 0.94 percent per year.

Table 3 shows that economic growth was much more rapid in the lower middle income countries than in the low-income countries. This was a reflection of slow (and sometimes negative) growth in two regions of the world: Eastern Europe and Central Asia, and Sub-Saharan Africa. About half of the Eastern Europe and Central Asian countries are classified as “low income,” and all of the Sub-Saharan countries fall into this category. The disappointing rates of economic growth in these two regions pulled down the averages for low-income countries as a whole.

Among the various regions of the world, Eastern Europe and Central Asia was clearly the worst performer in terms of both growth and inequality. According to Table 3, economic growth declined between 3.5 and 5.2 percent per year in Eastern Europe and Central Asia and inequality increased at a high average rate of 4.34 per annum.<sup>11</sup> This disappointing performance was caused by the collapse of the Soviet Union. After the Soviet Union folded, wage and income opportunities for millions of workers in the region declined dramatically, while returns to risk and entrepreneurship increased substantially for a select few. Because of these large changes in growth and inequality in Eastern Europe and Central Asia, in the rest of this analysis we will distinguish changes in Eastern Europe and Central Asia from those in other regions of the world..

In Table 3 two regions – the Middle East and North Africa, and Sub-Saharan Africa – recorded reductions in income inequality. Inequality fell in 5 of 7 intervals for the Middle East and North Africa, and declined by an average 2.02 percent per year. In

Sub-Saharan Africa inequality fell in 12 of 19 intervals, and declined by an average 1.67 percent per year. While the reasons for this impressive achievement are unclear for the Middle East and North Africa, in Sub-Saharan Africa many of the countries began with very unequal income distributions (Gini coefficients of 45.0 or higher). These Gini coefficients tended to fall during the period covered by the analysis.

Figure 1 tries to broaden the examination of growth and inequality by plotting the changes in the (log) Gini coefficient against the changes in the (log) real survey mean income (consumption) for all countries in the data set.<sup>12</sup> If there was a strong tendency for economic growth to increase inequality, then most of the observations in Figure 1 would lie in the upper right quadrant (labeled “growth in mean with increasing inequality”). However, in reality, the observations in Figure 1 are distributed fairly equally among all four quadrants. In about 40 percent of the cases (21 of 52 intervals) where there is growth in the (log) survey mean income (consumption), the (log) Gini coefficient actually declines and the observations lie in the lower right quadrant. This suggests that there is no strong correlation between economic growth (measured by the survey mean) and income distribution.

It is possible to further analyze the relationship between economic growth and inequality by using equation (4) to calculate elasticities of inequality with respect to growth.<sup>13</sup> The results are shown in Table 4. At first glance, the results seem paradoxical. Contrary to what the literature suggests, in the full sample economic growth – as measured by either the survey mean or GDP per capita – has a negative and significant effect on inequality. These same results are also obtained for low income and lower middle income countries. However, when the intervals from Eastern Europe and Central

Asia are removed from the full sample, both of these effects vanish.<sup>14</sup> Moreover, when we add a regional dummy for Eastern Europe and Central Asia to the equations for low income and lower middle income countries (not shown), the negative and significant effect of growth on inequality also vanishes. On this basis, we conclude that when the results for Eastern Europe and Central Asia are excluded, economic growth has no statistical effect on income inequality. Outside of Eastern Europe and Central Asia, there is no systematic relationship between growth and inequality; inequality may increase, decrease or remain the same with economic growth.

## 6. Economic Growth and Poverty

Table 5 summarizes changes in poverty in the data set, when poverty is measured by the proportion of people living on less than \$1.00 per person per day. For the data set as a whole, poverty fell in about half of the intervals: 52 of 101 intervals. In low income countries, poverty fell just as often as it increased, while in the lower middle income countries poverty fell in the majority of cases (31 of 59 intervals).

However, these summary data mask important differences between the various regions. Europe and Central Asia, in particular, had a very poor poverty record. In Europe and Central Asia poverty increased in 15 of 23 intervals and rose by a whopping average rate of 108.45 percent per year! This performance, clearly the worst of any region of the world, reflects the effects of the previously noted economic “meltdown” that occurred in the region after 1990. With the collapse of Soviet Union, many state-owned firms and enterprises in Europe and Central Asia went bankrupt, throwing many people out of work and into poverty. As a result, poverty headcount ratios (\$1.00 per

person per day) went from zero to as high as 20 percent in a number of the former Soviet bloc countries, including Kyrgyz Republic, Turkmenistan, and Lithuania.<sup>15</sup> Since the late 1990s some of these large increases in poverty in Eastern Europe and Central Asia have moderated, but poverty still remains much higher in this region than it was before the breakup of the Soviet Union.

By contrast, South Asia and East Asia had impressive records of poverty reduction. Table 5 shows that poverty fell in both regions about 60 percent of the time: 9 of 15 intervals for South Asia and 13 of 18 intervals for East Asia. South Asia recorded a 1.65 annual average reduction in the proportion of people living on less than \$1.00 per day: this was driven by high rates of poverty reduction in Bangladesh, India and Pakistan. East Asia did an even better job, by reducing its poverty headcount ratio by an average 7.01 percent per year. This impressive achievement was largely the result of two factors: first, China's decision to re-introduce capitalism into its economy, which had a dramatic effect on reducing levels of rural poverty in that country; and second, Thailand's continuing economic "miracle," which reduced to zero the number of people living on less than \$1.00 per day.

Figure 2 extends the analysis of growth and poverty by plotting the changes in the (log) poverty headcount (\$1.00/person/day) against changes in the (log) of real survey mean income (consumption). Initially, many of the observations appear to lie on the horizontal axis line. However, in reality about 40 percent of the observations (41 out of 101) lie in the lower right quadrant (labeled "growth in mean with falling poverty"). By contrast, only a few observations – 10 out of 101 intervals – lie in the upper right quadrant (labeled "growth in mean with increasing poverty"). An equally small number

of observations – 11 – lie in the lower left quadrant (labeled “decreasing mean with falling poverty”). All of this suggests that increasing growth in survey mean income (consumption) may be associated with falling poverty. As mean incomes rise, poverty appears to fall.

It is possible to test this relationship by using equation (4) to estimate elasticities of poverty with respect to growth. The results are shown in Table 6 (a) and (b). Three sets of findings are noteworthy. First, measuring growth by the survey mean, Table 6(a) shows that virtually all of the regression coefficients for the three types of poverty measures – headcount, poverty gap and squared poverty gap -- are negative and highly significant at the 1 percent level. When growth is measured by GDP per capita (Table 6 (b)), far fewer of the poverty coefficients (6 of 12 coefficients) are significant and only three of them are significant at the 1 percent level. These differing results suggest that when growth is measured by the survey mean, economic growth does reduce poverty; however, when growth is measured by GDP per capita, the statistical relationship between growth and poverty is less clear. Second, when growth is measured by the survey mean, the point estimate for the growth elasticity of poverty for the headcount ratio for the full sample is quite high (-5.745). This high point estimate is probably due to the inclusion of so many intervals from the countries of Europe and Central Asia.<sup>16</sup> In fact, when the intervals from Europe and Central Asia are excluded, the point estimate for the headcount ratio becomes -2.592, which is very close to the one estimated (-2.12) by Bruno, Ravallion and Squire (1998) on a smaller set of countries. In other words, when the countries of Eastern Europe and Central Asia are excluded, a 10-percentage point increase in growth (measured by the survey mean) in this data set can be expected to

produce a 25.9 percent decrease in the proportion of people living in poverty (\$1 per person per day). Third, when growth is measured by the survey mean, the data show that growth has a greater impact on the more sensitive measures of poverty. In Table 6 (a) the growth elasticities for both the poverty gap and the squared poverty gap measure are higher than that for the simple headcount ratio. While a 10-percentage point increase in growth can be expected to lead to a 25.9 percent decline in the headcount index, it will lead to a 30.4 percent fall in the poverty gap and a 33.9 percent decrease in the squared poverty gap. When growth is measured by the survey mean, the data clearly show that growth reduces poverty faster for more sensitive poverty measures.

Since Eastern Europe and Central Asia had such a poor poverty record, it is useful to see if the preceding results are robust when data from this region are excluded from low income and lower middle income countries. Table 7 (a) and (b) thus re-estimate the growth elasticities of poverty for these sets of countries when data from Eastern Europe and Central Asia are excluded. The results mirror those of the previous table.

Measuring growth by the survey mean, Table 7 (a) shows that virtually all of the regression coefficients for the three types of poverty measures are negative and highly significant. When growth is measured by the survey mean, the point estimate for the headcount ratio of poverty for the full sample (-2.592) is very close to those estimated for low income (-2.523) and lower middle income countries (-2.752). Finally, as in the preceding table, when growth is measured by the survey mean, the growth elasticities for both the poverty gap and the squared poverty gap measure are higher than that for the simple headcount ratio. When growth is measured by the survey mean, the data show that economic growth reduces poverty faster for more sensitive poverty measures.

It should be emphasized that all of these estimated growth elasticities are averages. In other words, there is considerable variation between countries and over time in the extent to which poverty responds to economic growth. As noted by Ravallion (1997), one of the more important factors affecting how poverty responds to growth is the level of initial inequality in a country. The impact of this variable on poverty can be examined by dividing the full sample into two groups of countries – low-income inequality countries (initial Gini below 40.0) and high-income inequality countries (initial Gini above 40.0) – and re-estimating the regressions in Table 6a using survey mean income (consumption). The results for the poverty headcount measure show that countries with a low initial Gini have a growth elasticity of poverty between  $-5.672$  (t-ratio of  $-3.42$ ) and  $-6.077$  ( $t = -4.48$ ), while those with a high initial Gini have a much lower growth elasticity of poverty, between  $-2.438$  ( $t = -1.46$ ) and  $-3.272$  ( $t = -3.48$ ). In other words, with a given rate of economic growth, low inequality countries will be about twice as effective in reducing the proportion of people living in poverty (\$1 per person per day) than high inequality countries.

## 7. Conclusion

This paper has analyzed a new household data set to address the key question: “To what extent does economic growth reduce poverty in the low-income countries of the world?” The basic finding is that economic growth represents an important means for reducing poverty in the developing world. This finding is robust for the two definitions of growth used in this study. When economic growth is measured by survey mean income (consumption), there is a strong, statistical link between growth and poverty

reduction. When economic growth is measured by GDP per capita, the statistical relationship between growth and poverty reduction is still present, albeit not quite as strong.

Why is economic growth so important in reducing poverty? The answer to this question has been broached at several points in this analysis. Economic growth reduces poverty because first and foremost growth has little impact on income inequality. Income distributions do not generally change much over time. Analysis of the 50 countries and the 101 intervals included in the data set shows that income inequality rises on average less than 1.0 percent per year. Moreover, econometric analysis shows that economic growth has no statistical effect on income distribution: inequality may rise, fall or remain steady with growth.

Since income distributions are relatively stable over time, economic growth – in the sense of rising incomes – has the general effect of raising incomes for all members of society, including the poor. As noted above, in many developing countries poverty, as measured by the \$1 per person per day standard, tends to be “shallow” in the sense that many people are clustered right below (and above) the poverty line. Thus, even a modest rate of economic growth has the effect of “lifting” people out of poverty. Poor people are capable of using economic growth – especially labor-intensive economic growth which provides more jobs -- to “work” themselves out of poverty.

Table 8 underscores these relationships by summarizing the results of recent empirical studies regarding the growth elasticity of poverty. When growth is measured by survey mean income (consumption), the point estimates of the elasticity of poverty with respect to growth are remarkably uniform: from a low of  $-2.12$  in Bruno, Ravallion



and Squire (1998), to a mid-range of  $-2.59$  in this study (excluding Eastern Europe and Central Asia), to a high of  $-3.12$  in Ravallion and Chen (1997). In other words, on average, a 10-percentage point increase in economic growth (measured by the survey mean) can be expected to produce between a 21.2 and 31.2 percent decrease in the proportion of people living in poverty ( $\$1$  per person per day). Economic growth reduces poverty in the developing countries of the world because average incomes of the poor tend to rise proportionately with those of the rest of the population.

The fact that economic growth is so critical in reducing poverty highlights the need to accelerate economic growth throughout the developing world. Present rates of economic growth in the developing world are simply too low to make a meaningful dent in poverty. As measured by per capita GDP, the average rate of growth for the 50 low income and lower middle income countries in this paper was 2.66 percent per year. As measured by mean survey income (consumption), the average rate of growth in these 50 countries was even lower: a slightly negative  $-0.90$  percent per year (Table 3). In the future, these rates of economic growth need to be significantly increased. In particular, more work needs to be done on identifying the elements used for achieving successful high rates of economic growth and poverty reduction in certain regions of the developing world (e.g., East Asia and South Asia), and applying the lessons of this work to the continuing growth and poverty needs in other areas, such as Eastern Europe and Central Asia, and Sub-Saharan Africa.

### Notes

---

<sup>1</sup>For a useful review of these studies, see Fields (2001: 40-48).

<sup>2</sup> The Gini coefficient is a standard measure of inequality which is scaled to lie between 0 (perfect equality) and 100 (perfect inequality).

<sup>3</sup> The full list of these 119 countries appears in World Bank, World Development Report (2001: 334).

<sup>4</sup> Of the 50 countries included in the data set, 23 are classified by the World Bank as low income and 27 are classified as lower middle income.

<sup>5</sup> For instance, the Ravallion and Chen study (1997) included only 64 intervals from 42 developing countries.

<sup>6</sup> The poverty line used in this paper is set at \$1.08 per person per day, measured in 1993 PPP rates. This line is equivalent to the \$1.00 per person per day poverty line, measured in 1985 PPP rates, used by Squire (1993) and Ravallion and Chen (1997). For the purposes of simplicity, we will call this \$1.08 person/day poverty line the \$1.00 person/day poverty line.

<sup>7</sup> For a useful review, and critique, of purchasing power parity (PPP) numbers, see Deaton (2001).

<sup>8</sup> In India, the difference between growth as measured by the survey mean and growth as measured by the national accounts is widening; the difference in per capita growth rates in India is now about 2 percent per year. See Deaton (2001: 133).

<sup>9</sup> One notable exception to this is Ravallion (2001), which reports results using both household survey and national accounts data.

<sup>10</sup> Economic growth, as measured by GDP data from the national accounts, is usually found to be higher than economic growth, as measured by changes in survey mean income (consumption). For example, Ravallion (2000) finds that GDP growth in China and Latin America is 30 to 50 percent higher than growth in survey mean income (consumption).

<sup>11</sup> For more on the increase in inequality (and poverty) in Eastern Europe and Central Asia, see World Bank (2000).

<sup>12</sup> In this paper, the terms "consumption" and "expenditure" are used interchangeably.

<sup>13</sup> It is necessary to express the dependent and independent variables in the regression in log terms, in order to calculate the elasticities.

<sup>14</sup> These findings regarding Eastern Europe and Central Asia are similar to those reported by Ravallion and Chen (1997).

<sup>15</sup> For example, between 1988 and 1993, the poverty headcount (\$1.00 per person per day) increased from zero to 22.9 in the Kyrgyz Republic, and from zero to 20.9 percent in Turkmenistan. See Table 2.

---

<sup>16</sup> About 23 percent of the intervals (23 of 101 intervals) in the data set are from Eastern Europe and Central Asia.

---

### References

- Adelman, Irma and Cynthia T. Morris. 1973. Economic Growth and Social Equity in Developing Countries. Stanford: Stanford University Press.
- Bruno, Michael, Martin Ravallion and Lyn Squire. 1998. "Equity and Growth in Developing Countries: Old and New Perspectives on the Policy Issues." In Vito Tani and Ke-Young Chu (eds), Income Distribution and High Growth. Cambridge, MA: MIT Press.
- Chen, Shaohua and Martin Ravallion. 2000. "How Did the World's Poorest Fare in the 1990s?" World Bank Policy Research Working Paper #2409, Washington, DC: World Bank, August.
- Chenery, Hollis, Montek Ahluwalia, C. L. G. Bell, John Duloy and Richard Jolly. 1974. Redistribution with Growth. New York: Oxford University Press.
- Deaton, Angus. 2001. "Counting the World's Poor: Problems and Possible Solutions." World Bank Research Observer, Vol. 16, No. 2: 125-147.
- Deininger, Klaus and Lyn Squire. 1996. "A New Data Set Measuring Income Inequality." World Bank Economic Review, Vol. 10, No. 3: 565-591.
- Deininger, Klaus and Lyn Squire. 1998. "New Ways of Looking at Old Issues: Inequality and Growth." Journal of Development Economics, Vol. 57, No. 2 (December): 259-287.
- Dollar, David and Aart Kray. 2001. "Growth is Good for the Poor." World Bank Policy Research Working Paper #2587, Washington, DC: World Bank, August.

- 
- Fields, Gary. 2001. Distribution and Development: A New Look at the Developing World. New York: MIT Press.
- Forsyth, Justin. 2000. Letter to the Editor. The Economist, June 20, 2000: 6.
- Kuznets, Simon. 1955. "Economic Growth and Income Inequality." American Economic Review (March): 1-28.
- Kuznets, Simon. 1963. "Quantitative Aspects of the Economic Growth of Nations: VIII, Distribution of Income by Size." Economic Development and Cultural Change (Part 2) (January): 1-80.
- Ravallion, Martin. 1995. "Growth and Poverty: Evidence for Developing Countries in The 1990s." Economics Letters, Vol. 48 (June): 411-417.
- Ravallion, Martin. 1997. "Can High-Inequality Developing Countries Escape Absolute Poverty?" Economics Letters, Vol. 56 (September): 51-57.
- Ravallion, Martin. 2000. "Do National Accounts Provide Unbiased Estimates of Survey Based Estimates of Living Standards?" Processed paper. World Bank, Washington, DC.
- Ravallion, Martin. 2001. "Growth, Inequality and Poverty: Looking Beyond the Averages." World Bank Policy Research Working Paper #2558, World Bank: Washington, DC, January.
- Ravallion, Martin and Shaohua Chen. 1997. "What Can New Survey Data Tell Us about Recent Changes in Distribution and Poverty?" World Bank Economic Review, Vol. 11, No. 2 (May): 357-382.
- Schultz, T. Paul. 1998. "Inequality in the Distribution of Personal Income in the World: How Is It Changing and Why?" Journal of Population Economics, Vol. 11, No. 3

---

(June): 307-344.

Squire, Lyn. 1993. "Fighting Poverty." American Economic Review, (May): 377-382.

World Bank. 2000. Making Transition Work for Everyone: Poverty and Inequality in Europe and Central Asia. Washington, DC.

World Bank. 2001. Global Poverty Monitoring database. Washington, DC.

World Bank. 2001. World Development Report 2000/01. Washington, DC.

World Bank. 2001. 2001 World Development Indicators database. Washington, DC.

Table 1. Coverage of the Data Set

<i>Country</i>	<i>Region</i>	<i>Income Group 1/</i>	<i>Survey Years</i>	<i>Welfare Indicator</i>
Algeria	Middle East, North Africa	Lower middle	1988, 1995	Expenditure
Bangladesh	South Asia	Low	1983/84, 1985/86, 1988/89, 1991/92, 1995/96	Expenditure
Belarus	Europe, Central Asia	Lower middle	1988, 1993, 1995	Income
Bulgaria	Europe, Central Asia	Lower middle	1989, 1992, 1995	Expenditure
China (Rural)	East Asia	Lower middle	1990, 1992, 1994, 1996, 1998	Income
China (Urban)	East Asia	Lower middle	1990, 1992, 1994, 1996, 1998	Income
Colombia	Latin America	Lower middle	1988, 1991, 1995, 1996	Income
Costa Rica	Latin America	Lower middle	1986, 1990, 1993, 1996	Income
Cote d'Ivoire	Sub-Saharan Africa	Low	1985, 1987, 1993, 1995	Expenditure
Dominican Republic	Latin America	Lower middle	1989, 1996	Income
Ecuador	Latin America	Lower middle	1988, 1995	Expenditure
Egypt (Rural)	Middle East, North Africa	Lower middle	1991, 1995	Expenditure
Egypt (Urban)	Middle East, North Africa	Lower middle	1991, 1995	Expenditure
El Salvador	Latin America	Lower middle	1989, 1996	Income
Ethiopia	Sub-Saharan Africa	Low	1981, 1995	Expenditure
Ghana	Sub-Saharan Africa	Low	1987, 1989, 1992, 1997	Expenditure
Guatemala	Latin America	Lower middle	1987, 1989	Income
Honduras	Latin America	Lower middle	1989, 1992, 1994, 1996	Income
India	South Asia	Low	1983, 1986, 1988, 1990, 1995, 1997	Expenditure
Indonesia	East Asia	Low	1987, 1993, 1996, 1998	Expenditure
Jamaica	Latin America	Lower middle	1988, 1990, 1993, 1996	Income
Jordan	Middle East, North Africa	Lower middle	1986/87, 1992, 1997	Expenditure
Kazakhstan	Europe, Central Asia	Lower middle	1988, 1993, 1996	Income/Expenditure
Kenya	Sub-Saharan Africa	Low	1992, 1994	Expenditure
Kyrgyz Republic	Europe, Central Asia	Low	1988, 1993, 1997	Income
Latvia	Europe, Central Asia	Lower middle	1988, 1993, 1995, 1998	Income
Lesotho	Sub-Saharan Africa	Low	1986/87, 1993	Expenditure
Lithuania	Europe, Central Asia	Lower middle	1988, 1993, 1996	Income/Expenditure
Madagascar	Sub-Saharan Africa	Low	1980, 1993/94	Expenditure
Mali	Sub-Saharan Africa	Low	1989, 1994	Expenditure
Mauritania	Sub-Saharan Africa	Low	1988, 1993, 1995	Expenditure
Moldova	Europe, Central Asia	Low	1988, 1992	Income
Morocco	Middle East, North Africa	Lower middle	1984/85, 1990	Expenditure
Nepal	South Asia	Low	1985, 1995	Expenditure
Niger	Sub-Saharan Africa	Low	1992/93, 1995	Expenditure
Pakistan	South Asia	Low	1987/88, 1990/91, 1993, 1996/1997	Expenditure
Paraguay	Latin America	Lower middle	1990, 1995	Income
Peru	Latin America	Lower middle	1985, 1994, 1997	Expenditure/Income
Philippines	East Asia	Lower middle	1985, 1988, 1991, 1994, 1997	Expenditure
Romania	Europe, Central Asia	Lower middle	1989, 1992, 1994	Income
Russian Federation	Europe, Central Asia	Lower middle	1994, 1996, 1998	Expenditure
Senegal	Sub-Saharan Africa	Low	1991, 1994	Expenditure
Sri Lanka	South Asia	Lower middle	1985, 1990, 1995	Expenditure

cont. Table 1. *Coverage of the Data Set*

<i>Country</i>	<i>Region</i>	<i>Income Group 1/</i>	<i>Survey Years</i>	<i>Welfare Indicator</i>
Tanzania	Sub-Saharan Africa	Low	1991, 1993	Expenditure
Thailand	East Asia	Lower middle	1988, 1992, 1996, 1998	Expenditure
Tunisia	Middle East, North Africa	Lower middle	1985, 1990	Expenditure
Turkey	Europe, Central Asia	Lower middle	1987, 1994	Expenditure
Turkmenistan	Europe, Central Asia	Low	1988, 1993	Income
Uganda	Sub-Saharan Africa	Low	1989, 1992/93	Expenditure
Ukraine	Europe, Central Asia	Low	1989, 1992, 1996	Income/Expenditure
Uzbekistan	Europe, Central Asia	Low	1988, 1993	Income
Zambia	Sub-Saharan Africa	Low	1991, 1993, 1996	Expenditure

Note: 1/ Income group classifications come from World Bank, World Development Report, 2000/2001. Low income includes countries with 1999 GNP per capita \$756 or less; lower-middle includes countries with 1999 GNP per capita of \$756 to \$2,995. In 2000/01, there was a total of 119 low income and lower-middle income countries.

Sources: World Bank, Global Poverty Monitoring database.



Table 2. Summary of Survey Data on Poverty, Income Distribution and Growth

Country	Survey Year	Poverty Headcount (\$/person/day)	Poverty Gap (%)	Squared Poverty Gap	Gini Coefficient	Survey Mean (\$/person/month)	Percent Change in Survey Mean	Percent change in GDP per capita, PPP (1993\$)
Algeria	1988	1.75	0.64	0.48	40.14	168.79		
Algeria	1995	1.16	0.23	0.09	35.33	157.93	-6.44	2.24
Bangladesh	1983/84	26.16	5.98	1.96	25.88	48.16		
Bangladesh	1985/86	21.96	3.92	1.08	26.92	52.74	9.51	14.25
Bangladesh	1988/89	33.75	7.72	2.45	28.85	46.68	-7.7	22.87
Bangladesh	1991/92	35.86	8.77	2.98	28.27	44.88	-7.81	9.99
Bangladesh	1995/96	29.07	5.88	1.60	33.63	55.20	22.99	21.85
Belarus	1988	0	0	0.00	22.76	203.17		
Belarus	1993	1.06	0.13	0.03	21.6	82.49	-59.4	-5.54
Belarus	1995	2.27	0.71	0.46	28.76	114.18	38.42	-18.1
Bulgaria	1989	0	0	0.00	23.33	315.08		
Bulgaria	1992	0	0	0.00	30.8	300.95	-4.49	-15.52
Bulgaria	1995	0	0	0.00	28.25	163.91	-45.54	13.49
China (Rural)	1990	50.27	16.38	7.26	33.5	38.47		
China (Rural)	1992	40.62	12.33	5.20	38.98	44.00	14.37	29.13
China (Rural)	1994	34.64	11.35	5.29	43.34	48.40	10	29.81
China (Rural)	1996	24.11	6.71	2.84	39.8	59.02	21.94	25.25
China (Rural)	1998	24.14	6.88	3.02	40.3	58.84	-0.31	13.65
China (Urban)	1990	0.95	0.04	0.01	33.5	99.54		
China (Urban)	1992	0.83	0.29	0.24	38.98	114.02	14.55	29.13
China (Urban)	1994	0.86	0.23	0.13	43.34	133.96	17.49	29.81
China (Urban)	1996	0.46	0.13	0.08	39.8	144.90	8.17	25.25
China (Urban)	1998	0.98	0.39	0.33	40.3	156.26	7.84	13.65
Colombia	1988	4.47	1.31	0.57	53.11	322.41		
Colombia	1991	2.82	0.75	0.33	51.32	349.96	8.54	6.89
Colombia	1995	8.87	2.05	0.63	57.4	218.51	-37.57	23.17
Colombia	1996	10.99	3.16	1.21	57.14	207.59	-5	2.34
Costa Rica	1986	12.52	5.44	3.27	34.42	101.52		
Costa Rica	1990	11.08	4.19	2.37	45.66	149.45	47.21	28.04
Costa Rica	1993	10.3	3.53	1.80	46.28	155.92	4.33	11.97
Costa Rica	1996	9.57	3.18	1.55	47.08	169.40	8.64	14.4
Cote d'Ivoire	1985	4.71	0.59	0.11	41.21	146.89		
Cote d'Ivoire	1987	3.28	0.41	0.09	40.01	131.23	-10.67	10.62
Cote d'Ivoire	1993	9.88	1.86	0.55	36.91	91.52	-30.26	1.03
Cote d'Ivoire	1995	12.29	2.4	0.71	36.68	85.29	-6.81	3.23
Dominican Republic	1989	7.73	1.51	0.42	50.46	172.90		
Dominican Republic	1996	3.19	0.71	0.26	48.71	242.85	40.45	25.65
Ecuador	1988	24.85	10.21	5.82	43.91	74.79		
Ecuador	1995	20.21	5.77	2.27	43.73	88.97	18.96	16.58
Egypt (Rural)	1991	3.97	0.53	0.13	36	88.63		
Egypt (Rural)	1995	1.06	0.06	0.01	23.5	69.56	-21.52	17.32
Egypt (Urban)	1991	3.97	0.53	0.13	34	88.63		
Egypt (Urban)	1995	5.55	0.66	0.14	33.1	85.48	-3.56	17.32
El Salvador	1989	25.49	13.72	10.06	48.96	91.09		

cont. Table 2. *Summary of Survey Data on Poverty, Income Distribution and Growth*

<i>Country</i>	<i>Survey Year</i>	<i>Poverty Headcount (\$1/person /day)</i>	<i>Poverty Gap (%)</i>	<i>Squared Poverty Gap</i>	<i>Gini Coefficient</i>	<i>Survey Mean (\$/person/ month)</i>	<i>Percent Change in Survey Mean</i>	<i>Percent change in GDP per capita, PPP (1993\$)</i>
El Salvador	1996	25.26	10.35	5.79	52.25	101.21	11.11	41.23
Ethiopia	1981	32.73	7.69	2.71	32.42	50.26		
Ethiopia	1995	31.25	7.95	2.99	39.96	59.20	17.79	36.77
Ghana	1987	15.87	3.87	1.29	35.35	76.90		
Ghana	1989	13.98	3.36	1.28	35.99	79.85	3.83	9.8
Ghana	1992	1.23	0.19	0.06	33.91	122.03	52.82	9.71
Ghana	1997	78.36	34.18	17.93	32.72	25.69	-78.95	16.58
Guatemala	1987	47.04	22.47	13.63	58.26	66.38		
Guatemala	1989	39.81	19.79	12.59	59.6	84.50	27.3	8.58
Honduras	1989	44.67	20.65	12.08	59.49	74.40		
Honduras	1992	38.98	17.74	10.41	54.51	74.93	0.71	6.93
Honduras	1994	37.93	16.6	9.38	55.22	78.04	4.15	2.88
Honduras	1996	40.49	17.47	9.72	53.72	70.37	-9.83	6.94
India	1983	52.55	16.27		32.06	43.67		
India	1986	47.46	13.92		33.68	47.14	7.95	26.23
India	1988	47.99	13.51		32.93	46.86	-0.6	27.99
India	1990	45.95	12.63		31.21	46.24	-1.33	4.41
India	1995	46.75	12.72		36.32	47.61	2.96	38
India	1997	44.03	11.96		37.83	49.92	4.85	8.51
Indonesia	1987	28.08	6.08	1.78	33.09	55.67		
Indonesia	1993	14.82	2.08	0.39	31.69	68.54	23.11	55.87
Indonesia	1996	7.81	0.95	0.18	36.45	86.62	26.37	24.96
Indonesia	1998	26.33	5.43	1.70	31.51	61.19	-29.36	-7.83
Jamaica	1988	5.02	1.38	0.67	43.16	151.91		
Jamaica	1990	0.62	0.03	0.01	41.79	168.85	11.15	11.79
Jamaica	1993	4.52	0.86	0.29	37.92	118.43	-29.87	2.59
Jamaica	1996	3.15	0.73	0.33	36.43	124.94	5.49	3.39
Jordan	1986/87	0	0	0.00	36.06	268.80		
Jordan	1992	0.55	0.12	0.05	43.36	211.30	-21.4	-3.61
Jordan	1997	0.36	0.1	0.06	36.42	183.89	-12.98	5.34
Kazakhstan	1988	0.05	0.02	0.01	25.74	195.62		
Kazakhstan	1993	1.06	0.04	0.01	32.67	132.69	-32.17	-24.7
Kazakhstan	1996	1.49	0.27	0.10	35.4	162.70	22.76	-11.35
Kenya	1992	33.54	12.82	6.62	57.46	89.71		
Kenya	1994	26.54	9.03	4.50	44.54	73.74	-17.81	1.82
Kyrgyz Republic	1988	0	0	0.00	26.01	180.65		
Kyrgyz Republic	1993	22.99	10.87	6.82	53.7	121.54	-32.73	-25.97
Kyrgyz Republic	1997	1.57	0.28	0.10	40.5	166.01	36.59	-6.67
Latvia	1988	0	0	0.00	22.49	407.89		
Latvia	1993	0	0	0.00	26.98	153.33	-62.41	-41.89
Latvia	1995	0	0	0.00	28.47	181.60	18.44	7.15
Latvia	1998	0.19	0.01	0.00	32.37	181.42	-0.1	19.02
Lesotho	1986/87	30.34	12.66	6.85	56.02	101.93		
Lesotho	1993	43.14	20.26	11.84	57.94	80.16	-21.36	82.19
Lithuania	1988	0	0	0.00	22.48	381.87		

cont. Table 2. *Summary of Survey Data on Poverty, Income Distribution and Growth*

Country	Survey Year	Poverty Headcount (\$/person/day)	Poverty Gap (%)	Squared Poverty Gap	Gini Coefficient	Survey Mean (\$/person/month)	Percent Change in Survey Mean	Percent change in GDP per capita, PPP (1993\$)
Lithuania	1993	16.47	3.37	0.95	33.64	67.86	-82.23	-35.75
Lithuania	1996	0	0	0.00	32.36	171.25	152.36	5.39
Madagascar	1980	49.18	19.74	10.21	46.85	50.14		
Madagascar	1993/94	60.17	24.46	12.83	43.44	39.07	-22.08	17.15
Mali	1989	16.46	3.92	1.39	36.51	76.75		
Mali	1994	72.29	37.38	23.09	50.5	32.47	-57.7	3.48
Mauritania	1988	40.64	19.07	12.75	42.53	48.10		
Mauritania	1993	49.37	17.83	8.58	50.05	54.53	13.37	20.17
Mauritania	1995	30.98	9.99	4.60	38.94	59.50	9.11	5.46
Moldova	1988	0	0	0.00	24.14	324.88		
Moldova	1992	7.31	1.32	0.32	34.43	106.24	-67.3	-45.68
Morocco	1984/85	2.04	0.7	0.50	39.19	153.80		
Morocco	1990	0.14	0.02	0.01	39.2	211.72	37.66	44.14
Nepal	1985	35.76	8.68	3.02	33.44	56.30		
Nepal	1995	37.68	9.74	3.71	38.78	52.60	-6.58	74.23
Niger	1992/93	41.73	12.46	5.29	36.1	47.07		
Niger	1995	61.42	33.93	23.66	50.61	36.17	-23.16	5.39
Pakistan	1987/88	49.63	14.85	6.03	33.35	41.05		
Pakistan	1990/91	47.76	14.57	6.04	33.23	41.66	1.48	14.93
Pakistan	1993	33.9	8.44	3.01	34.22	51.56	23.76	15.28
Pakistan	1996/97	30.96	6.16	1.87	31.24	50.22	-2.6	11.63
Paraguay	1990	11.05	2.47	0.80	39.74	106.77		
Paraguay	1995	19.36	8.27	4.65	59.13	170.69	59.86	16.73
Peru	1985	1.14	0.29	0.14	45.72	264.48		
Peru	1994	9.13	2.37	0.92	44.58	137.48	-48.02	22.16
Peru	1997	15.49	5.38	2.81	46.24	112.09	-18.47	15.72
Philippines	1985	22.78	5.32	1.66	41.04	74.98		
Philippines	1988	18.28	3.59	0.94	40.68	82.79	10.42	31.62
Philippines	1991	15.7	2.79	0.66	43.82	87.75	5.99	2.94
Philippines	1994	18.36	3.85	1.07	42.89	89.10	1.54	4.9
Philippines	1997	14.4	2.85	0.75	46.16	110.19	23.67	11.87
Romania	1989	0	0	0.00	23.31	191.03		
Romania	1992	0.8	0.34	0.31	25.46	144.27	-24.48	-18.32
Romania	1994	2.81	0.76	0.43	28.2	99.92	-30.75	9.4
Russian Federation	1994	6.23	1.6	0.55	43.59	184.06		
Russian Federation	1996	7.24	1.6	0.47	48.05	175.45	-4.68	-2.77
Russian Federation	1998	7.05	1.45	0.39	48.72	173.33	-1.21	-2.34
Senegal	1991	45.38	19.95	11.18	54.12	63.70		
Senegal	1994	26.26	7.04	2.73	41.28	67.87	6.54	2.66
Sri Lanka	1985	9.39	1.69	0.50	32.47	78.77		
Sri Lanka	1990	3.82	0.67	0.23	30.1	86.84	10.24	39.43
Sri Lanka	1995	6.56	1	0.26	34.36	88.33	1.71	36.62
Tanzania	1991	48.54	24.42	15.41	59.01	66.22		
Tanzania	1993	19.89	4.77	1.66	38.1	73.26	10.63	1.51
Thailand	1988	25.91	7.36	2.55	43.84	90.46		

cont. Table 2. *Summary of Survey Data on Poverty, Income Distribution and Growth*

Country	Survey Year	Poverty Headcount (\$/person /day)	Poverty Gap (%)	Squared Poverty Gap	Gini Coefficient	Survey Mean (\$/person/ month)	Percent Change in Survey Mean	Percent change in GDP per capita, PPP (1993\$)
Thailand	1992	6.02	0.48	0.05	46.22	129.80	43.49	47.27
Thailand	1996	2.2	0.14	0.01	43.39	143.87	10.84	42.38
Thailand	1998	0	0	0.00	41.36	138.88	-3.47	-12.92
Tunisia	1985	1.67	0.34	0.13	43.43	189.63		
Tunisia	1990	1.26	0.33	0.17	40.24	204.00	7.58	27.12
Turkey	1987	1.49	0.36	0.17	43.57	180.59		
Turkey	1994	2.35	0.55	0.24	41.53	170.34	-5.68	25.39
Turkmenistan	1988	0	0	0.00	26.39	111.69		
Turkmenistan	1993	20.92	5.69	2.10	35.76	69.91	-37.41	-15.36
Uganda	1989	39.17	14.99	7.57	44.36	57.57		
Uganda	1992/93	36.7	11.44	5.00	39.16	53.86	-6.45	17.1
Ukraine	1989	0	0	0.00	23.31	309.85		
Ukraine	1992	0.04	0.01	0.01	25.71	191.70	-38.14	-17.42
Ukraine	1996	0	0	0.00	32.53	120.14	-37.32	-43.02
Uzbekistan	1988	0	0	0.00	24.95	204.40		
Uzbekistan	1993	3.29	0.46	0.11	33.27	116.28	-43.12	-27.33
Zambia	1991	58.59	31.04	20.18	48.29	39.09		
Zambia	1993	69.16	38.49	25.71	46.18	28.70	-26.58	0.76
Zambia	1996	72.63	37.75	23.88	49.79	31.11	8.39	-8.83

Notes: All data from household surveys conducted in individual countries, and reported in World Bank, [Global Poverty Monitoring](#) database. Data on changes in GDP per capita are measured in purchasing power parity (PPP) exchange rates, whereby local currencies are converted into international dollars. Data on changes in GDP measured in PPP units are from World Bank, [2001 World Development Indicators](#) database.

**Table 3. Regional Summary of Changes in Growth and Income Distribution**

<i>Designation</i>	<i>Real Survey mean per capita household income or consumption</i>				<i>GDP Per Capita, 1993 PPP Values</i>			<i>Inequality<sup>a</sup></i>		
	<i>Number of intervals</i>	<i>Number of intervals for which it</i>		<i>Mean rate of change (percent per year)</i>	<i>Number of intervals for which it</i>		<i>Mean rate of change (percent per year)</i>	<i>Number of intervals for which it</i>		<i>Mean rate of change (percent per year)</i>
		<i>fell</i>	<i>rose</i>		<i>fell</i>	<i>rose</i>		<i>fell</i>	<i>rose</i>	
East Asia	18	3	15	3.58	2	16	7.33	8	10	1.64
Eastern Europe and Central Asia	23	18	5	-5.22	17	6	-3.48	5	18	4.34
Latin America and the Caribbean	19	6	13	0.77	0	19	3.28	10	9	0.56
Middle East and North Africa	7	5	2	-1.04	1	6	2.95	5	2	-2.02
South Asia	15	6	9	1.36	0	15	5.95	6	9	0.82
Sub-Saharan Africa	19	11	8	-3.32	1	18	2.36	12	7	-1.67
Low Income Countries	42	24	18	-2.82	9	33	1.95	20	22	0.38
Lower Middle Income Countries	59	25	34	0.47	12	47	3.17	26	33	1.33
Total	101	49	52	-0.90	21	80	2.66	46	55	0.94
Total (excluding Eastern Europe and Central Asia)	78	31	47	0.37	4	74	4.47	41	37	0.04

<sup>a</sup> Inequality is measured by the Gini coefficient

Table 4. Growth Elasticities of Poverty, Estimated Using the Gini Coefficient of Inequality

Measure of Economic Growth and Sample	Trend ( $\gamma$ ) (x100)	Growth Elasticity ( $\beta$ )	Adjusted $R^2$
<u>Survey mean income (consumption)</u>			
Low income countries	0.001 (1.57)	-0.178 (-2.23)*	0.131
Lower-middle income countries	-0.001 (-0.45)	-0.045 (-0.094)	-0.018
Full sample	0.001 (1.19)	-0.092 (-2.12)*	0.047
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.70)	0.063 (1.13)	0.022
<u>GDP per capita (1993 PPP values)</u>			
Low income countries	0.001 (2.49)*	-0.033 (-2.55)*	0.161
Lower middle income countries	0.001 (0.01)	-0.247 (-2.65)*	0.081
Full sample	0.001 (2.31)	-0.279 (-3.58)**	0.118
Full sample (excluding Eastern Europe and Central Asia)	0.001 (0.93)	0.238 (1.19)	0.078

Notes: Estimates were obtained using ordinary least squares, regressing the difference between household surveys in the log of the Gini coefficient of inequality on two variables: (1) the time elapsed between the surveys; and (2) the difference in the log of the real value of the survey mean income/consumption (or GDP per capita). T-ratios are shown in parentheses, corrected for heteroscedasticity. Sample sizes are 42 intervals for low income countries, 59 intervals for lower middle income countries, 101 intervals for full sample, and 78 intervals for full sample, excluding Eastern Europe and Central Asia. See Table 1 for countries and survey dates.

\*Significant at the 0.05 level.

\*\*Significant at the 0.01 level.

**Table 5. Regional Summary of Changes in Poverty**

<i>Region</i>	<i>Total</i>	<i>Number of intervals</i>			<i>Mean rate of change (percent per year)</i>
		<i>Poverty fell<sup>a</sup></i>	<i>Poverty increased<sup>a</sup></i>	<i>No change</i>	
East Asia	18	13	5	-	-7.01
Eastern Europe and Central Asia	23	4	15	4	108.45
Latin America and the Caribbean	19	12	7	-	4.45
Middle East and North Africa	7	5	2	-	4.28
South Asia	15	9	6	-	-1.65
Sub-Saharan Africa	19	9	10	-	3.56
Low Income Countries	42	21	21	-	34.6
Lower Middle Income Countries	59	31	24	4	18.17
<b>Total</b>	<b>101</b>	<b>52</b>	<b>45</b>	<b>4</b>	<b>25.01</b>
<b>Total (excluding Eastern Europe and Central Asia)</b>	<b>78</b>	<b>46</b>	<b>32</b>	<b>-</b>	<b>0.40</b>

Notes:

<sup>a</sup>Poverty is measured by headcount index of \$1.08/person/day.

Table 6a. *Growth Elasticities of Poverty, Estimated Using Survey Mean Income (Consumption)*

Poverty measure	Distributional trend ( $\gamma$ ) (x100)	Growth Elasticity ( $\beta$ )	Adjusted R <sup>2</sup>
<u>Poverty headcount (\$1.08/person/day)</u>			
Low income countries	0.001 (0.31)	-5.700 (4.30)**	0.294
Lower middle income countries	0.001 (0.50)	-5.737 (-5.90)**	0.384
Full sample	0.001 (0.57)	-5.745 (-7.47)**	0.363
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.11)	-2.592 (-4.07)**	0.183
<u>Poverty gap index</u>			
Low income countries	0.001 (0.01)	-3.473 (-9.73)**	0.727
Lower middle income countries	-0.001 (-0.93)	-2.193 (-2.75)**	0.111
Full sample	-0.001 (-0.73)	-2.930 (-7.22)**	0.377
Full sample (excluding Eastern Europe and Central Asia)	-0.001 (-0.54)	-3.044 (-7.85)**	0.443
<u>Squared poverty gap index</u>			
Low income countries	0.001 (0.02)	-4.060 (-8.98)**	0.726
Lower middle income countries	-0.001 (-1.18)	-1.821 (-1.85)	0.047
Full sample	-0.001 (-0.86)	-3.149 (-6.07)**	0.308
Full sample (excluding Eastern Europe and Central Asia)	-0.001 (-0.69)	-3.390 (-6.90)**	0.395

Notes: Estimates were obtained using ordinary least squares, regressing the difference between household surveys in the log of the poverty measure on two variables: (1) the time elapsed between the surveys; and (b) the difference in the log of the real value of survey mean income (consumption). T-ratios are shown in parentheses, corrected for heteroscedasticity. Sample sizes are 42 intervals for low income countries, 59 intervals for lower middle income countries, 101 intervals for full sample, and 78 for full sample, excluding Eastern Europe and Central Asia. See Table 1 for countries and survey dates.

\*Significant at the 0.05 level.

\*\*Significant at the 0.01 level.



**Table 6b. Growth Elasticities of Poverty, Estimated Using GDP Per Capita, 1993 PPP Values**

Poverty measure	Distributional trend ( $\gamma$ ) (x100)	Growth Elasticity ( $\beta$ )	Adjusted R2
<u>Poverty headcount (\$1.08/person/day)</u>			
Low income countries	0.003 (1.72)	-8.372 (-3.61)**	0.219
Lower middle income countries	0.004 (1.78)	-6.112 (-2.58)*	0.107
Full sample	0.004 (2.49)*	-7.406 (-4.55)**	0.175
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.76)	-1.523 (-0.95)	0.015
<u>Poverty gap index</u>			
Low income countries	0.001 (0.48)	-0.184 (-0.10)	-0.052
Lower middle income countries	0.001 (0.23)	-3.594 (-2.76)**	0.112
Full sample	0.001 (0.94)	-2.109 (-1.97)	0.022
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.16)	-2.446 (-1.97)	0.025
<u>Squared poverty gap index</u>			
Low income countries	0.001 (0.49)	-0.448 (-0.20)	-0.062
Lower middle income countries	-0.001 (-0.21)	-4.020 (-2.59)*	0.107
Full sample	0.001 (0.71)	-2.543 (-1.92)	0.021
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.01)	-3.117 (-2.02)*	0.029

Notes: Estimates were obtained using ordinary least squares, regressing the difference between household surveys in the log of the poverty measure on two variables: (1) the time elapsed between the surveys; and (2) the difference in the log of the real value of GDP per capita, 1993 PPP values. T-ratios are shown in parentheses, corrected for heteroscedasticity. Sample sizes are 42 intervals for low income countries, 59 intervals for lower middle income countries, 101 intervals for full sample, and 78 for full sample, excluding Eastern Europe and Central Asia. See Table 1 for countries and survey dates.

\*Significant at the 0.05 level.

\*\*Significant at the 0.01 level.

**Table 7a. Growth Elasticities of Poverty, Estimated Using Survey Mean Income (Consumption)**  
(excluding Eastern Europe and Central Asia)

Poverty measure	Distributional trend ( $\gamma$ ) (x100)	Growth Elasticity ( $\beta$ )	Adjusted $R^2$
<u>Poverty headcount (\$1.08/person/day)</u>			
Low income countries	0.001 (0.80)	-2.523 (-12.84)**	0.831
Lower middle income countries	0.002 (1.25)	-2.752 (-1.80)	0.079
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.11)	-2.592 (-4.07)**	0.183
<u>Poverty gap index</u>			
Low income countries	0.001 (0.08)	-3.247 (-10.73)**	0.771
Lower middle income countries	-0.001 (-0.80)	-2.741 (-3.11)**	0.164
Full sample (excluding Eastern Europe and Central Asia)	-0.001 (-0.54)	-3.044 (-7.85)**	0.443
<u>Squared poverty gap index</u>			
Low income countries	0.001 (0.16)	-3.794 (-9.72)**	0.763
Lower middle income countries	-0.001 (-1.06)	-2.713 (-2.54)*	0.110
Full sample (excluding Eastern Europe and Central Asia)	-0.001 (-0.69)	-3.390 (-6.90)**	0.395

Notes: Estimates were obtained using ordinary least squares, regressing the difference between household surveys in the log of the poverty measure on two variables: (1) the time elapsed between the surveys; and (b) the difference in the log of the real value of survey mean income (consumption). T-ratios are shown in parentheses, corrected for heteroscedasticity. Sample sizes (excluding Eastern Europe and Central Asia) are 35 intervals for low income countries, 43 intervals for lower middle income countries and 78 intervals for full sample. See Table 1 for countries and survey dates.

\*Significant at the 0.05 level.

\*\*Significant at the 0.01 level.

**Table 7b. Growth Elasticities of Poverty, Estimated Using GDP Per Capita, 1993 PPP Values**  
(excluding Eastern Europe and Central Asia)

Poverty measure	Distributional trend ( $\gamma$ ) (x100)	Growth Elasticity ( $\beta$ )	Adjusted R <sup>2</sup>
<u>Poverty headcount (\$1.08/person/day)</u>			
Low income countries	0.001 (1.35)	-1.438 (-1.15)	0.002
Lower middle income countries	0.003 (1.53)	-1.050 (-0.36)	0.008
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.76)	-1.523 (-0.95)	0.014
<u>Poverty gap index</u>			
Low income countries	0.001 (0.96)	-1.527 (-0.91)	-0.026
Lower middle income countries	0.001 (0.19)	-3.657 (-1.87)	0.039
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.16)	-2.446 (-1.97)	0.026
<u>Squared poverty gap index</u>			
Low income countries	0.001 (0.93)	-2.154 (-0.96)	-0.030
Lower middle income countries	-0.001 (-0.14)	-4.325 (-1.89)	0.049
Full sample (excluding Eastern Europe and Central Asia)	0.001 (1.01)	-3.117 (-2.02)	0.029

Notes: Estimates were obtained using ordinary least squares, regressing the difference between household surveys in the log of the poverty measure on two variables: (1) the time elapsed between the surveys; and (2) the difference in the log of the real value of GDP per capita, 1993 PPP values. T-ratios are shown in parentheses, corrected for heteroscedasticity. Sample sizes (excluding Eastern Europe and Central Asia) are 35 intervals for low income countries, 43 intervals for lower middle income countries and 78 intervals for full sample. See Table 1 for countries and survey dates.

\*Significant at the 0.05 level.

\*\*Significant at the 0.01 level.

**Table 8. A Comparison of Different Growth Elasticities of Poverty, Estimated Using Survey Mean Income (Consumption)**

<i>Source</i>	<i>Number of countries</i>	<i>Number of intervals</i>	<i>Poverty Measure</i>	<i>Growth Elasticity of poverty</i>
Ravallion and Chen (1997: Table 6)	42	64	Proportion of population consuming less than \$1.08/person/day	-3.12 (-2.62)*
Bruno, Ravallion and Squire (1998: 127)	20	?	Proportion of population consuming less than \$1.08/person/day	-2.12 (-4.67)**
Present Study	50	101	Proportion of population consuming less than \$1.08/person/day	-2.59 (-4.07)**

\* Significant at the 0.05 level

\*\* Significant at the 0.01 level

Figure 1. Growth and Inequality, Plotted Using Survey Mean Income (Consumption)

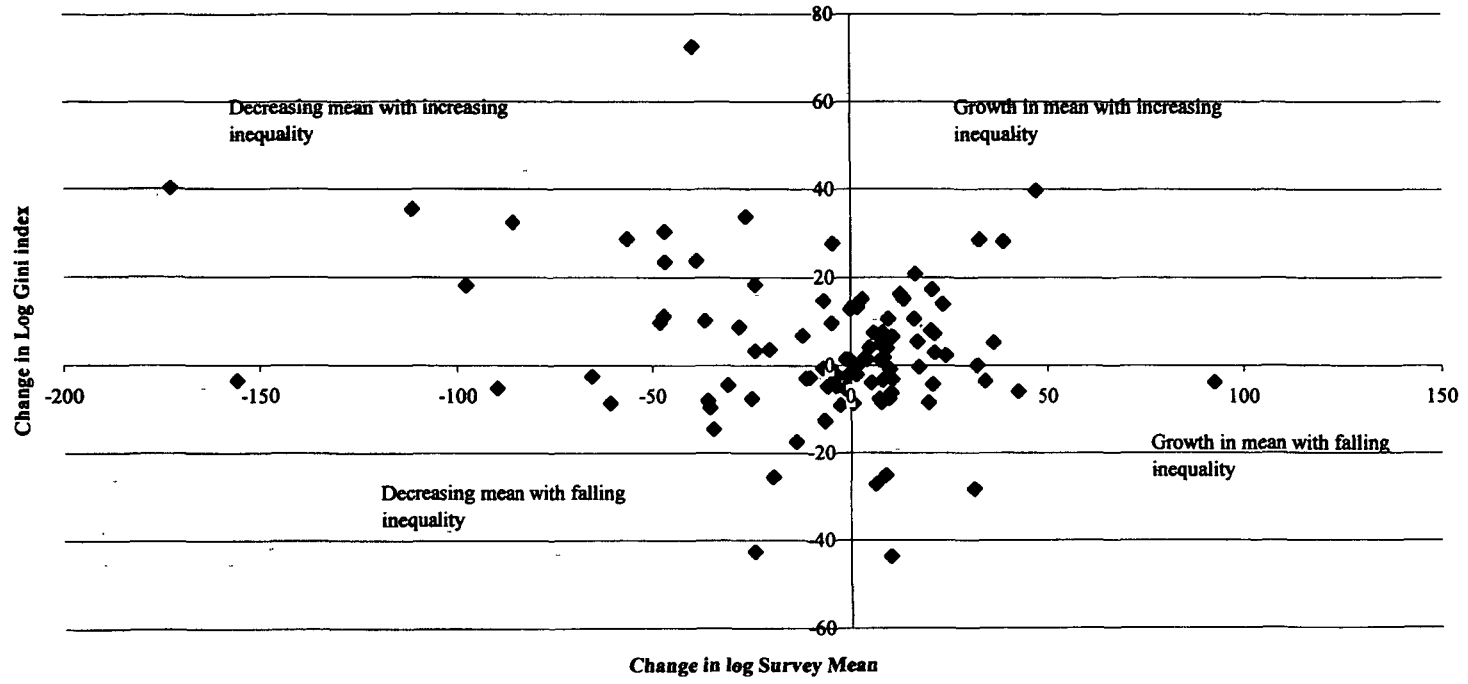
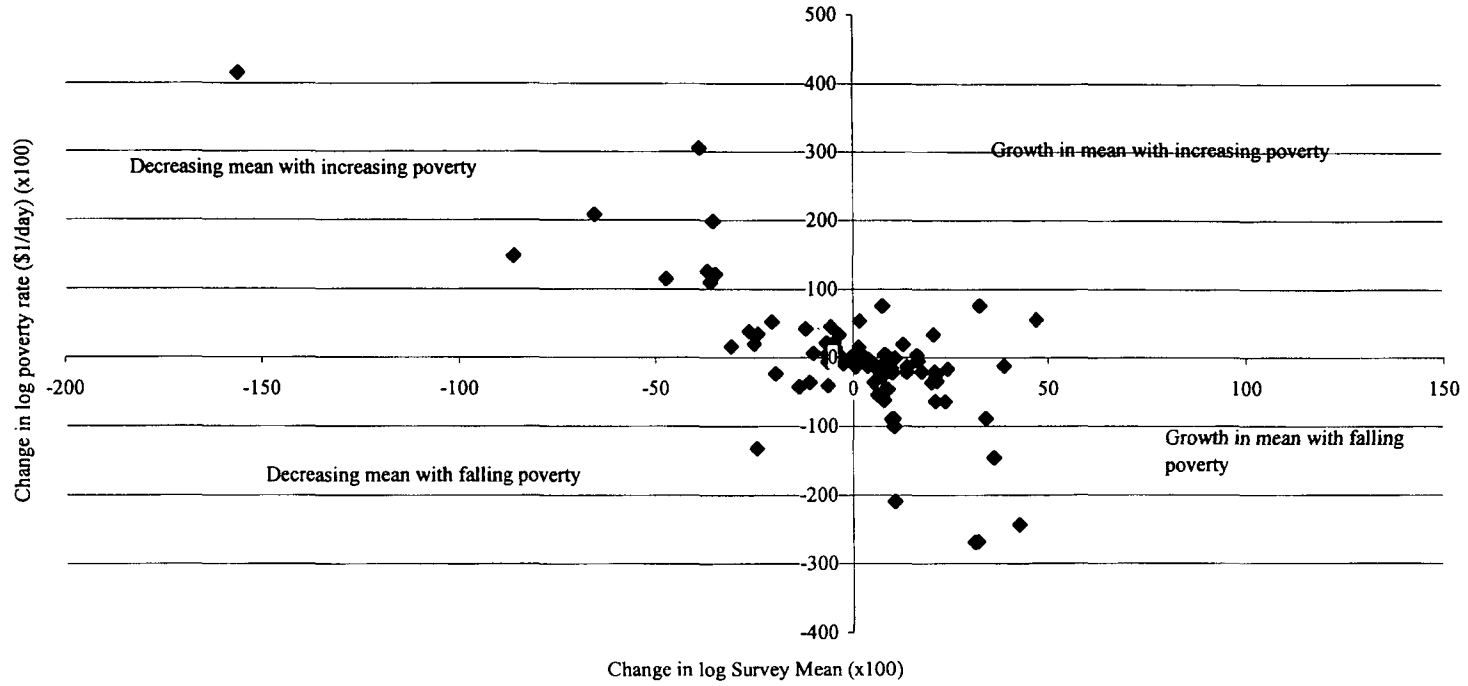


Figure 2. Growth and Poverty, Plotted Using Survey Mean Income (Consumption)



**Policy Research Working Paper Series**

	<b>Title</b>	<b>Author</b>	<b>Date</b>	<b>Contact for paper</b>
WPS2952	The Effects of a Fee-Waiver Program on Health Care Utilization among the Poor: Evidence from Armenia	Nazmul Chaudhury Jeffrey Hammer Edmundo Murrugarra	January 2003	N. Chaudhury 84230
WPS2953	Health Facility Surveys: An Introduction	Magnus Lindelöw Adam Wagstaff	January 2003	H. Sladovich 37698
WPS2954	Never Too Late to Get Together Again: Turning the Czech and Slovak Customs Union into a Stepping Stone to EU Integration	Bartłomiej Kaminski Beata Smarzynska	January 2003	P. Flewitt 32724
WPS2955	The Perversity of Preferences: The Generalized System of Preferences and Developing Country Trade Policies, 1976–2000	Çaglar Özden Eric Reinhardt	January 2003	P. Flewitt 32724
WPS2956	Survey Compliance and the Distribution of Income	Johan A. Mistiaen Martin Ravallion	January 2003	P. Sader 33902
WPS2957	Mexico: In-Firm Training for the Knowledge Economy	Hong Tan Gladys Lopez-Acevedo	January 2003	H. Tan 33206
WPS2958	Globalization and Workers in Developing Countries	Martin Rama	January 2003	H. Sladovich 37698
WPS2959	Wage Differentials and State-Private Sector Employment Choice in the Federal Republic of Yugoslavia	Michael M. Lokshin Branko Jovanovic	January 2003	P. Sader 33902
WPS2960	The Poverty/Environment Nexus in Cambodia and Lao People's Democratic Republic	Susmita Dasgupta Uwe Deichmann Craig Meisner David Wheeler	January 2003	Y. D'Souza 31449
WPS2961	Strategic Planning for Poverty Reduction in Vietnam: Progress and Challenges for Meeting the Localized Millennium Development Goals	Rob Swinkels Carrie Turk	January 2003	N. Lopez 88032
WPS2962	High Consumption Volatility: The Impact of Natural Disasters?	Philippe Auffret	January 2003	K. Tomlinson 39763
WPS2963	Catastrophe Insurance Market in the Caribbean Region: Market Failures and Recommendations for Public Sector Interventions	Philippe Auffret	January 2003	K. Tomlinson 39763
WPS2964	Wages and Productivity in Mexican Manufacturing	Gladys López-Acevedo	January 2003	M. Geller 85155
WPS2965	Informality Revisited	William F. Maloney	January 2003	P. Soto 37892
WPS2966	Health and Poverty in Guatemala	Michele Gragnolati Alessandra Marini	January 2003	M. Gragnolati 85287
WPS2967	Malnutrition and Poverty in Guatemala	Alessandra Marini Michele Gragnolati	January 2003	M. Gragnolati 85287

### Policy Research Working Paper Series

	<b>Title</b>	<b>Author</b>	<b>Date</b>	<b>Contact for paper</b>
WPS2968	Refining Policy with the Poor: Local Consultations on the Draft Comprehensive Poverty Reduction and Growth Strategy in Vietnam	Edwin Shanks Carrie Turk	January 2003	N. Lopez 88032
WPS2969	Fostering Community-Driven Development: What Role for the State?	Monica Das Gupta Helene Grandvoisinnet Mattia Romani	January 2003	M. Das Gupta 31983
WPS2970	The Social Impact of Social Funds in Jamaica: A Mixed-Methods Analysis of Participation, Targeting, and Collective Action in Community-Driven Development	Vijayendra Rao Ana María Ibáñez	February 2003	P. Sader 33902
WPS2971	Short but not Sweet: New Evidence on Short Duration Morbidities from India	Jishnu Das Carolina Sánchez-Páramo	February 2003	H. Sladovich 37698