

# **G**rowth, poverty and inequality in Central America

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## Abstract

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This study measures and analyses the household income growth performance of six countries in Central America between 1990 and 2004. Using national household surveys over the period, new empirical and methodological tools were employed to measure the growth in the incomes of the poor and provide an indication of some of the pertinent factors in the trends that occurred in the region. In particular the decomposition of the growth of poor incomes permitted an investigation of the relative contributions of economic growth and income redistribution. The results show that growth effects have been poverty reducing but redistribution effects have in many cases been poverty increasing. At the same time the results highlight the potential for the effects of redistribution of incomes away from the poor to hinder the continued alleviation of the absolute deprivation faced by half the population in the region. Further analysis showed that the inhibiting characteristics of the redistribution trends in Central America were due to a variety of structural inequalities in the social development of the countries of the region.





## Introduction

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The most pressing social development priority of developing countries is the need to achieve significant and lasting results in poverty reduction. The growth in the real incomes of the poor and their relative performance compared to the changes in inequality that occur provides the logical framework for an analysis of the barriers to and catalysts for decreasing poverty. These changes are viewed in the context of an enabling environment which encourages faster income growth of the poor and thus offers a pathway out of poverty. Pro-poor growth which analyses both poor and non-poor income growth has become a policy priority of governments, civil society and international organizations in their efforts to foster the faster economic and social development of middle- and low-income countries.

This study analyses six countries in Central America; Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama, in terms of their ability to achieve positive growth in the incomes of the poor over the 1990s and into the new millennium. Using comprehensive and nationally representative household survey data combined with recently developed empirical methodologies, the quantities and trends in poor and non-poor income growth are measured for each of the countries in Central America. Within this analysis one key area of interest is the effect of the high rates of inequality in the countries of the region and the interacting effects of inequality and economic growth upon the capacity to achieve decreases in poverty.

The results highlight not only the positive effect that economic growth plays in raising of the incomes of the poor but also the negative effect of the stagnant levels of high inequality in the region.

This paper also draws attention to the structural factors which reinforce and perpetuate the levels of inequality and contribute to a general lack of progress in social development inhibiting further poverty reduction in the region. The outline of paper is as follows: Chapter 1 presents an overview of the growth performance of the countries in the subregion and a comparison of this with the corresponding performance in poverty and inequality, highlighting the differences and similarities between the Central American nations. Chapter 2 presents an introduction to the concept of pro-poor growth (PPG) and a review of empirical tools for measuring growth in poor and non-poor incomes. These tools are then applied to each of the countries of the region, using comprehensive household survey data, for the period between 1990 to the most recent survey data available from 2004. The results shed light on the performance of the regions' poor populations within the context of its recent history. Chapter 3 describes the results of the search for some of the key social development factors that help to explain the pattern of growth of poor and non-poor incomes and the areas in which the countries of the region have room for improvement in terms of their ability to provide greater opportunities and gains for the poor in periods of growth. Chapter 4 summarizes the overall trends of the paper and concludes.

## **I. Economic growth, poverty and inequality in Central America**

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The economies of Central America during the 1990s were engaged in several structural transitions that have had a profound effect on both the ability of these nations to pursue further social development and poverty reduction strategies, and to put in place structures that foster long-term sustainable growth into the new millennium. The outcome of these transitions and the performance of the macroeconomies have been dependent upon a variety of initial conditions that both illustrate the heterogeneity of the Central American countries and the common structural difficulties they face for securing greater development and prosperity for their populations. This chapter provides an overview of the performance of economic growth and social development for the countries of Central America and the extent to which they enabled poverty reduction growth between 1990 and 2004.

There are several factors which are both antecedents for the macroeconomic changes that took place since 1990 and provide context for the performance of the countries of the region during the 14 years afterwards. Central America, like the rest of Latin America had begun the challenge in the beginning of the 1990s of recovering from the structural and debt crises of the 1980s that have been characterized as the “lost decade”. In addition, most countries in the region, in particular Nicaragua, Panama, El Salvador and Guatemala, spent the beginning of the 1990s ending and recovering from conflicts and civil wars (ECLAC, 2003).

The countries began to undertake a series of structural reforms at the beginning of the 1990s, although the extent of the reforms differs from country to country. These reforms were implemented under a strategy that has been termed the “Washington Consensus” (Williamson, 1989), embracing neo-liberal economic policy shifts towards a more open and market-oriented economy, with smaller government and tight fiscal policy controls. The reforms included a series of liberalization policies for the external sector such as tariff reduction programs and the relaxation of restrictions on movements of capital. In addition market-oriented reforms were implemented for a number of publicly held institutions initiating programs of privatization for several key government-owned enterprises in the region in sectors such as telecommunications, utilities and banking. The governments of the region also embarked on strategies to improve their fiscal performance, reigning in deficits and investigating opportunities for tax reforms.

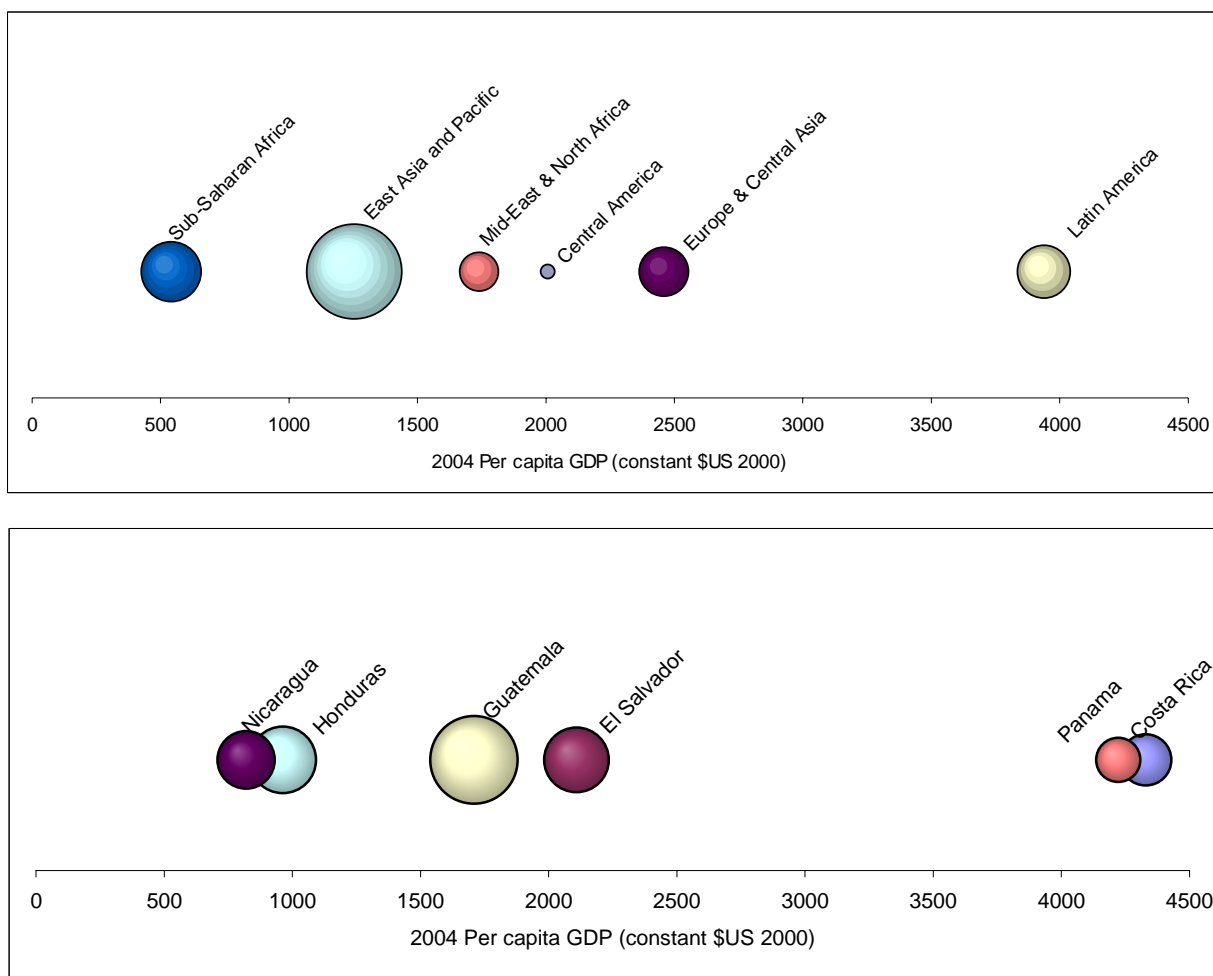
Several studies such as Sauma (2006), Trejos and Gindling (2004), ECLAC (2003), Perry et. al. (2006), and repeated issues of the ECLAC Economic Survey of Latin America have discussed and analysed the period of recovery and reform the economies of Central America since 1990 and the regions’ subsequent failure to achieve neither high nor robust growth. Since 1990 the region has been subject to periods of economic volatility and external shocks such as the contagion affects of the Mexican currency crisis (or Tequila Crisis) in 1994-95, the Asian currency crisis of 1997, and a variety of commodity price shocks to key export industries. In addition the subregion is susceptible to natural disasters due to its geographical vulnerability to hurricanes, exemplified by Hurricane Mitch hitting Honduras, El Salvador and Nicaragua in 1998.

Within this growth context the region has also sought to make significant achievements in social development and progress in poverty reduction. As this chapter shows, the patchy performance of economic growth in the region corresponds with the limited progress in achieving significant social development outcomes. Moreover, the reductions in poverty have been sporadic, and do not exhibit a uniform trend nor do they reveal a sustainable pattern of reduction across the region. These restricted gains are further offset by the mixed and often increasing inequality in the countries. Finally, the performance in the region corresponds to some extent with the initial conditions of each country with the highest income countries achieving the best outcomes.

## **1. Economic growth and per capita incomes**

In the 508,900 square kilometres of the six countries of Central America, live more than 38.7 million people, over 12 million of whom live in the most populous country of Guatemala, whilst Panama holds a little more than 3 million people making it the least populated (CELADE, 2005). Central America is a region of six countries whose average level of development in 2004 was greater than the low income countries in regions of Sub-Saharan Africa, East-Asia and the Middle-East, but lower than the incomes of the developing regions of Europe and Central Asia, and much lower than the level of the average of the entire Latin American region (see Figure 1 top panel). To put these numbers into perspective, the 2004 real per capita GDP of the average OECD nation was nearly \$29,000 in constant 2000 United States dollars (World Bank, 2005). However the average per capita income for the region masks large differences in the development of each of the countries as shown in the bottom panel of Figure 1.

**Figure 1**  
**PER CAPITA GDP IN DEVELOPING REGIONS OF THE WORLD, 2004<sup>a</sup>**  
*(Per capita Gross Domestic Product, population weighted average shown as size of bubble, constant 2000 US\$)*

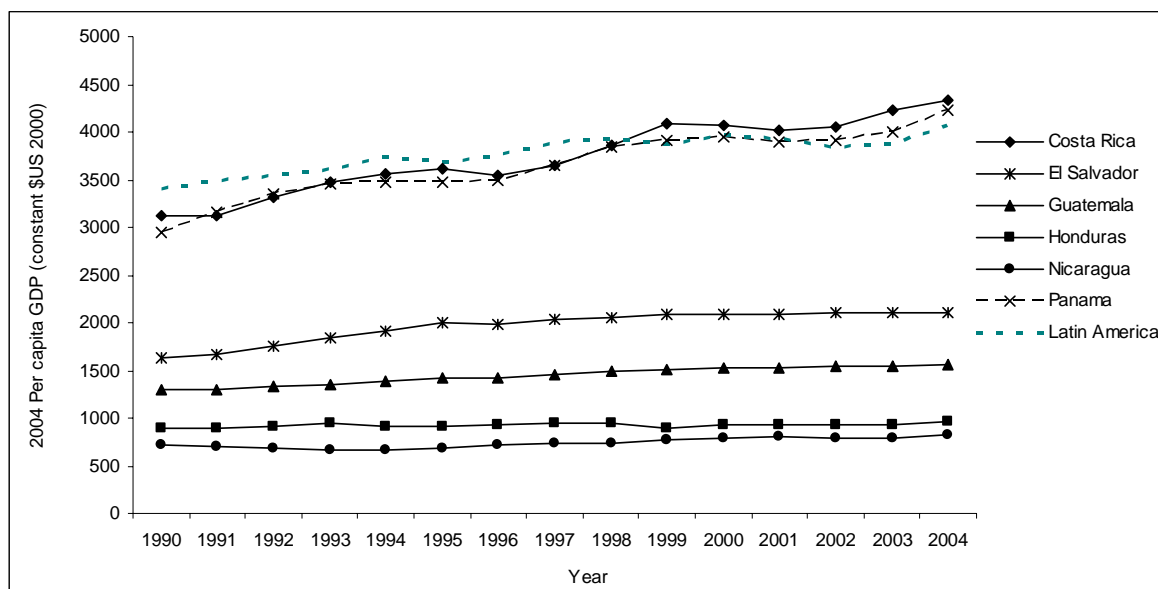


Source: ECLAC (2007) CEPALSTAT, internet database (<http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp?idAplicacion=6&idioma=i>).

<sup>a</sup> Developing country definitions taken from World Bank, World Development Indicators, 2007.

The countries of Central America can be subdivided into three distinct pairs of countries with similar development levels varying from the upper middle income levels of the average Latin American nation, to the low income levels below those of less developed countries in East Asia and the Pacific. Figure 1b shows that the wealthiest countries in Central America in 2004 were Costa Rica and Panama with per capita GDP of over US\$ 4,000 in constant 2000 United States dollars. These two countries were far ahead of El Salvador and Guatemala whose incomes were around US\$ 2,100 and US\$ 1,700 respectively. The countries trailing furthest behind in per capita incomes were Honduras and Nicaragua with around US\$ 960 and US\$ 810 respectively. These last two countries are characterized by low incomes and high external debt and are members of the World Bank and IMF list of Highly Indebted Poor Countries (HIPCs), and so eligible for special assistance and lending terms. The divergence of the countries in terms of per capita GDP levels has increased since 1990 due to the continuing growth of Costa Rica and Panama, whose patterns of GDP lie close to the average for Latin America, and the stagnant performance of the remaining countries that lag further and further behind the rest of Latin America (Figure 2).

**Figure 2**  
**PER CAPITA GDP IN CENTRAL AMERICA AND LATIN AMERICA, 1990-2004**  
*(Per capita Gross Domestic Product, constant 2000 US\$)*



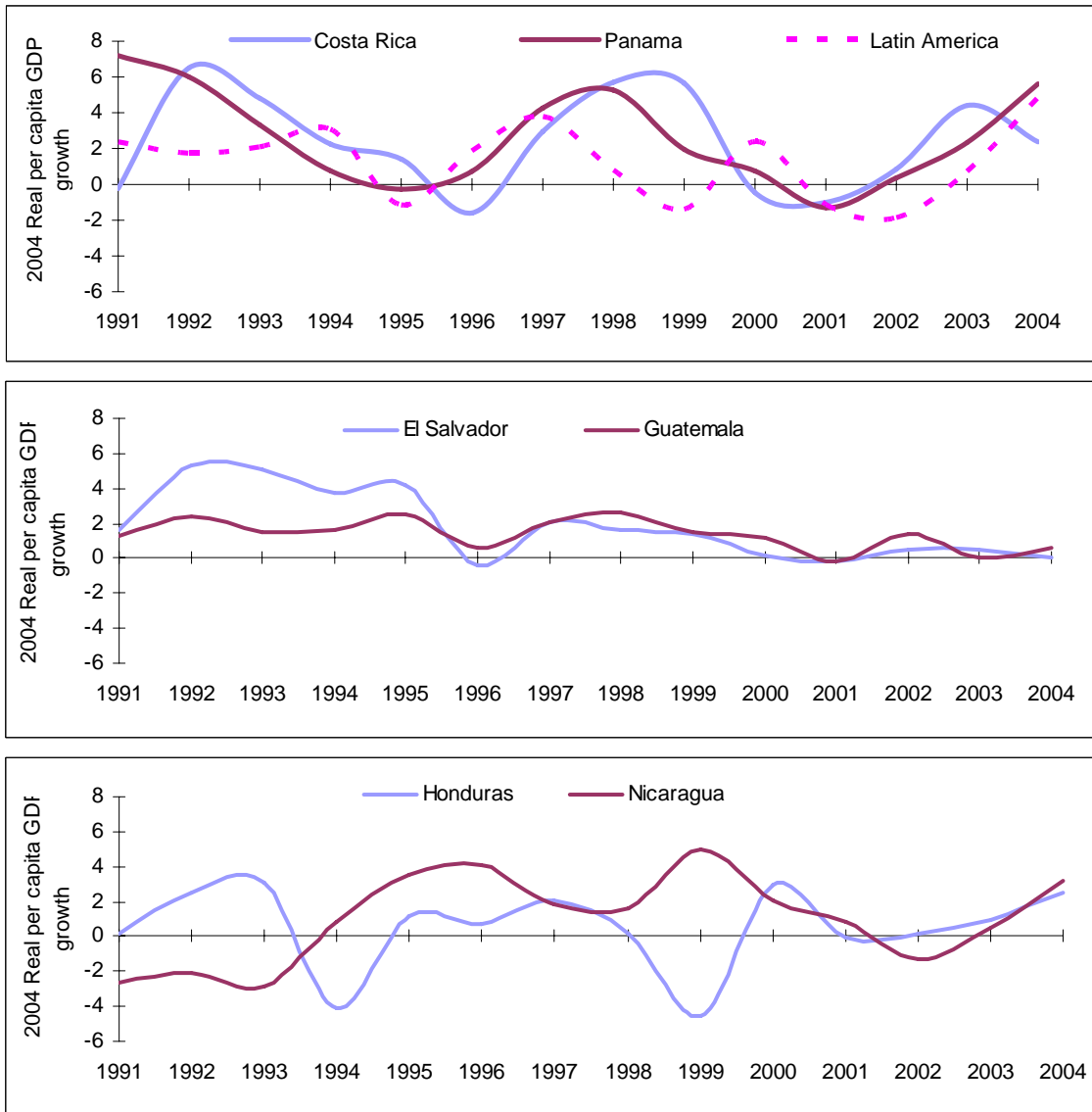
Source: ECLAC (2007) CEPALSTAT, internet database

(<http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp?idAplicacion=6&idioma=i>).

Figure 3 shows that all countries have had varied but strong cyclical movements in their growth rates since 1990. Costa Rica and Panama, the wealthiest countries, exhibited greater fluctuations of GDP per capita but also manifest the greatest overall growth rates. The region suffered declines and negative growth at the time of the 1994 Mexican currency crisis and experienced another dip into recession around the turn of the century, although the particular timing of the declines in each country varies. After the turn of the century the richest pair of countries and the poorest pair both began to recover and raise their growth rates. However both El Salvador and Guatemala show a pattern of declining cyclical variance matched with a downward trend in their per capita growth rates that failed to recover in the beginning of the new millennium. This pattern is also out of step with the general trend in growth for the entire Latin America (see first panel) which the other countries of Central America tend to track closely. Another characteristic of the trends in growth in the Central American nations is that the initial conditions and wealth in 1990 seemed to be strongly correlated with the performance of the country in terms of growth since 1990.

A comparison of the trends in the real per capita annual growth of Gross Domestic Product (GDP) and the trends in Gross National Income (GNI) shows that in general they follow a similar pattern (see Table 1). However the real per capita growth rate of the GNI has been higher than the rate of GDP in many countries with the exception of Costa Rica and Panama, although the GNI grew more quickly than the GDP for Costa Rica in the sub period 2000 to 2004. The high growth rates of the GNI in particular represent the high growth rates of the inflow of remittances from migrant workers into the countries of the region, a trend that the GDP growth rate cannot capture. Remittances are becoming an increasingly important source of foreign exchange and income for the economies of Central America; in light of this, their relationship to social development in the region is discussed further in Chapter 3.

**Figure 3**  
**PER CAPITA GDP GROWTH RATES IN CENTRAL AMERICA AND LATIN AMERICA, 1990-2004**  
*(Growth rates of per capita Gross Domestic Product, constant 2000 US\$)*



Source: ECLAC (2007) CEPALSTAT, internet database  
 (<http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp?idAplicacion=6&idioma=i>).

**Table 1**  
**AVERAGE ANNUAL REAL GROWTH RATES OF PER CAPITA GDP AND GNI, CENTRAL AMERICA,**  
**BETWEEN 1990 AND 2004**  
*(Annualized real percentage growth rates)*

Country	1991-2000		2000-2004		1991-2004	
	Average annual real per capita GDP growth rate	Average annual real per capita GNI growth rate	Average annual real per capita GDP growth rate	Average annual real per capita GNI growth rate	Average annual real per capita GDP growth rate	Average annual real per capita GNI growth rate
Costa Rica	2.7	2.3	1.2	2.1	2.4	2.3
El Salvador	2.5	3.3	0.2	0.9	1.8	2.5
Guatemala	1.7	2.3	0.6	1.6	1.4	2.1
Honduras	0.4	2.4	1.3	1.3	0.6	2.0
Nicaragua	1.1	3.7	1.1	1.1	1.0	2.9
Panama	3.0	2.4	1.6	0.7	2.6	2.0

Source: Authors construction from ECLAC Statistical Database BADEINSO and ECLAC Statistical Yearbook 2006 (ECLAC, 2007).

## 2. Poverty in Central America

Over half the population of Central America live in poverty and across the region more than one in every two of those who are poor live in situations of extreme poverty. The fragile recovery of the Central American economies in the new millennium has failed to significantly increase the performance of the region in achieving stronger poverty reduction in this period. 52.7% of Central Americans were living in poverty in 2004, down only 1.3% from the 2000 average, but an improvement of 6% from the level in 1990.<sup>1</sup> There was also a decrease in extreme poverty over the period, reducing extreme poverty in the region from 34.3% to 30.5% between 1990 and 2004 (see Figure 4).

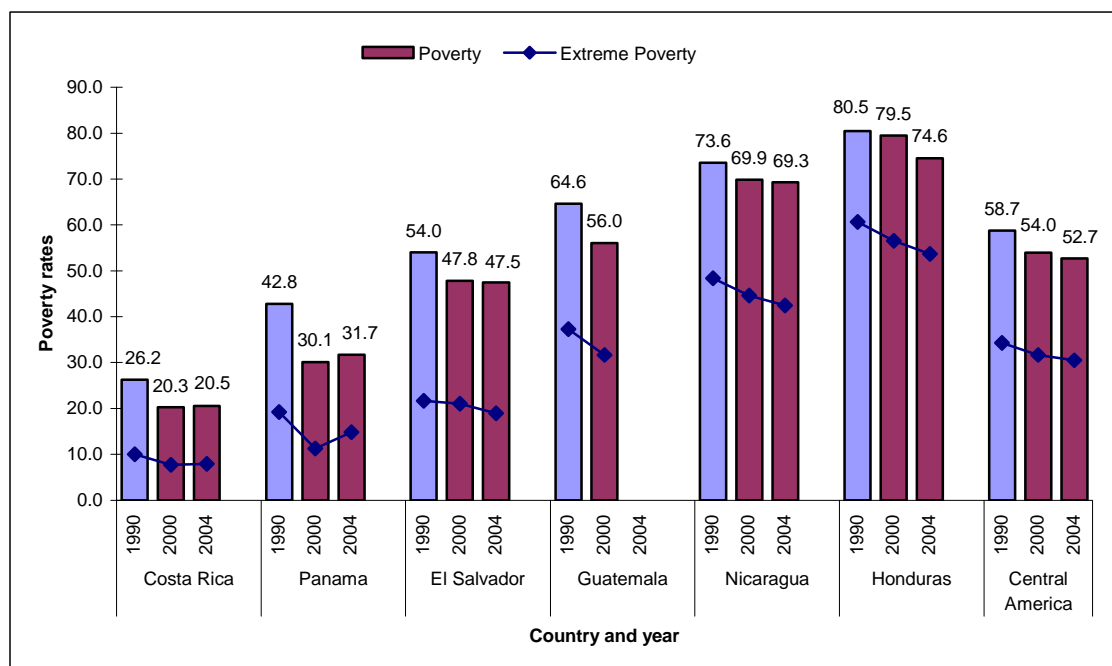
Within Central America the individual countries have maintained their relative rates of poverty between 1990 and 2004. Honduras has the highest proportion of its population below the poverty line with nearly three-quarters of its population poor and over two thirds of those people living in extreme poverty in 2004. This is over 300% of the poverty rate in Costa Rica, the country with the lowest incidence of poverty with just over 20% of the population in Costa Rica living below the poverty line in the same period.

Both Nicaragua and Honduras have national poverty rates above 50% since 1990, whilst Guatemala also had over half its population living in poverty between 1990 and 2000. El Salvador has over 47% of its population living in poverty. However the situation in Panama is closer to that of Costa Rica, in Panama nearly 32% of the population are living in poverty. The pattern of poverty across the countries of the region is especially persistent given that Costa Rica and Panama, the best performing countries are also the least populated. However the size of the population does not necessarily explain the persistently high poverty rates, given that Guatemala is the most populous country and that El Salvador and Honduras have similar population levels but stark differences in their poverty rates.

<sup>1</sup> The Central American averages were calculated after omitting Guatemala, for which no poverty line was available in its 2004 survey, to ensure comparability over time when analyzing the trend rates. Given that Guatemala has higher poverty rates from 1990 and 2000 than the Central American average, the exclusion of Guatemala has underestimated poverty in the region for 1990 and 2000 and is likely to have done the same for 2004, see Appendix 2 for Tables including Guatemala in 1990 and 2000.



**Figure 4**  
**EXTREME POVERTY AND POVERTY RATES, CENTRAL AMERICA, 1990-2004<sup>a b c</sup>**  
*(Headcount, proportion of population by household per capita income)*



Source: Author's construction from national household surveys.

<sup>a</sup> Survey years vary. See Appendix I for details.

<sup>b</sup> No poverty line data exists for Guatemala 2004.

<sup>c</sup> Extreme poverty and poverty lines defined by ECLAC. Central America average weighted by country population levels but does not include Guatemala in order to maintain consistency over time.

The ability of the individual countries to reduce their poverty rates has been mixed with only Honduras able to make significant poverty reduction gains in the new millennium, although the performance of Guatemala remains unknown in this respect due to the lack of poverty line data for the final period. Honduras only managed to decrease poverty by 1% between 1990 and 2000, but in the years 2000 to 2004 poverty decreased by almost 5%. In contrast, both Costa Rica and Panama achieved strong poverty reductions between 1990 and 2000 with an almost 6% reduction in Costa Rica and over 12% poverty reduction in Panama, but in the new millennium, both countries had increases in their poverty rates, Costa Rica by only 0.2% but the poverty rate in Panama increased 1.6% in 2004 from the 2000 levels.

### a) The poverty concentration in rural areas

The disparity of poverty incidence between rural and urban areas is a well known phenomenon. In Central America, this regional disparity has increased since 1990 but remained relatively stable since the new millennium. However there has been a continued divergence in the incidence of extreme poverty between 1990 and 2004, with rural areas having over double the extreme poverty incidence of their urban counterparts (see Figure 5).

**Box 1****ECLAC AND WORLD BANK POVERTY LINES**

The one dollar a day extreme poverty line is perhaps the most well-known measure of poverty and was developed by the World Bank as a clear and simple tool for international poverty comparisons. The line is widely used and is included as one of the main indicators for measuring the accomplishment of the first Millennium Development Goal which is to halve extreme poverty in all countries by 2015 from their 1990 levels.

The World Bank poverty and extreme poverty (Indigence) Lines are calculated according to the average of the ten lowest consumption poverty lines in the world, for which the World Bank had consumption data. The extreme poverty line, or indigence line in ECLAC parlance, is \$1.08 per day in international purchasing power parity (PPP) dollars per person in 1993, the last year for which international survey data is available. This is commonly known as the \$1 per day extreme poverty line. The poverty line is \$2.15 international PPP dollars per person in 1993. Their monthly equivalent values are \$32.74 per month and \$65.48 per month respectively.

The ECLAC poverty line and extreme poverty lines were calculated by ECLAC using the basic-needs method. The extreme poverty line for each country was calculated from the cost of a basic basket of goods, in local currency and considering local availability and habits, of a basket of food that would cover the minimum nutritional requirements of the population. The indigent or extreme poor are that population who live in households that, even with 100% of household income used to buy solely food, cannot afford to purchase the minimum food necessary for basic nutritional needs of all the household members. Prices are differentiated by rural and urban areas. The poverty line is calculated as the extreme poverty line multiplied by 2 in urban areas and by around 1.75 in rural areas and is used to account for food and non-food requirements of the household.

The decision about which poverty line to use depends on the reasons for its use and the data available to the researcher. The World Bank poverty lines are consumption poverty lines from 1993 and must be converted to income poverty for the relevant country and year. This is done by converting the line into local 1993 currency and then adjusting the line by inflation, using the consumer price index (CPI) to match the value for the relevant year and country. Finally, the line must be converted to an income measure by multiplying the value by the ratio of income to consumption as measured in the National Accounts.

The ECLAC poverty lines were chosen over the World Bank poverty lines, because of their immediate relevance to the region and their ability to overcome possible bias in the use of the CPI to revalue the 1993 equivalent. The ECLAC poverty lines are measured separately for each country whilst the World Bank lines are measured for all countries in 1993 and the value of the line is the average of the ten lowest lines internationally which may not be relevant to the countries of Central America. In addition the ECLAC lines are measured for each year thus omitting the need to adjust the poverty line for inflation as in the World Bank figures, for which the CPI may not accurately reflect the expenditure patterns of the poor.

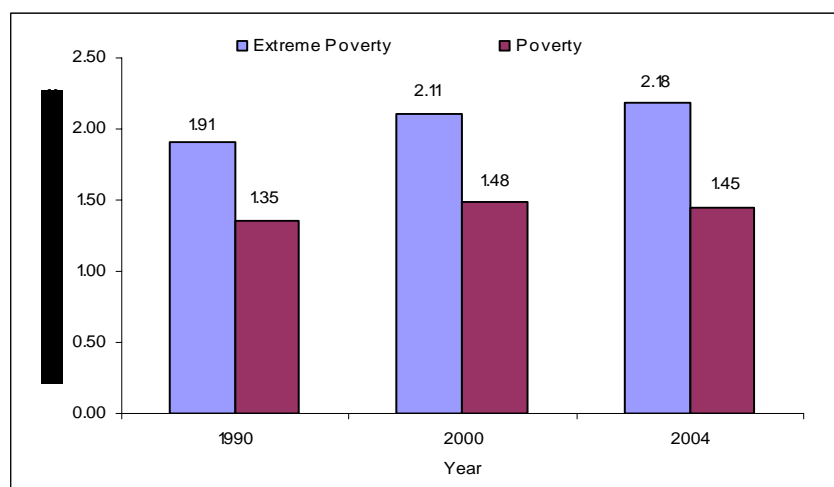
Source: ECLAC (2006b), Perry and Others (2006), Chen and Ravallion (2004) and Ravallion and Chen (2003).

In 1990, the poverty rates in rural areas of the countries of Central America were 1.35 as large as the poverty rates in urban areas. In 2004, this grew to 1.45 times the urban rate, although this was a slight decrease from the year 2000 figure of 1.48. However the distance between the rates of extreme poverty between rural and urban areas has continued to grow over the last 15 years. In 1990, rural areas had extreme poverty rates 1.9 times larger than in urban areas. Around the year 2000 rural extreme poverty rates were more than twice as large, on average, as the rates of urban areas. In 2004, rural extreme poverty rates were 2.18 times as large as the rates of urban areas.

## **b) Variation across countries and the decomposition of poverty**

One interesting feature of the pattern of poverty and extreme poverty across the countries of Central America is how little the between country variation has changed since 1990. The persistence of these heterogeneous poverty patterns is striking. There is a substantial and constant regional disparity in terms of poverty and this disparity is relatively unchanged despite 15 years of concentration on poverty reduction in the region. Decomposing the regional poverty rate by the constituent countries can present an accurate measure of this regional disparity and the fact that the risk of being poor can depend very much upon which country a person is living. The relative poverty risk is presented below in Figure 6.

**Figure 5**  
**RATIO OF RURAL TO URBAN POVERTY, CENTRAL AMERICA, 1990-2004** <sup>a b c</sup>  
*(Ratio, proportion of population by household per capita income)*



Source: Author's construction from national household surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Natural ratio of 1 means that level of rural and urban poverty rates equal. Above 1, rural poverty is higher, below 1 rural poverty is lower than urban counterpart.

<sup>c</sup> Average weighted by population levels. No poverty line data exists for Guatemala 2004. Average does not include Guatemala in order to maintain consistency over time.

The relative poverty risk is measured as the country's share of poor in the region, as a ratio of its regional population share. That is, the risk of poverty is greater in a country where the poverty share is greater than its population share. In Figure 6 it can be seen that the relative poverty risk between the countries has been constant since 1990.<sup>2</sup> A person in Honduras or Nicaragua faces a disproportionate risk of being in poverty whilst those people in Costa Rica, El Salvador and Panama face a less than proportionate risk of living in poverty.

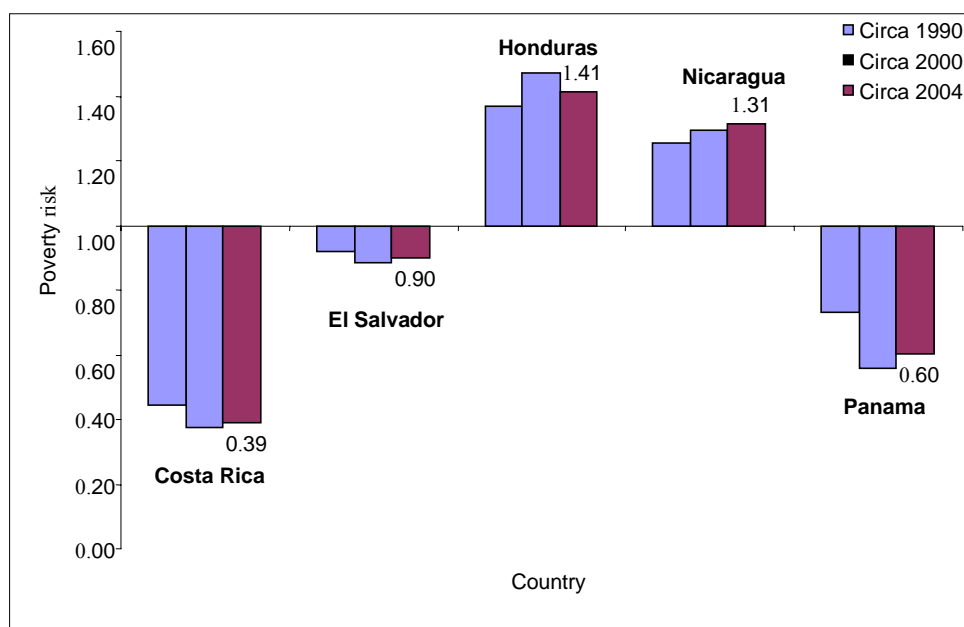
In 2004, a person living in Costa Rica faced the lowest risk of poverty compared to those living in other countries of Central America. The figure of 0.39 means that Costa Rica's poverty share is just 39% of the country's population share in the region. At the other end of the scale, the poverty share of Honduras is more than 1.4 times the share of its population, meaning that poor Hondurans greatly overrepresent the population in the region living in poverty. One interesting result is observed in El Salvador. Despite the country having nearly half of its population in poverty, El Salvador has a less than proportionate poverty risk in the region because its share of the poor in Central America is only 90% of the share of the regional population.

In terms of poverty, there is a clear difference between the low poverty countries of Costa Rica and Panama, and the high poverty countries of Honduras and Nicaragua. This is despite the relative size of the countries as reflected in the poverty risk results which show that Honduras and Nicaragua are overrepresented amongst the region's poor whilst Costa Rica and Panama are underrepresented for their relative populations. One positive finding, however, is that the period from 1990 to 2004 provides no indication that the structural differences in poverty rates that have

<sup>2</sup> The poverty risk ratios in Figure 6 do not include Guatemala due to the lack of poverty line information for the 2004 survey. However Table in Appendix 2 gives figures for Central America that include Guatemala. As can be seen, the exclusion of Guatemala does not significantly change the findings in this case.

persisted since 1990 are leading to increased divergence in key social development indicators for each of the countries.

**Figure 6**  
**POVERTY RISK, CENTRAL AMERICA, 1990-2004<sup>a b</sup>**  
*(Ratio of poverty share to population share in region total)*



Source: Author's construction from national household surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> No poverty line data exists for Guatemala 2004. Table 23 contains information about the poverty risk for Guatemala in 1990 and 2000.

### 3. Inequality in Central America

Central America has high and persistent levels of poverty and inequality that have failed to significantly diminish since 1990 and whilst the countries of the region continue to make minor advances in poverty reduction, their progress in inequality reduction is far more limited. Comparing incomes for Central America as a region can be difficult given that the incomes from national surveys are measured in local currencies of the countries. Whilst international PPP exchange rates can be used to convert the incomes to a common measure, an alternative method is followed in this study. The comparison of incomes at the regional level is useful to show variations in well-being, and also because it can show the proportions of the population around the poverty line, thus measuring either how far away an individual is from poverty, or the level of poverty in which they are living. As discussed previously, the national poverty lines are more relevant to a person's well-being in relation to the poverty in each country. The same argument is used to construct a common income measure by converting all incomes as a proportion of the poverty line that is relevant to the country as this then reflects an approximation of the standard of living of each person in the region, relative to the cost of living to remain above the poverty line in the country in which they live.

## a) The income distribution

With a common measure of income for each individual in the region, density estimation techniques can be used to draw a picture of the income distribution for the three periods 1990, 2000 and 2004.<sup>3</sup> Figures 7 and 8 are estimates of the income distribution for the region. The figures also show the income distribution with the poverty line imposed.<sup>4</sup>

In 1990, the majority of the income distribution in Central America was below the poverty line. The distribution improved up to 2004 when the pattern shows little skewness between both tails around the poverty line. Yet despite this improvement, from Figure 4 it is evident that more than half of the population continued to live in poverty in 2004. The pattern of changes in the lower tail of the distribution shows that there was an increase in those who were poorest between 1990 and 2000, although the tail improved and is smaller in 2004 than it was in 1990, meaning that a lower proportion of the Central American population is living in abject misery. However the improvements over the period have not occurred in all of the left-hand side of the distribution, with a slight increase in those living in poverty who are just above the lowest part of the tail. This probably represents their movement from the tail over the period. Midway along the lower tail of the distribution it is apparent that there has been a shift right-ward in this part of the distribution, although the 2004 shift is smaller than the 2000 shift when the tail starts to approach the poverty line.

The concentration of individuals with incomes around the poverty line is lower between 1990 and 2004, showing a smaller proportion of the population very close to the poverty line. However the distribution in 2004 exhibits a large plateau around the poverty, implying that there is a wider mode than in 1990. That is, whilst in 1990 the most frequently reported income was very close to the poverty line, in 2004 there is a larger range of incomes with the highest frequency, implying that the distribution is becoming more uniform in this area. Whilst the uniformity is welcome, it is also unfortunate in that it occurs on both sides of the poverty line, meaning that the most common incomes for individuals in Central America are centred around the poverty line.

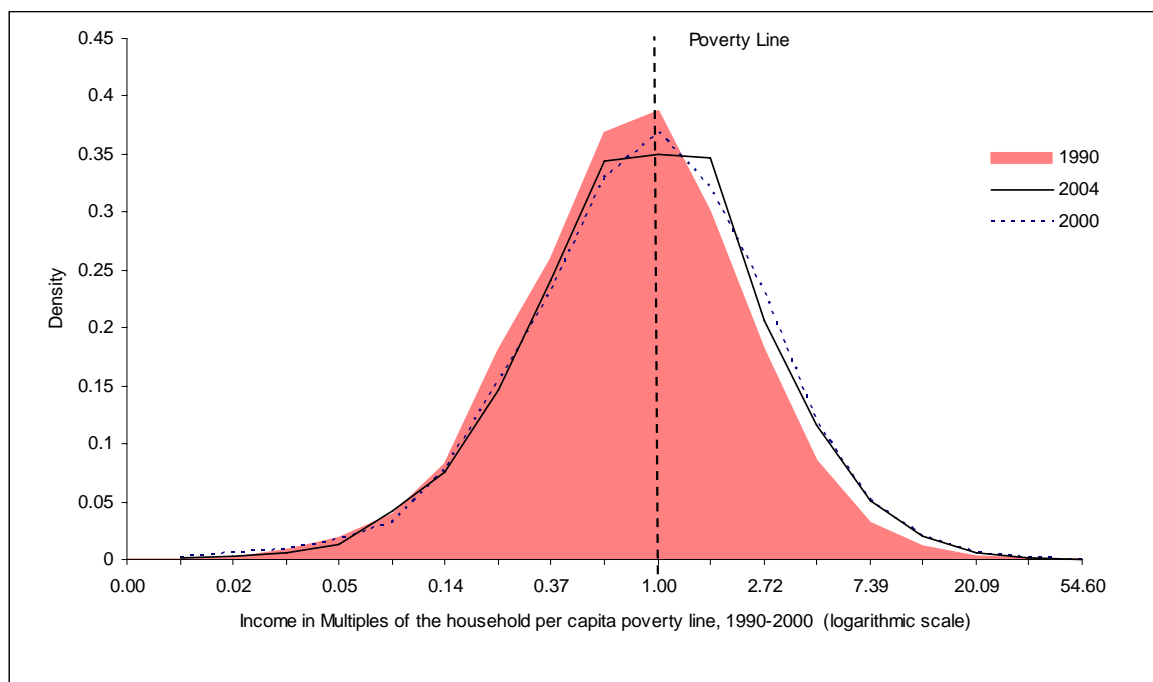
The distribution above the poverty line shows clear gains between 1990 and 2004, although in some areas these are lower than the gains experienced in 2000. The upper tail of the distribution also shows clear improvements. Those people whose income were many times above that of the poverty line grew more numerous as a proportion of the regional population. The gains in this area appear larger than the improvements in the lower half of the distribution.

By studying the proportional contribution of each country to each part of the distribution, a picture can be constructed about the relative performance of each country within the entire distribution for each year, as shown in Figure 8. In the lower tail it can be seen that Honduras makes up the bulk of this part of the distribution, followed by El Salvador and Nicaragua. Rising from the left towards the poverty line, El Salvador clearly makes up a bulk of this part of the distribution, followed by Nicaragua and it is also here where the presence of Costa Rica and Panama begin to be visible. El Salvador and Costa Rica dominate the distribution to the immediate right of the poverty line. As the distribution moves towards the upper tail in each period, Costa Rica begins to form a greater proportion of the population these sections of the income distribution. One other noticeable feature is that over time, the shares of each country have rounded peaks in 1990 and 2000, but these become sharp and steep in 2004 at the right-hand side of the poverty line.

<sup>3</sup> Whilst it is common to employ a Kernel Density Estimate to draw the distribution, this study has used adaptive Kernel Density Estimates that vary the bandwidth instead of the fixed bandwidth methods of the older procedure. This Adaptive Kernel Density technique is described in Van Kerm (2003).

<sup>4</sup> Because all incomes are measured in proportion to the poverty line, a value of 1 is equivalent to a national income equal to the national poverty line.

**Figure 7**  
**INCOME DISTRIBUTION, CENTRAL AMERICA, 1990-2004<sup>a b</sup>**  
*(Proportion of the national poverty line, logarithmic scale)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Guatemala not included as no poverty line data exists for Guatemala 2004. Figure II-1 in Appendix II shows the distribution of incomes for Central America in 1990 and 2000 including Guatemala.

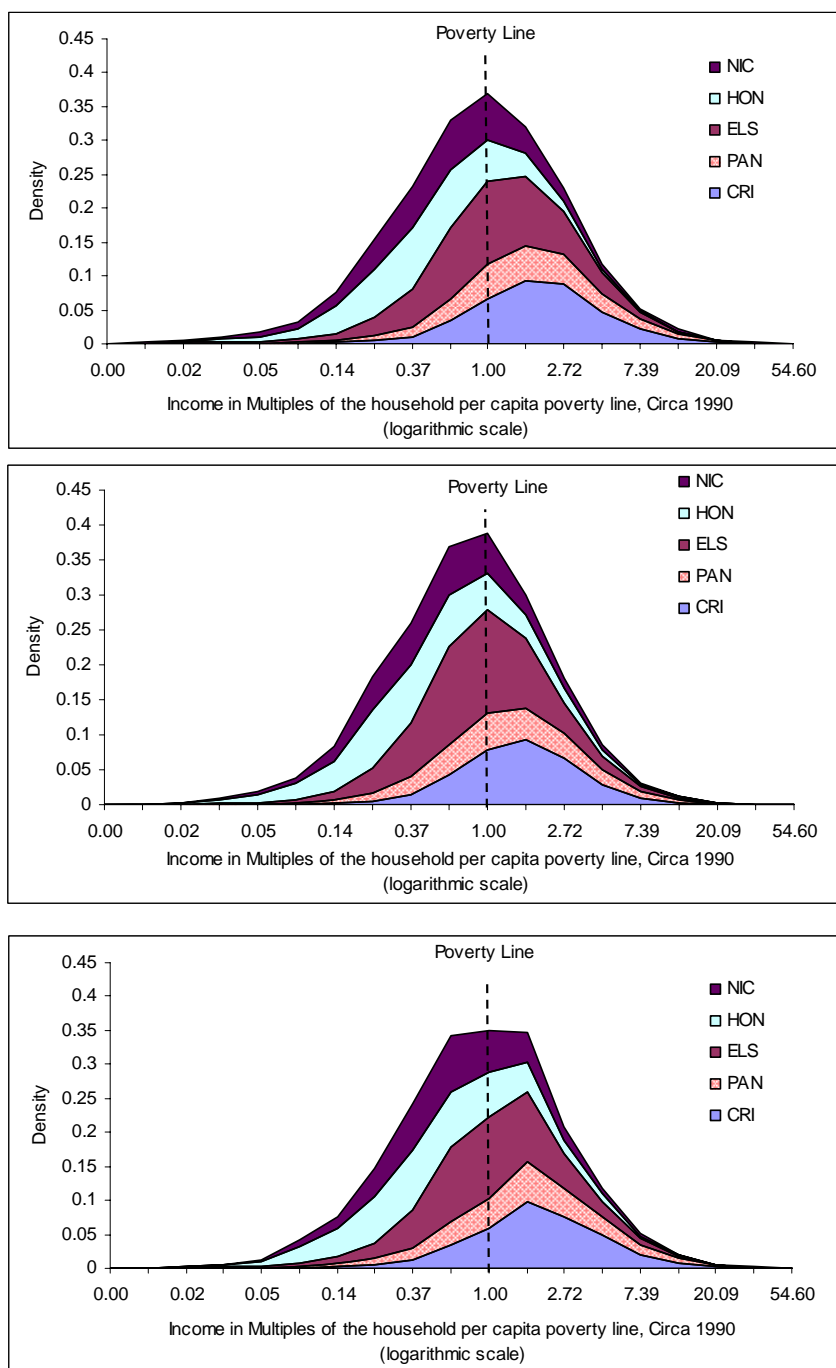
## b) Inequality indices

Whilst density estimation methods provide an immediate picture of the income distribution in graphical form, such graphs make it difficult to compare inequality over time or between different groups. To overcome this problem, two of the most common inequality measures, the Gini coefficient and the Theil coefficient, were calculated for Central America and each constituent country for the three periods. Box 2 contains an overview of the indices and their comparative merits whilst Table 2 contains the results.

Inequality in Central America is extremely high and has worsened since the 1990s. Inequality in the region has increased between 1990 and 2004. Both the Gini coefficient and the Theil coefficient show a rise in inequality between 1990 and 2000, then a slight decrease in inequality between 2000 and 2004 but still leaving both measures higher than their respective 1990 levels. The inclusion of Guatemala in the 1990 to 2000 period exacerbates the rise in inequality over that period.

Nicaragua and Guatemala record the highest inequality amongst the countries, with Costa Rica the least unequal in the region. Because of the differences in the scale of the indices (the Gini lies between 0 and 1 whilst the range of the Theil is from 0 to the log of the number of observations) the Theil exhibits more notable changes in each country and year. Costa Rica and Nicaragua experienced continuous increases in Theil inequality over the period.

**Figure 8**  
**COMPOSITION OF THE INCOME DISTRIBUTION BY COUNTRY, CENTRAL AMERICA, 1990- 2004<sup>a, b</sup>**  
*(Proportion of the national poverty line, logarithmic scale, country represents proportion of density at each income centile)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Guatemala not included as no poverty line data exists for Guatemala 2004. Figure shows the distribution of incomes for Central America in 1990 and 2000 including Guatemala.

## Box 2 INEQUALITY MEASURES

There exist a wide range of measures of inequality that have been constructed to provide a simpler explanation of the differences in well-being and a basis for comparing two or more distributions. At the same time, a series of axioms have been developed in order to compare the features of different inequality measures. The axioms are:

1. Scale Invariance: This property means that the inequality measure doesn't change if all incomes change by the same proportion (That is, if all incomes double, the index remains the same because relative inequality does not change.)
2. Principle of Populations: This property states that the inequality measure must not change if two identical distributions are combined. The combined population would have the same inequality as the two identical parts.
3. "Weak" principle of transfers: A transfer of income from a rich member of the population to a poor member of the population must decrease the inequality measure and vice versa.
4. "Strong" principle of transfers: A transfer of income from a rich member of the population to a poor member of the population must result in a greater decrease in the inequality measure, the greater the distance between the incomes of the two members of the populations.
5. Additive decomposability: The total of the inequality measure must be equal to the weighted sum of the population subgroups that make up the total population.

Two of the most widely used inequality measures were used in this study:

### Theil Index

$$T = \frac{1}{n} \sum_{i=1}^n \frac{y_i}{\mu} \log \left( \frac{y_i}{\mu} \right)$$

This index gives more importance to transfers in the lower segment of the distribution and therefore fulfils the "strong" principle of transfers. It also has the advantage of being additively decomposable. The minimum value is 0 (no inequality) and the maximum value is equal to the log of the number of observations, but the index tends to lie below 1.

### Gini Coefficient

$$Gini = \frac{1}{2n^2 \bar{y}} \sum_{i=1}^n \sum_{j=1}^n |y_i - y_j|$$

where  $n$  is the number of observations and  $y$  is the income. The Gini is a measure of the area between the Lorenz curve and the line of equal distribution of incomes in the population. The range of the Gini is between 0 and 1. A Gini of 0 gives perfect equality and a Gini value of 1 is perfect inequality. The Gini coefficient satisfies the axioms 1-3 but doesn't satisfy the "strong" principle of transfers and is not additively decomposable, so doesn't satisfy axiom 5.

Another common measure of inequality is the logarithmic variance although it will only satisfy the principles of transfers under certain additional conditions and so is not used here.

Source: ECLAC, 2007, and Fields, 1979.

Inequality in El Salvador increased between 1990 and 2000 and then decreased between 2000 and 2004. The opposite pattern occurred in Honduras with Theil inequality falling between 1990 and 2000 and then increasing in the first years of the new millenium. Inequality in Panama decreased continually over the period 1990 to 2004 and although the inequality trend in Guatemala is unknown for the final period 2000-2004, Guatemala experienced a strong increase in both measures of inequality between 1990 and 2000 with a huge 27 point increase in the Theil coefficient between these years. The country structure of the regional inequality and the trends in each country over time show that although inequality in every country is high, the inequality patterns are very heterogeneous.



**Table 2**  
**INEQUALITY INDICES, NATIONAL TOTALS, CENTRAL AMERICA, 1990-2004**<sup>a b</sup>  
 (Percentages)

Country	Circa 1990		Circa 2000		Circa 2004	
	Gini	Theil	Gini	Theil	Gini	Theil
Costa Rica	0.42	0.30	0.46	0.36	0.46	0.38
El Salvador	0.47	0.44	0.50	0.51	0.46	0.40
Guatemala	0.56	0.67	0.62	0.95	..	..
Honduras	0.58	0.75	0.53	0.56	0.55	0.60
Nicaragua	0.56	0.61	0.56	0.67	0.56	0.73
Panama	0.55	0.62	0.55	0.60	0.53	0.53
Central America (excluding Guatemala)	0.55	0.58	0.57	0.64	0.56	0.60
Central America (including Guatemala)	0.55	0.60	0.59	0.75	..	..

Source: Authors construction using information from household surveys.

<sup>a</sup> Income measured as proportion of household per capita poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

## 4. Overall trends

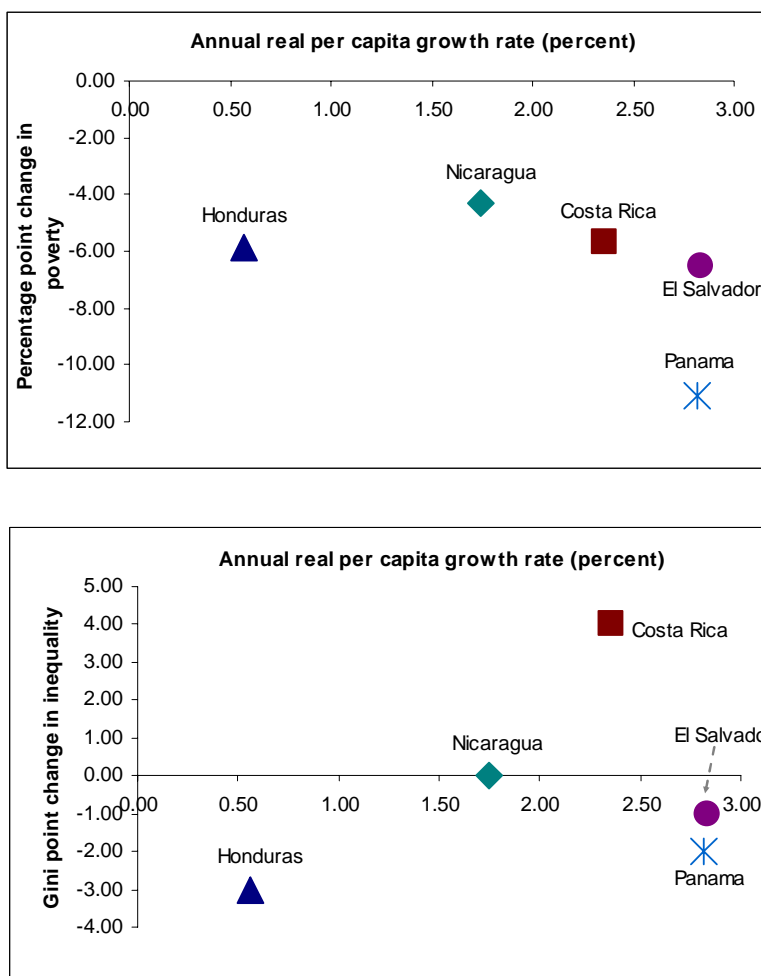
At this point it is useful to bring together some summary measures of the previous results for economic growth, poverty and inequality in order to highlight a few of the common trends and contrasting differences between the three factors and across the different countries in the subregion. The principal question is: does an initial overview of the growth-inequality pattern in the countries of the region indicate anything about the relative effects of these two factors upon poverty reduction? A summary of the pattern as shown in the two panels of Figure 9 illustrates the general trend across the region of small positive real per capita growth, large declines in poverty rates and small decreases in inequality, with the exception of Costa Rica whose inequality change is large and positive. However despite the similar pattern of change in the three variables across the region, the differences between countries are harder to discern.

Table 3 permits a more detailed quantitative analysis of the links between growth, poverty and inequality which indicates for Central America whether growth was likely to be poverty reducing and to what extent the changes in inequality correspond with the pattern of growth and poverty. Despite the structural differences in the countries of Central America and the gap between the levels of their social and economic development, the changes in poverty, inequality and growth between 1990 and 2004 show several common features. Table 3 reveals that from 1990 to 2004, all countries sustained small positive growth rates with weak declines in poverty, although the performance in the reduction of inequality was more mixed.

However there are distinct trends within the subperiods of 1990 to 2000 and 2000 to 2004 which are worthy of mention. During the initial decade of the 1990s, countries maintained positive growth rates and performed well in terms of poverty reduction. The richest countries of Costa Rica and Panama also had the highest growth rates per capita and combined this with some of the greatest levels of poverty reduction, by 5.9 and 12.7 percentage points respectively. Guatemala and El Salvador also made strong performances in terms of poverty reduction, although whilst El Salvador grew by an annual average of over 5%, Guatemala's growth was only around 1.5% per annum over the subperiod. Nicaragua and Honduras, the poorest countries not only grew the slowest, but performed the worst in terms of their poverty reduction efforts. This general trend

during the 1990s of positive growth and poverty reduction was not matched by consistent gains in inequality. Inequality changes over the period were poor, with two countries having no change and three countries actually increasing inequality. The increases occurred in Costa Rica, El Salvador and Guatemala, three of the countries with strong poverty declines.

**Figure 9**  
**CHANGES IN GDP PER CAPITA, POVERTY AND INEQUALITY BETWEEN 1990 AND 2004,**  
**CENTRAL AMERICA<sup>a b</sup>**  
*(Average annualized per capita growth rates, percentage headcount rates and Gini coefficient measures)*



Source: Authors construction using information from household surveys and UNSTATS.

<sup>a</sup> Income measured as proportion of household per capita poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

For the subperiod 2000-2004, the performance of the countries of the region in all respects was poor. Growth, although positive, was very low and two countries experienced increases in poverty from the 2000 level. Honduras had a strong decrease in poverty over the period, by nearly 5 percentage points, but exhibited under 1% per capita income growth. Inequality declined in two of the countries, one with poverty reductions and one with poverty increases. Overall this trend for the 2000 to 2004 subperiod offsets some of the poverty and growth gains made in the first period of the

1990s and thus leaves the total change from 1990 to 2004 following the pattern of the 1990s but to a lesser extent.

**Table 3**  
**CHANGES IN GDP PER CAPITA, POVERTY AND INEQUALITY BETWEEN 1990 AND 2004, CENTRAL AMERICA**<sup>a b</sup>

*(Average annualized per capita growth rates, percentage headcount rates and proportional Gini coefficient measures)*

Country		1990-2000	2000-2004	1990-2004
Costa Rica	Average annual GDP per capita growth rate	2.67	1.60	2.36
	Change in poverty rate	-5.90	0.20	-5.70
	Change in inequality (gini)	0.04	0.00	0.04
El Salvador	Average annual GDP per capita growth rate	5.01	0.18	2.84
	Change in poverty rate	-6.20	-0.30	-6.50
	Change in inequality (gini)	0.03	-0.04	-0.01
Guatemala	Average annual GDP per capita growth rate	1.57	-0.15	1.11
	Change in poverty rate	-8.60	..	..
	Change in inequality (gini)	0.06	..	..
Honduras	Average annual GDP per capita growth rate	0.43	0.88	0.57
	Change in poverty rate	-1.00	-4.90	-5.90
	Change in inequality (gini)	-0.05	0.02	-0.03
Nicaragua	Average annual GDP per capita growth rate	2.18	1.04	1.75
	Change in poverty rate	-3.70	-0.60	-4.30
	Change in inequality (gini)	0.00	0.00	0.00
Panama	Average annual GDP per capita growth rate	3.30	1.73	2.82
	Change in poverty rate	-12.70	1.60	-11.10
	Change in inequality (gini)	0.00	-0.02	-0.02

Source: Authors construction using information from household surveys and UNSTATS.

<sup>a</sup> Income measured as proportion of household per capita poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

## 5. Comments

The mixed performance of the countries of Central America over the period 1990 to 2004 shows a scattered pattern of patchy economic growth, and some poverty reduction with stagnant and high levels of inequality. The trends show that in the subperiod of the 1990s there was a low but consistent per capita economic growth combined with some strong poverty reduction performance and a lack of movement or increase in inequality. The subperiod of 2000 to 2004 on the other hand, shows that there was only very low growth in incomes and a mixture of low decreases and some increase in poverty, with little if any movement in inequality. Overall from 1990 to 2004, the poverty decreases were more closely associated with positive per capita economic growth than with any trends in inequality. Whilst it may seem that the conclusion from this analysis is that economic growth has the stronger link to poverty reduction than inequality, and even perhaps that inequality and growth-poverty patterns are offsetting, a more thorough analysis of the interacting changes is required because the patterns exhibited here could be due to confounding effects. The volatility and structural shocks of the 1990s combined with the application of policy measures subsequent to the “lost decade” of the 1980s has the potential to be a source of negative shocks for those on the lower end of the income distribution who are less able to diversify incomes, switch out of lower return

activities, and take advantage of the new structural environment. This would mean that those at the upper end of the income distribution would experience faster growth in incomes than those at the bottom and still be consistent with the poverty reduction and inequality patterns shown in the results. One trend is clear however; the countries that were most developed, with better underlying institutions and governance structures were the ones best able to combine significant poverty reduction with growth, although in the case of Costa Rica this was at the cost of rising inequality. An initial analysis of this finding would indicate that positive growth rates are a necessary but not sufficient condition for poverty reduction and such reduction is also determined by underlying factors within the economic and governance system, also affecting the ability of these countries to tackle their high levels of inequality.

## **II. Growth of poor and non-poor incomes in Central America**

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The analysis of the previous chapter presented a picture of a region that exhibited low growth trends combined with some level of poverty reduction and little change in the high inequality amongst the country's populations. However more detailed analysis is required before being able to proclaim that any growth or inequality patterns in the region were advantageous to the poor since 1990. This chapter presents just such an analysis using a series of recent empirical tools to measure the effects of growth and inequality on the poor. In addition, these tools also allow a consideration of the relative effects of growth versus redistribution in their roles in poverty reduction. The theoretical debate about the ability of countries to reduce poverty has been driven by the need to construct policy priorities for governments that contrast between a focus on "all growth" and no redistribution, relying on trickle-down growth effects to do the poverty reduction and ignoring any adverse inequality effects, against an "all redistribution" priority where inequality is redressed before any further push for higher sustainable growth. This argument is especially relevant for Central America given its need to both improve its growth performance and decrease inequality in the countries of the region.

The results of this chapter do not seek to solve the theoretical debate about growth, poverty and inequality, but shed some light on the performance of the growth and inequality components on the poverty reduction that has occurred and provide a perspective to inform policy makers about the relative priorities of their policies.

In fact the results show that whilst the growth effects upon poverty reduction are greater than the redistribution effects, there are many nuanced explanations for this finding. Moreover, the ability of the countries of Central America to secure stronger continued growth in the future is likely to rely on their ability to foster the greater participation of the socially vulnerable in this growth, which will simultaneously address some of the structural inequalities prevailing in the region.

## 1. The pro-poor growth concept

### a) Defining pro-poor growth

The changes in the situation of the poor and the relative effects of growth and inequality have been analysed in recent literature under the rubric of pro-poor growth. There are two major categorical definitions of pro-poor growth (PPG), the absolute definitions and the relative definitions, and the differences between them can have strong effects on the conclusions drawn from any kind of empirical analysis. Whilst numerous empirical measures exist for both categories, neither category is an ideal measure of PPG with each having advantages and disadvantages.

The relative definition considers that economic growth is pro-poor if the growth in the incomes of the poor is greater than the growth of the incomes of the remainder of the population (Kakwani and Pernia, 2000, Kakwani and Son, 2003, Klasen, 2004, McCulloch, Baulch and Chereil-Robson, 2003). This definition considers that growth is only pro-poor if such growth is equal to or greater than the growth of the incomes of the rest of the income distribution, thus causing at least no change in the relative inequality and at most a decrease in inequality as the per cent change in the poorest incomes would be greater than the per cent change in the incomes of the rest of the population, bringing the poorest closer to the remainder of the income distribution. A key weakness in this category of definition is that the ranking of different measures of pro-poor growth depends upon the change in inequality at the same time. This can produce some contradictory effects. For example, a situation can be posited under this definition where the relative PPG measure would favour growth of poor incomes by 3% and non-poor incomes by 1%, over the alternative of growth of the poor incomes by 4% whilst non-poor incomes grew 5%. In the first case PPG is positive because there is growth in the incomes of the poor, a necessary condition matched by the sufficient condition that there is a corresponding decrease in income inequality. However in the second case, the incomes of the poor grew faster, but relative income inequality increased so by this definition the PPG performance of the first case is preferred over the second case.

The absolute definition of pro-poor growth is any growth in the real incomes of the poor that is positive and thus leads to increases in the benefits of the poor in absolute terms, as measured by a poverty measure such as a poverty line (Ravallion, 2004, Ravallion and Chen, 2003). Compared to the relativist definition, absolute pro-poor growth simply omits consideration of the condition of inequality reduction. In this sense, one scenario of growth of incomes is more “pro-poor” than another scenario if the growth of the incomes of the poor is greater. The percentage change in the rest of the income distribution is not considered and so, in the example given previously, because the growth of incomes of the poor in the second scenario (4%) is greater than the growth of the first scenario (3%) the second scenario is determined to have higher PPG even though in this example relative inequality would actually increase. This second absolutist definition is thus a very simple definition of PPG that solely seeks to maximize the growth of the incomes of the poor without any secondary constraints.

Within this study the results are analysed in light of both definitions in order to consider the ability of the countries of Central America to foster growth in the incomes of the poor and secure sufficient economic and social development to alleviate the absolute deprivation of over half the population of the region. From this perspective inequality patterns are a key element of the pattern of poverty evolution in the region. Reductions in inequality need to go hand-in-hand with the capacity to ensure long-term sustainable growth and significant poverty reduction, especially given the lacklustre performance of the economies as shown in the first chapter.

## **2. Analysis of the evolution of poor and non-poor incomes in Central America**

There are a number of empirical tools that have been developed recently in order to measure and analyse the growth and changes in the income distribution using country household survey data, and now being applied to country analyses by several agencies including World Bank under the Operationalizing Pro-Poor Growth (OPPG) programme (Cord, 2007) using empirical tools developed by Lokshin and Ravallion (2006) among others. These tools generate results that can be evaluated against either pro-poor growth definition. The following analysis uses some of these common tools and applies them to the countries of Central America to analyse their poverty reduction performance since 1990 and the differing effects of inequality and growth upon the ability to provide robust poverty reduction amongst their populations.

### **a) Growth incidence curves**

Growth incidence curves use household survey data to measure the growth rate of the real per capita incomes of each income percentile between two periods. These can then show how each part of the income distribution grew over the period. Of course the lack of panel data makes it impossible to determine whether this change in the income of a particular percentile is that of a core group of poor remaining poor, or whether there is serious volatility and transition into and out of poverty. For the countries of Central America, Growth Incidence Curves (GICs) were drawn for the period 1990 to 2004. However due to a lack of poverty line information and adjusted income data for Guatemala in 2004, this country was not included in this analysis. The GICs are shown in Figure 10 and are separated into three graphs and except for Honduras, country pairs are those with the most similar economic situations. In addition the poverty line is drawn for each country showing the number of percentiles below which must be considered for an analysis of PPG.

Overall, in all of the countries of the region, the majority of the income percentiles below each country's poverty line experienced positive growth in per capita incomes over the period 1990 to 2004 which would indicate pro-poor growth according to the absolute definition. In Panama, Nicaragua and El Salvador, the very lowest income percentiles experienced negative growth in incomes, that is actual declines in their household income per capita in 2004 compared to levels in 1990. However these numbers should be taken with caution as the GIC is particularly sensitive to small changes in incomes at the highest and lowest percentiles. There was a general trend in the GICs for the growth rates of the percentiles closest to the poverty line (that is the poor people with the highest incomes) to be greater than that of the poorest percentiles (those furthest away from the poverty line) with the exception of Honduras whose lowest 10 percentiles grew faster than any of the higher percentiles and Nicaragua where the GIC below the poverty line was more an inverted U-shape. This trend indicates that even within the group of poor percentiles, there is some visible increase in inequality over time. Whilst some poverty percentiles for Costa Rica, Panama and Nicaragua grew at over 2% per annum, Honduras and El Salvadorian poverty percentiles exhibited only very small positive growth in general.

## Box 3

**REAL INCOME GROWTH AND MEASURES OF INFLATION FOR THE POOR**

The real growth in incomes between two survey periods can be strongly affected by the choice of inflation measure used to discount the effects of increases in the general price level and isolate the growth in the purchasing power of each per capita income measure. The issue of how this may affect the results of the analysis of income growth of the poor and pro-poor growth has been addressed in a recent paper by Isabel Gunther and Michael Grimm in the *Journal of Development Economics* (2007).

Conventional methods of discounting the effects of inflation require that the incomes be adjusted according to changes in the consumer price index (CPI). However the CPI is not necessarily the best measure of the cost of living of the poor, since the basket of goods included in the index is often different from the basket of goods consumed by the poor. In addition the fact that the CPI often only takes into account information from urban or metropolitan areas means that rural consumption and price patterns are often overlooked.

Given that ECLAC poverty lines are calculated after considering the local baskets of goods and consumption patterns of the poor, the change in poverty lines may have certain advantages as a measure of inflation compared to the CPI. At the same time, using the inflation of the poverty line fails to reflect the consumption patterns of those who are not poor and those at the upper end of the income distribution. This would then have an effect on the inequality changes that are calculated as part of the income distribution analysis.

A consideration of the differences between the two inflation measures is given in the following table:

Table Box 3

**ANNUALIZED RATES OF CHANGE IN POVERTY LINES AND CPI, CENTRAL AMERICA, 1990-2004<sup>a b c</sup>**

Country	% Growth rate of the poverty line (1990-2004)	% Growth rate of the consumer price index (1990-2004)	Average difference poverty line–CPI (1990-2004)
Costa Rica	15.1	14.3	0.8
El Salvador	..	3.5	..
Guatemala	..	11.7	..
Honduras	15.2	15.9	-0.7
Nicaragua	10.5	10.2	0.3
Panama	1.2	0.9	0.3

<sup>a</sup> CPI annualized change matches years of household survey data

<sup>b</sup> El Salvador missing values due to change in currency over period.

<sup>c</sup> Guatemala missing values due to lack of poverty line data 2004.

The table shows that in the case of the four countries of Central America for which there is complete data, the rates of inflation of both the poverty line and the CPI are very similar. In three cases the rate of inflation of the poverty line is greater than that of the CPI whilst for the case of Honduras the growth of the CPI is greater than that of the poverty line.

Given that both measures of inflation are biased and that the CPI in general grew marginally more slowly than the poverty line, there is little real difference in using either inflation measure but this study errs in favour of using the CPI growth rate as the measure of inflation because it is least likely to overestimate the growth rates of the incomes of the poor due to price changes.

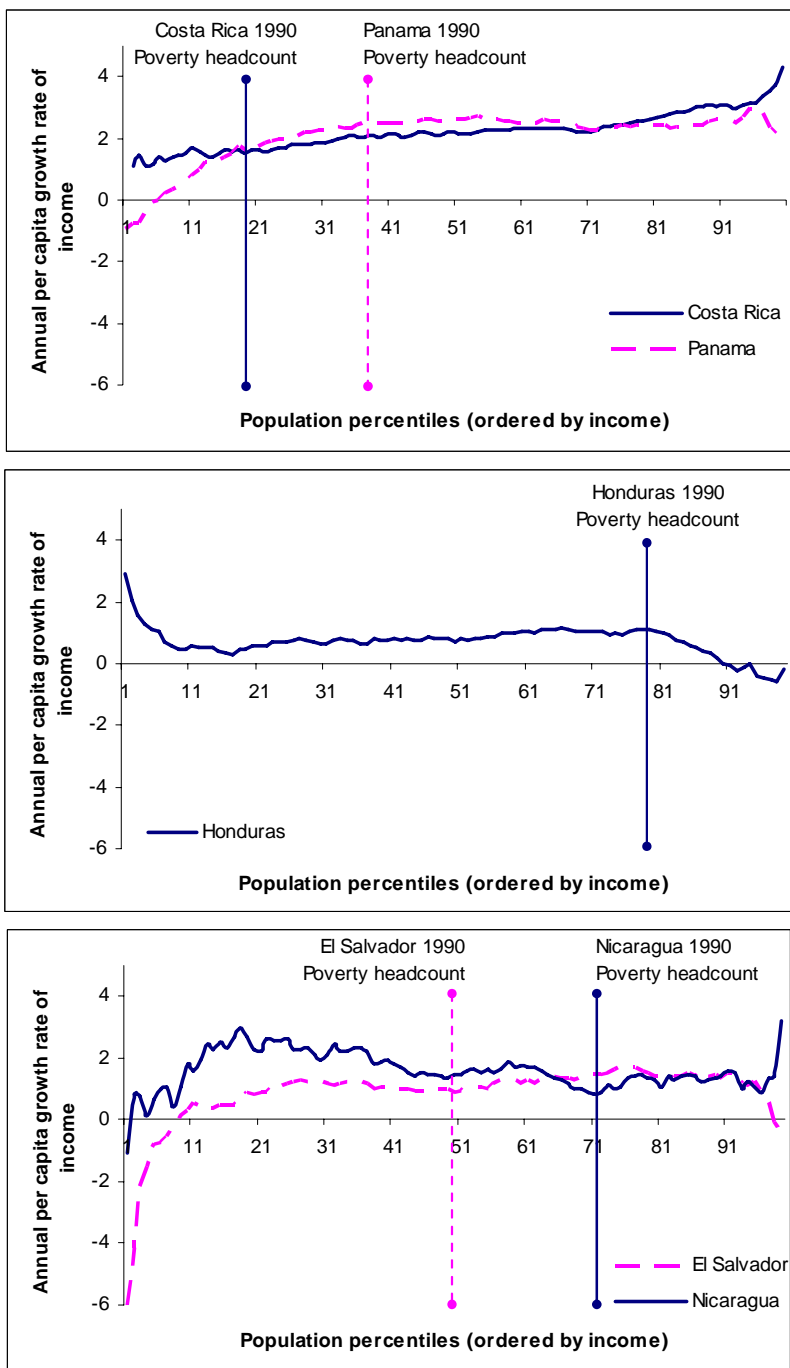
Source: Author's calculations.

The GICs also give a good indication of the changes in relative inequality when the growth in the poor percentiles is compared with the remaining percentiles of household per capita income. In Costa Rica, Panama and El Salvador, the GIC was generally increasing over the percentiles, indicating that the higher percentiles grew faster than lower percentiles and thus leading to greater relative dispersion in incomes in 2004 compared to 1990 which is a clear indication of anti-poor growth according to the relative definition of the concept. However for the case of Panama the GIC trended downwards at the highest incomes. For Nicaragua the GIC above the poverty line was lower than below the poverty line, except in the case of the highest incomes. In Honduras, the growth rate of the income percentiles above the poverty line trended downwards, indicating that in



this country at least, there was positive PPG under both the absolutist and relativist definitions of the concept.

**Figure 10**  
**GROWTH INCIDENCE CURVES, CENTRAL AMERICA, 1990- 2004<sup>a b</sup>**  
*(Percentage growth rate of real household per capita income percentile, annualized)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Guatemala not included as no poverty line data exists for Guatemala 2004.

## b) The rate of growth of the poor and non-poor

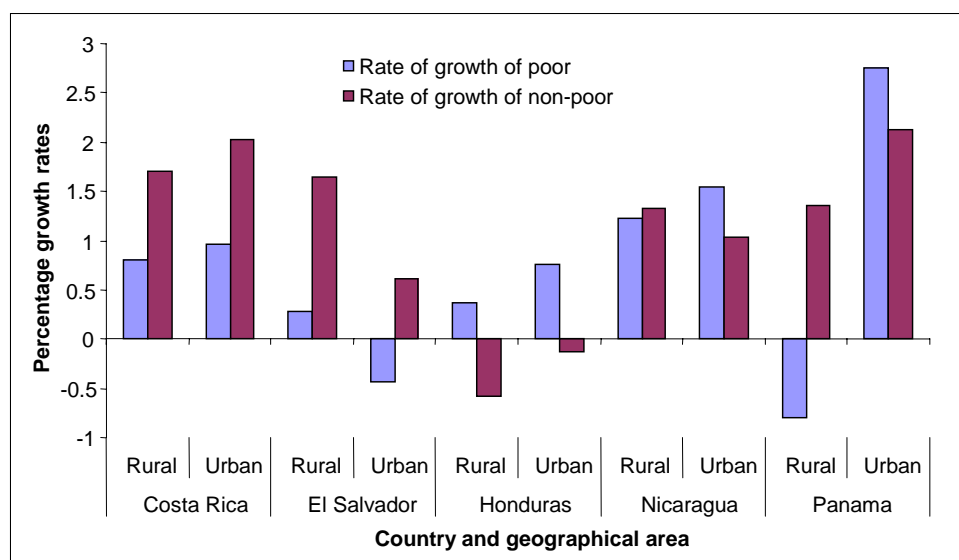
The rate of growth of poor incomes is calculated as the average percentile growth rate for all percentiles under the poverty line in the first period around 1990. That is it is the average rate of growth of the poor. Figure 11 presents the rates of growth of the incomes of the poor for the countries of the region for both rural and urban areas between 1990 and 2004, except Guatemala due to lack of data. In addition the figure compares the rate of growth of the poor with the average of the rate of growth of those percentiles of the population that were not poor to provide an idea about the possible effect on inequality.

There is little relationship between the income growth rate of the poor and the non-poor income growth rate across the rural and urban areas of Central America. Even within the countries of the region, the differences between the growth rates were not uniform between rural and urban areas. The advantage of living in urban areas remains clear though. Urban areas across the region had higher non-poor income growth rates and poor income growth rates than their rural counterparts, in every situation except Nicaragua and El Salvador where the urban growth of the non-poor was lower than that of rural growth. Additionally in El Salvador the growth rate of incomes of the poor for urban areas was in fact negative. Rural Panama was the only other part of Central America to achieve negative growth in incomes of the poor between 1990 and 2004, providing a strong contrast to the urban situation in this country where the income growth of the poor was the highest of any area in Central America, at over 2.5% and higher than the non-poor rate. In addition to Panama, both Honduran and Nicaraguan urban areas had higher growth rates of incomes of the poor compared to incomes of the non-poor. This contrasted the situation of Costa Rica where the non-poor income growth rate was far higher than the rate of growth of the incomes of the poor for both rural and urban areas.

A more detailed comparison of the growth rates of poor and non-poor incomes in Central America between 1990 and 2004 is considered by taking account of the subperiods 1990 to 2000 and 2000 to 2004 (see Table 4). The results show that there was considerable volatility in the income growth rates of the poor between the two subperiods for the countries of Central America, with no consistent pattern in these changes. The growth rates were mostly positive except for the urban areas of Costa Rica and El Salvador, and the rural areas of Honduras and Panama. The changes in the rates give little indication of a trend, with growth in incomes of the poor accelerating in half the areas of the region but decelerating in the other half. Nicaragua and Panama were the only countries who had consistent trends in the change of growth of poor incomes over time and between the rural and urban areas. Whilst Nicaragua made increasing gains in income growth rates of the poor in both urban and rural areas, Panamanian rates fell in both geographical divisions, with rural Panama in the post 2000 period experiencing declines of over 9% in the household per capita incomes of the poor in that country.

In terms of inequality, a comparison of the subperiod's growth rate of poor incomes and its non-poor incomes shows that in general across the region, both periods had roughly equal observations of areas in which the non-poor rate was greater than the poor rate, increasing inequality, and the opposite experience of decreasing inequality due to a higher growth rate for poor incomes. There seems to be no trend in the rates of growth of poor incomes either across countries, geographical areas or time periods, leading to the conclusion that a country's urban—and rural—specific effects combined with the circumstances of the performance of the macroeconomy over the period have determined the extent of the country's ability to achieve significant gains in pro-poor growth—either by the absolute definition of the growth of incomes of the poor or by the relative definition of the decline in inequality combined with income growth for the poor.

**Figure 11**  
**POOR AND NON-POOR REAL INCOME AVERAGE PERCENTILE GROWTH RATES,**  
**CENTRAL AMERICA, 1990-2004<sup>a b</sup>**  
*(Real percentage growth rates)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Guatemala not included as no poverty line data exists for Guatemala 2004.

**Table 4**  
**POOR AND NON-POOR AVERAGE INCOME PERCENTILE GROWTH RATES, URBAN AND RURAL**  
**AREAS, CENTRAL AMERICA, BETWEEN 1990 AND 2004<sup>a</sup>**  
*(Annualized real percentage growth rates)*

Country	Area	1990-2000		2000-2004		1990-2004	
		Rate of growth of poor	Rate of growth of non-poor	Rate of growth of poor	Rate of growth of non-poor	Rate of growth of poor	Rate of growth of non-poor
Costa Rica	Rural	0.69	1.85	1.04	1.31	0.80	1.70
	Urban	1.75	2.79	-1.30	0.13	0.96	2.03
El Salvador	Rural	-2.52	1.60	3.96	1.73	0.28	1.64
	Urban	1.18	3.57	-2.54	-2.79	-0.44	0.62
Guatemala <sup>b</sup>	Rural	0.23	2.49	..	..	..	..
	Urban	2.91	2.99	..	..	..	..
Honduras	Rural	1.67	0.15	-2.42	-2.17	0.37	-0.58
	Urban	0.54	-1.11	1.29	2.12	0.76	-0.13
Nicaragua	Rural	-0.05	2.92	3.78	-1.00	1.22	1.33
	Urban	1.15	0.72	2.27	1.48	1.54	1.03
Panama	Rural	3.09	2.79	-9.87	-2.36	-0.79	1.35
	Urban	4.01	3.60	0.28	-1.05	2.75	2.12

Source: Authors construction using information from household surveys.

<sup>a</sup> Actual survey years vary. See Appendix I for details.

<sup>b</sup> Guatemala has no poverty line data for 2004 and so these figures were excluded.

### c) Poverty decomposition

In most of the areas of the countries of Central America between 1990 and 2004, there was positive growth in the incomes of the poor. The previous table gives an indication of the associated movements in poverty but makes no comment about the changes in poverty due to the growth in incomes of the country and the changes in poverty due to redistribution effects of resources and incomes towards the poor. The decomposition procedure of Datt and Ravallion (1992) can be employed to illustrate the relative effects of growth and redistribution and their roles in the poverty changes for the region over the period.

The Datt and Ravallion decomposition method decomposes changes in the poverty rate that were either due to economic growth alone, or redistribution alone. The methodology determines what would have been the effect of a change in poverty had the inequality not changed, that is had the Lorenz curve remained constant whilst at the same time the actual economic growth, in this case the mean income, was applied to the entire distribution. The second component shows the effect of keeping the mean income unchanged and purely measuring the change in poverty that results from the measured change in inequality that took place.

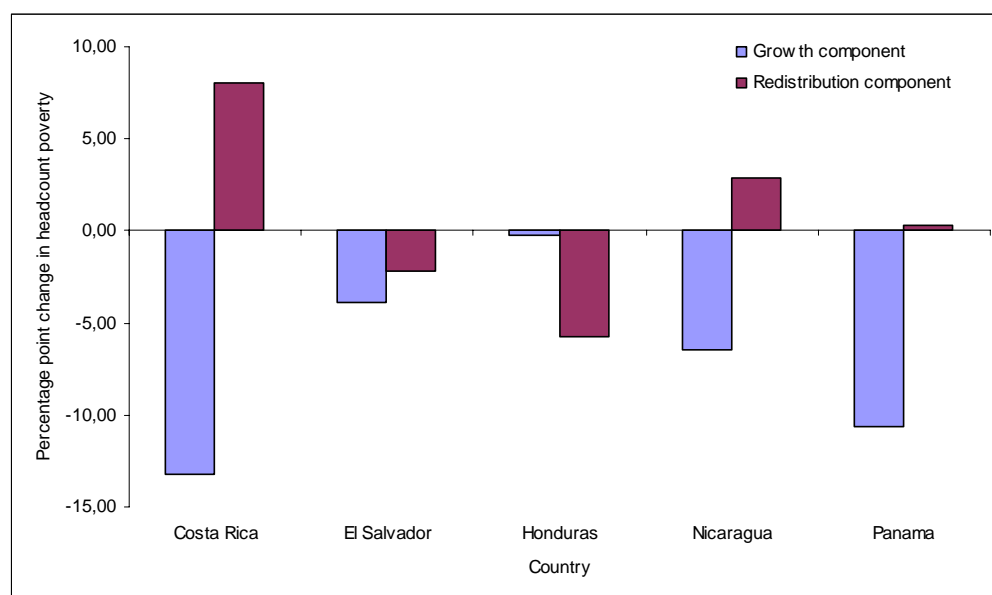
Figure 12 shows the results of the decomposition for the countries of Central America, except Guatemala due to lack of data, between 1990 and 2004. The first notable feature of the decomposition in Central America is that in all of the countries analysed, the growth component was poverty reducing, showing that the positive overall growth rates over the period did reduce poverty, albeit to varying extents. In Costa Rica and Panama, the growth component reduced the poverty rates by more than 10 percentage points in each case. In Nicaragua and Honduras, the poverty reduction was between 4 and 7 percentage points from the 1990 rate, but in Honduras the reduction was minimal.

Whilst the growth component was clearly poverty reducing, the redistribution effect was far more ambiguous with Costa Rica, Nicaragua and Panama having redistribution experiences that were poverty increasing whilst only El Salvador and Honduras had poverty decreasing redistribution over the period. It is also interesting to note that the country with the highest poverty reducing growth component, Costa Rica, also had the highest redistribution effect that was poverty increasing, thus offsetting much of the large gains that were made through the growth component. In contrast, Honduras had little growth effects whilst the redistribution component was largely responsible for the poverty reduction it experienced.

A more detailed view of the decomposition is possible by considering the experiences of the countries in each subperiods, 1990-2000 and 2000-2004. Obviously given the shorter time period in the second subperiod there cannot be an expectation of as large a series of effects as in the first 10 year period, but the results as shown in Table 5 allow a comparison to be made about the relative effects during the 1990s and into the new millennium.

An analysis of the subperiods shows that the first subperiod over the 1990s was the major contributor of both the growth effect that was poverty reducing and the redistribution effect that was poverty increasing. However in all of the countries of Central America the net effect is poverty reduction. In the second post 2000 subperiod whilst Honduras had both growth and redistribution components that were poverty reducing, the remaining countries had offsetting component effects giving little if any poverty reduction overall over the period.

**Figure 12**  
**GROWTH AND REDISTRIBUTION COMPONENTS OF POVERTY CHANGES, CENTRAL AMERICA,**  
**1990-2004<sup>a,b</sup>**  
*(Change in % headcount poverty rate)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Guatemala not included as no poverty line data exists for Guatemala 2004.

**Table 5**  
**GROWTH AND REDISTRIBUTION COMPONENTS OF CHANGE IN POVERTY, CENTRAL AMERICA,**  
**1990-2004<sup>a</sup>**  
*(Percentage point change in poverty rates)*

Country	1990-2000		2000-2004		1990-2004	
	Growth component	Redistribution component	Growth component	Redistribution component	Growth component	Redistribution component
Costa Rica	-12.51	6.96	-0.77	1.08	-13.26	8.02
El Salvador	-8.32	2.58	4.16	-4.46	-3.84	-2.20
Guatemala <sup>b</sup>	-16.73	8.55	..	..	..	..
Honduras	0.70	-1.81	-1.05	-3.78	-0.22	-5.73
Nicaragua	-2.83	-0.47	-3.15	2.84	-6.44	2.84
Panama	-14.86	2.43	3.11	-1.08	-10.68	0.28

Source: Authors construction using information from household surveys.

<sup>a</sup> Actual survey years vary. See Appendix I for details.

<sup>b</sup> Guatemala has no poverty line data for 2004 and so these figures were excluded.

### **3. Comments: Trends and questions about growth of poor and non-poor incomes in Central America**

The results of the previous analysis show that the countries of Central America achieved positive growth in the incomes of the poor over the period 1990 to 2004, thus meeting the absolutist definition of pro-poor growth. At the same time, at the national level, only El Salvador and Honduras achieved positive growth of the incomes of the poor combined with reductions in inequality. Therefore, it was only in these two countries that pro-poor growth occurred according to the relative definition of the concept. Beyond this there are few trends that can describe in general, the region's evolution of poor and non-poor incomes. The initial levels of development and poverty were not related to the rates of income growth that the poor achieved with high rates in both rich and poor countries of the region. Neither was there a clear relation between the achievement of growth in poor incomes and those of non-poor incomes. However there are some patterns within the region in certain aspects of income growth of the poor. Firstly, the geographical distribution of the growth patterns indicated in general that the rural areas in most of the region performed below that of their urban counterparts. The rural and urban divide has therefore played an important role in the ability to foster and achieve growth of poor incomes, although El Salvador is the exception to this rule. Secondly, the growth component of the poverty change was unambiguously poverty reducing and tended to be larger than the redistribution effect, which is in line with other literature that tests this decomposition empirically (Cord, 2007).

This finding does not prove that growth is the more efficacious tool to achieve poverty reduction. It simply shows that in the case of the countries of Central America from 1990 to 2004, growth was more effective at reducing poverty than redistribution or changes in inequality. This is a logical conclusion given the poor performance of the region in their efforts to reduce inequality over the period as shown in Chapter 1. Indeed as the results of this current chapter have shown, if the countries of Central America can improve their underperforming redistribution policies, they have the potential to achieve strong gains in poverty reduction through redistribution alone as well as complement, instead of offset, decreases in the poverty rates due to growth.

The fact that the social policies and circumstances of social development that existed during the 1990s and into the new millennium hindered further poverty reduction is a signal that the redistribution policies over this period were insufficient for improving the well-being of the poor. In terms of policy development the implementation of more comprehensive and effective redistribution policies that provide better assistance to the poor and those at the lower end of the income distribution can achieve significant income growth and may perhaps be the more feasible set of policies for poverty reduction for a series of small open economies that can do little to cushion themselves from external shocks and remain unable to achieve significant rates of robust economic growth. It also remains clear that there is additional capacity in the growth component to achieve further reductions in poverty and should the economies of Central America put themselves on a high robust growth path, further such reductions will ensue. The key issue is to frame redistribution policies in such a way as to facilitate poverty reduction and counter trends in the distribution of income that increase inequality and fail to redirect more incomes to the poorest populations in the region.

### **III. Social development in Central America**

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The previous chapter illustrated the problems that the countries of Central America face in their efforts to achieve significant and sustainable poverty reduction. In particular the results highlighted the potential for the effects of redistribution of incomes away from the poor to hinder the continued alleviation of the absolute deprivation faced by half the population in the region. This chapter dissects various characteristics of the population within the region in order to highlight the changes that have taken place in the social development of the countries and how these are linked to the rates of growth of the incomes of the poor. This chapter also analyses the potential policy instruments for countries to accelerate their performance and achieve pro-poor growth in terms of both absolute poor income growth and the relative combination of poor income growth and inequality reduction.

#### **1. Education, population, geography and migration**

##### **a) Education**

Over the last 15 years, Central America has achieved strong gains in the education of its population with countries having already met or well on their way to meeting the second millennium development goal of primary education for all primary school aged children of both sexes (ECLAC, 2005). In addition there have been some interesting

developments in terms of the gender decomposition of education at the primary level with females having higher attendance and completion rates (Ibid). This has been a good foundation for securing future growth and removing a serious element of social inequality and vulnerability of the population. However there remain stark inequalities in terms of the education levels above primary and the ability of the countries of the region to secure further advances in growth with increasing technological and structural changes will depend on the ability of the countries to further improve their education results such as those for secondary education and higher and ensure that the poor have access to this pathway out of poverty.

In terms of secondary education (see Table 6), all countries have experienced improvements since 1990 with greater proportions of their populations with a secondary education or higher. However, the performance in terms of this education level is strongly related to the wealth of the economy. Costa Rica and Panama are the best performers with around half their populations having a secondary level of education or higher. El Salvador, Guatemala and Honduras each have around 20% of their populations having had at least some secondary or higher education, whilst Nicaragua has made the strongest gains in this population characteristic, improving the rate by nearly 12% since 1990, to have over 37% of its population with a minimum secondary education level.

**Table 6**  
**PROPORTION OF INDIVIDUALS 25 OR OVER WITH SECONDARY EDUCATION OR HIGHER, CENTRAL AMERICA, 1990-2004<sup>a</sup>**

*(Proportion of population in each country)*

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	34.1	41.7	45.8
El Salvador	16.5	21.0	23.4
Guatemala	12.2	19.1	20.4
Honduras	16.0	21.9	19.5
Nicaragua	25.8	29.1	37.6
Panama	49.1	58.1	58.8

Source: Authors construction using information from household surveys.

<sup>a</sup> See Appendix I for details on variable construction.

The region's performance in improvement of education levels is contrasted by the inequalities inherent in the access to higher education levels which has been documented at length (ECLAC, 2007, Hammill, 2005 and Trejos and Gindling, 2004). Whilst the ability of the countries to further increase their stocks of human capital will help to ensure that they can secure greater and more stable growth in the future, the lack of access and affordability of the poor to higher education exacerbates the inequality in the region and as shown in the previous chapter, serves as a strong inhibitor of growth of poor incomes.

## **b) Geographical shifts**

One of the prominent changes in Central America is the decreasing rural population in each country between 1990 and 2004. In 1990 half the countries had over half their populations living in rural areas, with almost 63% of the population living in rural areas in Guatemala, and the other half of the countries having around 45% of the population living in rural areas. In 2004 whilst Guatemala and Honduras still have half their populations living in rural areas, the remaining countries have the majority of their populations in urban areas, with Panama the most urbanized, having only just over



one in three people living in rural areas. All countries of the region experienced declines in this rate in the last 15 years.

**Table 7**  
**PROPORTION OF COUNTRY POPULATION LIVING IN RURAL AREAS, CENTRAL AMERICA, 1990-2004**<sup>a</sup>  
(Proportion of population in each country)

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	55.8	41.0	41.0
El Salvador	45.3	41.6	40.3
Guatemala	62.9	61.4	54.3
Honduras	58.8	55.2	54.5
Nicaragua	44.4	45.5	41.7
Panama	45.3	39.0	36.9

Source: Authors construction using information from household surveys.

<sup>a</sup> See Appendix I for details on variable construction.

The decline in the rural populations is associated with the higher poverty rates in these areas compared to their urban counterparts. However analysis and decomposition of poverty changes by sector can be conducted to determine some of the dynamics behind these poverty movements. Recent work by Lokshin, Ravallion and Bassirou (2006) provides statistical code and procedures for a sectoral decomposition of the poverty changes similar to the Datt and Ravallion decomposition in the previous chapter. In this analysis the decomposition of the poverty changes are split into three components; the intra-sectoral component which shows the contribution of the within-area poverty changes, holding the base population proportion constant, the population shift effect which shows the change in poverty due to the change in the population shares of each geographical area, and the interaction effect which shows the correlation between the first two effects and indicates the degree to which people will shift between the urban and rural areas towards the other area where poverty may have fallen faster. The results are shown in Table 8 and indicate that the vast majority of the poverty change, 80% to 92% in each country between 1990 and 2004, was due to changes within each geographical area. Generally only 7% to 21% of the change in poverty was due to changing population proportions of urban or rural areas. In addition, the interaction effect shows almost no indication that people were willing to move towards areas with lower poverty. In fact in half the countries the interaction effect is negative, indicating that people moved away from lower poverty areas and towards higher poverty areas. This result is contrary to expectations and it may be that there are other effects that explain it, such as the confounding effects of outmigration from rural and urban areas to other countries that would affect the relative proportions of the populations in each geographical area over time. However this explains at most less than 4% of the total poverty change and this is offset by the fact that despite the absolute differences in poverty rates between rural and urban areas of the countries, the change in poverty within each area was very similar across the region. Rural poverty dropped around the same amount in percentage point terms as urban poverty.

The structural geographical inequality in the region remained intact leaving rural areas in relative disadvantage, but there is little evidence that rural areas suffered large internal migration to urban areas by those seeking to live in areas of lower poverty. This would be because the benefits of poverty reduction were experienced in rural areas as well as urban. In addition, previous work has shown that those who are poor and socially vulnerable and migrate to urban areas are often limited to entry within the peri-urban areas and a combination of problems related to infrastructure,

labour market difficulties and lack of community support can often erase any gains hoped to be made in poverty alleviation for those who are most socially vulnerable (Rodríguez, 2004).

**Table 8**  
**DECOMPOSITION OF POVERTY CHANGES BETWEEN RURAL AND URBAN AREAS, CENTRAL AMERICA, BETWEEN 1990 AND 2004<sup>a b</sup>**  
*(Percentage contribution to change in poverty headcount rate)*

Country	1990-2004				
	Change in urban poverty rate	Change in rural poverty rate	Intra-sectoral effect	Population-shift effect	Interaction effect
Costa Rica	-2.4	-2.3	88.7	7.6	3.8
El Salvador	-2.2	-3.1	87.8	14.5	-2.3
Guatemala <sup>b</sup>	-3.1	-1.9	83.6	13.3	3.1
Honduras	-1.0	-2.3	91.5	10.6	-2.1
Nicaragua	-4.3	-4.0	79.6	21.3	-0.9
Panama	-2.4	-2.3	88.7	7.6	3.8

Source: Authors construction using information from household surveys.

<sup>a</sup> Actual survey years vary. See Appendix I for details.

<sup>b</sup> Guatemala has no poverty line data for 2004 and so these figures were excluded.

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### c) Household and family compositions

The countries of Central America have been undergoing demographic transitions and changes in their household compositions, moving towards a more nuclear family model and away from the more traditional household types as shown in Table 9. One person households and sole parent households increased in terms of the share of total households between 1990 and 2004, but still represent a minority of households. It is also noteworthy that sole parent households are far more likely to be female sole parents rather than male sole parents reflecting a continuing attitude of gender difference in terms of care for family members and the work done in the reproductive sector.<sup>5</sup> The most common form of household is the nuclear two-parent household although in most of the countries of the region their representation decreased between 1990 and 2004. Extended family type households also became less common in every country except Nicaragua.

The gradual demographic changes taking place in the region are also reflected in the increase between 1990 and 2004 of the proportion of the population that live in households where a female is the head of the household (see Table 10).<sup>6</sup> Guatemala has had the lowest rate of population living in households with a female head; 16.9% in 1990 and growing to 19.3% in 2004. Two countries

<sup>5</sup> See Arriagada (2002, 2005) for detailed discussions about gender and family.

<sup>6</sup> In the household surveys used for this study the head is the de facto head of household recognized as the head by the other members of the household. The surveys do not investigate the legal status (de jure) of the members' claims about who is head of the household.

each have the highest incidence of population living under a female head of household and they are El Salvador and Nicaragua each with nearly 1 in 3 people living in a household with a female head. However despite these slow improvements, gender parity in the head of the household is still far off.

**Table 9**  
**HOUSEHOLD FAMILY TYPES, URBAN AREAS, CENTRAL AMERICA, 1990-2004**  
(Proportion of all households, percentages)

Country	Year	Household family type					
		One person households	Nuclear two-parent	Nuclear sole parent (Male)	Nuclear sole parent (Female)	Extended family household	Other households
Costa Rica	1990	5.0	51.3	1.0	9.5	19.3	13.9
	2004	8.5	44.5	1.0	13.0	17.8	15.2
El Salvador	1995	6.1	38.1	1.2	10.2	30.3	14.1
	2004	9.3	36.3	1.3	11.7	27.3	14.1
Guatemala	1998	4.3	46.0	1.3	10.4	26.6	11.4
	2004	5.3	50.7	2.2	10.2	20.3	11.3
Honduras	1990	4.2	41.8	1.2	9.6	27.8	15.4
	2003	5.0	38.1	1.3	9.9	26.6	19.1
Nicaragua	1993	5.2	40.0	1.4	9.5	34.2	9.7
	2001	4.1	37.7	1.1	10.8	36.1	10.2
Panama	1991	8.4	41.8	1.8	9.7	23.5	14.8
	2004	10.6	38.4	1.7	11.0	24.0	14.3

Source: ECLAC Social Panorama 2006, Table Annex IV.3.

**Table 10**  
**FEMALE HEADS OF HOUSEHOLDS, CENTRAL AMERICA, 1990-2004<sup>a</sup>**  
(Proportion of all households in each country)

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	18.0	23.5	26.7
El Salvador	27.7	30.0	32.2
Guatemala	16.9	18.4	19.3
Honduras	21.4	25.3	25.7
Nicaragua	28.1	27.7	32.2
Panama	23.7	26.3	26.4

Source: Authors construction using information from household surveys.

<sup>a</sup> See Appendix I for details on variable construction.

The gradual decline of the traditional family model and the decrease in the nuclear two-parent model are beginning to make way for increasingly common family types of smaller household units and lower ability to rely on intra-household support networks. This places greater dependence on the countries of Central America to improve their institutional capacities and social protection networks to provide a formalized system of protection for those who in previous generations were supported within the household system of the distribution of resources. It also points to a growing trend in the formalization of the social networks and dependence outside the household and family model. Whilst the advantages and disadvantages of such social change may

be discussed at length (ECLAC, 2006a), it can be argued that one advantage of the trend is that intergenerational vulnerability and poverty has the potential to decrease, but only when the country has the capacity to ensure that the social protection systems and development networks are applied with universality of access and targeting towards the disadvantaged. Without such provisions, the demographic change will be met with greater inequality and social vulnerability, leaving populations who are poor, without access to lift themselves out of their situation.

#### **d) Remittances**

As countries become more and more interdependent and outward-looking the ability of their populations to take advantage of this becomes greater and the pattern of migration in Central America is one particular effect of such change. For the last few decades there has been a steady increase in the number of migrants leaving their home countries in Latin America and Central America in particular, to work overseas (CELADE, 2006). Such flows do not simply represent a one way outflow of labour from the countries, there is also significant migration of labour within the region between the countries of Central America. Around the year 2000, the poorer countries of El Salvador, Guatemala, Honduras and Nicaragua were all net exporters of labour with the numbers of emigrants being between 11 to 40 times the numbers of immigrants into each of these countries. However Panama has a much lower rate of net emigration (only 1.45 times the number of those entering the country), whilst Costa Rica is a destination of migration with the net flow being into the country and emigrants representing only 30% of those numbers entering the country (CELADE, 2006). Therefore for the case of Costa Rica the fact that immigrants represent over 7% of the population and are often employed in low income informal work may go some way to explaining the historical increase in inequality the country experienced between 1990 and 2004 although a study by Gindling (2007) finds little evidence for this claim.

Migrants work in foreign countries in order to take advantage of more demand for labour, greater incomes and better working conditions than are provided in their home countries. In addition the income sent home to their families often represents a core component of the household income for the recipients in the home country. Since the 1990s remittances have become an increasingly important part of not only household incomes for those recipient populations, but also an important financial flow in terms of the proportion of GDP and the ability of such flows to alleviate poverty. As shown below in Table 11, from 2001 to 2004 the six countries of the subregion have all experienced very substantial rates of growth in the remittances sent home to families.<sup>7</sup> In addition, although remittances represented less than 2% of GDP for Costa Rica and Panama in 2004, in the remaining countries of the region, they represented between 10% and 17% of GDP. Fluctuations of flows of such importance have the ability to create large shocks within the economies affecting both the macroeconomic growth of the country and the internal income distribution and associated poverty alleviation performance.

In the four countries for which remittances represent over 10% of income, Table 12 shows that they had decreasing effects on the poverty rate, decreasing the rate 4.5% from what it would otherwise have been in El Salvador, but only 1.2% in Honduras. In terms of inequality the pattern was mostly the same with the remittances having a decreasing effect on inequality, by as much as 4.7 points, as they tended to raise the incomes of the populations at the lower end of the distribution. The exception was Honduras for which remittances caused an increase in inequality by 1.7 points of the Gini coefficient.

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<sup>7</sup> The remittance amounts shown here are gross flows inwards to households in each country of the region excluding the effects of outflows of remittances to other countries from the immigrant workers in each of the Central American nations. More detailed studies of the dynamics of intra and interregional remittance flows can be found in CELADE (2006) and Agunias (2006).

Although nationally remittances were poverty reducing to a relatively small extent, they play a major role in poverty reduction when considering the subsections of the population that receive remittances. Of the population in each of the four countries that received remittances around 2002, those payments caused huge reductions in the poverty headcount rates of the countries, compared to the case where they may not have been sent. In Nicaragua, the poverty rate of those receiving remittances dropped 12 percentage points from what it would otherwise have been, whilst in El Salvador the poverty rate of those remittance receivers was 40 percentage points lower than had no remittances been received by those households.

**Table 11**  
**GROSS INFLOW OF REMITTANCES, AMOUNTS AND PROPORTION OF GDP, CENTRAL AMERICA, 2001-2004**

Country	Millions of current dollars				2004 % of GDP
	2001	2002	2003	2004	
Costa Rica	80	132	306	320	1.7
El Salvador	1 911	2 206	2 316	2 548	16.1
Guatemala	584	1 690	2 106	2 681	10.0
Honduras	460	770	862	1 134	15.1
Nicaragua	660	759	788	810	17.8
Panama	...	...	220	231	1.8

Source: ECLAC Social Panorama 2005, Table I.9 and Figure I.10.

**Table 12<sup>8</sup>**  
**EFFECT OF REMITTANCES ON POVERTY AND INEQUALITY, CENTRAL AMERICA, CIRCA 2002**  
(Various)

Country	National level		Population receiving remittances
	Effect on poverty headcount rate	Per cent change in inequality (Gini)	Per cent change in poverty headcount rate
El Salvador	-4.5	-4.7%	-39%
Guatemala	-1.6	-1.8%	-14%
Honduras	-1.2	1.7%	-16%
Nicaragua	-1.5	-1.5%	-12%

Source: ECLAC Social Panorama 2005, Tables I.11, I.12 and I.13.

Remittances have an increasingly important role to play in the economic stability of the countries of Central America. They are also in most cases inequality reducing and in addition they are poverty decreasing and represent an important means for those receiving families to stay out of poverty.<sup>9</sup> The paltry growth performance of Central America since 1990 and the lack of substantial gains in inequality and poverty reduction increase the incentives for migration and the importance of remittances for the economy. In addition, the country suffers the loss of productive labour for

<sup>8</sup> The results here for the effects of remittances upon poverty and inequality are calculated by subtracting the remittance income component from the total household income. The new total was then compared to the existing poverty line and new or simulated inequality calculations were made. This is a very basic simulation that gives an indication solely of the likely effects of remittances upon poverty and inequality but doesn't consider more complex dynamics and effects of remittances that flow on through the economy such as the flow-on effects into household behaviour, changing characteristics and prices or changing labour supply. More detailed analysis can be found in Perry (2006).

<sup>9</sup> Whilst remittances are generally inequality reducing at the national level, there may be significant differences at the local level where such external injections to selected households can cause increases in inequality.

which it was unable to find a productive activity that would provide sufficient rewards. To increase the rate of poverty reduction in the region, the macroeconomy must be able to provide the ability for those in poverty and situations of social vulnerability to increase their participation in the labour force of the domestic economy and be able to derive solid rewards that will maintain their households above the poverty line.

## 2. Labour market

### a) The dependency ratio and participation rates

The labour market in Central America has seen a flow-on effect from the demographic changes that have been occurring in the countries of the region. The changing demographics and household family structures, as shown previously have had the effect of creating a large number of working age people and smaller numbers of dependents as shown in Table 13. The countries of Central America have, with the exception of Guatemala, experienced decreases in the dependency ratio, the ratio of those normally outside the age of participation in the labour force divided by the population between 15 and 59. This means that the proportion of the population who can participate in the labour force and contribute to the production of the country has increased, compared to the share of the population that is dependent on the product and incomes of this population group.

**Table 13**  
**DEMOGRAPHIC DEPENDENCY RATIO, CENTRAL AMERICA, 1990-2004<sup>a</sup>**  
(Ratio)

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	0.97	0.84	0.77
El Salvador	1.13	1.08	1.01
Guatemala	1.20	1.33	1.22
Honduras	1.42	1.26	1.18
Nicaragua	1.35	1.20	1.10
Panama	0.92	0.86	0.90

Source: Author's calculations from household survey data.

<sup>a</sup> Average natural ratio of household population groups by age 0 to 14 years and 60 years or over divided by the population of those aged 15-59.

This period of demographic change and decreased dependency ratio is often called the “demographic bonus” of the countries of Central America (ECLAC, 2004). The growth experience of the poor across the region and the size of the growth component can be related to the fact that the countries are currently taking advantage of their demographic bonuses. However without further efforts to ensure higher growth, more job opportunities and greater productivity, in addition to increased redistribution to the poor, the full benefits of the demographic bonus will not be realized.

The labour market in the region has also seen the effects of structural and demographic changes through the changes in the economic participation rates across countries by sex (see Table 14). The economic participation rate is the proportion of the population over 15 years of age that is economically active, whether employed or unemployed, divided by the entire population over 15 years. Since 1990 all the countries of Central America have seen large increases in the participation rates of females. In contrast the initially high participation rates of males have declined slightly in 2004 from their 1990 levels, except for Nicaragua and Panama. One interesting aspect of this

transition is the fact that rates of economic participation around the year 2000 were sometimes higher than those of 2004, across both sexes. In this case the greater participation of females in the labour force over the period has obviously contributed to the economic growth of the region but has not ensured high nor stable growth rates. In terms of both the dependency ratio and economic participation, it seems that the nations of the region have failed to fully capture the benefits of the structural demographic changes taking place.

**Table 14**  
**ECONOMIC PARTICIPATION RATES, POPULATION OVER 15 YEARS BY SEX, CENTRAL AMERICA,**  
**1990-2004<sup>a</sup>**  
*(Ratio)*

Country	Circa 1990		Circa 2000		Circa 2004	
	Female	Male	Female	Male	Female	Male
Costa Rica	32.5	82.5	37.8	79.3	39.9	78.8
El Salvador	41.8	81.8	44.3	78.6	44.1	77.5
Guatemala	28.4	89.9	44.9	88.8	42.7	86.0
Honduras	32.3	87.2	44.2	87.1	40.0	83.8
Nicaragua	36.3	76.7	42.7	85.0	46.1	86.2
Panama	38.2	77.1	41.6	78.8	46.5	80.6

Source: Author's calculations from household survey data.

<sup>a</sup> See Appendix I for definitions.

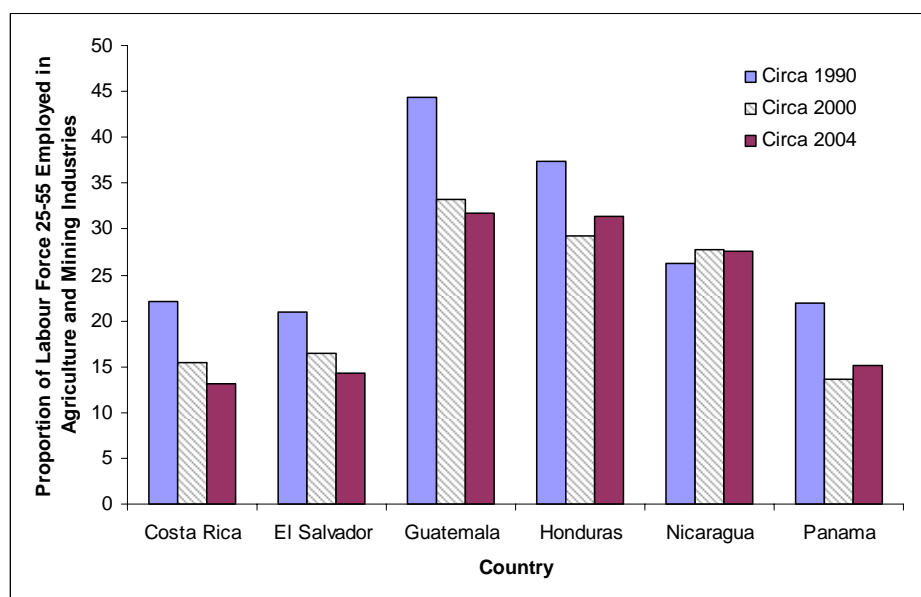
## **b) The decline of agriculture**

The relative deprivation of rural populations compared to urban populations is explained in part by the decline of the agriculture sector in almost all countries of Central America as shown in Figure 13. Guatemala and Honduras were two countries that around 1990 had the highest proportions of the labour force 25-55 employed in agriculture and also experienced the greatest declines in the share of the labour force devoted to agriculture. Without comprehensive assistance to rural areas facing the large structural adjustments in the local economies, employment patterns will continue to grow more volatile and the rate of informal employment will continue to rise.

## **c) Informal employment**

Informal Employment was defined following the methodology in CEPAL (2003) and the ILO international definition of informal employment (International Labour Organization (ILO), 2003) as non-agricultural sector workers in the following categories; self-employed workers with less than a post-secondary education and without professional or technical skills in an enterprise with five people or less; domestic service workers; or unpaid family workers. This definition varies slightly from that of ECLAC's Social Panorama series, which defines a series of low productivity occupational groups that are similar in dimensions to the informal employment but include persons in the agricultural, hunting, forestry and fishing sectors.

**Figure 13**  
**AGRICULTURE AND MINING SECTORS, PROPORTION OF TOTAL LABOUR FORCE 25-55,**  
**CENTRAL AMERICA, 1990-2004<sup>a</sup>**  
*(Proportion of all employed persons 25-55 working in agriculture and mining)*



Source: Author's construction using information from household surveys.

<sup>a</sup> See Appendix I for definitions.

Central America continues to have a high proportion of its economically active population in positions of informal employment that provide poorer work conditions, more volatile episodes of work and lower job security than formal employment. In 2004 over 38% of economically active Central Americans were employed informally across the region, not including the agriculture sector, and this figure has increased by 6 percentage points since 1990 (see Figure 14). In the agricultural sector there has been a decline in informal employment from 1990 levels, although the rate has been relatively constant since 2000 with just under one in four economically active people in this sector working informally.

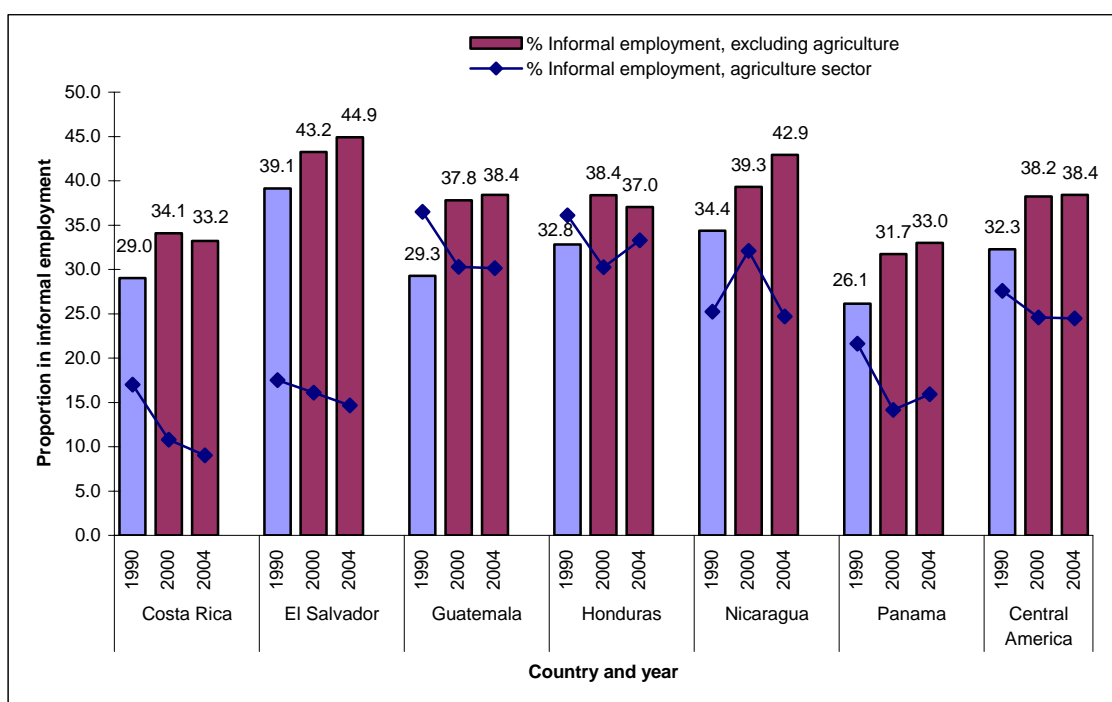
El Salvador and Nicaragua have the highest proportions of their populations working in informal employment in the non-agriculture sectors, each with over 42% of those economically active employed informally. This ranking has been consistent across all three time periods. Costa Rica and Panama have consistently had the lowest rates of informal employment, with just over one in three economically active people in each country informally employed. In addition, every country except Costa Rica has experienced continual increases in the rate of informal employment. Only Costa Rica has experienced a minor decrease of less than one percentage point between 2000 and 2004.

The rates of informal employment in the agriculture sector are highest in Guatemala and Honduras where they approach the same rates as those in the non-agriculture sectors. Costa Rica, El Salvador and Panama have the lowest informal employment rates in the agriculture sector. In addition it can be seen that the rates of informal employment in agriculture have generally been decreasing across countries.



**Figure 14**  
**INFORMAL EMPLOYMENT IN THE ECONOMICALLY ACTIVE POPULATION, CENTRAL AMERICA,**  
**1990-2004<sup>a</sup>**

(Proportion of economically active population in each country)



Source: Author's construction using information from household surveys.

<sup>a</sup> See Appendix I for definitions.

#### d) Gender and informal employment

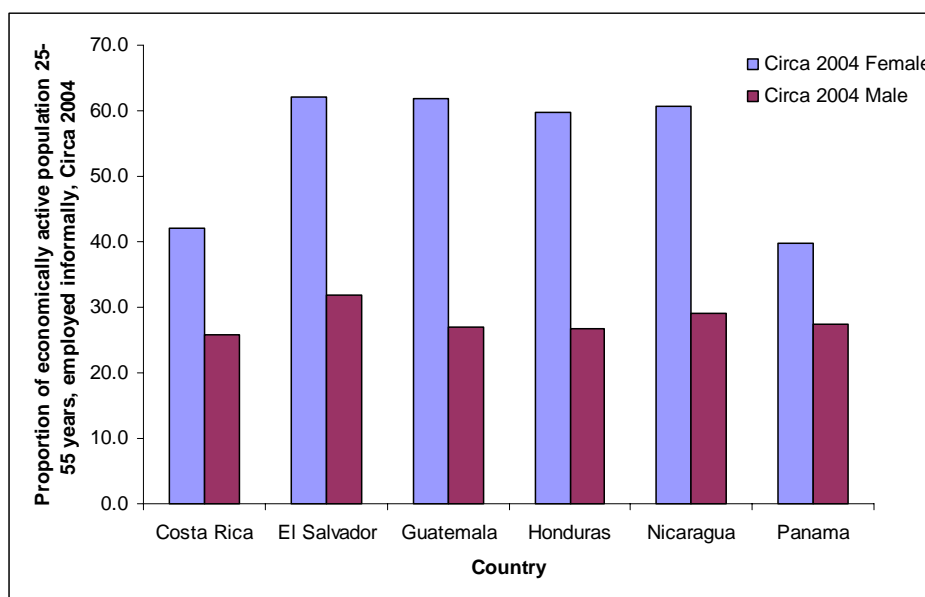
In addition the growth of informality includes a core component of gender inequality. Figure 15 shows that in each country the share of females employed informally far outweighs the share of males so employed. The lowest gender differentials occurred in Costa Rica and Panama, whilst in the remaining countries of the region, the share of women in informal employment was around 60% whilst the share of males in informal employment in those countries was generally below 30%.

There are a number of explanations advanced for the feminization of informal employment including the increasing liberalization and commodification of the household and reproductive sectors, drawing more women into domestic service, combined with the lack of comprehensive social services that force females, who tend to be the primary care givers, to supplement the lack of service availability with entry into the informal labour market which, whilst more flexible in terms of hours worked, also provides greater volatility, lower wages and increased social vulnerability (Arriagada, 2005). The gender inequality in informal employment has particular relevance for who is poor and why they are poor as well as for the inter-generational transmission of poverty.

The failure to reduce the relative size of informal employment and lack of adequate pathways to formal employment for those who are in poverty or situations of social vulnerability only serves to increase the inequality in the region (Sauma, 2006) not only in the income dimension but also in the gender dimension. The persistence of high rates of informal employment contributes to worsening the income distribution and confining workers, and disproportionately female

workers, to low return activities. As a result, the redistribution of incomes that took place failed to achieve poverty reduction in many parts of the region as shown in the previous chapter.

**Figure 15**  
**INFORMAL EMPLOYMENT IN THE ECONOMICALLY ACTIVE POPULATION, BY SEX,**  
**CENTRAL AMERICA, CIRCA 2004 <sup>a</sup>**  
*(Proportion of male and female economically active population in each country)*



Source: Author's construction using information from household surveys.

<sup>a</sup> See Appendix I for definitions.

The gender inequalities in the regional informal labour market are illustrated in Table 15 which shows the large gender differentials between the labour wages of males and females circa 1990 and circa 2004. The table also shows that there has been mixed performance in the reduction of this gender differential over the 14 year period.<sup>10</sup>

### 3. Social expenditure

The ability of Central America to achieve robust and sustainable growth is dependent upon mechanisms of redistribution that incorporate adequate systems of social protection with effective institutions to provide greater alleviation from poverty and vulnerability and allow for the poor to gain better access to the benefits of growth. The governments of the countries of Central America, despite putting in place a series of structural reforms in the beginning of the 1990s, have not achieved significant social and institutional reform sufficient to decrease the extremely high inequality in their countries which inhibits greater poverty reduction. Furthermore, since 1990, significant structural inequalities persist in terms of social expenditure.

<sup>10</sup> Calculations made by the author show that this gender differential in the informal incomes are greater than those in the formal sector, in addition to the fact that informal labour incomes are lower on average than equivalent labour incomes in the formal sector. However the patterns of the formal sector gender differentials themselves are heterogeneous in nature due to various factors including individual characteristics and patterns of work whose analysis is beyond the scope of this study. As such, the results for the formal sector were excluded from the table to maintain a clear exposition.

**Table 15**  
**FEMALE INFORMAL LABOUR INCOME AS PROPORTION OF MALE LABOUR INCOME,**  
**NON-AGRICULTURE, CENTRAL AMERICA, CIRCA 1990 AND CIRCA 2004**  
*(Ratio of female to male informal incomes as per cent)*

Country	Circa 1990	Circa 2004
	Female/male income	Female/male income
Costa Rica	55.0	65.6
El Salvador	49.1	79.4
Guatemala	73.4	70.2
Honduras	45.9	72.8
Nicaragua	88.2	77.6
Panama	56.2	67.7

Source: Author's calculations based on household surveys.

The most developed countries of Central America exhibit the greatest proportions of social expenditure compared to their GDP (see Table 15). Costa Rica and Panama each spent over 17.5% of GDP on social expenditure in 2004. This is in contrast with the poorest countries of the region, Nicaragua and El Salvador whose social expenditure is only 7% to 9% of GDP (see Table 15). Social expenditure represents a large proportion of the total public expenditure of the countries of Central America. Costa Rica once again has the highest proportion of total expenditure directed towards social development representing over 65% of all expenditure, whilst El Salvador and Panama have the lowest proportions of public expenditure committed as social expenditure. However, despite Panama having the lowest proportion of public resources as social expenditure, the high proportion of social expenditure to GDP, more than double the rate of El Salvador, implies that in general public expenditure in Panama is far higher than in El Salvador. Whilst the least developed countries of the region spend high proportions of their public resources on social expenditure, the low proportions of this expenditure with respect to GDP show that despite the importance of the social expenditure in the public budget, the restrictive public purse lowers their ability to provide social services such as education, health and social security when compared to the wealthier countries of the region. This will have an adverse affect on the poor who have no opportunity to pay for the privatized services that fill the gap of public service provision for those who can afford it.

Over the 1990s, Central American governments have recognized the need to increase their social expenditure and promote better public social services that can help mitigate poverty and ensure that growth occurs with redistribution towards the poor. Figure 16 shows that all countries in the region have increased their social expenditure from 1990 to 2004 as a proportion of their GDP. However, the structural inequality between the countries and their proportions has persisted throughout this time with the wealthiest countries of Costa Rica and Panama maintaining far higher social expenditure as a proportion of their GDP compared to the other countries of the region.

Within the social expenditure of each country of the region, education is clearly important, representing one of the highest social components of public expenditure in each case (see Figure 17). Health expenditure was also well represented in countries such as Costa Rica, Panama and Honduras, but less important in El Salvador and Guatemala where the proportion of total expenditure devoted to health was lowest. Social security expenditure was largest in the wealthiest countries of Costa Rica and Panama, providing an important means of redistribution, increased social protection and greater ability for the poor to benefit from growth. All countries of the region had only small proportions of their public expenditure devoted to housing and associated services with Guatemala the best performer in this area. The frequently documented lack of access to

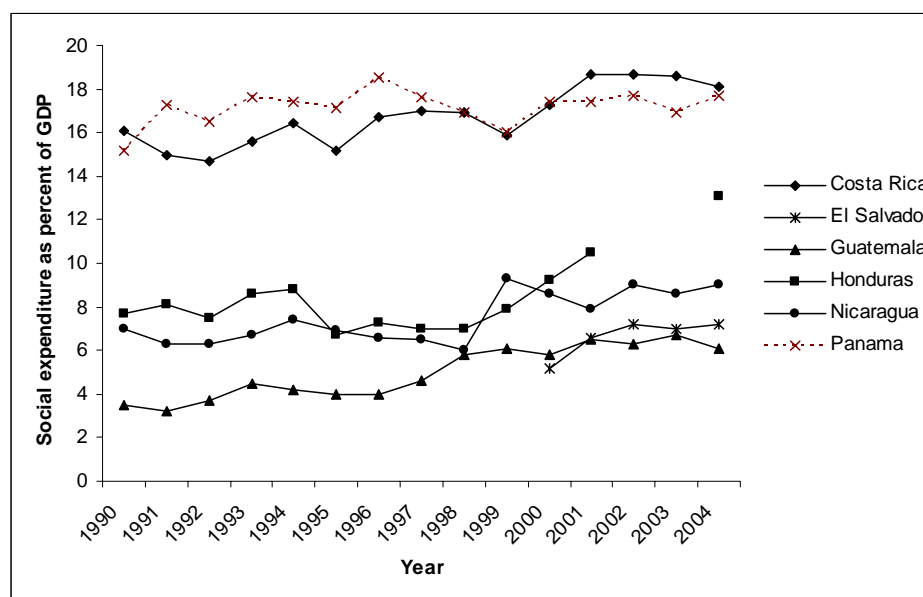
housing and infrastructure for those in rural areas (ECLAC 2007, 2003b) combined with the structural inequalities of higher poverty in rural areas, points to a continuing requirement for development in this area.

**Table 16**  
**PUBLIC SOCIAL EXPENDITURE AS A PROPORTION OF GDP AND TOTAL PUBLIC EXPENDITURE, CENTRAL AMERICA, 2004**

Country	Public social expenditure as a proportion of GDP	Public social expenditure as a proportion of total public expenditure
Costa Rica	18.1	65.5
El Salvador	7.2	40.4
Guatemala	6.1	52.2
Honduras	13.1	52.0
Nicaragua	9	41.8
Panama	17.7	40.0

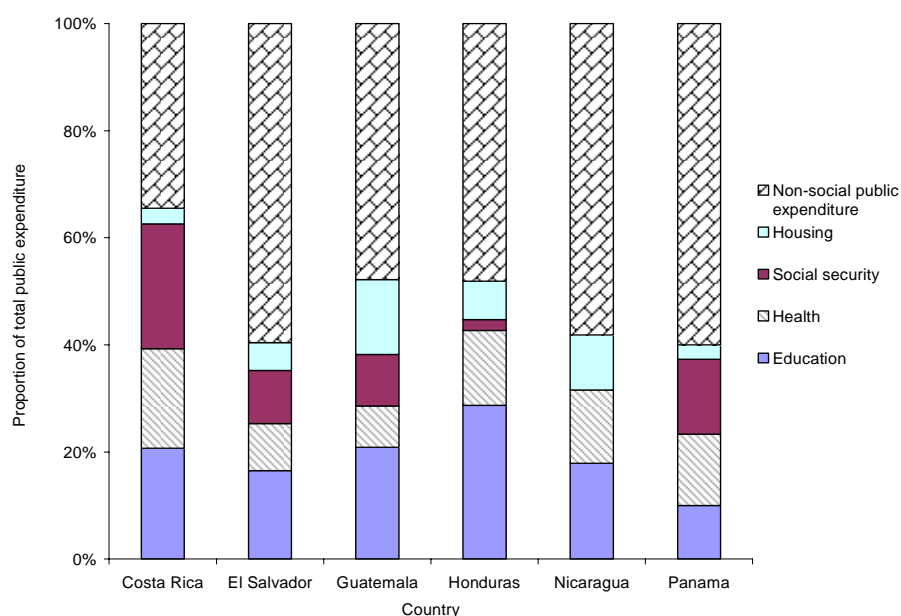
Source: ECLAC Social Indicators database BADEINSO.

**Figure 16**  
**TRENDS IN PUBLIC SOCIAL EXPENDITURE AS A PROPORTION OF GDP, CENTRAL AMERICA, 1990-2004**  
*(Per cent of GDP)*



Source: Author's calculations using official ECLAC data from BADEINSO.

**Figure 17**  
**COMPONENTS OF PUBLIC SOCIAL EXPENDITURE AS A PROPORTION OF TOTAL PUBLIC EXPENDITURE, CENTRAL AMERICA, 2004**  
*(Per cent of total public expenditure)*



Source: Author's calculations using official ECLAC data from BADEINSO.

## 4. Comments

The results of this chapter have shown that several dimensions of structural inequity exist in the social development of each of the countries of Central America which inhibit the ability of the poor to take advantage of growth. One dimension is education where access to higher education levels and improvements in the human capital of the countries of the subregion are essential components to further development and poverty alleviation. The difference between Costa Rica and Panama compared to the other countries of the region is an example of the improved benefits to higher education levels. Demographic changes in family structures have meant that the region has had to adapt to the continuing structural social changes in the countries where household and family organization models are becoming smaller and less traditional and this has implications for the ability of individuals to secure themselves in the face of risk and vulnerability. This places greater reliance on adequate social insurance systems promoting universality and access to the most disadvantaged members of the population. At the same time structural changes are also occurring in the geographical distribution of the populations with increasingly greater concentrations of people in urban areas. This places greater burdens on governments that need to manage the higher concentrations of the population and also makes it increasingly difficult and costly to maintain or improve service provision to rural areas where population proportions are decreasing, but which face higher rates of poverty and social vulnerability.<sup>11</sup> From 1990 to 2004 the lack of improved

<sup>11</sup> Social vulnerability is defined by ECLAC as a multidimensional social phenomenon that promotes feelings of risk, insecurity and helplessness with regard to the ability to sustain oneself (CELADE, Centro Latinoamericano y Caribeño de Demografía, 2002). In previous work particular focus of social vulnerability is given to those households above but close to the poverty line and others with significant income volatility (ECLAC, 2003b).

performance in poverty trends in rural areas has maintained this geographical inequality, although the equivalent performance has not been a large factor for internal migration to urban areas.

The geographic dynamics within Central America are also linked to changes in the labour market and the increasing access to external and overseas labour markets. Rural areas have seen steadily decreasing agricultural sectors and there remains a need to stimulate industrial activity in rural areas to replace the loss of employment opportunities. In addition, the general lack of productive employment has led to increased emigration and the search for work outside the countries of the region. In this case, the remittances sent back from workers who emigrate represent increasingly large flows of capital that can have significant effects on the economy, particularly in the areas of poverty and inequality reduction. However, these flows also highlight the paucity of opportunities for socially vulnerable households to find sufficient and productive opportunities for work that provides adequate returns and to avoid poverty.

The domestic labour markets of the region exhibit high and rising rates of informality, where the informal economy is characterized by higher volatility, lower wages, and decreased job security, in addition to the lack of social protection coverage that formal sector workers enjoy. Insertion in the informal economy decreases the opportunities for the poor and the socially vulnerable to enjoy the benefits of increased growth, particularly if the majority of increased labour market opportunities that growth provides are in low skilled and insecure employment. In addition, this type of labour market segmentation is linked to the gender inequality of opportunities in the region, with women suffering not only lower wages for the same types of work, but also being far more likely to be employed in the informal economy than men. The rising concentration of women in the informal economy is matched by the demographic transition observed in household composition where women are increasingly responsible, either as sole parent or as head of household, for undertaking household maintenance and child rearing, as well as securing the financial well-being of households through participation in the productive sectors of the economy.

The social expenditure record of the region shows that the rising proportion of this expenditure over time reflects the increasing emphasis by governments on the provision of social services such as health, education and pensions. The size of these increases, however, has been low and the persistent differences within the region in social expenditure are noteworthy in their similarity to trends in the differences in the level of social development between the countries. This is the manifestation of the lack of redistribution effects of the growth in incomes that were illustrated in the previous chapter and that provide the main inhibitors to further income growth for the poor. The ability to increase social expenditure and overcome the structural barriers to social development that have been presented in this chapter represents an effective way to turn redistribution into an income growth enabling and poverty reducing tool.

It is true though that this imperative should not come at the cost of macroeconomic stability. Indeed some of the lack of improvement in social expenditure can be explained within the context of such factors. The persistent structural break between the richest countries in the region and the remaining countries in terms of the proportion of GDP that social expenditure represents, may imply a fixed or scale effect to the ability of countries to increase their proportion of social expenditure. With the countries other than Costa Rica and Panama having lower per capita incomes and lower growth rates, the potential to be flexible with the direction of social spending and to enlarge public spending can be very low, especially given the volatility of growth during the turn of the century and the sensitivity this would have had to changes in the federal spending. In this case it could be that the macroeconomic instability of these countries of the region has in turn affected their capacity to implement and enact better redistribution policies due to lowering the capacity of the economies to make such changes.

## IV. Conclusions

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This study has presented an analysis of the pattern of poverty and income growth for the poor and non-poor in six countries of Central America between 1990 and 2004. The increasing focus on the growth in incomes of the poor and the concept of pro-poor growth in the global development discourse has been manifested by its focus in terms of policy development priorities in the region. Using recently developed empirical tools it was possible to not only measure the extent of growth of the incomes of the poor in each of the countries since 1990, but also to decompose the income change to reveal the recent trends in the contributions of growth and redistribution to alleviating the poverty that afflicts half the population. This then places an emphasis upon the analysis of some pertinent social trends in the region and their relationship to the pattern of income changes for the poor over the period. The main findings can be summarized in a series of stylized facts below about the patterns of the evolution of poverty and the growth of poor incomes in Central America:

- **Poverty reduction was achieved but with little reduction in inequality and low inconsistent growth.** The bulk of the poverty reduction occurred over the 1990s with only small changes in poverty in the new millennium. The pattern of economic growth across the region was patchy and only partially explained by the recovery from the “lost decade” of the 1980s, the implementation structural reforms and the series of external shocks such as the flow on effects from the Mexican and Asian currency crises and natural disasters such as Hurricane Wilma. The countries of Central America made little

progress in decreasing the high rates of inequality across their populations. Overall from 1990 to 2004, the poverty decreases were more closely associated with positive per capita economic growth than with any trends in inequality. In addition the countries that were most developed were the ones best able to combine significant poverty reduction with growth but sometimes at the cost of higher inequality.

- **There was pro-poor growth according to one definition and anti-poor growth according to another.** Defining pro-poor growth as the absolute definition of any positive growth that the poor experience, Central America achieved pro-poor growth in each of the countries of the region between 1990 and 2004. However, not all income percentiles of the poor grew evenly, or even positively, with a general trend across the region being that the poor closer to the poverty line had an increased likelihood of higher growth rates than those who were most poor. In addition the growth rates of the poor were more often than not lower than the non-poor growth rates of income of each country, causing increases in relative inequality between the poor and non-poor. Thus when considering the relative definition of pro-poor growth, that poor incomes must grow with associated inequality reductions, the Central American experience was broadly anti-poor.

- **The income growth of the poor was driven by growth rather than redistribution.** In Central America the economic growth in the region caused a greater component of the growth in the incomes of the poor than did any redistribution or change in inequality. The analysis for the region therefore corresponds with other income growth decompositions internationally. Growth was uniformly poverty reducing and more effective than the redistribution. Changes in the income distribution across the region between 1990 and 2004 were often inequality increasing and of smaller quantity than the growth effects. Patchy and ineffective redistribution policies failed to act as an enabler of higher income growth of the poor, more often playing the role of inhibitor of such growth.

- **Social development structures in the region perpetuate the inequality.** The lack of redistribution towards the poor is due to the region's failure to adequately address several dimensions of social development:

- *Access to Education.* The lack of access to secondary and higher education levels is reflected in the low rates of secondary and higher completion amongst the population and limits the ability of the poor to raise their human capital and provide them with a substantial pathway out of poverty. Moreover, the failure to invest in human capital is likely to exacerbate the inter-generational transmission of poverty.

- *Labour Market Informality and Remittances.* The labour markets in Central America are highly segmented with large informal economies where employment is more volatile, pays lower wages and provides little security and no social protection. In addition informal employment was a major source of employment growth over the period. Workers trapped in informal employment have little ability or incentives to leave the sector and few social development institutions exist to transition workers into formal employment. Remittances are increasingly an important source of income for socially vulnerable families and have increasingly larger effects on the economies of Central America. They continue to play a significant role in keeping households out of poverty and reflect the lack of adequate labour market opportunities in the region that provide reliable sources of income for poor families.

- *Geographical inequality and the decline of agriculture.* Rural areas in Central America continue to suffer greater poverty and social vulnerability than urban areas. In addition, the gradual decline of the agriculture sector means fewer sources of reliable and secure employment for those who live in rural areas. Rural and urban sectors exhibit



similar trends in poverty alleviation over the period, the net effect of which leaves the relative inequality between the areas intact.

– *Gender inequality. Gradual demographic changes in household and family compositions* have occurred in tandem with increasing female participation rates as more and more women enter the labour force in the productive sectors of the economy. However, the majority of women work in informal employment with nearly double the incidence of the informal employment rate of men. At the same time the sole parent families, headed mainly by females, and the rate of female head of households is increasing, thus placing more pressure on women in these cases to provide incomes for their families whilst at the same time the traditional female gender roles of household maintenance and child rearing are slow to disappear. There has been a lack of any evidence of effective policies to redress the gender inequalities in the region. The slow changes in gender roles combined with precarious employment and lower wages for women who enter the productive economy exacerbate the inequalities within the countries of the region, especially given the changing demographic trends.

– *Social Expenditure increased in the region but inequality reflects country wealth.* The social expenditure in the countries of Central America has increased between 1990 and 2004, reflecting the greater emphasis on redistribution and assistance to the poor. However, the wealthier countries continue to spend far higher amounts than the poorer countries of the region and this does nothing to remove the inequalities that inhibit further growth of poor incomes.

The incomes of the poor have grown throughout the region and the economic growth experienced over the 1990s has been trickling down to the poor. However, the structural inequalities in the region and the lack of comprehensive and effective redistribution to provide social protection for the poor and vulnerable have hindered the effectiveness of the growth of poor incomes that has taken place. The failure of public policies in the region lies in the lack of effective promotion of structural and institutional reforms that overcome the inequalities in social development and the disadvantages faced by the poor in their efforts to obtain the benefits of growth. Governments need to improve the implementation of comprehensive and effective redistribution policies that decrease inequality and promote pro-poor redistribution—transforming the redistribution of incomes from an inhibitor of growth of poor incomes to an enabler and promoter of such growth. The history of the countries of Central America since the 1990s highlights this potential and provides a lesson for the focus of policy priorities in the coming decade.



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## **Appendices**

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## Appendix I

### Data and measurement issues

The countries considered in the study are those for which national household survey data was available for at least three time periods between 1990 and 2004. The countries considered were Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama and the survey years chosen vary depending upon the data available at the time.<sup>12</sup> The surveys were organized into three time periods and as a general rule circa 1990 covers the period 1990-1995, circa 2000 covers 1998-2000 and circa 2004 covers the period 2001-2004.

Consumption is usually the measure of well-being that provides a satisficing compromise between utility and the measurement of economic capability. Unfortunately most surveys did not measure consumption levels and instead this study uses income as the primary measure of well-being. Income was measured at household per capita levels where total household income of all members is divided equally amongst the household population. Whilst other studies use equivalence scales to proportionally weight the intra-household income distribution, often giving larger weights to adults over children or to the head of the household over the other members of the household, the choice of weights is often ad-hoc and is applied uniformly to the entire population when there is little evidence that such a weighting would be equal across all households in a population.<sup>13</sup> No equivalence scale was used in the analysis here in order to avoid these problems.

### Income and poverty<sup>14</sup>

#### Income

Unless specifically referring to labour incomes, income was measured as monthly household per capita income. The household per capita income is defined as the total income of each household divided by the number of people forming it. In addition the total household income is corrected for those persons who omit their income whose income is registered as a “corrected” value that is equal to the income of persons with similar characteristics. The values of all incomes are then compared to the Household Income and Expenditure Account in the System of National Accounts (SNA) and if not identical, an adjustment coefficient is applied to the “corrected” values to bring them in line with the national totals in the Income and Expenditure Account. This is then household “adjusted” income (ECLAC, 2006b).

The income measure in each survey was chosen to correspond with income measures used by ECLAC in the calculation of poverty and inequality in the Social Panorama series. This income measure varies from country to country according to the need to correct and adjust incomes in each survey. Households with zero per capita incomes, after correction and adjustment, were included to ensure consistency in poverty and inequality measures with official ECLAC measures. Further details are provided below. For wage and self employment income, equivalent measures are taken

<sup>12</sup> For example whilst Costa Rica has a national household survey for 1990, the earliest available survey for El Salvador was 1995 and whilst there was data for most countries for the years 2003 or 2004, the latest survey for Nicaragua was 2001. Full details of the surveys and years selected are given in appendix I.

<sup>13</sup> Some advances in the methodologies for analyzing the intra-household allocation of both income and resources are discussed in Arriagada (2005).

<sup>14</sup> The author would like to thank Juan Carlos Feres, Chief of Social Statistics in the Division of Statistics and Economic Projections, ECLAC Santiago for providing the adjusted ECLAC income data.

from each of the household surveys and corrected and adjusted where appropriate. However in these cases, zero incomes were omitted from the sample.

## **Poverty**

The poverty lines used for the calculation of poverty rates and indices were taken from ECLAC official poverty lines. In some countries and years, the poverty line for urban areas was split into two groups, one for the capital or metropolitan areas and one for other urban areas. The ECLAC poverty line data is shown in Table I-1 below, including the urban subdivision where appropriate:



**Table I-1**  
**ECLAC POVERTY AND EXTREME POVERTY (INDIGENCE) LINES FOR CENTRAL AMERICA, 1990 TO 2004**  
*(Nominal local currency)*

Country	Year	Urban						Rural	
		Indigence line			Poverty line			Indigence line	Poverty line
		Metropolitan areas	Other urban areas	Total urban areas	Metropolitan areas	Other urban areas	Total urban areas		
Costa Rica	1990	2 697.58	2 562.71	2 369	5 395.16	5 125.42	5 278	2 081.08	3 641.89
Costa Rica	2000	11 990.36	11 390.85	..	23 980.72	22 781.69	..	9 250.11	16 187.71
Costa Rica	2004	18 203.75	17 293.56	..	36 407.50	34 587.12	..	14 043.51	24 576.15
El Salvador	1995	..	..	253.50	..	..	508.34	157.67	314.67
El Salvador	2000	..	..	294.04	..	..	588.09	189.94	294.04
El Salvador	2004	..	..	38.05	..	..	76.11	24.58	49.16
Guatemala	1989	73.48	59.38	64	146.96	118.76	127	50.48	88.34
Guatemala	2000	302.60	244.61	..	605.40	489.23	..	207.95	363.92
Guatemala	2004	..	..	..	..	..	..	..	..
Honduras	1990	..	..	114.6	..	..	229.20	80.6	141.00
Honduras	1999	..	..	560.77	..	..	1 121.54	294.78	690.86
Honduras	2003	..	..	706.91	..	..	1 413.82	497.66	870.91
Nicaragua	1993	..	..	167.22	..	..	334.43	128.76	225.33
Nicaragua	1998	..	..	274.81	..	..	549.62	211.60	370.31
Nicaragua	2001	..	..	369.40	..	..	738.80	284.44	497.77
Panama	1991	32.80	33.65	35	70.85	67.31	70	27.13	47.48
Panama	2000	41.47	39.40	..	82.93	78.80	..	31.76	55.58
Panama	2004	..	..	42.11	..	..	84.22	32.60	57.05

Source: ECLAC Social Panorama 2005 and author's construction from household surveys. The poverty line data in household surveys was constructed by ECLAC Division of Statistics and Economic Projections.

## **Sex**

Gender differentials were measured using a sex dummy variable for all countries and time periods, with the value of 0 for males and 1 for females.

## **Relation to head of household**

The head of the household was identified by respondents to the survey questionnaires. Family members for each country and year were categorized into the following six categories, head of household, spouse or partner of head of household, child or in-law of head of household, other relation of head of household, domestic service worker, and those members unrelated to head of household.

## **Education level**

Education level is summarized into four categories for each country and year. The categories are no education or less than primary education, primary education or equivalent, secondary education or equivalent, and tertiary education or equivalent. Note the age of entry into education differs for each country. In Costa Rica the age is 6 years, in El Salvador it is also 6 years, in Guatemala it is 7 years, but for Guatemala 1989 there are no recorded ages under 10 years so education was only measured from age 10. In Honduras the starting age is 5 years, in Nicaragua it is 6 years. Also note that some countries have different lengths of primary education. In Costa Rica it is 6 years, in El Salvador the household survey does not breakdown the sample between the first 9 years so all of this is counted as primary education in each year.

## **Labour force status**

Labour force status for each eligible member of the labour force is divided into three categories for each country and year; employed, unemployed or looking for work for the first time and inactive. The age for first monitoring labour force eligibility varies across countries. For Costa Rica the age is set to 12 years, for El Salvador, Guatemala, Honduras and Nicaragua this was set to 12 years also. For Panama, the household survey in 1991 limits coverage of this question to those 15 years and over.

## **Economic participation**

Economic participation is defined as the engagement of labour or services in the economy. As such it identifies whether a person is economically active, that is employed or unemployed, as compared to those who are inactive, such as people participating in full-time education. The economic participation rate is the proportion of the population of a country 15 years or over that is employed or unemployed, divided by the entire population over 15 years.

## **Labour type**

The labour type categories were split into five different types for each country and year and the available data was sorted into these types as permitted by the relevant survey question. The types are Public or state employee, Private employee or similar, Self employed, domestic service worker and unpaid worker, family or otherwise.

### **Occupational type**

A dummy variable was created to identify the occupational type of professional and technical workers for all countries and years. This took a value of one if the worker had professional or technical skills and a value of 0 for all other types of occupations.

### **Sector of economic activity**

The sector of economic activity in which each employed person worked was divided for each country and year into nine different categories. These were Agriculture, fishing and hunting; Mining activities; Manufacturing sector; Utilities sector including gas, water and electricity production; Construction sector; Commerce and retail sector; Transport and communication sector; Finance and Insurance service sector; Community, social and personal service sector.

### **Size of enterprise**

This was a dummy variable created to identify small enterprises of five people or less. The variable took a value of 1 if there were five people or less in the workplace and a value of 0 otherwise. It should also be noted that for El Salvador in 1995 and Panama in all years, the value of 1 corresponds to 4 people or less due to limitations in the household survey questions.

## Appendix II

### Data tables

**Table II-1**  
**EXTREME POVERTY RATE (INDIGENCE RATE), CENTRAL AMERICA, 1990-2004**<sup>a b</sup>  
(Percentages)

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	10.1	7.7	7.9
El Salvador	21.6	21.0	19.0
Guatemala	37.3	31.7	..
Honduras	60.6	56.5	53.7
Nicaragua	48.4	44.6	42.4
Panama	19.2	11.3	14.8
Comparable Sample (Mean) <sup>c</sup>	34.3	31.7	30.5
Central America (Standard Deviation) <sup>c</sup>	19.3	19.0	17.7
Central America (Mean) <sup>d</sup>	35.0	31.7	..

Source: Author's construction using information from household surveys.

<sup>a</sup> Extreme poverty measured as proportion of population with household per capita income below ECLAC extreme poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

<sup>c</sup> Sample mean and standard deviation weighted by population but do not include Guatemala to ensure comparability across years.

<sup>d</sup> Sample mean weighted by population for all countries including Guatemala.

**Table II-2**  
**POVERTY RATE, CENTRAL AMERICA, 1990-2004**<sup>a b</sup>  
(Percentages)

Country	Circa 1990	Circa 2000	Circa 2004
Costa Rica	26.2	20.3	20.5
El Salvador	54.0	47.8	47.5
Guatemala	64.6	56.0	..
Honduras	80.5	79.5	74.6
Nicaragua	73.6	69.9	69.3
Panama	42.8	30.1	31.7
Comparable Sample (Mean) <sup>c</sup>	58.7	54.0	52.7
Central America (Standard Deviation) <sup>c</sup>	18.9	21.8	20.1
Central America (Mean) <sup>d</sup>	60.1	54.6	..

Source: Author's construction using information from household surveys.

<sup>a</sup> Poverty measured as proportion of population with household per capita income below ECLAC poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

<sup>c</sup> Sample mean and standard deviation weighted by population but do not include Guatemala to ensure comparability across years.

<sup>d</sup> Sample mean weighted by population for all countries including Guatemala.

**Table II-3**  
**EXTREME POVERTY RATE, CENTRAL AMERICA, URBAN AND RURAL AREAS, 1990-2004**<sup>a b</sup>  
*(Percentages)*

Country	Circa 1990		Circa 2000		Circa 2004	
	Urban	Rural	Urban	Rural	Urban	Rural
Costa Rica	6.9	12.5	5.4	11.1	5.8	11.0
El Salvador	14.8	29.9	12.1	33.5	13.8	26.6
Guatemala	22.1	46.3	13.8	43.0	..	..
Honduras	43.2	72.8	42.5	67.9	34.9	69.4
Nicaragua	36.8	62.8	33.9	57.5	33.4	55.1
Panama	10.7	29.5	6.5	18.8	6.7	28.7
Comparable Sample (Mean) <sup>c</sup>	23.6	45.0	21.1	44.4	20.1	43.7
Central America (Standard Deviation) <sup>c</sup>	14.1	23.3	14.9	21.4	12.4	22.1
Central America (Mean) <sup>d</sup>	23.3	45.3	19.2	43.8	..	..

Source: Author's construction using information from household surveys.

<sup>a</sup> Poverty measured as proportion of population with household per capita income below ECLAC poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

<sup>c</sup> Sample mean and standard deviation weighted by population but do not include Guatemala to ensure comparability across years.

<sup>d</sup> Sample mean weighted by population for all countries including Guatemala.

**Table II-4**  
**POVERTY RATE, CENTRAL AMERICA, URBAN AND RURAL AREAS, 1990-2004**<sup>a b</sup>  
*(Percentages)*

Country	Circa 1990		Circa 2000		Circa 2004	
	Urban	Rural	Urban	Rural	Urban	Rural
Costa Rica	24.9	27.3	17.4	24.4	18.7	23.1
El Salvador	45.5	64.4	37.4	62.3	41.2	56.8
Guatemala	48.4	74.2	39.6	66.3	..	..
Honduras	69.7	88.0	71.2	86.1	62.3	84.8
Nicaragua	66.3	82.7	64.0	77.0	63.8	77.0
Panama	30.6	57.6	20.2	45.6	22.2	48.0
Comparable Sample (Mean) <sup>c</sup>	50.1	67.4	44.3	65.6	44.0	63.7
Central America (Standard Deviation) <sup>c</sup>	16.6	21.1	21.1	21.1	18.1	21.4
Central America (Mean) <sup>d</sup>	49.8	69.3	43.1	65.9	..	..

Source: Author's construction using information from household surveys.

<sup>a</sup> Poverty measured as proportion of population with household per capita income below ECLAC poverty line. See Appendix I for definitions.

<sup>b</sup> Actual survey years vary. See Appendix I for details.

<sup>c</sup> Sample mean and standard deviation weighted by population but do not include Guatemala to ensure comparability across years.

<sup>d</sup> Sample mean weighted by population for all countries including Guatemala.

**Table II-5**  
**EXTREME POVERTY AND POVERTY RISK, 5 COUNTRIES OF CENTRAL AMERICA, 1990-2004** <sup>a b</sup>  
*(Ratio of poverty share to population share)*

Country	Circa 1990		Circa 2000		Circa 2004	
	Indigence risk	Poverty risk	Indigence risk	Poverty risk	Indigence risk	Poverty risk
Costa Rica	0.29	0.45	0.24	0.38	0.26	0.39
El Salvador	0.63	0.92	0.66	0.89	0.62	0.90
Honduras	1.77	1.37	1.79	1.47	1.76	1.41
Nicaragua	1.41	1.25	1.41	1.30	1.39	1.31
Panama	0.56	0.73	0.36	0.56	0.49	0.60

Source: Author's construction using information from household surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> No poverty line data exists for Guatemala 2004. Table II-6 contains information about the share for Guatemala for 1990 and 2000.

**Table II-6**  
**EXTREME POVERTY AND POVERTY RISK, ALL CENTRAL AMERICA, 1990-2004** <sup>a</sup>  
*(Ratio of poverty share to population share)*

Country	Circa 1990		Circa 2000		Circa 2004	
	Indigence risk	Poverty risk	Indigence risk	Poverty risk	Indigence risk	Poverty risk
Costa Rica	0.29	0.44	0.24	0.37	0.26	0.39
El Salvador	0.62	0.90	0.66	0.87	0.62	0.90
Guatemala	1.06	1.07	1.00	1.03	..	..
Honduras	1.73	1.34	1.78	1.45	1.76	1.41
Nicaragua	1.38	1.22	1.41	1.28	1.39	1.31
Panama	0.55	0.71	0.36	0.55	0.49	0.60

Source: Author's construction using information from household surveys.

<sup>a</sup> Figures not comparable over time due to missing values for Guatemala 2004.

**Table II-7**  
**INFORMAL EMPLOYMENT IN THE ECONOMICALLY ACTIVE POPULATION, CENTRAL AMERICA,**  
**1990-2004<sup>a</sup>**

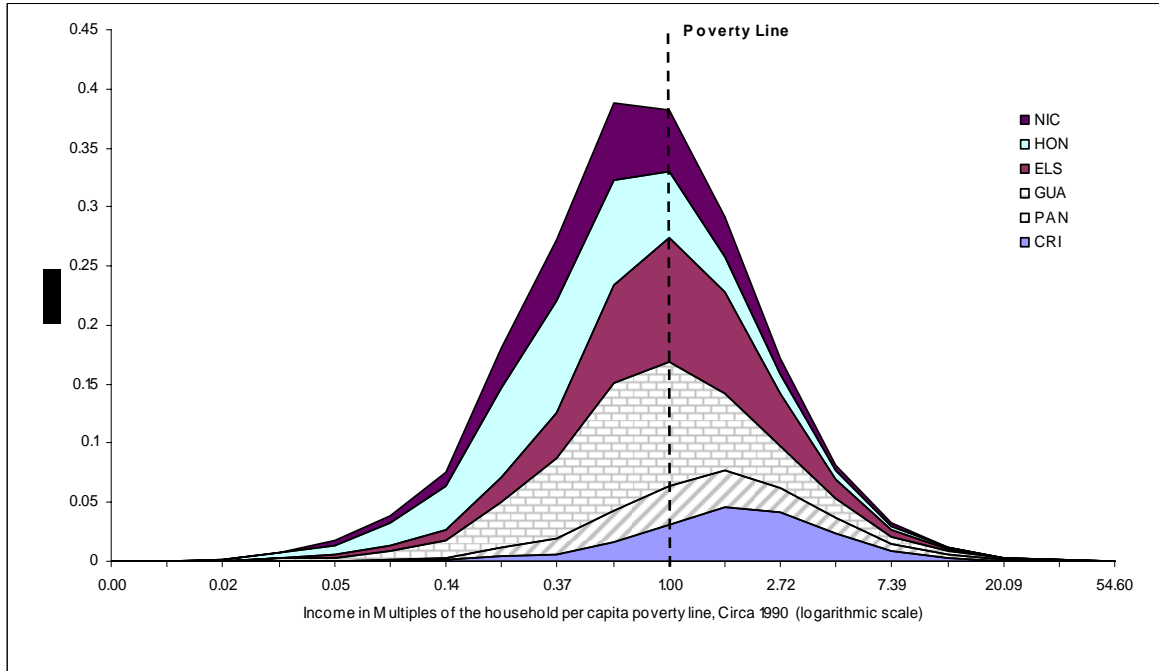
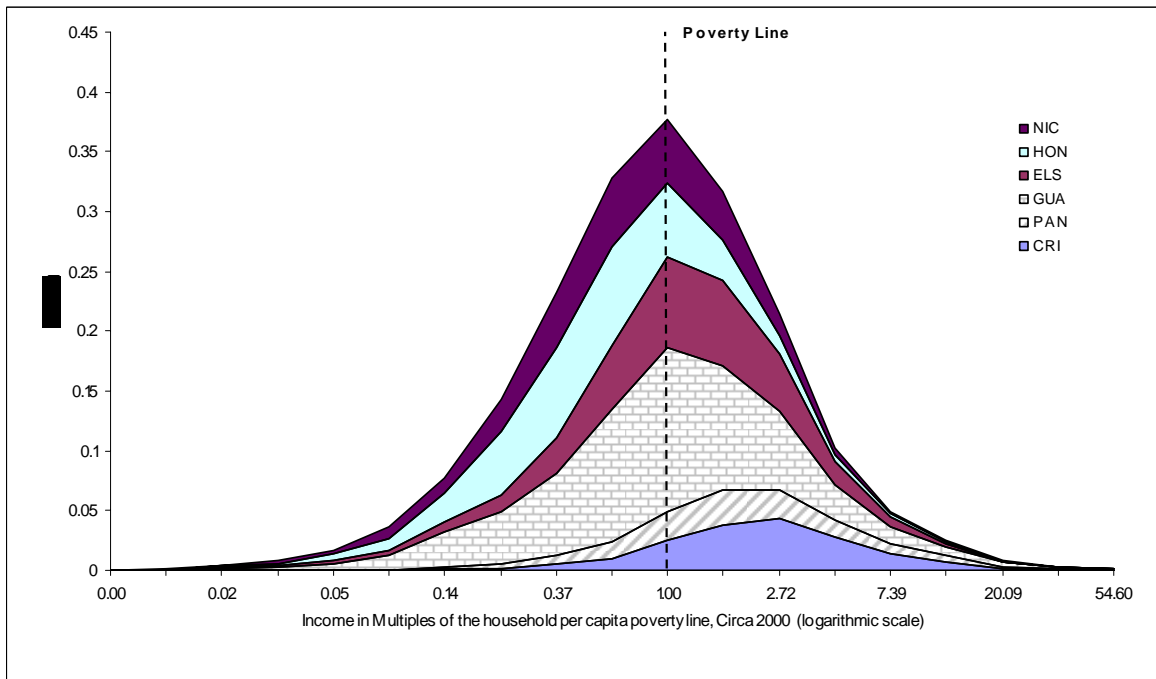
*(Proportion of economically active population in each country)*

Country	Circa 1990	Circa 2000	Circa 2004
Informal Employment (not including Agriculture)			
Costa Rica	29.0	34.1	33.2
El Salvador	39.1	43.2	44.9
Guatemala	29.3	37.8	38.4
Honduras	32.8	38.4	37.0
Nicaragua	34.4	39.3	42.9
Panama	26.1	31.7	33.0
Central America (Mean)	32.3	38.2	38.4
Informal Employment (Agricultural Sector)			
Costa Rica	17.0	10.8	9.0
El Salvador	17.5	16.1	14.7
Guatemala	36.5	30.3	30.2
Honduras	36.1	30.3	33.3
Nicaragua	25.2	32.1	24.7
Panama	21.6	14.1	15.9
Central America (Mean)	27.6	24.6	24.5

Source: Author's construction using information from household surveys.

<sup>a</sup> See Appendix I for definitions.

**Figure II-1**  
**COMPOSITION OF THE INCOME DISTRIBUTION BY COUNTRY, CENTRAL AMERICA, 1990- 2000** <sup>a b</sup>  
*(Proportion of the national poverty line, logarithmic scale, country represents proportion of density at each income centile)*



Source: Author's construction from National Household Surveys.

<sup>a</sup> Survey years vary by country. See Appendix I for details.

<sup>b</sup> Includes Guatemala.





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